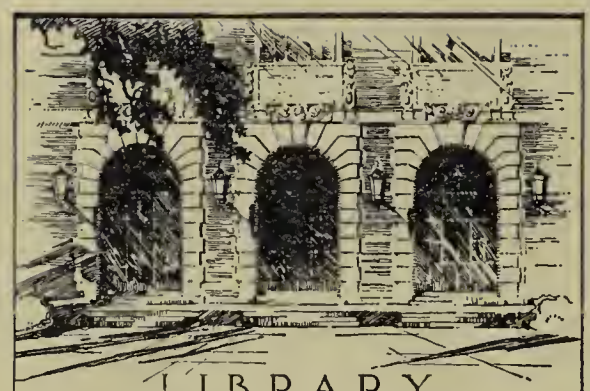


LIBRARY
OF THE
UNIVERSITY
OF ILLINOIS

610.5
AM
v.60²
cop.6

22 1948

HISTORY

610.5
9Am3
Nat Hist
Dr H B Ward
Urbana Ill

This Issue Exceeds 55,000 Copies

# THE JOURNAL

OF THE

## American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

**Vol. LX, No. 14** | **535 Dearborn Ave., CHICAGO, ILL.** | **APRIL 5, 1913**

## CONTENTS AND DIGEST

**Ligneous Phlegmon of the Abdominal Wall.** W. W. Grant, M.D., Denver ..... 1039

Incompleteness of literature. Interest in subject in last five or six years. Difficulty of diagnosis. Causes and course. Treatment.

**A New Method of Shortening the Round Ligaments.** Siegfried Figueroa, M.D., Merida, Mexico ..... 1042

**An Experimental Study of Bone Growth and the Spinal Bone Transplant.** Fred H. Albee, M.D., New York ..... 1044

**The Problem of Teaching General Medicine.** E. P. Lyon, M.D., Ph.D., St. Louis ..... 1049

Aims of general medicine. Responsibility of medical teaching. Methods: laboratory, didactic lectures. Importance of objective knowledge. Self-criticism as a factor. Clinical lecture method. Section teaching and individual work. Medicine should be a university department. The teaching hospital. Teaching ethical ideals. Teaching by example most important.

**The Teaching of Psychiatry.** Charles W. Burr, M.D., Philadelphia ..... 1054

The practical question in the teaching of psychiatry. Methods in use at the University of Pennsylvania. The teaching of therapeutics in mental disease. Time to be given to the subject and character of the teaching.

**The Teaching of Insanity.** F. X. Dercum, M.D., Philadelphia ..... 1057

Relation to teaching of internal medicine. Unfortunate tendency at present toward psychologic speculation.

**Saving the Backward School Child.** George M. Gould, M.D., Atlantic City, N. J. ..... 1059

Eye-strain in children and its importance. The work of Dr. W. M. Richards on refraction in school children. Testimony of principals and assistants in public schools. Impossibility of determining refraction of school children on account of the inadequacy of its teaching in medical colleges.

**The Treatment of Gonorrheal and Other Infections with Digestive Bacterial Extracts.** J. O. Hirschfelder, M.D., San Francisco ..... 1061

**A Case of Congenital Familial Dextrocardia with Electrocardiographic Curves.** Selian Neuhof, M.D., New York ..... 1064

**One Hundred Cases of Acute Arthritis Among the Negro Laborers on the Panama Canal.** Walter Baetz, M.D., Ancon, Canal Zone, Panama ..... 1065

Diagnosis of rheumatism. Prevalence of syphilitic arthritis and its treatment. Diagnosis of gonorrheal arthritis and its treatment. Undetermined cases. Dysenteric and tuberculous cases.

**Rabies. A Pathognomonic Sign Generally Overlooked.** M. B. Wesson, B.S., M.D., El Paso, Texas ..... 1069

Paralysis of the left hind leg a characteristic early symptom.

**The Preparation and Employment, in a Series of Cases, of a Potent Polyvalent Antistaphylococcic Serum.** B. A. Thomas, A.M., M.D., Philadelphia ..... 1070

**Intermittent Pyuria Due to Infection of the Prostatic Utricle.** Albert J. Underhill, M.D., Baltimore ..... 1073

(Continued on next page)

ENTERED AS SECOND-CLASS MATTER, JUNE 25, 1885, AT THE POSTOFFICE AT CHICAGO, ILLINOIS, UNDER ACT OF MARCH 3, 1879.
NEXT ANNUAL SESSION, MINNEAPOLIS, MINN., JUNE 17-20, 1913. COPYRIGHT, 1913, BY THE AMERICAN MEDICAL ASSOCIATION.

**New York Polyclinic Medical School and Hospital**

See Page 37 Next Issue

POST-GRADUATE CLINICAL INSTRUCTION IN ALL BRANCHES OF MEDICINE AND SURGERY. INDIVIDUAL TUITION OR LIMITED CLASSES IN ANY SUBJECT. *Detailed information on request. Address*
JOHN A. WYETH, Pres., 341-351 West 50th Street, New York City

HENRY B. WARD, STATE UNIVERSITY,

*Build a library—not a collection of books. Select your books as you choose your best friends*

# Have You the New "Keen?"

BETTER ORDER YOURS TO-DAY
READ ABOUT IT ON

SAUNDERS, Publishers

PAGE 3

## News

The new "Keen" volume was anxiously awaited by the medical profession. Long before the book was on our presses orders came crowding in.

OVER 4000 ORDERS

were piled up on the day of publication. The demand *since* publication has become phenomenal.

## CONTENTS AND DIGEST—Concluded


### NEW AND NONOFFICIAL REMEDIES

Description of Articles Approved by Council on Pharmacy and Chemistry .....1074

Acne Vaccine. Antimeniugococcus Serum. Bacillus Coli Vaccine. Serum Antidiphthericum and Antidiphtheric Globulines. Gonococcus Vaccine. Meningococcus Vaccine. Pneumococcus Vaccine. Bacillus Pyocyaneus Vaccine. Staphylococcus Vaccines. Streptococcus Vaccine. Typhoid Vaccine.

Transfer of Agency .....1074

### THERAPEUTICS

Chronic Urethritis .....1074

### EDITORIALS

SOME PHYSIOLOGIC ASPECTS OF EXERCISE: Reaction of the organism, and the phenomenon of "second wind." .....1076

ANIMAL PARASITES IN TUMOR FORMATION: Establishment of causal relation between rat tumors and roach parasites .....1077

THE PIGMENT OF THE CORPUS LUTEUM: Illustration of the close analogy between animal and plant processes by the discovered identity of corpus luteum pigment and carotin, obtained from carrots..1078

THE NATURE OF THE SO-CALLED KLAUSNER SEROREACTION: Dependence of a positive outcome of the reaction on an increased content of lipoids in the blood-serum.1078

PRESIDENT WILSON RISES TO AN EMERGENCY: Prompt and effective measures taken to meet the situation caused by the flood .....1079

DOCTORS IN TIMES OF PERIL: Presence of the scientifically trained physician and absence of the faddist when urgent need beckons .....1080

COOPERATION AMONG PUBLIC HEALTH ORGANIZATIONS: Conference of sixty organizations to be held in New York next week. .....1080

### Current Comment

SYSTEMATIC PREVENTION OF MINE ACCIDENTS: Purpose of newly organized association .....1081

THE "ORIGINAL ARTICLE" FRAUD—A RECRUDESCENCE: Employment by a diabetic food company of this outworn method of advertising .....1081

"THERE'S A REASON": Marvelous properties ascribed by the manufacturer to Grape-Nuts .....1082

MUNICIPAL CHARITIES OF PHILADELPHIA: Report showing the mismanagement of public institutions .....1082

PROTECTION AGAINST THE DEADLY BICHLORID: Lesson to be learned from the German Pharmacopeia .....1083

### MEDICAL NEWS

ARKANSAS: State Society Meeting—State Board Election—Society Meets in New Quarters—District Society Election.1083

CALIFORNIA: Wiley in Los Angeles—State Society Meeting—Sanatorium News.1083

COLORADO: Free Antityphoid Vaccination—Tuberculosis Communicable—Tuberculosis Hospital for Denver—New Officers—State Board Appointments .....1083

CONNECTICUT: Alumni Election — Sanatorium to be Enlarged.....1083

ILLINOIS: Sanatorium for La Salle County—Personal—Home for Epileptics Endorsed—Memorial to Indianapolis Physician—Ask for Woman Physician on Board of Education—Physicians Acquitted—The New Cook County Hospital.1083

KENTUCKY: Fresh Air School Opens—Hospital Notes—Personal .....1084

MARYLAND: Expense of Small-Pox Epidemic—To Celebrate Sixtieth Anniversary. Baltimore: Personal—Royal Society Honors Physicians .....1084

MINNESOTA: Inebriate Farm Saved — Leprosy Suspect .....1084

NEBRASKA: The Cyclone in Omaha....1084

NEW YORK: Library Open to All Physicians—Senate Confirms Nominations. New York City: Campaign for Hospital—New Clinical Building—Personal—To Kill the Mosquito—Health Department Destroys Much Food—Protests Against Report of Venereal Diseases .....1084

PENNSYLVANIA: Hospital Addition Needed. Philadelphia: New Officers—Personal—Alumni Dinner—Suggests College Merger .....1085

WISCONSIN: Contracts Awarded — Personal .....1085

WYOMING: Nurses' Home at Sheridan—State Board Organized .....1085

GENERAL: Antimalaria Congress—Surgeons Meet at New Orleans—Bequests and Donations—The Flood Situation—Report of Public Health Service.....1085

LONDON LETTER .....1086

PARIS LETTER .....1087

BERLIN LETTER .....1088

BUDAPEST LETTER .....1089

### MISCELLANY

Conclusions Regarding Pellagra—The Value of Open-Air Schools in Fighting Tuberculosis—An Improvised Individual Drinking-Cup—The Social Influence of Impure Air .....1089

### MARRIAGES 1090

### DEATHS 1090

### PROPAGANDA FOR REFORM 1092

Manola: Physicians as Unpaid Pedlers of Nostrums.
The Gatlin Institute.
The Amount of Cod-Liver Oil in Various Preparations.

### ASSOCIATION NEWS

The Minneapolis Session: Plans for the Reception and Entertainment of Members Aside from the Scientific Meetings..1093

### CORRESPONDENCE 1094

A Device to Increase Humidity in the Winter House.

### QUERIES AND MINOR NOTES 1094

Abelen's Reaction for Salvarsan in Urine.
Ozone as a Medicine.
Discoloration of the Skin from Gold Jewelry.
Substitute for Coffee.
Auto-Intoxication and the Reactions of Toxins.
American Society for Physicians' Study Travels.
Reprints Cannot be Shipped by Parcel Post.

### MEDICAL ECONOMICS

Educational Work of the Speakers Bureau .....1095

### MEDICAL EDUCATION AND STATE BOARDS OF REGISTRATION

Coming Examinations—The Present Status of Medical Education .....1096

### BOOK NOTICES 1100

### MEDICOLEGAL

Validity and Construction of Provisions Relative to Itinerant Physicians....1100

### SOCIETY PROCEEDINGS 1101

Coming Meetings.
Medical Society of the Missouri Valley.

### CURRENT MEDICAL LITERATURE

#### American Medical Journals

Dietetic Treatment of Convulsions in Infants—Mortality of Breast-Fed and Bottle-Fed Infants .....1103

Vulvovaginitis in Children—Myositis Ossificans Traumatica .....1104

Subtemporal Muscle Drainage — Thyrogenic Origin of Exophthalmic Goiter—Arrest of Hemorrhage from Bone.....1105

Relation of Calcium to Anaphylaxis—Isoagglutination in Man and Lower Animals—Streptococci from Milk and from Throat—Anaerobic Bacillus in Uterine Discharges—Fusiform Bacilli and Pathologic Processes—Methods for Obtaining Virus of Rabies .....1106

Tuberculosis of Stomach—High Calory Diet in Typhoid—Fetal Serum in Onset of Labor .....1107

#### Foreign Medical Journals

Intramural Spread of Rectal Carcinoma—After-History of Gastro-Enterostomy—Method of Performing Gastrojejunostomy .....1108

Typhoid and Paratyphoid Vaccination—Peritoneal Adhesions .....1109

Tumor of Spinal Cord—Uncontrollable Vomiting of Pregnancy—Cystoscopy in Case of Cancer of Uterine Cervix—Primary Cancer of the Vagina—Efficacy of Emetin in Amebic Disease—Operation on Intercostal Nerves for Gastric Crises.....1111

Neurastheuia—Position After Delivery—Menstruation in the Neuro-Arthritic—Premature Delivery for Extra Large Children—Anemia in Infants.....1112

Leishman Anemia in Italy—Pathology of School Children—Operation on the Vermiform Process—Non-Operative Treatment of Cancer—Chicken-Pox in Adults..1113

Fatal Gastric Hemorrhage with Thrombosis of the Splenic Vein—Influence of Iodin on the Tubercle Bacilli in the Sputum—Duodenal Catheter for Infants — Gastric Crises .....1114

Treatment of Weakness of the Bladder in Women — Non-Operative Treatment of Club-Foot—Gelatin to Promote Coagulation of the Blood — Some Gynecologic Problems—Pneumococcus Sepsis Following Gall-Stone Trouble—Goiter.....1115

Serodiagnosis of Cancer—Hormonal—Sugar as an Antiseptic—The Seashore in Therapeutics—The Diminished Breathing Capacity in Anemia—Loss of Appetite—Early Forms of Infantile Scorbutus.1116

Schmidt's Nuclei Test for Pancreas Functioning—Orthostatic Albuminuria—Treatment of Incipient Gangrene—Technic for Exclusion of the Pylorus—Serotherapy of Eclampsia—Serology of Eclampsia—Cause and Treatment of Eclampsia.....1117

Septicemia — Spinal Anesthesia — Primary Sarcomas in Muscles—Prophylaxis of Sudden Death—Salvarsan and the Ear..1118

KNOCKS AND BOOSTS—TONICS AND SEDATIVES—BOOKS RECEIVED—PUBLIC SERVICE.....Adv. Page 20



**PAUL B. HOEBER** 69 E. 59th St., NEW YORK :: AMERICAN, ENGLISH, GERMAN, FRENCH We supply any Medical Publication, no matter where or when publisht. **MEDICAL BOOKS**

**THIS IS THE SEASON** of the year when Physicians are changing their location. It will pay you **TO READ THE CLASSIFIED ADS.** beginning on page 20. If you do not see what you want on these pages, this is the time to advertise for it.

610.5 AM 1960 pt 2
610.5 AM v.60 cop.6
Pat Rist
PAYNE

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, No. 14 CHICAGO, ILLINOIS APRIL 5, 1913

MAR 17 '48

## LIGNEOUS PHLEGMON OF THE ABDOMINAL WALL *

W. W. GRANT, M.D.
DENVER

It is probable that this disease has been observed under some name or form more frequently than has been reported. Prior to Reclus' publication and report, in 1893, of five cases which he denominated ligneous phlegmon of the neek, nothing seems to have been known of this severe, protracted and still little understood disease. Since that time professional interest has been enlisted and broadened, and in the last five or six years, especially, substantial additions have been made to the subject in case reports and contributions. Still the literature, though it is interesting and instructive, is not replete in quantity, nor entirely satisfaetory as to etiology, bacteriologie findings and treatment.

These reports and investigations lead the way to a final explanation of the disease, whieh at the present time is the most interesting and unusual, if not curious and erratic, manifestation of infection, or inflammation, with whieh we have to deal. Surgieal text-books, such as Lexer and Bevan, Keen and Dacosta, have very brief allusions to the subject, which are not of much value beeause little of a definite character was known when the articles, though of reeent date, were written. It is now known that, though observed more frequently in the neck, it may occur in any part of the body.

The periodical literature is more recent and valuable and is worthy of attentive eonsideration. The article by Powers of Denver[1] on "Woody Phlegmon of the Neck" (Reclus), with a report of three or four eases, read before the Section of Surgery of the American Medical Association at Los Angeles in 1911, is a valuable contribution and interesting in its full bibliography. A ease was reported later in the year by Panzer.[2]

An examination of the literature of the past year reveals but a few cases, and if we exeept those oecurring after herniotomy, there remain but two or three cases of phlegmon of the abdominal wall. The report of E. Wyllis Andrews[3] on "Desmoids Following Herniotomy" probably refers to woody phlegmon.

In 1912, Todd, of St. Joseph, Mo.[4] reported a case of woody phlegmon which occurred in a young woman and was supposed to be due to trauma from a fall occurring in May, 1909. A tumor developed and was first observed in March, 1910. May 16, 1911, the central part of the tumor was removed, with no substantial or permanent improvement. The clinical record showed a loss of weight of 21 pounds in one year; partly on account of this and failing strength a diagnosis of sarcoma was made. Further observation of the ease showed this to be an error, while the pathologic report showed only inflammatory ehanges in the muscle, with a large amount of granulation tissue, lymphoid plasma cells and polymorphonuclear leukocytes, eomplicated with "tiny abseesses." The abdominal wall was extensively involved. During the eourse of the disease, none of the usual signs of inflammation were present, only progressive, indurated, board-like swelling with sharply defined edges. Finally after two years, staphylococcic vaccines were used, but the administration and effect were not reported. The patient was reported well after two and one-half years. The history and progress were quite typieal of this disease. No specifie germ or known constitutional disease was discovered or believed to exist in the ease.

In the last year or two, the Italians seem to have been the most aetive in the investigation of the disease. In 1912, Fasana[5] reports twelve eases of ligneous phlegmon; two of the eases occurred during the progress of ehronic appendicitis and were presumably in the abdominal wall; others oceurred in the gluteal region, foot, etc. "Predisposing causes were bad health and trauma. Such hard masses in the abdominal wall may be mistaken for malignant disease. The only pathognomonic sign is extreme hardness, diffuse or nodular; the skin is not early involved; pain, tenderness and fever are usually slight. The diagnosis is extremely difficult even where such a condition is suspeeted. Time alone can clear the matter up. The greatest difficulty is to differentiate from malignant tumor, which is important as to operation. Hyperleukoeytosis favors phlegmon. Slow absorption or final suppuration may take plaee."

In 1912, Guasoni[6] reported a case in a man aged 52. His personal history was negative. He was operated on for oblique inguinal hernia of the left side. "Over a month after leaving the hospital, the patient noticed a hard swelling at the upper end of the operative sear. It grew to the size of a turkey egg, extending downward and toward the median line. He was treated for a month with eold applications and $x$-rays. The swelling softened a little but there was no change in the size, and no area of tenderness or fluctuation. The growth was exeised and the patient went home well in three weeks. There was no pus. Histologically, there was an inflammatory new growth with polymorphonuclears and

* Read before the Chicago Medical Society, Feb. 19, 1913.

1. Powers, Chas. A.: Woody Phlegmon of the Neck (Reclus), THE JOURNAL A. M. A., July 29, 1911, p. 365.
2. Panzer, E. J.: Woody Phlegmon of Reclus, THE JOURNAL A. M. A., Nov. 25, 1911, p. 1762.
3. Andrews, E. Wyllis: Desmoids Following Herniotomy, read before Western Surgical Association, December, 1910.
4. Todd, Luther Anson: Obscure Infiltration of the Abdominal Wall, Jour. Missouri Med. Assn., February, 1912.
5. Fasano: Flemmone ligneo et tumori infiammatori, Gazz. d. osp., Oct. 27, 1912, p. 1345; abstr. THE JOURNAL, Nov. 30, 1912, p. 2013.
6. Guasoni: Case de flemmone ligneo, Policlinico, 1912, No. 43, p. 1553.

plasma cells. Bacteriologically, there were small Gram-negative cocci, with no characteristic grouping. In broth culture they increased in size and the grouping was more characteristic of staphylococci."

Consentino[7] reports four cases, two in patients aged 57 and 46, following hernia operations. In these there were swellings, fibrous and immovable, large as a lemon, not well defined and non-adherent to the skin. There was little fever. Pain and swelling were manifested ten days to two weeks after operation. Patients were confined to bed three or four weeks and treated by hot applications of normal salt solution, which diminished the pain and induced some decrease of swelling. There was no suppuration, and no incision of inflamed mass in either case. Convalescence lasted two or three months. The other cases reported were stomach cases. I have purposely omitted any reference to these cases for the reason that the clinical history and pathology of such cases do not, with our present knowledge, seem consistent with the better and more conclusive evidence concerning woody phlegmon of the neck and abdomen.

In 1910, Duse[8] contributes a case as follows: There was nothing of importance in previous history. A boy of 15 was operated on for inguinal hernia of both sides. Infection followed and two and one-half months after suppuration had subsided, a hard mass the size of a dollar developed in the abdominal wall in the left upper quadrant; it did not involve the site of the operation. It increased slowly in extent; was incised early and only blood was found; healed promptly with no effect on the growth; skin adherent; no pain and very limited movement on manipulation; no enlargement of lymph-nodes. After a month of absorbent treatment without effect, incision was made the full length of the growth; no pus was found but a pale rose-colored fluid was discharged. The wound healed primarily. Tissue removed for histologic examination showed inflammatory new growth with some leukocytes and many plasma cells. Cultures showed small, white, Gram-negative staphylococci, which produced no effect on animal inoculation. The patient left the hospital with general and local conditions unchanged. The author states that in previous studies many varieties of bacteria have been reported: Klebs-Loeffler, pseudodiphtheria, streptococci, *Bacillus proteus,* staphylococci, white and yellow—all of attenuated virulence. He concludes that there is no specific bacillus. Vaccines are not mentioned.

Accompanying Duse's contribution is quite a complete foreign bibliography extending from 1893 to 1909. With his experience, study and general knowledge of the subject, his observations especially should be worthy of respectful consideration; as those of others are in a more limited way.

I present a report of two cases, both of the abdominal wall:

CASE 1.—J. M., aged 72 years. Good personal history. I operated on him for right inguinal hernia, Sept. 25, 1910. After two weeks he left the hospital for home and developed a slight infection due to a linen stitch which I applied at the internal ring. The hardness and swelling were out of all proportion to the extent or degree of suppuration. It covered an area of 3 inches transversely and extended above and to the full length of the incision. The skin was red and dusky.

I reopened the wound its full length and removed the stitch. The tissues were red, solid and compact as a piece of beef; this and the unusual hardness and appearance attracted special attention. It healed rapidly and perfectly, and the swelling and hardness gradually disappeared in the course of three months—long after he had returned to his business and his general health had been restored.

Bacteriologic studies were made and demonstrated staphylococcic bacteria. I regarded it as an unusual and protracted form of inflammation due to stitch infection. I had seen nothing resembling it in the postoperative history of herniotomy and did not understand it. It was undoubtedly a case of woody phlegmon and it is an interesting fact that it did not prevent the perfect success of the operation and that the patient has remained well up to the present time.

CASE 2.—G. K., aged 52 years, married. Occupation, railway engineer. No constitutional infection at any time and no local trouble previous to the attack of appendicitis. The following history to the date of his coming to Denver was given by his attending physician, Dr. F. H. Smith of Goodland, Kansas.

March 26, 1911, the patient was taken with an acute typical attack of appendicitis, severe colicky pains, becoming localized in the right iliac fossa within twenty-four hours; temperature was 103 and pulse 106. These symptoms continued for four days, when all symptoms decreased in severity; temperature 100 and pulse 90. His condition gradually improved until April 21, when he was able to sit up. No operation.

May 11, he visited the physician's office; temperature was normal but the tenderness over the appendiceal region was still marked.

June 4, he suffered a second attack of appendicitis of moderate severity, which lasted two or three days. No operation. He recovered sufficiently by the latter part of the month to resume his duties and worked through the summer as an engineer, but was never well.

September 4, he consulted his physician, complaining of painful micturition. During the examination, the physician observed on palpation a hard oval tumor the size of an orange in the lower abdominal wall, the larger part to the right of the median line and seeming to dip into the pelvis. It continued to increase in size and September 25, the patient walked into my office in a stooping position after a ride of six hours on the train.

An immediate examination revealed a large mass of the lower abdomen, covering the right hypogastrium a little more fully than the left, extending to the umbilicus and seemingly fixed to the pubis. The mass was not adherent to the skin and moved freely from side to side with the abdominal wall. Its outline was well defined, and it felt just as hard as a large uterine fibroma, differing in the important particular that it could be moved only with the abdominal wall. It could not be indented with finger pressure. Necessarily one would connect it with the history of appendicitis and suspect deep-seated suppuration, though palpation gave no evidence of it.

I had seen nothing like it and was not able to say that it was not connected deeply with the appendix, or some other intra-abdominal viscus. I sent him immediately to St. Luke's Hospital, and Sept. 25, 1911, operated by making a free incision into the most prominent part of the mass to the right of the rectus muscle. At a depth of 2 inches, I opened a small circumscribed abscess containing a tablespoonful of thick, creamy, non-offensive pus; thinking it might lead to another abscess, I explored the wound carefully, forcing my finger deeper through the hard tissues, but careful not to enter the peritoneal cavity. I then introduced conical pressure forceps through the mass, spreading the handles, but only moderate venous hemorrhage was encountered. I immediately made an incision to the outer side of the left rectus and used the forceps in the same manner and with the same result. The wounds were packed with iodoform gauze and the abdomen dressed with gauze, cotton and bandage. The patient's temperature on entering the hospital was 98½. Urinalysis showed no casts and only a few epithelial cells and pus-corpuscles. He was in the hospital a month and only once or twice did his temperature reach 101; it ranged from 98½ to 100, usually 98½ to 99½, and pulse 80 to 100. Following the operation, there was a rather free serosanguineous discharge, seldom any pus.

7. Consentino: Contributo allo studio del flemmone ligneo di Reclus, Policlinico, 1912, Surg. Sect., pp. 145-176.

8. Duse: Contributo allo studio del flemmone ligneo di Reclus, Gazz. d. Osped., 1910, xxxi, 625.

The mass diminished perceptibly in size for a week following the operation and then increased again, following especially the course of the rectus muscles upward and the oblique on the right. I had considered the question of malignancy, syphilis and tuberculosis, but neither appealed to me as applicable to the case. The Wassermann and tuberculin tests were negative, and the report of the pathologist settled the former. Pus and a slice of muscle were taken from the side of the wound for examination. The report of the pathologist, Dr. Philip Hillkowitz, which follows, shows only the ordinary products of inflammation:

"Sections from the tissue removed from the wound revealed an extensive round-cell infiltration, and the presence of numerous young fibroblasts and newly formed blood-vessels. The muscles show advanced degeneration. There is no evidence of a neoplasm, the appearance being that of an inflammation with characteristic granulation tissue. Smears from the exudate as well as cultures taken therefrom show the presence of *Staphylococcus pyogenes aureus*."

Anxious to settle more definitely the nature and extent of the difficulty and especially its relation to the viscera, I opened the abdomen in the middle line above the umbilicus Oct. 9, 1911. The fascia cellular tissue and peritoneum were closely adherent and hard. There were no adhesions (not even to the omentum), with the exception of some about the cecum, but there was no abscess nor mass about it and the appendix was not looked for. With one hand in the abdomen and the other outside, I moved the anterior abdominal wall laterally in both directions. This demonstrated that the disease was confined to the walls of the abdomen and justified the opinion that it was ligneous phlegmon, due to appendicitis and the general depreciation of health in consequence. The condition seemed undoubtedly infectious.

I was anxious to give the vaccines a trial and failing, on account of unsatisfactory material from the wound, to get the autogenous, I concluded to use the stock vaccines. The patient was sent home soon after this. As the mass increased in size, the pain was more marked. I advised his physician to give first, a few doses of the colon bacillus vaccine, on the theory that the colon bacillus was at least the chief infective bacterium in the early history of the case.

Commencing Dec. 26, 1911, and continuing until Jan. 18, 1912, eight doses were given by Dr. Smith, beginning with two hundred million and increasing to four hundred million of colon bacillus vaccine. After this I advised the injection of mixed staphylococcic vaccines every five to seven days, the dose to be determined by the reaction. The report follows:

The tumor was again increasing in size; the wounds were mopped out daily with tincture of iodin when the discharge of pus was free, and as it subsided, every second or third day. The tumor remained stationary until Dec. 20, 1911, when it again began to increase in extent and to become more painful, requiring an occasional dose of morphin for relief. The effect of the colon vaccine on the growth or mass was imperceptible except for marked relief from pain, and increased appetite.

Jan. 18, 1912, the colon bacilli injections were discontinued. The reaction was not marked. Soon afterward, an abscess pointed to the right of the umbilicus and was opened by Dr. Smith through a small incision and discharged freely. The mixed staphylococcic vaccines, beginning with one hundred million and increasing to one billion, were now injected directly into the tumor mass; temperature was 103 from the first and 105 from the second injection into the tumor, and this was followed by vomiting. The next morning, the patient felt fine and had no pain, though the discharge was profuse from all wounds. These injections were all made into the indurated, inflamed mass. After the third dose, the swelling and hardness commenced to disappear perceptibly. The injections were continued at intervals of three or four days until April 23, 1912. The reaction from injections became steadily less until hardly perceptible when discontinued.

The patient's appetite and strength improved rapidly, and he walked about daily, except when the injection was given. The discharge soon diminished under this treatment, though increased at first. When the treatment was discontinued, the patient having taken eight of the colon bacillus and thirty-nine of the staphylococcic vaccines, there remained unhealed only a small fistulous tract from the first incision with only a small quantity of serosanguinolent discharge, and the mass had almost entirely disappeared, except for a small, hard lump surrounding the fistulous opening.

The patient is presented and examination finds him in excellent general health and the abdomen perfectly normal, except for a small lump at the site of the first incision. All wounds are closed.

### DIAGNOSIS

The diagnosis has been regarded as exceedingly difficult, especially at an early period. The differential determination has been as to epithelioma, sarcoma, actinomycosis, syphilis and tuberculosis. Schmincke believed it cancerous, but this theory, endorsed by Lang, if not abandoned, doubtless soon will be. In the future, with experience and greater familiarity with reported cases, there should be little difficulty in eliminating the diseases mentioned at an early period in the history of a case.



Patient after operation for woody phlegmon

With existing knowledge, I believe we are justified in concluding that the disease occurs generally after middle life and when resistance has been impaired by previous ill health. The immediate exciting cause is a slow, infective process, with or without trauma. The dictum of Reclus that it is not due to specific bacteria, but is due to a variety of germs of lessened virulence, seems confirmed by subsequent bacteriologic and histologic investigations. That it is not cancer or any form of neoplasm, but a gradual, slow, degenerative inflammation affecting connective tissue, fascia and muscles and finally the skin, seems evident. The lymph-nodes are not usually affected. The chief offending agency is probably mixed staphylococci of weakened virulence. The usually slow development, interrupted and protracted course, and final resolution are characteristic. Hyperleukocytosis always exists. The duration is indefinite, but is usually from several months to two or more years. Under more prompt diagnosis and more favorable treatment, convalescence and cure will doubtless be accomplished at an earlier date.

TREATMENT

Treatment of the past has been empirical and naturally, under the circumstances, not based on any scientific fact or principle.

Keen[9] says "treatment has little or no effect."

Dacosta[10] says "the disease is always dangerous and frequently fatal. Extirpation not feasible."

Lexer and Bevan[11] say that "quicker results are obtained by incision and exposure of intermuscular spaces as bacteria are removed with the wound secretion."

Treatment has been chiefly of a character to promote suppuration; namely, incision and hot, moist applications. Patients have seemed to derive some comfort when free suppuration existed, but ordinarily, it is of short duration and how it benefits I do not understand. Free sanguinolent effusion is common, and free incision should aid greatly, it would seem, in the relief of tension as well as for drainage.

Powers quotes with approval the suggestion of Friedrich in favor of wide excision. In certain cases I regard this as well-nigh impossible, and as unjustifiable surgery in most cases, unless of a small, distinctly circumscribed mass that is no longer acute. Furthermore, if feasible, it would be indefensible because a needless sacrifice of important tissues, especially of fascia and muscles. If the abdominal wall is the vulnerable part, excision of any magnitude would be a serious impairment of its functions, and would invite and probably result in hernia that would be difficult to cure. Furthermore, evidence is wanting that radical excision would materially influence the course of the disease.

In the second case I report, excision would not have been considered for a moment. Vaccines have been used but little. In my case, affecting extensively the abdominal walls, the injection of serum directly into the mass was, after incision, the most important and promptly effective measure used. I believe the mixed staphylococcic vaccines, the autogenous preferred, injected into the hardened tissue, the most promising therapeutic agent at our command.

I predict that the disease will be cured more quickly and completely by free incision (not excision) and serum treatment, than by any or all other means known at the present time. The disease is not so fatal or perhaps so dangerous as some surgeons have evidently believed, but its inveterate and disabling character invites the ingenuity and skill of every surgeon who has to deal with a severe or serious case.

The prognosis is in the main favorable, and the tendency is to a favorable result ultimately, but the course of the infection is vacillating, with recessions and an increase in inflammatory conditions, and resulting pain and discomfort and prolongation of the disease. As it is known to follow infectious diseases, such as appendicitis, it must be regarded as an additional reason for removing the diseased appendage and every other focus of infection at the earliest possible date.

930 Pennsylvania Avenue.

9. Keen: Woody Phlegmon, Keen's Surgery, iii, 298.
10. Dacosta: Wooden Phlegmon, Modern Surgery, p. 131.
11. Lexer and Bevan: Woody Phlegmon, in General Surgery, p. 277.

**No Medical Training Required to Prescribe Proprietaries.**—The organ of the N. A. R. D., *Monthly Therapeutic Notes*, remarks: "Don't ever get away from the fact that when you prescribe a secret preparation you are not acting in the capacity of a physician, for any layman can read a circular of testimonials and order a nostrum."

# A NEW METHOD OF SHORTENING THE ROUND LIGAMENTS

SIEGFRIED FIGUEROA, M.D.
MERIDA, MEXICO

The problem of retroversion and uterine prolapse has been covered so thoroughly at various times by the leading gynecologists, that the subject is not to be taken up in this article.

After careful study I found that all of the several methods employed in the shortening of the round ligaments, either to correct retroversion or as an aid in the treatment of uterine prolapse, were deficient, presenting several disadvantages which made me seek for a better operative procedure.

It is well known by all who practice gynecology that the so-called Alquié-Adams-Alexander operation as well as its modifications, Edebohls', Newman's, Goldspohn's, Martin's, Duret's, Kellogg's, Doleris', Cassati's and



Fig. 1.—The cutaneous and fascial incisions; the round ligament drawn out.

others, utilize merely the distal half of the ligament, leaving the resisting and more powerful proximal half to support the uterus; all have the disadvantage, however, of leaving unaltered the point of emergence of the ligament through the anterior abdominal wall, being ineffectual in supporting the uterus, as the level of the internal ring remains lower than the proximal end of the ligament.

The same objections hold against the several operations of Wylie, Mann, Dudley, Webster, Baldy, Coffey and Bissell, all of which have the additional disadvantage of shortening the round ligament at the expense of the posterior (more resisting) part, and of being intraperitoneal. The operations of Gilliam, Ferguson, Simpson, Montgomery, Mayo, Branch and Crossen shorten the ligament at the expense of the anterior (weakest) portion, elevating at the same time the fixed, anterior or abdominal end; they present therefore a double advantage over the methods already mentioned, though with the same disadvantage as those of the second group, namely, that of being interperitoneal operatiols.

Trying to obviate such objections, I devised the following plan, which has advantages over both the Alexander and the Gilliam operation. My procedure is as follows:

1. An incision is made over the internal inguinal ring, about 2 inches in length and obliquely upward and inward as shown in Figure 1. All bleeding points are ligated.

2. The internal ring being located, an incision is made in the aponeurosis of the external oblique in the direction of its pillars, exposing the canal, just over the internal ring. A blunt hook is introduced and its point directed toward the median line in order to isolate the round ligament, which almost always is included among the tissues engaged. Once isolated, the ligament is freed from all the tissues which cling to it; the peritoneum is stripped back with the aid of gauze wrapped around the index-finger, and by the use of forceps or small snips of the scissors once in a while, extreme care being taken not to divide the peritoneum.

3. When the ligament has been drawn out as far as necessary, a silk ligature is tied around it, as shown in



Fig. 2.—The index-finger, introduced through the internal inguinal ring, is dissecting away the extraperitoneal fascia and peritoneum from the abdominal muscles, thereby facilitating the following step, shown in Figure 3.

Figure 2. The right index-finger is then introduced through the internal inguinal ring, separating from the abdominal wall proper the extraperitoneal fascia and peritoneum in a direction upward and inward as high as one desires to fix the anterior end of the ligament (usually from 1 to 2 inches), going well back of the rectus muscle. Some difficulty is sometimes encountered in this step, shown in Figure 2.

4. The two ends of the silk ligature are threaded into the eye of a Deschamps needle, which is then introduced into the tract made by the finger, up to the desired point, where it is thrust from behind forward through the rectus muscle, bringing its point out as in Figure 3. The needle is unthreaded and withdrawn; traction is made on the ligatures and a loop of the ligament is made to appear through the anterior leaflet of the rectus sheath. It is a good plan to cover the wound after this step while the same operation is performed at the other side. By so proceeding the uterus can be placed in such a position as may be desirable.

5. The last step consists in the fixation of the loop of ligament to the aponeurosis by means of two or three interrupted or continuous sutures. If the loop of ligament drawn out through the rectus muscle is too long it can be treated as in Kellogg's operation; that is to say, an aneurysm needle is introduced through the aponeurosis at about an inch external to the point of emergence of the loop, and is made to appear at about half an inch from it; threading the silk ligature through its eye, the needle is withdrawn, carrying out the ligature and the loop of ligament, which is sutured to the aponeurosis as already stated (Fig. 4).



Fig. 3.—A Deschamps needle is introduced into the tract made by the index-finger, carrying the silk ligature, which is made to appear through the anterior leaflet of the rectus sheath after transfixing of the rectus muscle.



Fig. 4.—Loop of ligament transfixed by Kellogg's method and sutured in place. The last step closes the inguinal canal as in a Ferguson operation.

6. The last step closes the internal ring and inguinal canal as in a Ferguson operation. Finally the skin is sutured as in any abdominal operation.

## CONCLUSIONS

1. My operation has the advantage of being extraperitoneal.

2. It shortens the ligament at the expense of the weakest distal half, leaving intact the proximal and stronger portion.

3. It elevates the abdominal fixed point, carrying it toward the median line, and therefore suspending the uterus.

4. Its disadvantages are: A. Two incisions are required. B. As in the Alexander operation, it is limited in its application. If the uterus is not mobile, if it is adherent to neighboring organs, there will be difficulty in getting it into place. It is true that Goldspohn's procedure of entering the peritoneal cavity to treat adnexal conditions can be easily performed, but such a procedure has a limited field of usefulness; my operation, therefore, cannot be performed in any but suitable cases. C. When by atrophy the ligaments have become attenuated they are of little use in maintaining the uterus in position. In cases of prolapse or vesicocele the accessory operative procedures should be performed, as colporrhaphy, perineorrhaphy, curettage, trachelorrhaphy, etc.; otherwise the operation will be useless.

Calle 59, Numero 488.

---

# AN EXPERIMENTAL STUDY OF BONE GROWTH AND THE SPINAL BONE TRANSPLANT *

FRED H. ALBEE, M.D.
NEW YORK

The special object of the animal experimentation reported herein was to afford means for studying both macroscopically and microscopically a bone-graft when planted in a dog by precisely the same technic as that which I employ in the human subject for the treatment of Pott's disease of the spine.[1]

I wish to express my thanks to the following for valuable aid rendered in this work:

Dr. Ferguson for his interest in superintending the preparation of most of the microscopic sections, for his examination of these sections and for many valuable suggestions.

Dr. Beebe for aid, suggestions and laboratory privileges.

Drs. Soule and Keller for indispensable aid in the operating-room.

## REPORT OF EXPERIMENTS

EXPERIMENT 1.—Dec. 10, 1911: Dog, mongrel, male, approximate weight 30 pounds. Ether anesthesia. Anesthetist, Mr. Cassellius. Fields of operation: dorsal region of back and left fore leg, prepared by shaving, and scrubbing with tincture of green soap and water, followed by corrosive sublimate 1:1,000 and 70 per cent. alcohol. The spinous processes of three of the mid-dorsal vertebrae were approached by an incision through the skin and areolar tissue directly over their tips. The supraspinous and interspinous ligaments were split with a scalpel to a depth of two-thirds of an inch between the spinous processes without disturbing the attachments of the ligaments to the spinous processes. Each of the three spinous processes was split longitudinally with a chisel and mallet into halves for a depth of about two-thirds of an inch, care being taken that the right halves of the spinous processes were not broken. A separation of the tips of the halves of these spinous processes produced a wedge-shaped cavity, into which the ulnar transplant was later inserted. A hot saline compress was placed in the wound until the bone insert was obtained. This was for the purpose of securing as perfect hemostasis as possible for a bed for the bone-graft. Half the diameter of the shaft of the dog's right ulna was then removed with chisel and the bone-forceps. The graft consisted of periosteum, compact bone, endosteum and marrow substance. It was inserted between the halves of the interspinous ligaments and spinous processes, and held in place with interrupted sutures of linen, which were passed through the supraspinous ligament and the posterior edge of the halves of the interspinous ligaments near the tip of each spinous process. These ligaments were thus drawn over the graft posteriorly. The procedure was precisely that which I have applied to human subjects and of which I have published reports.[1]

December 13, the wound was septic. December 20, much pus was discharging from the wound. Sinus slowly decreased in size in the next few weeks.

*Necropsy.*—May 28, 1912: The wound had healed with the exception of a small sinus; a sliver of nearly one-third the diameter of the graft anteriorly and tapering to a pointed end posteriorly had sequestrated from the rest

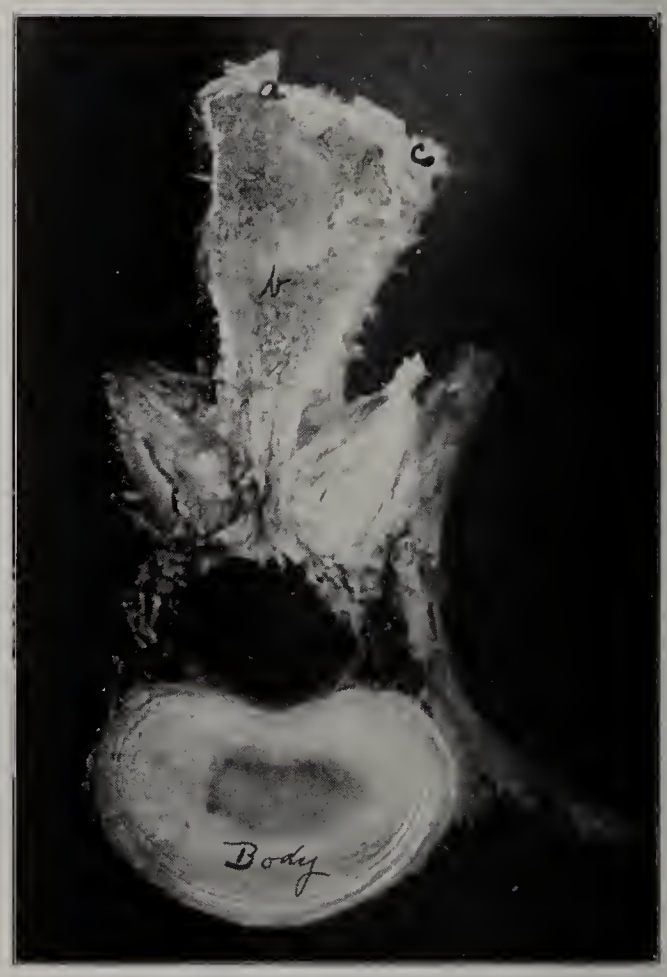



Fig. 1.—View of a dog's vertebra (Experiment 1), into the spinous process of which a portion of his ulna had been ingrafted six months before; *a*, *b* and *c* indicate the outlines of the graft, which has become firmly grown into the split spinous process. Figure 2 is from a photomicrograph of a section of graft grown into the spinous process at this point.

of the graft, which had become firmly united to the spinous processes. The whole posterior diameter had lived and become firmly grown into the spinous processes. The result was a bridge of bone uniting three vertebrae. Although sepsis had occurred and no attempt had been made to immobilize the dog's spine, a gauge dressing was applied at time of operation and the dog was placed in a cage. *X*-ray examinations of the gross specimen and a microscopic study of decalcified and non-decalcified sections failed to show degeneration of that part of the graft which had become united. No cartilage cells could be found; the union of graft to spinous process was by new bone formation.

EXPERIMENT 2.—Jan. 18, 1912: Dog, male, mongrel, weight 20½ pounds. Ether anesthesia. Assistant, Dr. Keller. Precisely the same technic was carried out in this case as in Experiment 1, except that the whole diameter of the shaft of the ulna was removed subperiostcally. A sharp periosteum elevator was used and the periosteum was removed from the

* From the Loomis Laboratory, Cornell University Medical College.

1. Albee, Fred. H.: Transplantation of a Portion of the Tibia into the Spine for Pott's Disease, THE JOURNAL A. M. A., Sept. 9, 1911, p. 885; Bone transplantation as a Treatment for Pott's Disease, Club Feet and Ununited Fractures, Post-Graduate, November, 1912, p. 999; New York Med. Jour., March 9, 1912. Other studies in bone growth, periosteal transplantation, etc., have been carried on, coincidently, as will appear.

bone with force for the purpose of being certain of separating the deep osteogenetic layers from the bone cortex and obtaining it as a part of the periosteum. The periosteum was left *in situ* in the leg. The transplant was inserted by the same technic as in Experiment 1, except that the periostum had been removed as previously described. The leg and back wounds were closed by a continuous suture of linen. The periosteal tube was allowed to collapse.

Jan. 22, 1912: Back wound septic.

Jan. 28, 1912: Leg wound healed by primary union.

*Necropsy.*—Feb. 29, 1912: Back wound was septic; graft had sequestrated. It is believed that the difficulty in preparing the dog's skin for operation, in addition to large hemotomata which invariably collect into loose areolar tissue of the dog's back in spite of all precautions, was largely responsible for the sepsis in the back wound, at the same time the leg wounds were clean.

The conditions about back wound were precisely the same as those in Experiment 1, namely, a deposit of osteoid tissue




Fig. 2.—Decalcified section through long axis of spinous process with cross-section of the grown-in graft. Six months after a portion of same animal's ulna had been grafted into spinous processes. A careful microscopic study of these sections and all others have failed to disclose dead bone-cells. The corners of the graft are indicated by *a, b* and *c* (*d* is a microtome artefact); *e* is base of spinous process.

in wall of sequestrum pocket. The graft, however, had sequestrated.

In the leg a bridge of bone had appeared where the shaft of the ulna had been removed. In the center it tapered to a diameter about one-half that of the original bone. This bone growth had been very rapid and connected the ends of the ulna.

EXPERIMENT 3.—Jan. 23, 1912: Dog, terrier, female, weight 22 pounds. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Keller. The spinous processes of last two dorsal and first, second and third lumbar vertebrae were prepared as usual for the graft. With chisel and mallet and saw about 1¾ inches of the left ulna were removed leaving the periosteum, from one-half its diameter, *in situ* in the leg. The periosteum was removed in this instance with the blunt end of a pair of scissors and no force was used in scraping the periosteum from the bone. The periosteum peeled off easily. The portion of the ulna which had been removed was then split longitudinally with a chisel into equal parts, on one of which was the periosteum. This latter fragment was inserted into the last two dorsal vertebrae. The portion from which the periosteum had been removed was inserted into the second and third lumbar vertebrae.

*Necropsy.*—Feb. 29, 1912: Posterior end of wound was filled with pus. Anterior end of wound had healed by granulation. The graft from which the periosteum had been removed and which had been placed in the lumbar vertebrae had sequestrated and was surrounded with pus. The graft insert which was placed in the dorsal vertebrae was firmly

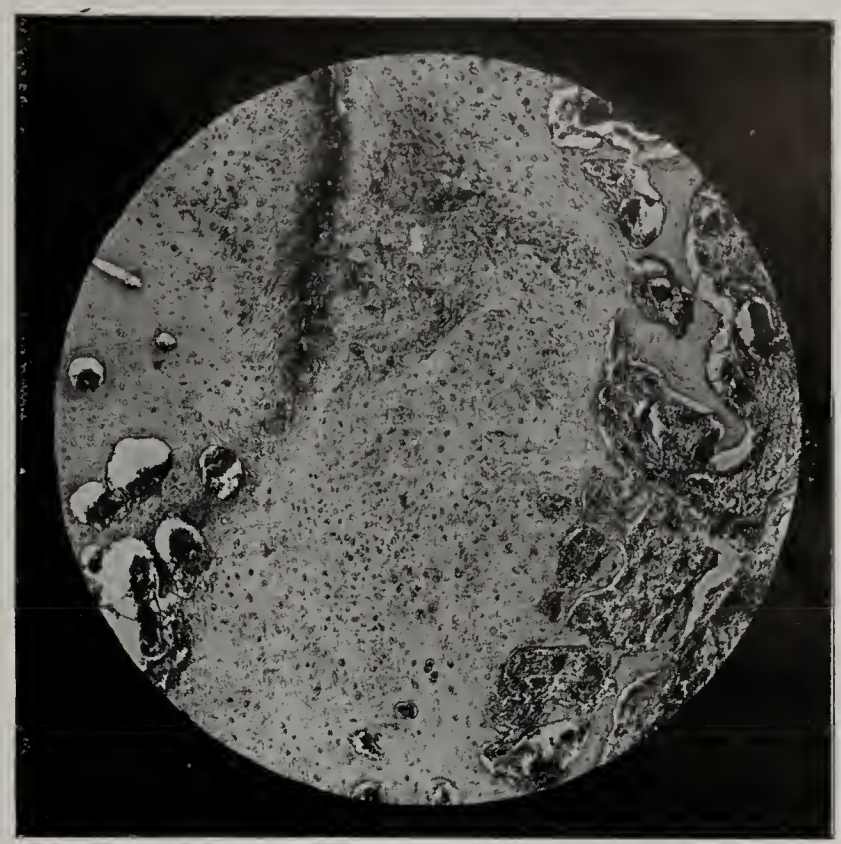


Fig. 3.—Junction of graft and spinous process in a case of six months (Experiment 1). No dead bone-cells could be found in these specimens. From a high-power photomicrograph.

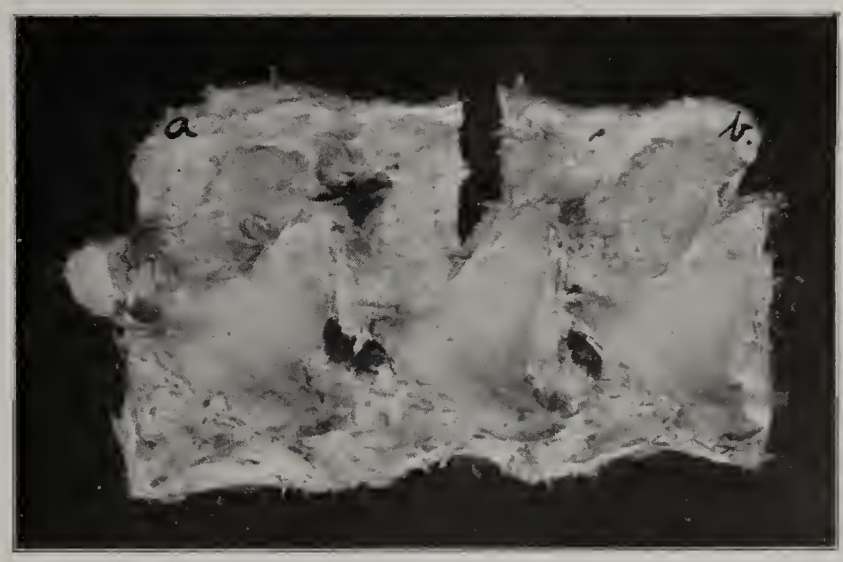



Fig. 4.—Specimen from Experiment 1 showing bridge of bone between three vertebrae, the result of a bone-graft inserted six months before.

united into those vertebrae. A microscopic examination showed the union to be bony. No evidence of degeneration or cellular death could be found. No bone or evidence of osteogenesis appeared between the ends of the ulna where the grafts had been obtained, except about the bone ends. The periosteum in this case, as stated, was removed from the bone by means of a blunt instrument and with no effort to get into a deep cleavage.

EXPERIMENT 4.—Jan. 25, 1912: Dog, mongrel, female. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. This dog on the evening before the operation received a bath in 2 per cent. aqueous dilution of liquor cresolis com-

positum. In all following experiments this bath was given. Two inches of the shaft of left ulna were removed subperiosteally. A sharp periosteal elevator was used for the purpose of getting into deep cleavage. The portion of the ulna shaft removed was then split longitudinally with a chisel and mallet into halves. One of the bone fragments was inserted by the usual technic into the last dorsal and first and second lumbar vertebrae. The remaining bone fragment was placed in sterile normal salt solution in an ordinary ice-box for the purpose of transplanting it into the next dog operated on. Wounds healed by primary union.



Fig. 5.—Junction of graft and spinous process (*a*, *b*). The transplant had been inserted four months (Experiment 5). From a high-power photomicrograph.



Fig. 6.—Two vertebrae of a dog into which the bone transplant (A, B) had been inserted six weeks before. (Experiment 11); from a photograph. Sections have been taken for microscopic examination.

*Necropsy.*—May 9, 1912: Transplant was found united firmly with the spinous processes. The graft had lost its identity. From the appearance of the bridge of bone between the tips of the three spinous processes one could not say from what it had originated. Microscopic examination showed bony union of graft to spinous process and no evidence of cellular degeneration. A strong bridge of bone was present between ulna ends filling in the space where the transplant had been removed. This bridge of bone was not quite so large in diameter as the normal ulna shaft. It was, however, sufficiently strong for functional purpose. It is believed that the satisfactory osteogenesis obtained in this case as, for instance, compared with practically no bone growth in Experiment 3, was due to the method of removing the periosteum by a sharp instrument for the purpose of getting into deep cleavage. In this way the chances are large that the very active osteogenetic layer of cells which is situated on the surface of and considerably adherent to the compact bone, will be loosened either entirely or partly, and separate off as a part of the periosteum.

EXPERIMENT 5.—Jan. 30, 1912: Dog, black hound, male. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. Incision was made over last three dorsal and first three lumbar vertebrae. Spinous processes of the three lumbar vertebrae were split into right and left halves with a chisel and the bone fragment 2 inches long which had been removed from the dog's ulna in Experiment 4, Jan. 25, 1912, and kept in normal salt solution in an ice-box, was inserted into the prepared lumbar vertebrae. The spinous processes of the tenth and eleventh dorsal vertebrae were denuded with a blunt instrument of their periosteum from the neural arches posteriorly to the tips of the spinous processes where they were left attached to each. The separated ends were then held in approximation by linen sutures. The skin was sutured by the subcutaneous method. In all previous cases the skin was closed with the ordinary through-and-through stitch; all succeeding wounds were closed with the subcutaneous suture, resulting in much less skin infection.

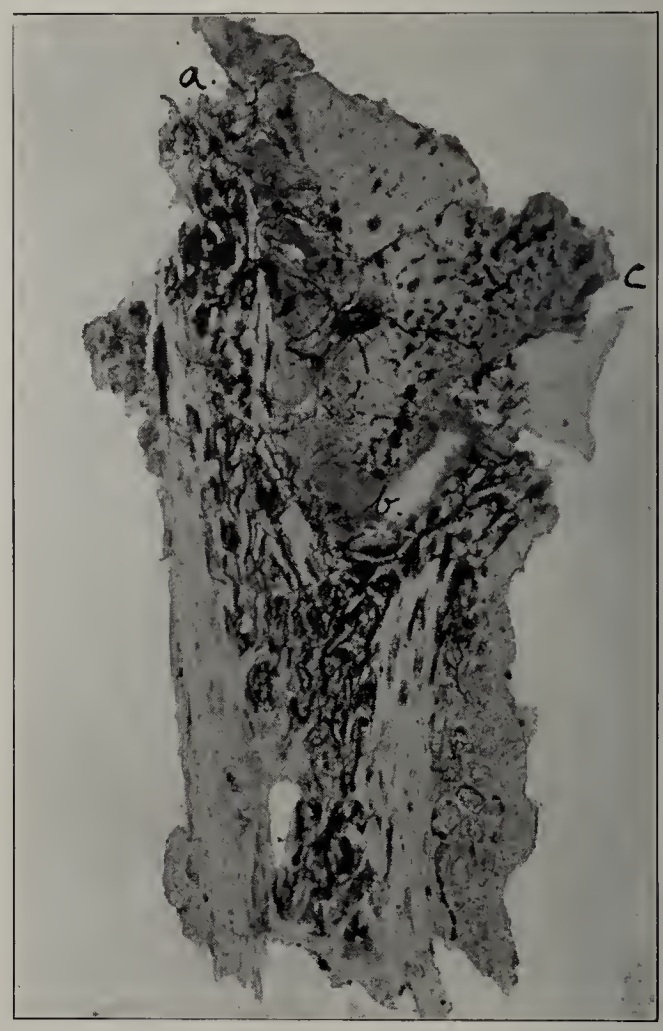



Fig. 7.—Longitudinal section through spinous process with cross-section of graft (*a*, *b*, *c*) which had been inserted six months; from a low-power photomicrograph of a non-decalcified ground specimen. Numerous blood-vessels can be seen, under high magnification, extending from spinous process into graft.

*Necropsy.*—May 8, 1912: The transplant was amalgamated into the spinous processes and had nearly lost its identity. It showed the contour of the graft on one end. From the appearance of the bridge of bone, one would not have thought that it was due to a bone transplant. There were only a few small disconnected plaques of proliferated bone from the periosteum which had been stretched across between the dorsal spinous processes.

It is thought that the fact that there was not a satisfactory bone growth from the periosteum may be accounted for in

two ways: first, the periosteum on the spinous processes is meager and unsatisfactory on account of so many muscular and ligamentous attachments; secondly, the periosteum was removed with a blunt instrument without a special effort being made to get into deep cleavage.

EXPERIMENT 6.—Jan. 30, 1912: Dog, bull, male, weight 28 pounds. Ether anesthesia. Anesthetist, Mr. Cassellins. Assistant, Dr. Soule. Incision was made over and down to spinous processes of last two dorsal and first three lumbar vertebrae. Two and one-fourth inches of left ulna with its periosteum were removed with saw and split with chisel longitudinally into halves. These fragments of bone were then inserted into the spinous processes by the usual technic, one into the lumbar vertebrae, the other into the lower dorsal. The wounds healed by primary union.

The dog was found dead May 6, 1912. In my absence Mr. Cassellins removed the operated portion of the spine and placed it in fixing solution for future examination. These transplants, like all the others in the presence of asepsis, had become firmly united to the spinous processes into which they had been inserted.

EXPERIMENT 7.—Feb. 1, 1912: Young dog, mongrel terrier, weight 18 pounds. Ether anesthesia. Anesthetist, Mr. Cassellins. Fields of operation prepared by iodin method. An incision over last three dorsal and first three lumbar vertebrae was made. The lumbar spinous processes were split longitudinally on the left side of their center down to the neural arches. Wound as usual was packed with hot saline compress. One and three-fourths inches of diaphysis of left ulna were removed subperiosteally. A blunt instrument was used to separate the periosteum which was left *in situ* in leg. One-half of the ulna shaft was placed by usual technic into the posterior lumbar vertebra. Pieces of periosteum stripped, without aid of sharp instrument, from ulna (varying in size from one-fourth by one-fourth of an inch to small bits) were sutured into the belly of the muscle, which had been turned aside, when the ulna shaft was removed. The muscle was then sutured into its normal position. The periosteum, on the left sides of the two anterior spinous processes was stripped and retained in two pieces with some difficulty. These periosteal flaps were then drawn together and sutured, thus producing a periosteal bridge between these processes. The remaining half of the ulna was placed in salt solution for the purpose of transplanting it into the next dog operated on.

*Necropsy.*—At necropsy three months later the transplant was firmly united into the spinous processes. No osseous tissue could be found as a development from the periosteal bridge between the spinous processes. Only a small plaque of new bone could be found where the ulna had been resected. There was new growth of bone about cut ends of ulna.

EXPERIMENT 8.—Dog. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. The last three dorsal and first three lumbar spinous processes were split as usual. Numerous slivers of the previous dog's ulna devoid of periosteum were placed between the split portions of the two upper dorsal vertebrae. The superspinous and interspinous ligaments were drawn over in the same way as when a large graft was used. All the ligaments and muscles were separated from the second and third lumbar spinous processes for about two-thirds of an inch from their tips. These two spinous processes were then split longitudinally into equal anterior and posterior portions. Green-stick fractures were produced in the anterior half of the posterior process and the posterior half of the anterior process. The tips of these fragments, well denuded of periosteum and soft tissues, were then contacted and held with a linen ligature. The ligaments and fascia were drawn over all with a continuous linen suture. Skin was closed as usual with subcutaneous continuous suture.

*Necropsy.*—At necropsy two and one-half months later there was evidence of some skin infection which had nearly subsided. The slivers of bone had united and produced a bridge of bone between the spinous processes but not so firm as one resulting from one large graft. There was no bony union between the approximated fragments of the second and third lumbar spinous processes.

EXPERIMENT 9.—Dog, terrier, male, weight 18¼ pounds. Preparation: bath in compound solution of cresol and shaving the night before operation. Field of operation allowed to dry over night and treated with American tincture of iodin just before operation. This preparation was used in all of the succeeding cases and was found very satisfactory. Ether anesthesia. Assistant, Dr. R. E. Soule. Site in back for graft was prepared as in previous cases and packed with saline compress. Two inches of middle of left ulna were removed subperiosteally with blunt dissector. This portion of the ulna was then split longitudinally into quarters, two of which were placed in the tips of three lumbar vertebrae. A strip of periosteum one and one-fourth inches by one-third inch taken from the ulna by a blunt dissector was placed into the tips of two split spinous processes anterior to those that contained the graft previously inserted. The periosteum was placed in a similar manner to that of the bone graft. The back wound was closed. Two pieces of bone one-fourth inch by one-fourth by one-eighth inch in diameter, which had been taken from the tip of a spinous process of the same dog, were placed in the belly of a muscle in the left fore leg. Two pieces of bone of the same size were taken from ulna and placed in belly of another muscle in left fore leg, the object being to determine which was the more osteogenetic.

The dog was found dead Feb. 27, 1912.

*Necropsy.*—Feb. 28, 1912. Assistant, Dr. Soule. Bone transplant was found firmly united by callus to those spinous processes into which they had been inserted. The graft presented every appearance of being live bone. The small piece of bone from the tip of a spinous process, which had been implanted into a muscle belly at operation, had changed very little; there was a very small proliferation on the side of the periosteum. The piece of bone taken from the ulna and inserted into a muscle belly had changed also very little. There was, however, considerable proliferation on the side of the periosteum. The piece of periosteum (1¼ inches by one-third inch), which had been placed between the tips of two split spinous processes, presented no evidence of proliferation and was hard to find.

EXPERIMENT 10.—Feb. 13, 1912: Puppy, terrier. Ether anesthesia. Assistant, Dr. Soule. Incision 5 inches long was made over and down to tips of last dorsal and first three lumbar vertebrae. Interspinous ligaments were split with scalpel, spinous process with chisel. A piece of the ulna bone of the dog previously operated on (1¾ inches long and one-half the diameter of the ulna) was inserted by technic above described into the spinous processes of the second and third lumbar vertebrae. A piece of the same dog's left ulna of about the same size was then removed subperiosteally with chisel and saw and inserted into the last dorsal and first lumbar vertebrae. A piece of periosteum (1¼ inches by one-third inch) removed by blunt dissection from the ulna was placed into the fascia one and one-half inches to left of the first lumbar vertebra and fixed with linen sutures. On the opposite side (right) and in the same relation to the first lumbar vertebra a piece of the left ulna (one-half by one-eighth of an inch) was placed in the same manner as the periosteum. The right fore leg was broken over the side of a table and a splint was applied, in order to obtain thickened proliferating periosteum for grafting purposes in ten days' time.

*Necropsy.*—Feb. 27, 1912: Both pieces of bone, the one from another dog and the one from the same dog, were equally firmly united into the spinous processes. A careful microscopic examination of sections made through graft at various places and through junction of union of graft to spinous process failed to show any evidence of degenerated bone-cells. The periosteum inserted into the fascia to the left of the spine, presented no evidence of proliferation, either periosteal or bone. The bone placed under similar condition to the right of the spine showed considerable proliferation, especially on the periosteal side.

EXPERIMENT 11.—Feb. 15, 1912: Puppy, male mongrel, weight 17¾ pounds. Ether anesthesia. Assistant, Dr. Soule. Shaft of left ulna was removed, with its periosteum intact, and placed in normal salt solution, to be kept in ice-box for a following case. The spinous processes, last dorsal and first

lumbar vertebrae were prepared as usual and a piece of a puppy's ulna (one-half its diameter and 1¾ inches long), which had been removed two days previously and kept in Ringer's solution in an ice-box, was inserted by usual technic into the second and third lumbar vertebrae. A fragment of ulna, with periosteum of approximately the same size, which had been removed from an old dog two days previously and kept in salt solution in an ice-box, was inserted into the last two dorsal vertebrae.

*Necropsy.*—Six weeks from time of operation: Both bone-grafts were found firmly united into the spinous processes. X-rays taken in different planes of specimens (see Fig. 6) failed to show any areas of degeneration in the graft. Both decalcified and non-decalcified (ground) microscopic specimen (see Fig. 7) were prepared and examined carefully. No dead bone-cells could be found. The graft, although only six weeks after insertion, was very completely united into the spinous processes by new-formed bone. No cartilage cells could be found.

EXPERIMENT 12.—Feb. 20, 1912: Dog. Ether anesthesia. Anesthetist, Mr. Cassellius. An incision 3 inches long was made over three lower dorsal spinous processes. The muscles and ligaments with periosteum were separated from them down to the neural arches and retracted. The processes were divided at their base with bone forceps and chisel close to the neural arches. The processes were then placed longitudinally so that the tip of one process came into approximation with the severed base of the next superior process. The soft tissues with periosteum were brought back with interrupted sutures of linen. Skin was closed with subcutaneous linen suture. The second and third lumbar processes were then exposed. Their tips were split for two-thirds of an inch *in situ* with supraspinous and interspinous ligaments undetached in the usual manner. A fragment of an ulna removed from a dog one week previously and kept meantime in normal salt solution in an ice-box was inserted as a graft by the usual technic. This transplant was 1¾ inches long and one-half the diameter of the ulna shaft. The skin was closed by subcutaneous suture of linen.

*Necropsy.*—Two and one-half months after operation: Bony union had not occurred between the dorsal vertebrae whose spinous processes had been broken down. It should be stated, however, that, as in all other cases, no attempt to fix or immobilize the dog's spine was made. The graft which had been inserted into the second and third lumbar processes was well united.

EXPERIMENT 13.—April 24, 1912: Dog, mongrel, male, weight 21½ pounds. This experiment was possible only through the kindness of Drs. Beebe and Berkeley, who allowed me to remove a part of a sheep's ulna while Dr. Berkeley was operating on it. A fragment of ulna 3½ inches by one-third inch, including periosteum as well as marrow substance, was removed from a large sheep and placed in normal salt solution until the dog's spinous processes, three in number (first dorsal and first and second lumbar), could be split and prepared in the usual way. The transplant was then inserted and covered with the ligaments as above described.

*Necropsy.*—Five weeks after operation: Although the wound had healed kindly by primary union, the transplant was found in a pocket filled with serum. No evidence of osteogenesis on the part of the graft or union to spinous processes was present.

The following deductions and conclusions are based on the experimental work reported herein, in conjunction with a clinical experience gained from 130 bone-grafting operations on the human subject, ninety-five of which have been for Pott's disease, ten for club-foot, eleven for paralytic deformities, eight for ununited fractures, one for osteomyelitis cavity, one fixation of tarsus for tuberculosis, one for deformity of tibia, one for deformity of the jaw, one for paralytic drop-wrist, and one for absent head and neck of femur and ununited fracture of neck of femur. In three of the cases of Pott's disease, the bone transplant has been cut down on for minor reasons, inspected and parts removed for examination. The time after operation has been three, five and seven weeks. In all of these cases the grafts have been well united into the spinous processes wherever contacted. In two cases the end of the graft had sprung posteriorly into the soft tissues. In every instance the portion of the graft, which was contacted into the spinous processes bled wherever cut with bone forceps; its periosteum was proliferated and the transplanted portion in every way presented the appearance of viability. On the other hand, in both cases, the portion of the graft projecting into the soft tissues was pale, the periosteum had not proliferated, the bone did not bleed in its central portion when cut, and was thought to be acting as an "osteoconductive scaffold," whereas there seemed every reason to believe, especially in the light of our microscopic results, that the portion in and between the spinous processes was viable, on account of the contacted points of haversian blood-supply being so numerous and near together.

## SUMMARY

1. Many liberties can be taken with the bone-graft without interfering with its success. It has certain bacteria-resisting properties. In one case the transplant was kept in normal salt solution in an ice-box for one week and in others for shorter periods and successful results followed. In two cases sepsis occurred in the same wound; nevertheless, parts of the graft in each case became united to the recipient bone and remained, while the rest of the transplant sequestrated. From these experiences and the fact that in my series of 130 bone-grafting procedures on human subjects only parts of four grafts sequestrated, it is believed that one is safe in deducting that the bone-graft has considerable germ-resisting ability.

2. It seems very probable that the amount of haversian blood-supply is in a very large degree, if not wholly, responsible in determining whether the bone-graft lives as such or acts as an osteoconductive scaffold. This was especially emphasized in the three human cases cut down on. If the graft is to live as such the blood-supply contacts must be of favorable character and numerously distributed at short intervals along its whole extent. Such as is the case with the spinal graft or the transplant used for ununited fractures described elsewhere.

3. Ollier in 1858 described his technic for subperiosteal resection, but as far as I am aware, did not emphasize the importance of the employment of a sharp instrument with force in order to separate with the periosteum the embryonic layer of active osteogenetic cells, which is situated on the periphery of the compact bone, although it is evident from the description of his work that he frequently practiced this technic. It seems certain that osteogenesis on the part of the healthy periosteum removed from a healthy bone, is largely dependent on the presence of these active embryonic bone cells from the outer surface of the cortical bone. Therefore the wisdom of the use of the sharp periosteum elevator in bone resection is apparent.

4. The bone transplant apparently acts always as a stimulant to osteogenesis on the part of the bone into which it has been implanted.

5. The spinal graft in the dog loses its identity at about the fourth month. After that time one would not know from its appearance that the bone bridge had originated in this way.

6. Bone taken from another species, such as the sheep, did not unite to the recipient bone of the dog, although

in the presence of asepsis. This one experiment does not prove that sheep's bone will not unite to dog's bone as a graft, but it does prove the unreliability of the procedure.

7. A bone bridge between different vertebrae was accomplished in this small series of experiments only by the bone-graft. Breaking down the spinous processes, splitting the spinous processes with approximation to the contiguous halves, and the insertion of periosteal bridges all failed to produce the desired continuous bone bridge.

8. Bone transplants taken from a long bone such as the ulna showed evidence of greater osteogenesis than when taken from the spinous processes.

9. Bone from which the periosteum had been removed proved equally satisfactory to bone-grafts on which the periosteum had been retained, but their persistency was not tested because the animals were not allowed to live long enough. It seems certain that the fate of a bone-graft depends largely on its exact environment especially as to the numerous bone contacts closely situated.

10. The above-mentioned germ-resisting property of the bone-graft, in addition to its early adhesion, by bone growth, to the bones, with which it is contracted, favors in my opinion its substitution when feasible in place of all metal internal splints, especially when it is considered that the metal splint has absolutely the opposite influence, namely, the production of bone absorption, and favors infection.

11. It also seems that it is largely a question of definition of what the periosteum is and what it includes as to whether it is to be actively osteogenetic or not. If by chance the cleavage is deep as when the periosteum is removed with a sharp elevator and the bone scraped, the periosteum is very sure to be actively osteogenetic. On the other hand, if the periosteum is stripped off or removed with a blunt instrument, the cleavage is not likely to be deep enough to include the osteogenetic layer of cells on the periphery of the compact bone. In that instance the periosteum would constitute a connective tissue limiting membrane (Macewen) only and slight or no osteogenesis would occur.

12. It is believed that periosteum and marrow substance, on the bone-graft, serve an important rôle in aiding to establish an early and more abundant blood-supply from recipient bone to the transplant.

Other studies in bone growth, periosteal transplantation, etc., have been carried on, coincidently, as will appear.

125 West Fifty-Eighth Street.

---

# THE PROBLEM OF TEACHING GENERAL MEDICINE*

E. P. LYON, M.D., PH.D.

Dean and Professor of Physiology, St. Louis University School of Medicine

ST. LOUIS

The Committee on Pedagogy was authorized by the Cleveland meeting of our association in 1908. The first report was made by Dr. H. B. Ward in 1909. This was an excellent discussion of the qualification of teachers and methods of instruction. The report was properly embalmed and laid away in that mausoleum entitled "Proceedings of the New York Meeting." Most of you were present at the obsequies. The reports of 1911 and 1912 were made by Dr. G. H. Hoxie. He considered the crowded schedule and the desirability of leaving the students a little time to think. He made some practical suggestions along these lines. These were respectfully listened to by the same men present to-day, but few or none of his ideas have been carried into effect. The reports were injected with formaldehyd and laid away in the archives. Recently the state of Pennsylvania has decreed that any medical school to be in "good standing" must have a required schedule of thirty-five hours a week. No one has even opened the tomb to see whether the Hoxie reports have turned over in their coffins at this outrage on pedagogic principles.

## IS FURTHER DISCUSSION USEFUL?

Seriously, this raises the question whether our reports and discussions do any good. Those gathered here are chiefly deans or secretaries of medical faculties. We all recognize the existing conditions. We all know where lie the chief difficulties to effective teaching. We all know Mr. Flexner's inexorable conclusions. We are familiar with the constructive work of the Council on Medical Education. We remember the valuable discussions on this floor. It seems strange that so few of the workable suggestions from all these sources have filtered through into practical application. The physiologic mechanism of medical teaching is apparently surrounded by a semipermeable membrane, and the big molecules of pedagogic principles find great difficulty in diffusing into the cells. The membrane is partly ignorance, partly indifference, partly conflicting interests. Is there anything we can do to assist absorption? Will a further digestion help bring the unassimilable colloids into solution? Can the membrane itself be made more permeable?

President Harper used to say that a chief function of a university faculty was to educate itself. Probably that is also true of this college association.

Now, one of the established psychologic principles lying at the basis of education is repetition. It is the foundation of habit. It rests on the physiologic generalization that repeated stimuli are more effective than a single stimulus, and that each stimulation makes easier the next one. Several of our correspondents have stated that we need not be afraid of repetition in our course of study. In the main we believe that this statement is correct. At any rate we may make this principle the excuse for another discussion of clinical teaching. It is true no new discoveries can be looked for. The most to be expected perhaps is that, like the katydid, we shall say "an undisputed thing in . . . a solemn way." But if a little more pressure, a little more digestion, a little more stimulation will help to bring the long-recognized food into actual relation to the working cells, our faculties and teachers, then the work of this committee will not have been wholly in vain. May I carry the homely metaphor further by asking each man present, so far as the results of digestion seem acceptable, to serve as a circulatory system by which the pabulum of our conclusions may be brought home to his own institution and instructors, by whom alone it can be made effective for nourishment and growth?

## THE PROBLEM INVOLVED

I have taken as my topic the "Problem of Teaching General Medicine." It seems to me that the matter of

---

* Read as the report of the Committee on Pedagogy before the Association of American Medical Colleges, Feb. 26, 1913. The committee consisted of Dr. E. P. Lyon, St. Louis, chairman; Dr. Isador Dyer, New Orleans; Dr. George Blumer, New Haven; Dr. Charles M. Hazen, Richmond, and Dr. W. S. Thayer, Baltimore.

preliminary education has been fairly threshed out, and that this association will soon come to the irreducible minimum of one year of college added to a high-school education. It seems, further, that medical educators are agreed that the fundamental medical sciences must be taught as science and by scientists. We recognize that our students must learn to know and to do, and the laboratory method has come to stay. We know what kind of laboratory teachers we need, and where to find them, and how much we must pay. We know what equipment they need, and most schools have made fair provision in this direction.

We know further that an army of young men is every year turned loose into the clinical subjects there to have their carefully built up habits of thought tumbled and scattered like block houses in the children's playroom. After the intensive discipline of the laboratory branches, we find them dissipating their energies among a dozen subjects with no idea of relative values. We find them wearing out their eyes trying to see surgical operations from the peanut gallery, their intellects trying to assimilate half-digested theories and their ham-bones sitting out interminable lectures. Then we acknowledge with dismay that our average graduate is far from being a scientific physician and tends rapidly to degenerate into the typical routinist.

That this is a criticism of universal application no one will claim. That it is one of very wide application is certain, and no one has advanced it more trenchantly than Professor Graham Lusk. "The great trouble with medical education," he says, "lies in the ill-educated men who conduct the last two years of the medical course." Again he says, "It is a well-known fact that we can produce laboratory men in American laboratories who can do work equal to that which is accomplished in other countries of the world. It is also a well-known fact that we have produced, up to the present, no man who, in the subject of general medicine, stands anywhere near to being a prototype of Friedrich Müller, Krehl or Romberg." If this is a true picture, we may well take notice. We may well acknowledge the subject worthy of careful consideration. And, first of all, we may properly attempt an analysis of the problem and try to decide the methods of attack by which it may be solved.

## OUTLINE OF DISCUSSION

Educational authorities are accustomed to consider their subject-matter under the two heads, aims and methods. The first topic constitutes the content of what is commonly called "principles of education," while the second finds expression in "educational psychology" or "methods of teaching." Education means change. Things are to be brought about that otherwise would not happen. We may change, that is, educate, any power of body or mind. The study of aims in education is for the purpose of deciding what powers and habits should be developed and in what direction the change should be made. These being decided on, the methods most likely to prove effective must be adopted.

In accordance with these ideas an outline as applied to general medicine was prepared and submitted to about 150 deans and teachers for criticism and discussion. About thirty careful and enlightening responses were received. For the large amount of time and thought given by the authors of these letters the committee desires to express thanks. These discussions are here for examination by anyone interested, and they will well repay careful perusal. It is the intention to bind them permanently, so that they will be available for any future committee or student of this question. There is much more in these letters than we have been able to embody in this report. What I shall say is founded on these discussions, on the excellent report of the subcommittee on medicine of the Council on Medical Education, on Mr. Flexner's book on "Medical Education in Europe" and other data.

## AIMS OF GENERAL MEDICINE

From a study of these authorities we may formulate the aims of a department of general medicine under seven heads:

1. To give a broad and comprehensive presentation of the essential, fundamental facts pertaining to the causes, effects, recognition, prevention and cure of disease and to correlate these facts with the fundamental sciences.

2. To demonstrate and develop the technical skill by which alone the facts are applied in the diagnosis, treatment and investigation of disease.

3. To develop the powers of observation, judgment, thoroughness, persistence and precision by which alone the facts and methods can be intelligently and fully recognized and applied.

4. To develop the powers of expression, oral and written, by which alone the results of observations may be made available to others either at once, or for future reference.

5. To instruct students in the use of medical literature and develop habits of study by which alone the graduate will continue to grow in knowledge all his life.

6. To give the student as much knowledge as possible of human beings into whose life he must enter in a much broader, more sympathetic relation than that of engineer to machine.

7. To inculcate the ethical and professional ideals of honor, self-respect, altruism and social consciousness without which medicine degenerates into a business or a trade.

While the other departments of instruction will properly assist in all these aims, their systematic realization must rest on the department of medicine, the trunk of the tree, the sine qua non of medical education.

It is at once seen that this is a large program. Several of our correspondents have well said that it means the work of a lifetime or of several lifetimes. But of course we must limit our endeavors to what can be given to average students in the time of a standard medical course. The words "essential" and "fundamental" in our statement of aims are intended to imply this limitation. And we must at once acknowledge that if the ordinary course of study is too short to develop the essential, fundamental knowledge, technical skill, habits and ideals necessary to start the young graduate as a fairly safe and competent practitioner, our immediate duty is to bring the course of study up to the necessary standard. The discussion of the fifth or hospital year must in the last analysis rest on the determination of the inadequacy of the present standard.

## GENERAL MEDICINE AN INCLUSIVE TOPIC

With our program thus formulated and delimited several things become clear. Since the fundamental facts are to be included in general medicine, no distinction should be made at first between medicine and surgery. All the diagnostic methods should be taught, and surgery should branch off when a special therapeutic method is indicated. Also since general medicine

includes the fundamental facts it must embrace general therapeutics and the essentials of neurology, pediatrics, hygiene and other so-called special branches.

From our formulation of aims or principles another conclusion is inevitable. Technical skill, or knowing "how," is put parallel with theory, or knowing "why." Moreover powers of observation and deduction, or knowing "how to know," are of parallel or even greater importance than technical skill and knowledge of theory. Now no one ever learned how to do anything without doing it. No one ever learned to observe correctly without practice in observing. No one ever learned how to record his observations except by repeatedly recording his observations.

All this has been said so often that you can all sleep comfortably while I speak, just as we all sleep comfortably while someone declares without passion two such profound generalizations as these: "One person in ten dies of tuberculosis," and "Tuberculosis is a preventable disease," just as good citizens sleep comfortably when told that they have the worst municipal government in the world and are asked, "What are you going to do about it?" Once in a while along comes a Flexner and shouts in our ears, whereupon we turn over in bed and snooze off comfortably again on the other side.

### RESPONSIBILITY OF MEDICAL TEACHING

The truth is that if our graduates in medicine are insufficiently trained, we — the group of men here present — are responsible. We either haven't the brains or the backbone to change things. In either case our slumbers should be fitful and our working days fuller of activity. Really, gentlemen, this is serious business; and I for one, when I hear that one of our graduates has undertaken a surgical operation for which he was not prepared, seem almost to have stuck a dirty finger into that patient's wounds. When I hear of fee-splitting I feel like a thief. When I hear of an avoidable death I have some of the qualms of a murderer. The question, "What are you going to do about it?" shrieks for an answer. This question opens the discussion of methods.

### METHODS OF TEACHING: LABORATORY METHOD

Concerning the laboratory side of general medicine there is unanimity of opinion that a certain acquaintance with the methods can be gained through laboratory courses of the same nature as those conducted by the ancillary sciences; namely, systematic work with a considerable number of students in laboratories not immediately related to the hospitals. This is the way in which clinical pathology is ordinarily taught to juniors. While such a course is justified, there is equal unanimity among experts that such work constitutes only a beginning, and that the continued application of the laboratory methods in the first-hand study of actual patients is an absolute necessity. This necessity must be borne in mind when we come to the consideration of teachers and equipment.

For the present let us turn to the other forms of teaching applicable to general medicine.

### DIDACTIC LECTURES

Since a thorough acquaintance with facts is one of our aims, it becomes apparent that the didactic method may be employed, provided the students have the opportunity of acquiring the objective basis by which the matter of lectures or text-books is made intelligible. By this objective substratum I mean that first-hand knowledge of facts, terms and methods by which alone wider discussion and excursion can be comprehended — by which alone words can be vivified and descriptions visualized.

### IMPORTANCE OF OBJECTIVE KNOWLEDGE

To me as a teacher of physiology this subject is almost a fetish. I spend probably a fourth of the time of my students in the systematic development of objective knowledge of the methods and principles of this science, but I do not attempt to teach it all from an objective standpoint. I find that when my students have a moderate working acquaintance with the graphic method, they are in a position to understand and interpret heart tracings that they have not made themselves; that if they have studied the process of secretion of the salivary glands, they can visualize the process in the stomach; that if they have seen the effects of secretin on the pancreas, the discussion of the ductless glands without demonstrations becomes intelligible.

Now it is apparent that the fundamental sciences supply in part the objective substrata for medicine. For this, in part, the students have pursued anatomy, physiology, chemistry and pathology. But it is equally apparent that a part of the experiential basis must be supplied by the department of medicine. The student must early see some sick people. Else "fever," "dyspnea," "râles," "contusion," "abscess," "rigidity," "edema" and many more words remain words only, parrot words, learned by rote, glibly repeated it may be, but lonely and unassociated in the mind. Hence we have the argument for some clinical instruction, as intimate as may be and as early as possible, surely by the beginning of the third year.

Concurrent with or following (but not before) this observational basis can come systematic didactic instruction. Whether by lectures or by recitations from a text or by a combination of the two seems from a study of our authorities to be a matter of local conditions. To me it appears that the working out of this problem should take into consideration our fourth and fifth aims in regard to the development of powers of expression and habits of study. Furthermore, the problem should be worked out in relation to other departments and divisions. For example one department may well work from the text-book with frequent oral and written exercises and consequent development of ability to read and to express. Another department may properly use lectures and develop power to recognize essential points in discourse and make good notes. Whatever be the detailed system, every one agrees that the didactic method is to be employed with discrimination as to subject-matter and sparingly in relation to the total instruction.

### SELF-CRITICISM AS A FACTOR IN EDUCATION

I believe, however, that one recognized psychologic fact should not be lost sight of; namely, that self-criticism of motor responses is easier than self-criticism of purely mental functions. A child can more easily tell whether he has made a right angle correctly than whether he has defined it correctly. A man may make a good machinist of himself. He can with difficulty make an electrical engineer of himself. Still less easily can he make a scientist of himself. The broad foundation of theory and of generalization must be laid by systematic instruction in the school. Your average graduate should constantly improve his technical skill in his life-work; he will be less likely to add

to his scientific knowledge and to his ability as a thinker. This is not saying that we should teach the latter to the exclusion of the former. But it is saying that in our zeal to produce a competent technician we must not narrow the mental horizon — that we must not submerge the science in the art. This is a real danger, to be borne in mind in every readjustment of curriculum by which didactic instruction is supplanted by technical instruction and in all teaching, especially of the latter kind.

### CLINICAL LECTURE METHOD

Taking up the second method of instruction, the clinical lecture, there is a surprising majority expression among our correspondents as to its limited applicability. It is criticized, on the one hand, as not furnishing systematic instruction; on the other hand, as not affording intimate, first-hand information to the students.

The first criticism is met in part by saying that the lecturer must be in command of a very large clinical material from which to develop a systematic course (which is easier said than accomplished). The first criticism is also answered in part by saying that the student in his after-life will have to meet his cases as they come and must be prepared to open his mine of knowledge at any spot and at a moment's notice. The second criticism is partially met by having certain students participate, either by being abruptly called to the arena or, better, by being afforded opportunity to examine the case in advance. You will all remember, however, Mr. Flexner's description of the ineffective working of the *Practikant* system in the highly organized clinics of Germany. It can hardly be so good, on the average, in our less organized and controlled hospitals.

Nevertheless the clinical lecture has ardent defenders; and much of its success must depend on the care with which the system is worked out, and on the way in which the student-participant is compelled to work up and present his part of the exercise. That the method may be used in moderate degree should be admitted.

### SECTION TEACHING AND INDIVIDUAL WORK

Two other methods of clinical instruction remain to be discussed; namely, so-called section teaching and individual work in hospital wards. It seems to me that many practical considerations demand that the two methods be combined. Abstractly we may say that the student should work out everything by himself in ward and laboratory. Practically, it is acknowledged by all that the student must have supervision and help. Abstractly, we may say that all instruction should be individual. Practically, we cannot furnish instructors enough; and there are other difficulties. Abstractly, we may say that the teacher's criticism and discussion of a student's work pertain only to that student's work. Practically, we know that a valuable by-product of that discussion and criticism may fall to others who are near enough to know the facts under consideration. Teaching in small groups, therefore, appears to combine the maximum of efficiency with the minimum of supervision and expense.

The maximum of value in this type of sectional instruction will be found neither when the teacher demonstrates everything, nor when he simply turns the student loose in the ward and laboratory and says, "Do so and so." The maximum of value is somewhere between these extremes. It will vary in position with the advancement of the students and with other conditions. We need not try to locate it exactly. It is of more importance just now to decide how many students a teacher may properly supervise and the length of time to be spent in this work. Our correspondents are united in affirming that the sections must be small. Twelve is the largest number named, and a big majority favor sections not larger than six. They assert further that two or three (or four) hours a day for six (or seven!) days in the week and over a period of eight to twelve weeks should be spent by each senior student in ward and laboratory work on actual cases of disease.

Even admitting that under good conditions the students can work part of this time by themselves (and the regime to make this possible needs to be very good indeed, if proper regard be had for the patients concerned), it is apparent that here is a very large problem of organization, equipment and teaching. This problem has been stated so often that some of you are doubtless whispering, "Katydid," but a far better slogan is "What are you going to do about it?" What are *we* going to do about it?

### MEDICINE SHOULD BE A UNIVERSITY DEPARTMENT

We must, complacent gentlemen, *we must* organize this inexpressibly important teaching on a university basis. At the present time, as Dr. Blumer has frequently said, it is like chemistry forty years ago. At the present time, in many of our schools, sick people are like the instruments in the physics cabinet thirty years ago bearing the notice, "Students must not touch the apparatus." First of all, we must open the cabinets, that is, the hospitals. Secondly, we must organize the teaching so that students may properly use the apparatus, that is, the patients. Incidentally we shall find, as did physics, that many more teachers and much more apparatus are needed the instant that the university type of instruction is adopted.

### THE TEACHING HOSPITAL

I can take time but to indicate in brief symbols, as it were, this aspect of our problem. The university hospital is what we are all praying for; but so far but few of our rich men or rich states have been influenced to double, yea, quadruple, the results of their philanthropy by endowing institutions which both minister to immediate unfortunates and also, through educational facilities, radiate blessings to unnumbered others in sick beds far removed in time and space. Meanwhile let us not only pray but work.

Organization, tact and persistence will do much. Scattered and inadequate hospital privileges will bear fruit if cultivated and fertilized. By fertilization we mean all that the medical school can do for the hospital. Have not the schools heretofore asked much and given little? The relation should be *quid pro quo*. And in addition to moral support and other help, the schools may well afford to pay money for their clinical privileges. Often a very moderate annual sum will secure affiliations of great value. The school may properly conduct the laboratory of the hospital or furnish a paid pathologist or support a number of free beds. Gradually the schools can gain control of the staffs; but even pending that all-to-be-desired day, tact and weight of opinion may secure working cooperation. The staff-surgeon has the reputation, it is true, of lying full length in the trough while he eats. But the medical man has often no more than two legs in his victuals; and the man trained a generation ago, who ought not to try to teach under the new conditions, will some-

times move over a bit to allow the young instructor a chance — on the charity cases!

Seriously, while admitting the real difficulties above indicated, I must express my appreciation of the unselfish zeal of many of the older type of medical teachers and of their willingness to give up their authority, when the good of the school demands the sacrifice. It is ours to demonstrate that a new prophet is come and the sacrifice is due.

### PRESENT DEFECTS IN TEACHING MEDICINE

A word only on the teaching side of our topic. At present, in most of the schools of this association, the teaching of medicine is as far from the university standard as Dr. Cook from Captain Scott. A glance at some schedules which I studied would demonstrate this all too easily. In one school for example there are two "professors" of medicine. One is scheduled for one lecture a week. The other conducts a clinic two hours a week. The first gives one-fiftieth, the second one twenty-fifth of his working time to teaching. Contrast this with the professor of anatomy who teaches, according to the schedule, ten hours a week; and the rest of whose time goes to the constructive work of his department and, as shown by his publications, to investigative work in his science. Take another school, three professors of medicine teaching two, two and three hours a week, respectively. Take another, one "professor," one lecture; the rest of the work by subordinates, all practitioners.

Or take up budgets! One school spends yearly for medicine (total budget), $930; for anatomy, $3,750; for pathology, including bacteriology, $4,600; for physiology, including pharmacology, $3,800. Another school: medicine, nothing; anatomy, $5,600; pathology, $7,500; physiology, $4,500. A third school: medicine, $200; anatomy, $7,000; pathology, $8,000; physiology, $5,500. A fourth school: medicine, $1,100; anatomy, $6,000; pathology, $4,500; physiology, $6,600. Of course other budgets read quite differently; for example those of Stanford, Western Reserve, Minnesota and Michigan. In one school, to its great advantage, a strong young man has been put at the head of medicine on practically a full-time basis. And the salary for this man was voluntarily surrendered from the already inadequate budgets of the fundamental departments. This is mentioned as showing how great is the need to strengthen the department of medicine, and what sacrifices may sometimes be deemed necessary to do it.

### NEED OF MONEY FOR PAID TEACHING

Gentlemen, complacent gentlemen and complacent public, you have got to spend money on the teaching of medicine. You cannot expect a busy practicing profession to teach; and even if you had a right to expect it, this profession could not fill the bill; for the profession of medicine is not the profession of teaching—and "no man can serve two masters." Practitioners may give valuable help but they cannot bear the larger burdens.

But if you had the money—which admittedly you have not — how would you spend it? As everybody knows we have not bred the self-perpetuating race of clinicians and teachers which has made the German medical schools the models of the world. We have produced a few promising men, already well placed. But the wise school, attempting to build up medicine on a university basis at the present time, will look for a young and vigorous "sport" (I am still using the language of the breeders), and will hope from him to develop the new species of clinical teacher. Select a strong young man who has done some research work in the fundamental sciences and has had a good clinical experience, and tell him to swim or sink. If he sinks or if he drifts into the maelstrom[1] of practice, let him go and get another idealist still in his early thirties. Pay him well for his services. Pay him more than the laboratory head, if you must. I say this with misgiving, for I cannot think one kind of service intrinsically more valuable than the other. But on the other hand, the law of supply and demand cannot be denied. Surround this young man with other young men, some full-paid; others, part-time. Yes, and with old men too, men of experience, vision and zeal, who are willing to cooperate for better things. Presently we shall think the millennium is indeed here!

### TEACHING ETHICAL IDEALS

Finally let us recall the seventh of our aims formulated for a department of medicine: To inculcate the ethical and professional ideals of honor, self-respect, altruism and social consciousness without which medicine degenerates into a business or a trade. Is there not need that something be done in this direction? Does not the wide-spread distrust of the medical profession indicate that something should be done? Does not the unrest in the profession demand that something be done? Can we deny that many of the profession are money-mad? Does not cut-throat competition beat the oil business in its worst days? As deans you doubtless often receive from doctors offers to sell their practices or notices of desirable locations for young physicians. Did you ever get one that told of the good a physician could do in that community? No; they say rather, "Practice worth $6,000 a year. Collections good." Or they say, "Little competition here. The other doctors are old fogies. I came here six years ago without a cent and have saved $15,000."

Gentlemen, the need of higher ideals is very great. But can we suggest methods which will at all help to meet the demand?

If you will pick up almost any book on principles of teaching you will find a chapter on "Responses of Conduct" or "Moral Training." You will find that the psychologists trace the elements of character very far in the complex web of existence—farther indeed than the life of the individual, for there is evidently an important hereditary factor. "To expect school education to determine moral development," they acknowledge, "is like expecting a city water-supply to abolish all sickness." But at the same time they point out that the teacher can "do a little of what so much needs to be done." And we think the department of medicine also can do a little of what so much needs to be done in its sphere of education.

### TEACHING BY EXAMPLE MOST IMPORTANT

The department of medicine enjoys the advantage of being able to teach by example even better than by precept. It can place before students worthy examples of men devoted to science, the advancement of knowledge and the amelioration of suffering. It can develop the instinct of workmanship. It can teach a man to do honest work. Any man who learns to do something useful is a better man than he would have been other-

1. The metaphor would seem to imply that this athlete may swim moderately in "practice" waters, provided he does so for his own development and not to the weakening of his powers for the race in which he is entered.

wise. Moreover an overpowering interest in his occupation keeps him from distracting and lowering influences. This interest the instructors in medicine should arouse. Says Thorndyke, "A man's conscience is not the producer but the product of his career." If this be even partially true, habits of thoroughness, persistence, punctuality and patience have real moral value. These habits the instructors in medicine should help to form in their students. The field of preventive medicine should be traversed as the great altruistic fighting-ground of our science. Finally by a host of shining lights such as Pasteur, Livingstone, Walter Reed and Ricketts, it may be shown that the enduring stars in the esteem of mankind are the morally great and not the flaming rockets of worldly success.

We as deans and officials have our part. We help to select the teachers and thereby accept a great responsibility. I remember an instructor who never wrote a prescription on the blackboard without saying, "This will be worth two dollars to you fellows"; another who frequently spoke of his large practice and admonished the students not to be afraid of any kind of surgery when they went out of school. Both these men, I am glad to report, have discontinued their activity as medical teachers. I know a surgeon who recently, for reasons of his own, sold his big limousine and now drives to the college in a little runabout. I venture the suggestion that that surgeon is now a better teacher!

### CONCLUSION

The weakest part of medical teaching is general medicine. It should be the strongest. It should be a university department, like the other divisions of biologic science. It must be given its laboratory; that is, a hospital. It must be given its equipment. It must be given its material. It must be given its personnel; that is, paid scientists and teachers who devote their time to this work. It must have money. The problem of teaching general medicine is the great problem in medical education. You have built a good foundation, gentlemen; but you have put on a temporary roof at the height of the first floor, and you are holding divine services in the basement. It is time to build the church.

---

## THE TEACHING OF PSYCHIATRY *

CHARLES W. BURR, M.D.
Professor of Mental Diseases, University of Pennsylvania
PHILADELPHIA

A great deal has been written and spoken in recent years on educational reform. Much has been mere intellectual soapsuds, beautiful as the prismatic colors on the surface of a soap-bubble but having no more substance. Some of the criticisms of present methods have been wise, sane and practical, written by competent men not hunting for popular acclaim, and it is to be hoped that in the slow but steady progress of time, a progress rarely helped by noise, the opinions of these men will prevail, and that the reforms which they have suggested will be put into effect.

To-day, however, the quiet man who knows, he whose words should carry weight and have authority, has less chance to be listened to than that other man who knows how to write or speak in the style of a newspaper headline. The newspapers and the cheap magazines have attempted to usurp the intellectual rulership of the country and have caused much commotion with little motion forward. The more intellectual classes, who rarely read the papers, have no realization of the tremendous influence the printed word has in molding public opinion. The press is the bible of the masses and their faith is unshakable.

In this day of unrest, largely emotional, and only in minor degree intellectual, when the people have decided that everything that our forefathers thought right is really wrong, when we are informed that everything that has been built up must be torn down, when all our energies must, as we are daily told with all the fury of hysteric preaching, be wholly devoted to "the moral uplift" of everybody else, forgetting that a man's first duty is to himself, when everything is made a moral question whether it really has anything to do with morals or not, when authority has no standing in the court of public opinion, when the public dares to be a court, and, what is worse, has power to enforce judgment, when the amateur holds a higher place than the expert, when to have devoted a lifetime to the study of any subject proves poverty of mind, when we must have a new remedy for every ill every day, and when we must bring the millenium in six months or die in the attempt, even the poor, quiet, harmless students of minds diseased must be victims of the triumphant muckrakers and are expected to sit in sackcloth and ashes and do penance for not teaching their pupils all the newest formulas for mentally and morally regenerating the whole world.

I have been led to use the above rather truculent and perhaps petulant introductory words because for a long time I, with many others, have had to listen to much thoughtless criticism on teaching, and especially on the teaching of psychiatry to medical students, and finally have been made to feel that something ought to be said by one who is, in the technical sense, not a progressive. I have learned, as every one must, much from criticisms and suggestions made by teachers and men experienced in educational matters, but more than once my usually calm temper has been ruffled when I have been compelled to listen to long lectures on educational reform by enthusiasts innocent of training and experience whose ignorance was crass and their conceit colossal.

Now I wish at the outset to make several confessions: First, I have never personally known a genius who devoted himself to teaching psychiatry. Second, psychiatry is the most backward of all the sciences fundamental to the art of medicine. Third, the time devoted to mental diseases in medical schools is too short to teach anything beyond the alphabet. Fourth, I have not yet been convinced that the study of formal psychology throws any light on psychiatry. By "formal psychology" I do not mean brain physiology or sociology, or pedagogics, or social politics, but that department of knowledge which takes for its subject the question "How does the normal brain think?" I am well aware that the newer psychology does not concern itself with this matter but with education, especially with making the road to knowledge easy, with training the feeble-minded so that they may be more competent to be vicious and criminal, with questions of social policy such as the proper treatment of criminals in order that we who, as we are told, have simply been canny enough to keep out of jail may be proper companions for them, and with the invention of religions with God left out. No serious-minded student of psychology will be offended at this statement. On the contrary he knows and appreciates at his true value the type of man of whom I am speaking.

* Read at the meeting of the Philadelphia County Medical Society, Feb. 26, 1913.

Without further preliminary let me come to the gist of the matter and take up the question of the method of teaching psychiatry. I must first beg you to believe that though this paper concerns myself, concerns how I teach, or at least try to teach, it is not written with any desire to obtain advertisement, nor with a feeling of self-content with what I have done but solely with a view to let everyone who may read it know that psychiatry is to a certain extent taught, a fact which is not generally known, in some American medical schools and that the men who teach are doing their duty conscientiously. I use my own course at the University of Pennsylvania as an illustration of what is being done in teaching psychiatry, not because it is the best, for I do not know that it is, but simply because the University of Pennsylvania is the only school with which I am thoroughly acquainted. I know that there are other schools in which excellent instruction is given. I am quite cognizant of my own defects.

The practical questions in the teaching of psychiatry are: 1. How many hours should be given to it? 2. During which year or years? 3. What proportion of the teaching should be didactic, what clinical? 4. What, if any, preliminary, premedical subjects should be required or are desirable? 5. What particular subjects should the instructor attempt to teach? I shall first give an outline of my own course and then take up a brief discussion of each of the above questions.

## METHODS IN USE AT THE UNIVERSITY OF PENNSYLVANIA

Whatever specific thing a man does, whatever his work may be, the manner of his doing it is influenced consciously, and still more unconsciously, by his general and complete attitude toward life. This is true of the teacher as of every one, and hence my course of teaching depends on my conscious and unconscious outlook on life as well as on my specific opinion at to what a physician is. As to the former, no man knows himself nor what his real outlook is, but as to the latter, I am strongly of the opinion that the function of a physician is to take care of the sick; whatever else he may do is outside that primary purpose and therefore my whole course is intended to teach the students that one thing. The important thing in caring for the sick is to learn how to discover what is the matter with them; therapeutics is then easy, though official therapeutists will not admit this, and hence great stress is laid on diagnosis, in other words, how to use the senses and when to use and how much to depend on instruments of precision.

To come to more particularity, I have thirty-two hours, one hour weekly, with the men in the third-year class throughout the year, and ten hours with each third of the fourth-year class during the second half of that year. In my course to the third-year men, I begin with five didactic lectures on the causation and general symptomatology of insanity. In these lectures I try to show the students that, though we know nothing of the processes occurring in the brain producing thought whether normal or abnormal, there are certain known predisposing and exciting causes of mental disease. I stimulate them to study biologic chemistry because by means of it will be discovered the real cause of mental disease.

In the lectures on symptomatology I endeavor to impress on the students the necessity of a clear conception of symptoms, describe and define them, and point out how different symptoms are grouped together in life. Beginning with the sixth lecture the course becomes clinical.

In the clinical lectures I do not follow the theoretically logical method of taking first the simple types of insanity and proceeding to the more complex as is the proper and scientific method of treating the subject in a systematic text-book, but take a few of the great types and group others around them, though often they are not the insanities which could be mistaken for each other. There is not time for me to give reasons for this method, to explain why, for example, paranoia and melancholia should be studied in association. I have found, however, that such a system works out well.

I begin with paresis as the great classical type of insanity associated with gross organic brain disease. Having finished with it, I take up the other insanities associated with gross disease, arteriosclerotic insanity, that associated with apoplexy, etc., and point out the similarities and differences of each. In contrast to these I next take up, still clinically, paranoia as the type of the great essential insanity without gross brain lesion and group around it mania, manic-depressive insanity and melancholia and show their likenesses and differences. I then take up the matter from an entirely different point of view and give clinics showing the influence of age on symptoms and compare the insanity of adolescence with the true melancholia of middle life and with the insanity of senility. Again, I take a different point of view and study a few of the insanities which have a definite, single, exciting cause, such as alcohol, cocain, lead, the poisons of the puerperium, and of the acute infectious fevers. The material at Blockley is so large that I am enabled to make the clinics follow each other in systematic order. Throughout the whole course I emphasize the fact that soil is more important than seed, that only certain natures can become insane. Here ends the clinical instruction to the third-year men. The few remaining hours are devoted to didactic lectures on treatment, classification, the medicolegal and sociologic aspects of insanity, and the means of prophylaxis.

In the fourth year the class is divided into thirds. I give neither clinics nor didactic lectures but have patients brought in and I and one or another of the students examine them and I give an informal talk concerning diagnosis and treatment. During his course each student sees, talks with and examines patients suffering from the common insanities.

Very serious criticism is often made of the teaching of therapeutics in mental disease. The gentlemen who write popular articles for the magazines have impregnated the public with the idea that adenoids, lateral spinal curvature, ocular defect, and other like things are the cause of all insanity; that feeble-minded children can be made strong-minded by some simple surgical operation, such as cleaning out blocked nasal passages or some other similar act and that moral degeneracy can be cured by trephining the skull. Every teacher of psychiatry is repeatedly taken to task for not teaching such nonsense. You would be astonished if you were told the number of times teachers are asked by self-appointed advisers to give many hours to fads. The real evil of this matter, though it does not properly come into the subject of this paper, is the immense harm such talking does to the near relations of the insane. They are buoyed up by hope. Their emotional fall into despair when such hope proves unfounded is terrible. A fundamental object in teaching therapeutics is to show students that here, more than in any other disease, it is the man who is treated, not the disease alone. My

greatest regret is that I have not time to teach practically methods by baths, massage, etc.

Now it is impossible for a man of average mind, or even of mind beyond the average, in such a small number of hours, to take in, digest, absorb and remember all that is given to him in this course, though really it is not so much as it looks to be on paper, and it is not expected of him. The problem is, how to handle the matter so that he will retain as much as possible. Constant repetition helps much. A student who is told, every time a patient comes in, that the first thing he must do is to look and not look so closely that he will not see something which really is staring him in the face, will finally learn how to observe. The student who has it constantly reiterated to him that the unconscious behavior of the insane always throws some light on the case, even in such apparently trivial matters as the way a patient walks into the room, will soon begin to observe conduct and further will learn deduction—the method of Zadig. The student who sees patient after patient examined methodically as to memory, delusions, hallucinations, emotional tone, mode of speech, manner of acting, and for physical signs will soon learn methods. Now the teaching of method is more important than the teaching of facts, for he who knows methods will teach himself facts and method is the thing every wise teacher lays most stress on, not so much by precept as by example, not so much by telling the student as by doing it and having him do it.

What is my end and aim in this course? It is not to make alienists; that were impossible. It is not to teach the theories of psychiatry; they are too numerous and, if I dare say it, too barren. It is merely to teach the alphabet of the science, to dig the cellar, to lay a sound foundation for a very simple building. This is my end and nothing more. I give no clinics on rare diseases. I give no lectures on philosophic hypotheses. I am a mere nursing mother to intellectual sucklings and I give no stronger food than milk.

The university does not possess a hospital for the mentally diseased and all the instruction in psychiatry is given at the Philadelphia General Hospital (Blockley). Curiously enough, the trouble is that material is too abundant. Philadelphia does not pay enough money for enough assistants to make it possible to study the patients there thoroughly. I hope that the university will some day have a small psychiatric hospital of its own. It should be a separate department with its own building. The proposition advocated by some that wards in general hospitals should be set apart for the insane is, for reasons that I have not time to give here, impracticable.

### TIME TO BE GIVEN TO THE SUBJECT

Let us pass now to the five questions. First, how many hours should be given to psychiatry? We are confronted with the fact that a day is a fixed, inelastic period of time and by the further facts that we cannot extend the number of years devoted to medical study and cannot reduce the number of subjects studied. Of course every teacher wants to have all the hours for his subject he can get and I should like to have an hour daily throughout both third and fourth years. My mature opinion is, however, that the time I have is about as much as can be devoted to the subject in any school which gives a proper amount of time to the great subjects of practice, surgery and obstetrics. I think if a man will devote himself entirely to teaching the alphabet, to laying the foundation, so much can be done in this time.

Second, during which year or years should instruction be given? We can dismiss this speedily. There can be no question to-day that the time should be in either the fourth year alone or in the third and fourth years. No medical school worth the name permits any purely medical subjects to be taught in the first and second years.

### CHARACTER OF THE TEACHING

Third, what proportion of the teaching should be didactic, what clinical? I am one of those men who some years ago wanted to abolish didactic teaching altogether and have everything clinical and wrote a rather emotional paper on the subject. Since then I have been forced to conclude that I was too radical and that there is a distinct place for didactic teaching. Certainly such subjects in phychiatry as the causes of insanity and general symptomatology can best be treated in formal didactic lectures. Further than this even, I think it is wise to give a didactic description of each type of insanity before proceeding to its clinical and ward class study.

Fourth, what, if any, preliminary premedical subjects should be required or are desirable? I am here concerned with subjects preliminary or introductory to psychiatry and not with the question of the proper educational requirements for admission to a medical school. The only subject which has ever been suggested is psychology. The old psychology certainly does not make the study of psychiatry any easier or any clearer, nor does it hold out any hope that it will solve any of the problems as to the real causation of insanity, which after all is the great question ever confronting us and, so long as it is unsolved, preventing progress. Cerebral physiology, the study of sensation including the special senses, the reflexes and speech, is not psychology but physiology and is best taught by that chair. These things studied in a general way as a part of biology are useful as a preliminary study to all medicine and are required in the better schools. They are of great use in training the youth in biologic methods which the medical student of to-day must use from his very entrance into the school and because they teach him a vocabulary that he would otherwise have to learn in the medical school, but their special and exhaustive study is best left in the hands of the professor of physiology.

Of recent years the whole content of psychology has changed and now its students occupy themselves with subjects of an entirely different kind than formerly. The popular psychologist of to-day, and he is the man who has most influence with the public, if he wishes to be thought up-to-date, studies, or at least writes about, matters of education, especially the education of the feeble-minded, a class which some of us think should receive no book learning, and numerous other subjects affecting the general welfare of the race, such as heredity, the rights of children, making cortical cells grow where none were planted, the weighing of souls, thought transference, magic, both white and black, and how to make silk purses out of sows' ears. Frankly, I do not think that an undergraduate, whether in college or in a medical school, should be expected to devote time to these matters. They are, some of them, subjects of great importance which require years of study really to learn anything about, and others are things wise men only play with or ignore, but none of them is preparatory to medicine. Some of my best students have been men who had had a thorough training in and taste for the humanities and I think such training is

desirable for any youth who has the mind to receive it, no matter what his life-work is to be, but I am very old-fashioned. I am sometimes inclined to believe that the study of Don Quixote, with special attention to the wisdom of Sancho Panza, would do much to develop the reasoning power of many youths and thus help them in medicine.

### SUBJECTS OF TEACHING

Fifth, what particular subjects should the instructor attempt to teach? I think one great mistake that many teachers of all the specialties make is that, instead of devoting their time to the humdrum teaching of fundamentals, they are prone to succumb to the temptation, always hard to resist, to give brilliant clinics on interesting cases of rare diseases. This is proper for post-graduates but the student who has no clear conception of what a delusion is should have that well beaten into his cerebral cortex rather than sit in open-eyed wonder and adoration, but with no comprehension, before a man discoursing learnedly on a patient showing the newest symptom-complex recently imported from Germany.

One criticism often made is that students are not taught the philosophy of mental disease. As I do not think that such a thing exists it would be rather difficult for me to teach it. In regard to this whole matter of philosophy, I confess I am entirely out of sympathy with the newest psychology of all, a product of medical minds, an alleged explanation of many psychoses, which claims to have discovered a means of mental cure—so-called Freudism. It is a part of the general sexual-mystic philosophy which is becoming more and more wide-spread and is itself a symptom of the madness of the times. It contains so little truth and so much error as to be useless. More than that, it is harmful. It claims that therapeutically psychanalysis is of great value. This psychanalysis really resolves itself into a searching and, to men holding every-day views as to morality, filthy examination into the past sexual life, repeated if necessary time and time again and lasting over a period of days or even months. It is largely a science of words and has developed a large vocabulary—"projections," "splitting of consciousness," "repressions," "conflicts," "dissociations" and many more. It is based on the wildest conjectures and offers the filthiest possible explanation of mental disturbances. Surely the sexual element in insanity is large enough without trying to make it more important. The supporters of Freudism are making great endeavors to force its acceptance and a few are even trying to compel state boards of examination to enforce its teaching in the schools. It has, of course, for that is always the case, attracted much more attention, and been taken much more seriously in America than in the land of its birth. To me it seems much wiser to teach students the commonly accepted clinical and pathologic facts about insanity and to ground them well in methods of examination, than to spend time lecturing on such matters. After students are graduated and when they know something about psychiatry, and something about humanity, they can judge for themselves the truth or falsity of such hypotheses.

Criticism is also made that teachers of psychiatry do not encourage undergraduates to do research work. The critics seem to think that any youth can be made into a real "research worker" if only he is properly taught. Now there is unfortunately no formula for the manufacture of men of the scientific type and to try to make an investigator out of a man not born such is often to spoil one who might have been a very good practitioner of medicine. The word "research" has come to have a very artificial meaning when used by certain men. To them it means only labor in the laboratory and usually it results in a dreary history, a long account of a necropsy, a tremendous list of references, preferably in foreign languages, ending with a rediscovery of an obvious and well-known fact. If the paper be written in slovenly English, and with every endeavor to make it as uninteresting as possible, it is the more to be praised. This is not research and it is not science. Science is only knowledge: it is not a particular brand of knowledge and there is much still to be learned at the bedside. The time of the average student is fully occupied doing his ordinary work and I do not think it well, therefore, for him to attempt research work. There are, however, always in every good school, and sometimes in worthless schools, a few undergraduates who are born investigators, men who see what they look at, who have clear mental vision, who recognize real relations between apparently unrelated things, who have an individualistic mental attitude uninfluenced by the prevalent dogmas of their day, who seize the gist of things and let the chaff go; these are the real youths of science and they ought to be encouraged from the start. Fortunately they, for the most part, need no encouragement but only opportunity. They are competent to cut their own path through this world.

Now as to the results: I think all the men leave the school with a real knowledge of the fact that insanity is a disease just as typhoid fever and tuberculosis are diseases and that it is controlled by the same laws. I think that the majority have a fairly clear idea of methods of examination. I think that almost all know that the delirium of fever and of drugs must not be mistaken for acute insanity and realize the responsibility they will assume in signing certificates. I am sure that few of them could, either from a case history or by examining the patient, make a correct diagnosis of the type of insanity present, unless possibly it was a text-book case of paresis or paranoia, melancholia or an exhaustion psychosis. I believe that more than a few are stimulated to such an interest in the subject as to continue to study it after graduation. I believe a few will make some real contributions to knowledge and possibly some one among them will make a fundamental discovery.

1918 Spruce Street.

---

## THE TEACHING OF INSANITY

F. X. DERCUM, M.D.
PHILADELPHIA

I am firmly of the opinion that mental diseases should be taught just as are other diseases, namely, both didactically and clinically, and, as far as possible, the teaching should be brought into relation with internal medicine; for if there is one truth that our knowledge of the subject justifies, it is that the insane man is a sick man. The teaching should be of such a nature that when the student finally enters practice, he will be able to recognize the common and every-day forms in which mental disease manifests itself. It is the general practitioner, the family doctor, who sees the sick man first and the doctor should be sufficiently well informed to be able to recognize the mental diseases in their early stages. He should also know what to do under given conditions, when to commit and when not to commit a patient to

an asylum and how the patient should be treated in his own home or outside of an institution when this is practicable.

In my opinion theoretical considerations should enter but little into a course on mental diseases in a medical school. As far as possible, emphasis should be laid on symptoms, course, prognosis and treatment. In the main the latter consists of the application of supporting measures which promote nutrition and improve the general health. The student should also be taught under what conditions to employ medicines, the iodids, the mercurials, the glandular extracts and the various remedies and measures to produce quiet and sleep. That physiologic methods, rest, bathing and exercise should be emphasized, it is unnecessary to add.

There is at present a strange and unfortunate tendency to drop the practical study of insanity, that is, to abandon the study of the symptoms of these diseased states and to take refuge in psychologic speculation. A school has arisen in Vienna in which all of the phenomena of mental disease, as well as of the functional nervous disturbances, are attributed to sexual crises and traumas experienced in childhood; a new system of psychology has been evolved. Delusions are supposed to have their origin in the formation of special psychic complexes, that is, groups of associated ideas the result of sexual traumas. The memory of the sexual occurrences being often unpleasant, they are repressed and we then have a group of ideas which is dissociated from the rest of the personality of the patient. In other words, the personality is supposed to undergo cleavage or dissociation. The repressed complexes, however, overcome the resistance which the patient interposes, and, working themselves more or less to the surface, reach the field of consciousness, though often in a distorted form. During this process, conflicts occur within the personality and the symptoms are supposed to vary as one or another group of ideas fills the field of consciousness. It is further maintained by Freud and his followers that, if a repressed symptom-complex be given free vent, the patient is relieved and cured. Unfortunately, when we come to look at the reports of cases, we find that they are cases of ordinary and every-day hysteria and that the time required to effect a cure in such cases varies from six months to three years, most frequently three years. Assuredly, even admitting the theory of repressed sexual complexes, in itself improbable and essentially untrue, the prospect of curing an ordinary case of hysteria only after three years of daily or almost daily conversations, the conversations occupying about an hour at each session, is not very encouraging.

Unfortunately, and this is the point which is so distressing and alarming, men have not been found wanting who have carried this theory into the field of mental disease itself, that is, into the study of asylum cases. If there be one disease that justifies the opinion that it is a disease of morphologic deficiency, a disease of inadequacy, both mental and physical, that disease is dementia praecox; and yet physicians are found, among them Bleuler and Jung, who endeavor to apply the explanation furnished by the Freudian theory to dementia praecox. Bleuler, for instance, says that the cases of dementia praecox are at one time ruled by one complex and at another time by another complex. In stating this fact, he has merely pointed out a truth which is as old as the days of Kahlbaum and Hecker, who made their first studies in 1863 and 1874. The latter pointed out in the clearest possible way that the average case of hebephrenia passes first through a phase of depression and secondly through a subsequent phase of expansion. On the bases of these facts, themselves not new, Bleuler ventures to change the name of dementia praecox into "schizophrenia." "Schizophrenia" literally means "cleft-mind," "divided mind," but Bleuler forgets that all mental disease means more or less mental disintegration. Every case of hysteria that has a paralysis of the arm has the centers of that arm dissociated from the other centers of the cortex, so the arm no longer forms a part of the personality. In every case of mental disease in which the patient hears himself addressed by his hallucinations, there is a dissociation of the mental make-up. If we are therefore to employ the term "schizophrenia," it must be applied to all the forms of mental disease in which dissociation of any kind is present. Further physicians have learned—and there is no teacher so good as that of experience — that the only possible hope in dementia praecox lies in the upbuilding of the patient, the placing of the patient, by means of full feeding and simple physiologic measures, in as good a physical condition as possible. That of course every case requires retraining, a rational psychotherapeutic procedure, in addition to the employment of purely medical measures, every practical physician knows. We need no absurd theories of psychanalysis to prove this fact to us and yet Bleuler in his most recent contribution on the subject in the "Handbuch der Psychiatrie," states that psychanalysis offers the only hope for the cure of dementia praecox. I leave this subject to the calm judgment of the every-day practical physician. Such an important clinical fact that almost all dementia praecox patients possess a fatal vulnerability to tuberculosis, that they die in large numbers of some form of abdominal tuberculosis, is swept aside or utterly ignored by the disciples of Freud, and yet this single fact of the susceptibility of the dementia praecox patient to tuberculosis must have a deep and profound meaning and proves more than any theoretical consideration possibly could prove that the study of mental disease must be approached from the standpoint of internal medicine.

The grave danger that confronts the medical student of to-day is that it is actually proposed to introduce in the place of rational instruction in mental disease, this so-called "newer psychology." It may be granted that now and then the latter may offer a possible explanation of a symptom but the fact remains that it cannot and does not cure. The absurdity existed a few years ago, and doubtless is perpetuated in some of the asylums to-day, of having a young lady psychologist, generally a girl hardly out of her teens, to work up the psychology of the patients. This young person was always one without a particle of medical training. Could anything be more monstrous or preposterous? And now it is actually proposed to force into the already overcrowded curriculum of the medical student, the study of a subject alike barren and theoretical, to take the place of the teaching of internal medicine, of which insanity is but a part.

1719 Walnut Street.

---

**Anaphylaxis and Infectious Diseases.**—We are compelled to change our ideas concerning the causation of the lesions of the infectious diseases. Formerly we believed the structural changes to be due wholly to the living, growing, feeding microorganisms. For instance, we were sure that the intestinal ulcerations of typhoid fever are caused by the living bacilli. Now we know that these lesions follow the intravenous injection of dead proteins.—Victor C. Vaughan in *American Journal Medical Sciences.*

# SAVING THE BACKWARD SCHOOL CHILD

GEORGE M. GOULD, M.D.
ATLANTIC CITY, N. J.

The backward school child, so misunderstood and non-understood, so mistreated and non-treated, so unconsciously and unintentionally encouraged and compelled to grow continually more backward is a comparatively new human product. As a rule, the children of this class have lingered in the lower grades without making the customary advancement. Moreover, they often drop to still lower grades when the causes of their backwardness are not removed, and many show traits of abasement and disgrace which are due not alone to physical or anatomic causes, but are, as a rule, of the nature of deteriorations or non-developments of functional, physical, moral or intellectual characteristics.

These discriminations are fundamental and to be borne in mind if we are to set these children right in school and, more than that, in life. Because, in the young especially, we have still to learn that functional disease precedes and causes structural abnormalism, aberrant physiology degenerates into pathologic anatomy, and curable mental twists, perversities and malworkings of functionally abnormalized minds harden into insanity and criminality.

Since 1845 a constant series of books and reports of reputable physicians has been appearing, all pointing out that malfunction of the eyes, the most valuable of our sense organs, is a great source of disease, not only of the eyes themselves but of the general system — and especially of the nervous system. Of late, it has been clearly seen that civilization multiplies enormously the causes of eye-strain, and that as a result nervous and mental diseases are rapidly increasing with a frightful growth in the general morbidity rates. Suicide of children and also of adults in all countries is in exact proportion to the number of hours of study per week demanded of school children.

According to a bulletin of 1912, the U. S. Bureau of Education says that 25 per cent., or about five million, of the school children of our country have defective vision, and that about 75 per cent., or about fifteen million, of the school children in this country need attention to-day for physical defects which are prejudicial to health and which are partially or completely remediable.

The school child, degraded, functionally diseased, criminal in the making, is allowed to go on to utter failure mentally and physically, thus finally burdening the community with his permanent invalidism, criminality, expensive support in asylums, etc. What has been wanted all the time is a workmanlike testing the matter out on this, that, and another school child, and, so far as pertains to the eyes, actual relief of eye-strain and following up of results. This, in a small but illuminating way, has at last been done by an oculist of New York City, Dr. William Martin Richards, who was personally commissioned by the school authorities, himself carrying out the refraction work, supplying the spectacles, etc. The patients were the children who were below grade in two public schools, Nos. 1 and 11, Bronx, N. Y.

The clinical experiment was on thirty-eight pupils: thirty-two hyperopic, three myopic and three with mixed defects of the eyes. The old contentions, therefore, are so far illustrated, if not proved; namely, that hyperopia, hyperopic astigmatism and anisometropia are the causes of eye-strain and of myopia.

In twenty-six children the error of refraction was large, i. e., over 0.50 D., and in twelve it was small or less than 0.50 D. Thus the ancient error continuing to-day, but often disproved, that small errors of refraction are negligible, is corrected, the small error being given as one of the causes of non-progress in one-third of the children.

Of all examined only two were wearing glasses, and these two pairs of spectacles were outrageously incorrect, one child having with the old glasses about 20/75 in one eye of normal visual acuteness, and in the other eye less than 20/100. Despite the injuries caused by these glasses the first child was given by correct glasses nearly perfect vision in one eye and in the other about 20/40. The second child's old glasses made her vision (about 5/100) worse than no glasses, and the new ones brought 20/50+.

Of the thirty-eight children only three had approximately normal vision, which does not signify that even these three did not need spectacles. When a cycloplegic was used and the real error of refraction was revealed, it was discovered that they did need them.

For the thirty-five remaining patients, these are the findings, the figures referring to the natural acuteness of vision with both eyes: three had 20/25 or better; seven had about 20/30; nine had 20/40; six had 20/50; four had 20/75; two had 20/100; three had less than 20/100, and one was practically blind. Thus two-thirds of these children, whose occupation was study, had only one-half vision or worse with which to do their work. Not one had been told that he needed glasses! Compare these figures with the visual acuteness brought by correct glasses: in seven it was most perfect, i. e., 20/16; in ten it was 20/20; in seven, 20/25; in four, 20/30; in five, 20/40; in four, 20/50; the child who was practically blind, that is, unable to name any test object whatever, now sees perfectly, apparently. In most of the twenty children with less than normal acuteness of vision, the results of late use of glasses demonstrated that the deterioration of visual acuteness could have been prevented by correct lenses earlier in life. One exception was the case of a child operated on for congenital cataract. Another was that of a child who had a high amblyopia of 20/100. Her small refraction error proved that she made a mistake in her early answers, because after getting low-power lenses she had an acuteness of 20/16.

One of the most important and notgworthy results of these experiments is not mentioned by Dr. Richards: the cures were made with no reference to or use of myologic or heterophoric theories. One may trust that in future work of the kind, these effects of eye-strain may not again be falsely considered its causes.

The reports from the point of view of the principals, assistants, etc. of the school may be epitomized from their own words as follows:[1]

> Selection was made from among (1) the worst cases of retarded children falling behind in their present grade; (2) those who had a history of school deficiencies; (3) ungraded children. Use was made of records of tests and records of promotions, to determine problems. Consultations were held by the grade teacher, assistant principal and principal before decision was rendered. In every case the consent of the parent was obtained.
>
> The pupils were in school from four to twelve weeks after the final fitting. A ten weeks' summer vacation interrupted our observations.

1. The data here brought together are from Dr. Richards' own notes and from the official reports of the teachers of the public schools mentioned.

Number of children covered by this report:

| | |
|---|---|
| Children from regular classes | 29 |
| Children from ungraded classes | 11 |
| | 40 |
| In Public School 44, Bronx at present | 8 |
| In Public School 4, Bronx at present | 23 |
| Discharged (transferred from Public School 44) | 2 |
| Transferred to other schools from Public School 4 | 5 |
| Discharged from Public School 4 (over age) | 2 |
| Total | 40 |

### SUMMARY OF THE RATINGS

The first record was taken in January, 1912, the second was taken in June, 1912. In order to gain uniformity of opinion on the ratings whenever possible, judgment was given in the second record by the same teacher who placed the original standard. This report is unable to deal with four pupils of regular classes and one pupil of an ungraded class, because of their transfer very soon after wearing glasses.

Among twenty-five deficient children from regular classes, nineteen were promoted.

Among nine children from the ungraded classes one was promoted to a regular class.

An examination of the charts will show marked improvement in reading, arithmetic, spelling and penmanship. The very marked improvement in temper, irritability and power of concentration is a significant revelation.

In Public School 4 it would appear that considerably more benefit was derived by the older children than by the younger ones. This may have been due to the fact that our younger pupils received their glasses later than the older ones, and hence there was not so long a period for improvement to show itself.

In the regular classes the number of those receiving specially pronounced benefit in the grammar grades is eight; of those in the primary grades four.

In Public School 44 the children under observation were all in the primary grades, all of whom received promotion. (A detailed study of special cases is enclosed, covering pupils of regular and ungraded classes.)

### OBSERVATION OF THE NINE UNGRADED CHILDREN

Two boys, ages 17 and 16, had reached the limit of mental, social, moral and individual growth at about the age of 12. Hence from these nothing could be expected and the teacher reports little or no progress generally.

The remaining seven are of that type which is exceedingly slow to show any improvement; therefore this report, showing growth is very remarkable.

### INTELLECTUAL IMPROVEMENT

| | | | |
|---|---|---|---|
| Arithmetic | 2 | Oral English | 2 |
| Spelling | 4 | Singing | 1 |
| Reading | 4 | | |

### HABITS: ALL HAVE IMPROVED

| | | | |
|---|---|---|---|
| Gymnasium | 2 | Power of sustained mental work. (In some cases the increase of power here is very great.) | 7 |
| Cleanliness | 3 | | |
| Attention | 3 | | |
| Lateness | 1 | | |
| Control of facial muscles | 1 | Power of concentration | 2 |

### CHARACTER: ALL HAVE IMPROVED

| | | | |
|---|---|---|---|
| Self-respect | 1 | Gain in self-confidence | 1 |
| Development in responsibility | 1 | Temper | 1 |
| Development in social instinct | 1 | Irritability | 2 |

The extraordinary results, markedly pronounced in so many cases, justify the hope that many similar experiments will be made. The benefit derived by these children has been so great and of such a nature as not to be definitely measurable.

The following cases alone (aside from what has been done for the other pupils) has repaid many times the money, time and patience which were spent on this work.

In Public School 4, one boy's life was completely changed. His actions became more controlled and his entire view was altered. From a decided case for discipline he became a boy easily handled. He developed such a sense of responsibility that he was allowed to accept the nomination as head monitor. He was elected by his schoolmates and was perfectly reliable during his entire office. He showed an amount of school spirit unbelievable, if judged by his previous life.

Another striking case is that of a boy who was troubled with the worst kind of hallucinations. He made sudden outcries and told strange and horrible stories of what he thought had actually happened. He was exceedingly difficult to get on with. This boy has been made very much happier. This is evident by his facial expression, which could be easily characterized as sweet. To understand fully what this means, it is almost necessary to see this boy. He has been promoted.

A most remarkable case is that of a boy who had a temper that was maniacal. It was absolutely impossible to do anything with him, once he was aroused. He became tense, screamed, bit, kicked; and these attacks sometimes lasted an hour. These awful outbursts occurred every two or three days. He was a source of general annoyance to his classmates and in his lessons did practically nothing. At present the boy is gentlemanly, popular with his schoolmates, respectful to his teachers and shows no indication of temper. He is doing 5A work and his teacher's comment in speaking of him was: "Excellent in every respect."

In Public School 44 one child was as much handicapped as if he were actually blind. He was most unhappy and his facial expression fully indicated his mental state. Now his expression is actually sweet, and whereas previously he had been a nuisance and a problem, he is now a pleasure. He was given a new life.

Another remarkable case demanding special mention is that of a little girl in Public School 44 who, it seemed, would develop into a delinquent of the worst type. She was a truant from school, absolutely indifferent to her work, morally bad, associated with objectionable boys and stayed out late at night. The transformation is wonderful. She comes to school regularly, works hard, appreciates what her teachers have been trying to do for her; and we now feel that we need have no further fear concerning her moral life. Her character is growing to be such that it will be impossible for her to be anything but a respectable member of society. This case alone was worth any amount of energy spent.

One boy admitted to Public School 4 was found to be practically blind. The eyes had no irises and the boy had never seen anything but very vague forms of large masses and then only those placed not more than 2 feet from him. He was laboring under tremendous nervous strain and was suffering greatly. His restlessness was so excessive that he could not be kept in an ordinary classroom and he was placed in the open-air class. The school doctor examined him and said nothing could be done for the boy. The school visitor called at the home and found conditions to be wretched. A charitable society had been caring for the family, and their agents had completely overlooked the condition of this child. The boy was admitted to the school for the blind, but the mother refused to allow him to attend there, because it was so great a distance from his home. She came back to the general public school with him. Dr. Richards' attention was called to this case. The result has been more than wonderful. This boy has been given eyes! He actually sees as does a normal person. When first the glasses were placed on him, and a vase containing flowers met his direct line of vision, the child became highly hysterical. He had never seen anything of that sort before and for him life had just begun. At present the boy is under the supervision of the inspector of the blind.

One girl of 13 had no idea of truth and honesty. She stole, and lied. She gave up all such habits and has developed a sense of honor. She has been promoted.

Another boy of 12 was a hard disciplinary problem; he played truant last term, gained no promotion and showed no improvement. This term there has been no complaint about conduct and no truancy. He is in 5A grade and working satisfactorily.

H. T., aged 12, should have been three classes higher. He was inattentive and indifferent and his conduct was unsatisfactory. His conduct is now improved, he has gained promotion; the change is splendid.

R. A., aged 11, showed steady mental and physical improvement between January and June. Her appearance is greatly changed for the better. The mother feels more interest in her child.

Two brothers showed no improvement in a long list of bad symptoms. At last it was found that they had accidentally changed glasses with each other!

L. S. lost his spectacles immediately after getting them and his parents refused to replace them or allow anyone else to do so. Eyes and general health are in bad condition and growing worse.

M. D., a cripple needing operation, has now been promoted, cares for himself better and has improved self-respect; his carriage, posture, etc., are excellent.

H. S. was almost blind; pains in eyes have now disappeared, but he is far from seeing well. In other respects he is wonderfully better; his former nervousness and irritability have vanished and he is eagerly making up lost time.

J. L. had lost two years of school time and should have been four classes higher. He has been promoted.

L. O.'s headaches have almost disappeared and her general health and work have improved.

Several cases of non-improvement seemed probably due wholly or in part to great amblyopia caused by previous years of uncorrected ametropia, and this, for the short time reported, persisted after correct glasses were worn. Others were as plainly complicated by intercurrent diseases. Exceptionally wretched home-conditions of a number of children were perhaps responsible for the continuance of symptoms.

Dr. Richards estimates that there are about 78,000 children with defective vision in the public schools of New York and that there is no valid excuse for the failure to prevent this evil in 80 per cent. of all such patients. They are not prevented now, he thinks, because the principles and practice of refraction are not adequately and correctly taught in medical colleges. He believes that in New York there is a divided responsibility in the government of the schools; that a cycloplegic is not used to diagnose the errors of refraction in the 84 per cent. of hyperopic defectives, and that small errors are ignored although they have great influence in determining effort, proficiency and conduct. The result is that the accurate measure of the refractive errors of the school children of the city is impossible, and, moreover, if it were done it would be impossible to get the requisite spectacles made, adjusted and paid for. Lastly, diagnosis and treatment of defects and diseases of other organs than the eyes is not, by any means, at present feasible.

401 Oriental Avenue.

---

## THE TREATMENT OF GONORRHEAL AND OTHER INFECTIONS WITH DIGESTIVE BACTERIAL EXTRACTS

PRELIMINARY REPORT

J. O. HIRSCHFELDER, M.D.
SAN FRANCISCO

In THE JOURNAL of Oct. 12, 1912, the production of active and passive immunity to the pneumococcus in the rabbit with an extract of the living microorganisms by an alkaline solution of pancreatin was described,[1] and ten cases of pneumonia were reported in which recovery followed its administration. Since that time, further animal experiments have confirmed these results and recovery has occurred in seven more cases, none of the patients treated having died. In the greater number of cases the crisis has occurred within twenty-four hours after the first dose of the extract.

With the gonococcus, experiments naturally could not be performed on the lower animals, but the clinical material was more abundant. The results thus far obtained are sufficient, however, to warrant a provisional report. The extract was prepared in the same manner as the pneumococcic. A suspension of the gonococcus was heated to 38 C. (100.4 F.) and to it an equal quantity of a 0.2 per cent. solution of pancreatin (Cudahy) in 2 per cent. sodium bicarbonate at 38 C. was added, kept at that temperature for fifteen minutes and then acidulated with hydrochloric acid to stop the action of the ferment. The mixture was then filtered through a Pasteur filter and was ready to use.

The dose usually given was 5 c.c. administered intramuscularly. Within a few hours in most, but not in all cases, reaction, in the form of chill with elevation of temperature of a few degrees, of short duration, and general malaise ensued. It was often observed that succeeding doses were followed by less reaction and sometimes by none at all, as if immunity had developed. As much as 50 c.c. have been given without especially unpleasant symptoms.

In gonorrhea of the male, both acute and chronic, in a few instances results followed which might be looked on as favorable; but in the majority of cases the effects were not such that a skeptical observer would have been compelled to acknowledge the value of the remedy.

In the female the evidence, although not conclusive, was somewhat stronger. Twenty-four girls confined in St. Catherine's House, a penal institute, were given twenty-two injections each, administered biweekly, and in eleven of them the gonococci disappeared from the vaginal secretions.

On the other hand, in the municipal clinic the results were rather striking, especially in contrast to the preceding observations.

Of twenty prostitutes treated in the municipal clinic with the gonococcic extract combined with the usual measures, eighteen rapidly recovered, and on their return as wards of the municipality, for examination twice a week, the continued absence of gonococci has been recorded. Some of the patients have thus been under observation since March, 1912. A patient who did not recover had a urethral gonorrhea. Her general health was poor and the cervix had an old retained suture. On September 19 she was put on the usual treatment until October 18, when 5 c.c. gonococcic extract were injected, the injection being repeated on the 25th. The following day it was noted that the cervix and urethra looked fine, with almost no discharge; but on November 14 the smear was positive. On November 15, 5 c.c. were injected and since then the patient has not returned, having probably left town.

The second patient was three months pregnant when treatment was begun. From May 2 until August 6 she received ten injections, when on three examinations extending to August 19, no gonococci were found; but later they were detected.

Of the others, ten were permanently cured by one injection, six by two, and two by three.

In all of these cases, male and female, local treatment was combined with the administration of the extract, so that the test was not a perfectly fair one; one must always be in doubt as to how much of the effect could be ascribed to the local and how much to the constitu-

1. Hirschfelder, J. O.: The Production of Active and Passive Immunity to the Pneumococcus with a Soluble Vaccine, THE JOURNAL A. M. A., Oct. 12, 1912, p. 1373.

tional treatment. A far larger experience will be necessary to determine this point.

One patient, however, was treated by gonococcic extract alone at the City and County Hospital, proving the efficacy of the remedy as far as one case can do so. With this patient absolutely no other remedy was used, not even cleansing injections of water having been permitted during the whole time of her treatment. The patient, a girl of 17, entered the hospital with a cervical and vaginal gonorrhea of six months' duration, the discharges from both sources contained gonococci. Injections of the gonococcic extract were followed by rapid improvement in the subjective and objective symptoms, and after five injections had been given during twenty-one days, the gonococci had disappeared. Three further injections were made before the patient was dismissed, and on two examinations made before her dismissal no gonococci were demonstrable. She was treated later at the clinic for vaginitis and cervicitis, but during two months on three examinations, no gonococci were found.

It seems reasonable to assume that when the gonococci are present in the urethra, any antibody which might form in the blood would have difficulty in reaching them, and we would be prepared for a failure of the remedy under such conditions. The marked effects that were apparently produced in the resistant organs of the prostitutes are, however, rather striking.

In systemic gonorrheal infections the results obtained have been far more favorable.

We have treated seven patients with epididymitis under the care of several different observers, and all but two have rapidly recovered.

The first relatively unfavorable case occurred in a patient in the care of Professor Rigdon. This patient entered the hospital with gonococci in the discharge, the right epididymis and testicle about twice the normal size, and a large sensitive nodule in the tail. After three injections marked improvement occurred, but on account of severe pain from the injections (the only case in which much disturbance had been noted) the patient left the hospital and reported at the clinic. Continuation of the improvement was noted. Nine days later it was recorded that the epididymis was almost normal. In nine days from that date, however, it again began to swell and the patient was sent to the hospital, where an epididymotomy and vasotomy were performed.

The second relatively unfavorable case was likewise in a patient in the care of Professor Rigdon. This patient presented himself with his third attack of gonorrhea at the dispensary, Nov. 18, 1912. At that time the testes were normal. He received the routine treatment and was also given 5 c.c. gonococcic extract, followed by reaction. On the 25th it was noted that the discharge was much lessened, but two days later epididymitis had developed, for which the patient was sent to the hospital on the 30th. There he received the usual treatment and in addition was given an injection of 5 c.c. gonococcic extract; this was repeated December 2; both injections were followed by reaction. December 4 it was noted that the testicle was decidedly less swollen. The patient received 5 c.c. December 4 and 5 with the usual reaction, on the 7th with slight and on the 8th with none. The epididymis remained the same size, and on the 9th he was given 8 c.c. with slight, on the 10th, 16 c.c., and on the 11th, 18 c.c. with decided reaction. On the 12th the history notes that the local condition was the same as on the 8th, except that the caudal extremity was soft. The patient was given 20 c.c. followed by rise of temperature to 102. He left the hospital and presented himself at the dispensary, where further slow improvement was observed.

In all of the other patients treated, the beneficial effects were rapidly produced. The following three were treated by Professor Rigdon:

CASE 1.—The patient, who had acute gonorrhea with epididymitis was treated May 27, with emulsion of buchu and oil of sandalwood,[2] and Caspar ointment[3] to scrotum, and was given 10 c.c. gonococcic extract. On June 3 it was noted that there was marked improvement in every way; 10 c.c. were given. On the 7th the epididymis was much reduced in size and on the 15th it is recorded as normal.

CASE 2.—The patient came to the dispensary with acute gonorrhea for which he received the usual treatment. On October 15 acute gonorrheal epididymitis involving the left testicle had developed. He was put to bed, compresses of saturated solution of magnesium sulphate were applied, and 5 c.c. gonococcic extract were injected. On the 22d the testes were normal.

CASE 3.—The patient presented himself, September 30, with gonorrhea which received the usual treatment. November 15, the right epididymis was inflamed. The patient was put on the routine treatment with some improvement, but on December 10 a recrudescence occurred, the epididymis being enlarged and tender, the inflammation involving the body and tail. The following day he entered the hospital, where local applications of magnesium sulphate were made, and 5 c.c. gonococcic extract injected without reaction. The next day 10 c.c. were given with barely a reaction. On the third day it was noted that the caput epididymidis was soft, the caudal extremity less indurated; there was no pain and no urethral discharge. December 14, the epididymis was found practically normal, with very slight thickening of the head, but no tenderness on pressure and no urethral discharge after seven hours, the urine showing no shreds. The patient was discharged from the hospital and a week later presented himself at the clinic as perfectly well.

The two following cases were treated by Dr. Krotoszyner:

CASE 4.—The patient, J. C., had had chronic gonorrhea for two years for which he had lately been treated with injections and sounds. A few days before entering the hospital, following the introduction of a sound, a swelling of the right testicle was observed. November 13, the right epididymis was found swollen to the size of an orange, very tender, no urethral discharge, prostate normal, on palpation containing a soft spot in the center. The prostatic juice contains pus in abundance and a few suspicious diplococci. The temperature ranges between 100 and 101.4. November 15, he was given 5 c.c. gonococcic extract without reaction and on the following day, 10 c.c. with marked reaction. On the 17th the epididymis was less swollen and less tender, the patient feeling generally improved. He received 10 c.c., and the next day further reduction in size and tenderness was noted. Ten c.c. were administered November 18, 19 and 22, when it was recorded that the epididymis was almost normal. On the 23d the local condition was found much improved, the prostatic juice contained a few pus cells but no gonococci, and 10 c.c. were injected. November 27 patient was discharged with epididymis normal in size and consistency.

---

2. The composition of emulsion of buchu and sandalwood oil is as follows:

| | |
|---|---|
| Oil of sandalwood | |
| Sodium bicarbonate, of each | 2 parts |
| Powdered acacia | |
| Powdered tragacanth, of each | 1 part |
| Fluidextract of buchu | 4 parts |
| Alcohol | 2 parts |
| Water | 50 parts |

3. The composition of Caspar oil is as follows:

| | |
|---|---|
| Ichthyol | 2 parts |
| Guaiacol | 4 parts |
| Mercurial ointment, 50 per cent. | 8 parts |
| Lanolin | |
| Petrolatum, of each | 5 parts |

CASE 5.—The patient, W. P. S., contracted gonorrhea four weeks before entering. The right testicle began to swell five days before, and the left testicle one day before. On examination, December 18, the right epididymis was found to be the size of a small orange, the left that of a blue plum, both being tender. The patient was given 10 c.c. gonococcic extract, followed by reaction. The next day the left testicle was slightly smaller, the right unchanged. He received 20 c.c. and on the 20th there was marked decrease in size on the right, some on the left side; 30 c.c. were given, and on the 21st the left was still smaller and less indurated, as was also the right; 40 c.c. were given. On the 23d the left testicle was almost normal in size, but still indurated. The right was about the size of a chestnut, both being markedly less painful. The left cord was normal, the right still indurated. Creamy pus containing gonococci was found at the meatus; 50 c.c. were injected, and continued improvement occurred.

Seven patients with gonorrheal rheumatism have received treatment with the extract; all have recovered and as far as is known have remained well. In every instance improvement has set in quite rapidly, and in most of them has been uninterrupted. With a few during the course of the treatment there have been slight exacerbations of the inflammation of very short duration.

In a prostitute at the municipal clinic, gonorrhea was treated in the usual manner from May 10, 1912, to May 21, when gonorrheal rheumatism developed in the right wrist. The patient was given an injection of 5 c.c. of the gonorrheal extract, and by May 31, three negative smears had been made and all pain had disappeared. She has presented herself regularly for examination and up to the present has remained normal.

CASE 6.—W. M. came to the City and County Hospital in my care, March 23, 1912, with gonorrheal rheumatism of the left hip-joint that had lasted since December, 1911, and for which he had been unsuccessfully treated with various methods including injections of ordinary vaccines. Gonococci were found in the urethral discharge and the patient was unable to walk on account of the severe pain. On passive movement of the left lower extremity pain was produced in the hip. March 25 he received an injection of 10 c.c. gonococcic extract; on the following day he stated that he felt a little better. On the 30th he was given 18 c.c. and the following day he had practically no pain, and was able to walk with scarcely any limp. No discharge could be expressed from the urethra. April 4, he was given 20 c.c. and on the 8th, 30 c.c. On the 10th he ran in the ward without the slightest limp. April 15, he received a final dose of 30 c.c. No gonococci could be found in three examinations which were made before his dismissal as cured, April 21, nor were they discovered at an examination six days later.

CASE 7.—H. H., in the care of Dr. Krotoszyner, was attacked with polyarthritis, involving first the right hip, then the left, then the ankles and finally the right wrist ten days after an acute gonorrhea. When examined, Nov. 10, 1912, swelling of both ankles and the right wrist was found together with a profuse spontaneous discharge at the meatus containing gonococci. Both portions of the urine were cloudy. The prostate was somewhat enlarged and tender to touch, showing two distinctly soft spots in each lobe. The prostatic juice showed many pus cells, but no gonococci and very little lecithin. There was general prostration, the patient was very listless and could not sleep on account of pain in the affected joints. The temperature ranged between 99 and 101, pulse between 88 and 100, respiration between 20 and 26. November 19, he was given 5 c.c. gonococcic extract; this was followed by chill and rise of temperature to 102.8. The following day the pains in the affected joints were somewhat less severe, but otherwise the findings were the same. November 20, he received 10 c.c. followed by chill and rise of temperature to 102.6. November 24, it was noted that the affected joints were markedly less painful; not much pain could be elicited on passive movement, and the local condition was also improved. On urination the first glass was cloudy, the second clear, containing many shreds. Nov. 25, 10 c.c. were given followed by chill and rise of temperature to 103.2. November 26, swelling and tenderness in the affected joints were markedly improved; the patient moved both ankle-joints spontaneously and asked permission to get up. November 28, both ankle-joints were somewhat thickened, otherwise normal. Passive movements painless. Patient walked without pain. Right wrist was normal. Both portions of the urine were clear, containing a few shreds; prostatic juice contained a few pus cells. There was no more spontaneous discharge at the meatus, and no gonococci were found. Patient was treated with prostatic massage, steel sounds and instillations of silver nitrate three times weekly. December 2 and 4, 20 c.c. of gonococcic extract were given, not followed by chill, the temperature not rising above 100.4. December 7, patient was given 30 c.c. and the temperature rose only to 100.2. On discharge from the hospital at his own request, December 16, it was noted that the joints were normal and that the patient felt entirely well. No gonococci were found. Both portions of the urine were clear, containing a few shreds; the prostate was normal, the juice showing a few pus cells.

CASE 8.—A. F., in the care of Dr. Kroto-zyner, had had gonorrhea six weeks before and still showed spontaneous discharge containing gonococci. Three weeks before he developed arthritis of left knee, ankle and wrist. Nov. 27, 1912, he showed the left knee-joint much swollen and tender and also the ankle and wrist. The temperature was between 98.6 and 100.4. He was given 10 c.c. gonococcic extract, followed by reaction. The next day the affected joints were less tender, and 10 c.c. were given. On the 29th the joints were less swollen and tender; passive movements were possible to a limited extent, but were very painful. November 30, 10 c.c. were given and the following morning the patient felt much better and moved his joints spontaneously. By massage of the prostate, turbid juice was evacuated and prostatic massage every other day with passage of steel sounds and mild silver irrigations were ordered. December 1, he received 15 c.c. gonococcic extract not followed by reaction and on the next day he was able to walk down the stairs to receive his local treatment. December 3, the joints were easily movable and painless on passive movement; urethral discharge was disappearing; 15 c.c. were injected. December 5, joints were freely movable, and not tender to touch or on movement. Both portions of the urine were clear, containing a few shreds; prostatic juice showed less pus, no gonococci, and a few lecithin bodies. December 11, 30 c.c. gonococcic extract were not followed by reaction. December 12, patient felt well, the affected joints were slightly puffed, but otherwise normal, and he was discharged cured.

In three cases of typhoid an extract prepared from the typhoid bacilli was injected with apparently good results. In all of them the intensity of the Widal reaction rapidly increased; in one from 1 in 100 to 1 in 180, in another from 1 in 250 to 1 in 400, and in the third from 1 in 50 to 1 in 200.

In two cases of articular rheumatism injections were made with an extract prepared from the culture of an endocarditis streptococcus, and in both improvement followed.

Investigations are being made with extracts of the streptococcus, the colon bacillus, the *Bacillus pyocyaneus*, *B. tuberculosis*, and other microorganisms that present themselves in the various clinical departments of the hospital.

It is to be hoped that the principle of the production of antibodies by the employment of digestive extracts of the various microorganisms will prove to be of general application.

1392 Geary Street.

# A CASE OF CONGENITAL FAMILIAL DEXTROCARDIA

## WITH ELECTROCARDIOGRAPHIC CURVES

SELIAN NEUHOF, M.D.
Adjunct Attending Physician, Lebanon Hospital
NEW YORK

Reports of cases of congenital dextrocardia as a single anomaly or as part of a situs inversus viscerum have appeared in the literature from time to time. The advances in roentgenography and orthodiascopy and the study of electrocardiography have given added interest to this rare group of congenital malpositions. The two cases here reported occurred in a brother and sister. I have not been able to find a report of more than one case of this anomaly in any one family. The sister died four years ago; the brother is alive.

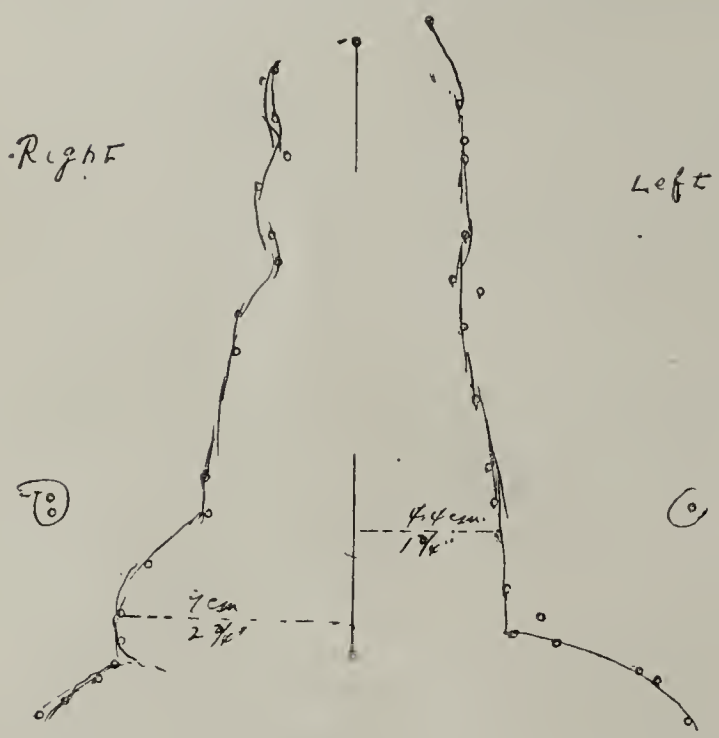



Fig. 1.—Orthodiascopic tracing of patient with dextrocardia.

The following is a summary of the cardiac history of the family:

The father, aged 60, is well; his heart is in normal position. The mother died of "chronic nephritis and uremia; the heart was hypertrophied and dilated and was on the left side."[1] Of the children, the oldest, a female, died of tuberculosis four years ago. The hospital report reads, "heart situated on the right side, liver on the left."[2] Of the three living children, one a boy 18 years old, has a normal heart; the other, A.H., has dextrocardia. The youngest, a girl aged 17, gives a history of chorea and articular rheumatism since her sixth year. Her heart is very much enlarged to the right and left. She has had several attacks of decompensation. She suffers from mitral regurgitation and there is some evidence of a pulmonary lesion. Her electrocardiogram shows right ventricular hypertrophy.

A.H., aged 26, had noticed since childhood that his heart beat on the right side. As a child he had pertussis followed by left-sided empyema for which he was operated on. He has been coughing since his attack of pertussis. His occupation entails hard work and constant climbing of stairs. Examination of the lungs shows signs of chronic bronchitis. The apex of the heart is situated on the right side in the fifth intercostal space. Taking into account its transposed position, the cardiac area is normal to percussion. The outline is best seen in the orthodiascopic tracing (Fig. 1). The patient suffers from no circulatory disturbances; his occasional dyspnea is caused by bronchitis. The liver is situated on the left side; the spleen on the right.

A brief description of the derivation and interpretation of electrocardiographic curves will elucidate the diagrams. Every muscle contraction produces a minute amount of electromotive force sufficient to cause deviation in a sensitive galvanometer. In the case of the contracting heart the action current is drawn off by means of non-polarizable electrodes placed on both forearms and on the left leg. Currents passing in definite directions between these electrodes constitute what are known as leads; that from right arm to left arm constitutes Lead 1, from right arm to left leg, Lead 2, from left arm to left leg, Lead 3. The electrodes are connected with wires in circuit with a galvanometric string, and thus the electricity produced by the cardiac muscular contraction passes through a silvered quartz or platinum string of almost cobweb thinness. The string lies in the field of a powerful electromagnet through the poles of which a microscope is placed. In this manner the microscopic deviations of the galvanometric string are magnified, usually about 600 diameters, and the magnified deviations are projected and photographed on a moving photographic film. The picture so obtained constitutes the electrocardiogram. For every normal beat the electrocardiogram consists of certain summits and depressions, arbitrarily called P, Q, R, S, T: these sometimes vary to a considerable extent in the different leads. The main summits are P, R and T, the P wave corresponding to the auricular and the R and T to the ventricular beat.

The electrocardiographic curves in this case (Fig. 2) correspond to those of congenital dextrocardia. A few cases have already been published (Nicolai,[3] Hoke,[4] Owen,[5] Lewis[6]). Comparison with the normal electrocardiogram from Lead 1 (Fig. 5) shows that in dextrocardia the positions of the summits P, R, T is exactly the inverse of the normal; they are, so to speak, upside down. This reversal of the peaks takes place in the first lead alone because it is the "symmetric" lead.[7] Such exact reversal of P, R, T is found only in congenital cardiac transposition, therefore this method may be used to differentiate between the latter and those displacements due to pleuritic effusions, adhesions, tumors, etc. Leads

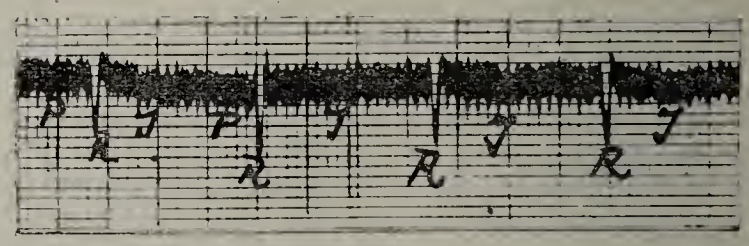


Fig. 2.—Electrocardiogram in congenital dextrocardia; Lead 1.

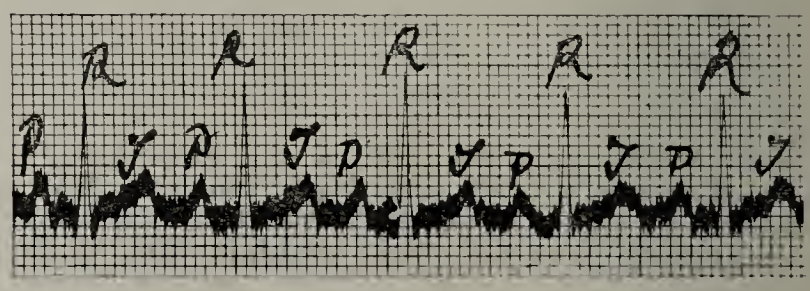


Fig. 3.—Electrocardiogram in congenital dextrocardia; Lead 2.

1. Report from Dr. C. Irving Fisher, superintendent, Presbyterian Hospital, New York City.
2. Report from Dr. William Mabon, superintendent, Manhattan State Hospital.

3. Nicolai: Berliner klin. Wchnschr., 1911, xlviii, 51.
4. Hoke: München. med. Wchnschr., 1911, lviii, 802.
5. Owen: Heart, iii, No. 1, p. 113.
6. Lewis: Brit. Med. Jour., June 22, 1912.
7. Lewis: Brit. Med. Jour., June 22, 1912, p. 1423.

2 and 3 (Figs. 3 and 4) also show changes typical of dextrocardia; that is, all the summits are higher in the third lead than in the second. The P summits in the first lead in this case are very small; this sometimes happens in normal electrocardiograms in this lead.

SUMMARY

Two cases of dextrocardia with situs inversus viscerum in one family are herewith reported. Another child in the same family has very marked cardiac enlargement following endocarditis.

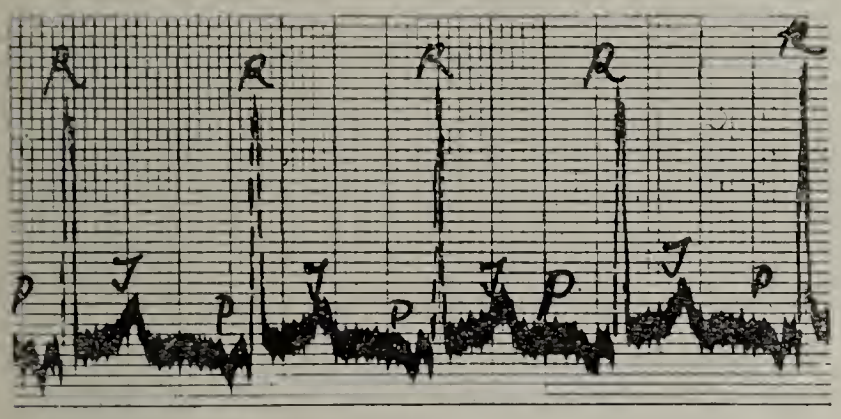


Fig. 4.—Electrocardiogram in congenital dextro ardia; Lead 3.

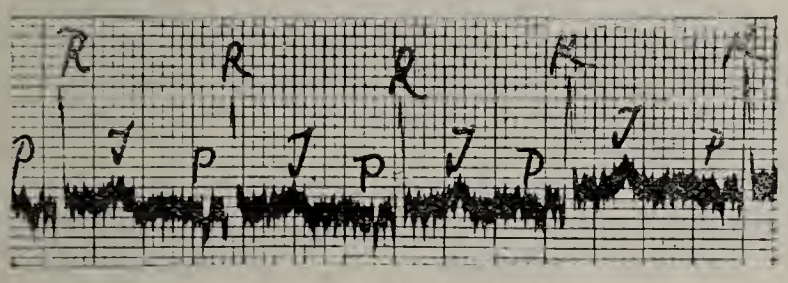


Fig. 5.—Normal electrocardiogram; Lead 1.

I am indebted to Dr. H. B. Williams of the department of physiology of the Columbia University for his kindness in taking the electrocardiograms in this case.

1275 Madison Avenue.

**Pulmonary Tuberculosis in the Aged.**—Bréton and Bruyant (*Echo Médical du Nord*, Sept. 29, 1912) draw some interesting conclusions from their examination of 400 women in an old people's home during the last six years. Active pulmonary tuberculosis was noted during life in 12 per cent. of the patients, and in 6 per cent. in the few necropsies permitted. In the less active cases, a history of some manifestations of tuberculosis in youth was the rule. These had subsided in time and seemed to have conferred an immunity which lasted for half a century or more, and when the patients finally contracted pulmonary tuberculosis they bore it without much disturbance. On the other hand, those free from a previous history of tuberculosis went rapidly into a decline when they became infected with pulmonary tuberculosis. The experiences related seem to teach that the best way to avoid phthisis is for the persons who have once been tuberculous to become reinfected at long intervals, avoiding cumulative action by the length of the intervals. Another point brought out by the examinations was the small number and infrequency of tubercle bacilli in the sputum of the elderly. The aged tuberculous seem able to expel the greater portion of their tubercle bacilli by the intestines; the sputum only exceptionally contains them. The tuberculin tests are of greater significance in diagnosis and prognosis in the aged than in adults generally; pulmonary tuberculosis in the aged is frequently so modified by cardiovascular or renal disturbances that it is difficult to diagnose. This difficulty is enhanced by the more or less complete absence of tubercle bacilli from the sputum.

# ONE HUNDRED CASES OF ACUTE ARTHRITIS AMONG NEGRO LABORERS ON THE PANAMA CANAL*

WALTER BAETZ, M.D.
ANCON, CANAL ZONE, PANAMA

The diagnosis of acute articular rheumatism is, to my mind, as frequently misapplied in acute arthritis as that of influenza in pulmonary affections and that of malaria in obscure febrile conditions. Under acute articular rheumatism should be included, of course, only those cases of acute arthritis in which there is a rapid invasion, similar to that in an infectious disease, with high temperature, hot, swollen, tender joint or joints, acid sweats, marked leukocytosis with polynuclear increase, and a marked tendency to endocarditis, and in which the administration of salicylates proves them to be a specific remedy. It is unfortunate that the term "rheumatism" has ever been used to designate other joint affections.

Some of the most noted authorities in tropical medicine declare that acute articular rheumatism and scarlatina are both practically non-existent among natives in the tropics. No one will deny that scarlatina occurs in Panama in imported cases only, but questions would probably be raised as to the absence of acute articular rheumatism. To gain information about the types of arthritides encountered among our laborers and about the result of treatment, at the suggestion of Dr. W. E. Deeks, a study was begun about a year ago of one hundred consecutive acute cases.

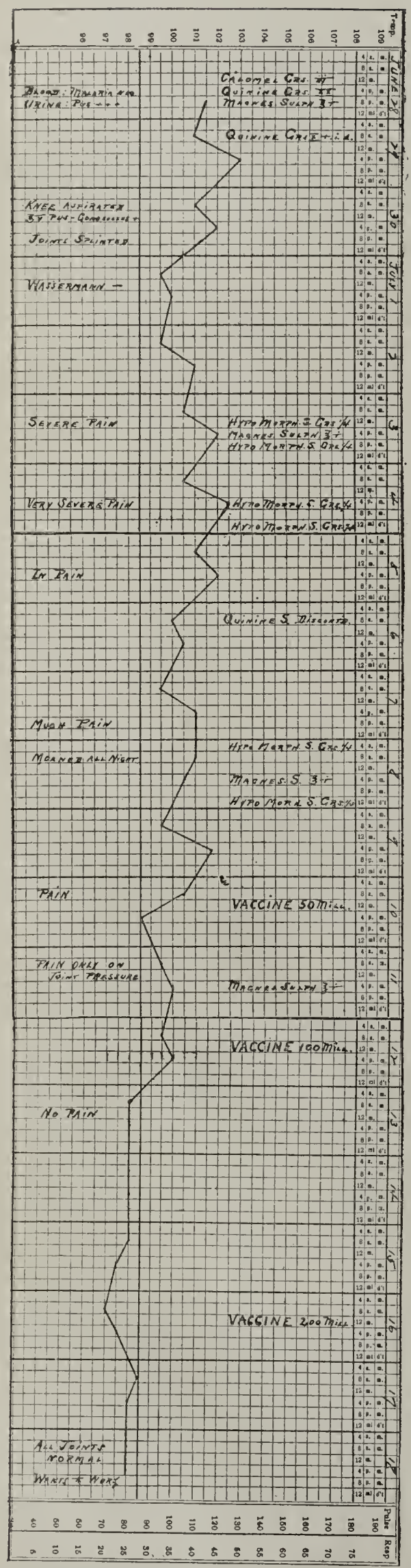
Before going into detail, it must be stated that traumatic arthritis, arthritis occurring during the course of pyogenic infections and arthritis frequently seen in disseminated tuberculosis have been excluded. The cases analyzed were admitted during the past twelve months to Section 1, the adult male negro medical wards of Ancon Hospital. It is highly improbable that, with one exception, any of these men have ever lived anywhere else than in tropical regions. The majority of them came to the Isthmus from the West Indian islands (thirty from Barbados and twenty-four from Jamaica), and most of the remaining ones from the smaller islands. A few were Central or South Americans. Only one was born in the United States of America.

The final diagnosis made on discharge of these one hundred patients in order of type frequency and read either as number or percentage was:

| | Cases |
|---|---|
| Syphilitic arthritis | 63 |
| Gonorrheal arthritis | 28 |
| Undetermined arthritis | 6 |
| Dysenteric arthritis | 2 |
| Tuberculous arthritis | 1 |
| | 100 |

The fact that syphilitic arthritis should constitute 63 per cent. of the total arthritis morbidity among a class of laborers is undoubtedly astonishing to one not familiar with our daily work on the Isthmus. We ourselves would hardly have the temerity to make such a statement here, on clinical observation alone, were it not corroborated by a series of excellently executed Wassermann tests, followed by the old, reliable therapeutic test of mercury and iodids, occasionally supplemented by the use of the latest achievement in syphilis therapy — salvarsan. Dr. L. B. Bates, bacteriologist of the Board of Health Laboratory, has been as much

* Read before the Isthmian Medical Society, Jan. 18, 1913.




Hospital ward chart of a case of acute gonorrheal arthritis (right and left knees, right ankle, right thumb, left shoulder), showing the specific effect of vaccine therapy.

interested in these cases as the clinicians and has made a Wassermann test in each of these one hundred cases with a positive result of 59 per cent. Sixty-three of these one hundred cases were diagnosed as syphilitic; in 93.6 per cent. of these sixty-three cases the Wassermann test was positive. Objection may here be raised as to the validity of the Wassermann test in as highly malarial a region as ours, since it has been asserted that this test is frequently positive in malaria. The fallacy of this assertion has been amply proved in a paper by Dr. Bates,[1] read at the annual meeting of the American Medical Association last June. To this paper I must refer those seeking information as to the technic employed. Clinically, our experience with several thousand Wassermann tests performed by Dr. Bates prompts me to say that the result has seldom been positive in cases in which no physical evidence of syphilis could be found. A few cases of frambesia are, of course, excluded here. Another objection to the acceptance of our analysis would grant the syphilitic infection, but question its relation to the arthritis. The answer to this objection is (not to mention the result of therapy) that it has been possible to diagnose the majority of the syphilitic arthritides as such before the Wassermann test was made.

### DIAGNOSES OF SYPHILITIC ARTHRITIS

Since the days of the Wassermann test, clinicians have realized more fully than ever before that a single lesion of syphilis not infrequently exists without any concomitant signs of the disease. A patient may never have had a macroscopic chancre and so can give no history and show no scar of the disease; or the primary sore was insignificant and healed without leaving evidence. And furthermore, the secondaries may have appeared only as an erythema, unrecognizable in a negro, and often overlooked or misinterpreted in a white patient. So it comes that, while most of our cases of syphilitic arthritis have shown other lesions of the disease, some have presented only joint involvement. The average patient is admitted to the ward with a multiple, rather subacute arthritis. A genital scar is frequently found. As a rule, the patient has no fever and the joint pain is severe only on pressure. The joints usually involved are the knees, elbows, sternoclavicular, ankle and wrist. The finger- and toe-joints are seldom affected. There is moderate swelling but marked effusion is rare. The involvement of the periarticular bursae and of the tendon sheaths is very rare. In other words, the inflammation is limited to the joint, the latter being simply boggy and tender to pressure. Only four of our sixty-three cases gave evidence of secondary skin lesions. Frequently the lymphatic glandular enlargement and induration still remained. The most reliable concomitant sign of syphilitic arthritis was acute osteoperiostitis of the sternum and of the long bones, especially of the lateral surface of the tibia. The patient was usually very sensitive to even moderate pressure when this existed. Leukocytosis was seldom present and when it did occur it was not marked.

The cases, with few exceptions, probably belonged in the late secondary stage. A few cases, which resisted treatment for several months and which were followed by partial fibrous ankylosis, were undoubtedly of the tertiary, gummatous variety. One patient, the only one readmitted in the total series, came to the hospital first with acute syphilitic arthritis. The Wassermann test was positive. As soon as all pain had disappeared under treatment, that is in fourteen days, the patient requested discharge. About six months later he was again admitted with a typical generalized papulopustular syphilid but normal joints. The Wassermann test was still positive. When treatment was resumed, the rash disappeared and the patient again considered himself cured, and asked for discharge, which was granted under protest. Several weeks ago he was readmitted for the third time, suffering with the second attack of syphilitic arthritis, and showing only the scars of the previous pustular rash. The Wassermann test was positive for the third time. Two weeks' treatment of mercury and iodids was so effective that he refused the proposed salvarsan injection. He is again at work and probably thinks himself entirely well. This case, in which acute arthritis preceded and followed a papulopustular syphilid, seems to indicate that most of our similar syphilitic arthritides are late secondaries, rather than gummatous

1. Bates, L. B.: The Wassermann Test in the Tropics, Arch. Int. Med., November, 1912, p. 479.

involvement of the joints. The Wassermann test, as previously stated, being positive in 93.6 per cent. of the cases, shows a positive result attained only in secondary syphilis. Then again, the rapid recovery under appropriate treatment, without impairment of function in almost all cases, points to this conclusion.

The question why syphilitic arthritis is so common among our negro laborers is probably as difficult to answer as the one why the parasyphilids, tabes and paresis are so extremely rare. The theory taught by our chief of clinic, Dr. W. E. Deeks, that a chronic infection will often attack those organs or tissues of the human body that are subject to the greatest physiologic activity or injury in the particular patient's daily mode of living, seems to receive noted support in this instance. We are informed that in the white patient wards of this hospital syphilitic arthritis is very much less common, proportionately, than among our negro patients.

### TREATMENT OF SYPHILITIC ARTHRITIS

To appreciate how we are handicapped in treating this or any other disease thoroughly, one must know the ignorance of our negroes and their consequent lack of cooperation. The negro, with few exceptions, considers himself sick only when in pain or disfigured. As soon as the papulopustular syphilid has disappeared, or the affected joints are relieved of their pain and swelling, he demands his discharge from the hospital, little believing, and caring less, that sooner or later he may be crippled permanently as the result. Our aim, therefore, must be to give the maximum amount of specific treatment in the short time our patient sees fit to remain in our care. The intravenous injection of salvarsan has done much to help us in this difficulty, but it has its drawbacks in the fact that the patient refuses operation, as he calls it. The intramuscular injection of mercury has the same disadvantage.

Our usual treatment, therefore, in acute syphilitic arthritis is rest in bed with splinting of the affected joints, and the administration of mercury in the form of protiodid by mouth, and of blue ointment by inunction, combined with potassium iodid treatment. Dental decay and pyorrhea alveolaris have made such inroads among our negroes that special care has to be exercised in giving mercury. Experience has taught us that an extemporaneous mouth-wash composed of 1 dram of tincture of iodin to 1 pint of water, used frequently with digital massage of the gums, is as good as anything in temporarily checking suppuration and warding off salivation. In giving protiodid we begin with 1/6 grain three times daily, increasing the dose by 1/6 grain daily until the total dose per day is 2 grains, that is on the tenth day. This maximum dose is then continued without further increase. While the protiodid is given after meals, the potassium iodid is given before, in essence of pepsin as a vehicle. It is prescribed three times daily, beginning with 5 grains and increasing 5 grains per dose until 150 grains are given daily. This maximum dose is reached on the fourth day, and continued. Those who know our negro will appreciate that the blue ointment given in one dram doses daily for inunction is a treatment after his own heart. No white man ever "anointed" himself more religiously than these negro patients, who have a profound regard for ointments as remedial agents.

This outline of mixed treatment may seem very severe, but under the circumstances it probably is justified by the results obtained. The urine is, of course, always watched for evidence of mercurial albuminuria. Usually, in about a week, the arthritic pains are gone, and the swelling is scarcely noticeable. If during this treatment symptoms of kidney irritation, mercurialism or iodism arise, the treatment is of course temporarily suspended. Usually at the end of ten days one begins to notice the fetid breath, and the patient will then complain of sore teeth when shutting his jaws tightly. Iodism usually shows itself by acute coryza, a rise in temperature, swelling of the parotids, salivation and a puffiness of the eyelids. Acute indigestion and diarrhea are seldom encountered. At the end of two weeks, all syphilitic joints without organic changes are free from tenderness, swelling and restricted motion. An attempt is then made, usually without avail, to make the patient realize the necessity of thorough eradication of the disease. Almost invariably this is taken as a joke, the patient believing himself well, and the demanded discharge is given. How effective an intensive mixed treatment, even though very short, may be is shown by the fact that, during the year, the only case of the sixty-three readmitted was the one previously mentioned. The total number of days in the hospital of uncomplicated syphilitic arthritis cases was 1,190, an average of 18.8 days per man.

### DIAGNOSIS OF GONORRHEAL ARTHRITIS

In the typical gonorrheal joint we have a picture quite different from that seen in the well-developed syphilitic joint. Here the temperature is generally elevated to 101 and 102 F. The entire aspect is one of a more acute infection. Pain and tenderness are much more marked even without pressure. In the worst cases the pain is excruciating, both day and night. While in the syphilitic joint the effusion is not common nor extensive, the opposite is true in gonorrheal arthritis. The joints are frequently markedly distended with fluid, which, on aspiration, is rather viscid, greenish yellow in color, and microscopically loaded with pus cells. Occasionally the gonococcus is found, though it may be necessary to hunt for some time to demonstrate its presence. An extension of the inflammation and effusion to the periarticular bursae and tendon sheaths is as common in gonorrheal as it is rare in syphilitic joints. There seems to be no difference in the tendency of these two diseases to affect multiple joints, but involvement of small joints, especially of the fingers and toes, speaks in favor of gonorrheal arthritis. Osteoperiostitis of the sternum and of the shaft of the long bones has been observed only in syphilis. The Wassermann test in uncomplicated gonorrheal arthritis has always been negative. It is to be hoped that the more recently developed complement-fixation test for gonorrhea will be of as great value in the diagnosis of these cases as the Wassermann test is in the syphilitic variety. The blood-picture of gonorrheal arthritis does not differ enough from that of the syphilitic affection to be of any value in differential diagnosis. Very severe cases show at times a marked polynuclear leukocytosis, but the average case shows slight, if any, increase in leukocytes. The tendency to improve rapidly or get well, even without treatment, is much more characteristic of gonorrheal than of syphilitic arthritis.

This may be explained by the theory that in the former we have a sudden metastasis from a chronic walled-off focus of a disease not constitutional. The action of the endotoxin of the gonococcus, being very irritating, causes a severe reaction and a rapid formation of antibodies, which soon conquer the invading organisms. In the other, the syphilitic, the disease is

constitutional and antibodies are already present throughout the body. For some reason or other the natural defense of the body, the antibodies, becomes weak or otherwise inefficient. This is naturally followed by new disease manifestations of a more or less acute character. It may then be assumed that a body debilitated by a losing fight against an ever-present toxin will require more time to gain the upper hand than one making its first stand against a sudden invasion. This may also explain why syphilitic arthritis, with its permanently present, though variable, antibody, is usually subacute from the beginning, while gonorrheal arthritis, with a primarily absent antibody, is frequently very acute.

It is probably true that in gonorrheal arthritis the chronic focus of the disease, whence the metastasis occurred, can always be located with proper skill and facilities. The posterior urethra, the prostate vesicles, and the epididymis will usually be the place to look for it. Pus corpuscles and shreds in the urine of a male patient are always very suggestive. Massage of the prostate and vesicles with expression of pus, or urethroscopic examination will often show the site of the chronic infection.

### TREATMENT OF GONORRHEAL ARTHRITIS

In the thorough treatment of gonorrheal arthritis of our negro patients, we are placed at a twofold disadvantage. As far as the patients' inability to understand the need of an eradication of the disease focus is concerned, conditions are, of course, the same as in syphilis. We are personally handicapped, moreover, by the fact that in order to eradicate a gonorrheal focus, the cause of joint metastasis, special skill and training with ample time and facilities are necessary. It is a task for the better class of genito-urinary specialists. In a commercial undertaking, like the building of this canal, the employer cannot be expected to furnish such treatment in all cases, if only for the reason that the patient himself would rebel against the loss of time and pay. Our main aim then must be to refit these men in as short a time as possible for their labors on the canal. We have found that nothing gives better results in these cases than to place the patient in bed, administer a urinary antiseptic, usually hexamethylenamin, aspirate the pus from the most severely involved joints, splint and bandage them, and give an eight-strain gonococcus stock vaccine hypodermatically (not intramuscularly).

Three years ago the results of vaccine therapy in metastatic gonorrhea were very doubtful, owing to the small dosage then advised by authorities. For the past two years we have been giving four injections of fifty million, one hundred million, two hundred million and four hundred million respectively, with intervals of one day between doses. While in some cases of gonorrheal arthritis a sufficient number of antibodies will develop to permit recovery without vaccine treatment, in most cases the patient will suffer far less pain and get well much more rapidly with the treatment. Not infrequently the terrific pain, which can be dulled only by opiates, is abolished in six hours following the first injection of vaccine. But the most brilliant results obtained with vaccine are in those very acute cases in which organic joint changes have not taken place as yet, and in which sufficient antibody cannot be manufactured. The suffering in these cases can be compared only with renal or gall-stone colic.

An example of a case of this kind occurred last spring, when, through some oversight, our vaccine supply was exhausted and a new supply not furnished. As can be seen from the hospital chart, this patient had a temperature of 100 to 103 F. for twelve days after admission, in spite of all treatment. Morphin sulphate had to be given frequently in ¼ grain doses by hypodermic to dull the severe pain as much as possible. Intracellular gonococci were found in the pus aspirated from one knee-joint on the third day. The Wassermann test was negative on the fourth day. On the thirteenth day following admission, a supply of stock vaccine was received and fifty million killed bacteria were given immediately. The result was extremely gratifying. That night the pain ceased and the temperature fell to normal for the first time since the patient's admission to the ward. The temperature rose again to 100 F. the next day, but the pain did not return. On the third day of vaccine treatment a second dose of one hundred million bacteria was given, with the result that the next morning the temperature was normal and remained so. The effusion absorbed rapidly. On the ninth day of treatment, after having received a total of three hundred and fifty million killed bacteria in three doses, the patient said he felt perfectly well and requested to be sent back to work.

Keyes, Jr., in his admirable text-book on genito-urinary diseases, 1911 edition, states that 75 per cent. of gonorrheal arthritides should be markedly improved by vaccine treatment. This same author also speaks of the brilliant results sometimes obtained in gonococcus septicemia. He warns his readers not to expect the impossible of vaccine therapy in cases in which organic bone and tendon changes have already taken place. Fortunately for our patients and for us, we seldom encounter gonorrheal osteo-arthritis or septicemia. A word of caution may not be amiss here, calling attention to the fact that some vaccine on the market is poorly put up and probably carelessly prepared. Only the best can be good enough in specific medication.

All of the cases of gonorrheal metastasis in this series recovered without impairment of function. The total number of days in the hospital of uncomplicated cases was 672; the average stay per man was twenty-four days. That the treatment just outlined is efficient temporarily is shown by the fact that during the year there were no readmissions. It is possible that the Bier hyperemic treatment used in conjunction with vaccine would give still better results. The hypodermic administration of the patient's own joint fluid, sterilized, is another form of treatment that may be worth trial, as it is possible that the tendency to recover in acute gonorrheal arthritis may be due to an antitoxin or antibody to be found in the joint effusion.

### UNDETERMINED CASES

In this group were classed six cases of undiagnosed arthritis. The Wassermann test was negative in all of them. Fever was present in only two. Several recovered rapidly without treatment and the remainder recovered under diverse modes of treatment. Very mild arthritis, in which syphilis can be excluded and in which spontaneous recovery rapidly ensues, will occasionally have to be put in this group. It is probable that some of the milder cases recorded in the first two groups really belong here. We have not been able to detect a gonorrheal arthritis in a syphilitic patient. It is only reasonable to assume that this does occur, but it is also readily seen that a mild gonorrheal arthritis, in a syphilitic with a positive Wassermann test, might improve rapidly during the antisyphilitic treatment, and so be classed as of syphilitic etiology. As in all other diseases having a common symptom-complex, the borderland, complicated

and mixed cases are the most difficult to diagnose. The complement-fixation test for gonorrhea in conjunction with the same test for syphilis may point out some of these complicated or mixed cases so that they can be correctly and fully diagnosed and receive the benefit of combined treatments.

### DYSENTERIC CASES

Occasionally during the course of or following an attack of dysentery, presumably of bacillary origin, we see a sudden rise of temperature with an effusion into the bursae of the larger joints, accompanied by only slight pain. The patient recovers in a short time with nothing but symptomatic treatment. A knee fluid culture, kindly made by Dr. L. B. Bates in one of these cases several years ago, was sterile.

### TUBERCULOUS CASES

The only case of primary tubercuIous arthritis in this series was of the usual knee-joint variety, monarticular. The Wassermann test was negative. The diagnosis was arrived at mainly by exclusion, the presence of continued fever, localized tenderness and exostoses about the epiphysis and head of the bone, and an *x*-ray plate kindly made by Dr. T. Earhart of this hospital. The *x*-ray is of the greatest value both in diagnosis and prognosis in all cases of arthritis showing bone destruction. An arrest of the process was obtained in this case by splinting and general rest, in conjunction with the usual dietetic and hygienic treatment of tuberculosis. There was partial ankylosis when the patient was discharged.

### SUMMARY

Ninety-one per cent. of the acute arthritides of this series admitted to the male negro medical wards during the past year were caused by venereal disease. Sixty-three per cent. were of syphilitic etiology, the Wassermann test being positive in 93.6 per cent. of these cases. An intensive mixed treatment, carried to the point of maximum tolerance, has enabled these men to return to work temporarily in an average of 18.8 days.

Twenty-eight per cent. were of gonorrheal origin. Vaccine treatment gave very good, sometimes brilliant, results in the great majority of cases. Unfavorable results due to the treatment were not noticed. The average number of days under treatment per man was twenty-four.

All other types of arthritis were in such minority that they are practically negligible.

Acute articular rheumatism was not encountered, and acute or chronic endocarditis was not recognized in any of the total one hundred cases.

In conclusion, I wish to extend my thanks to the following gentlemen for permission to publish: Col. W. C. Gorgas, Medical Corps, U. S. A., chief sanitary officer; Col. Charles F. Mason, Medical Corps, U. S. A., superintendent of Ancon Hospital, and to Dr. W. E. Deeks, chief of the medical clinic, on whose service these cases occurred.

---

**The Milk of Indian Buffaloes.**—According to Consul Norton, at Bombay, India, investigations carried on during a period of fifteen months on a number of buffalo cows belonging to a dairy at Poona, show that the Indian buffalo surpasses the best breeds of milk cows in the production of butter fat, 7 to 8 per cent. being common, and 10 per cent. having been found. The milk is white, and the butter usually white. The percentage of proteins in buffalo milk is distinctly greater than in cow's milk. Milk-sugar and minerals correspond closely to those of cow's milk.—*Daily Consular Reports.*

## RABIES

### A PATHOGNOMONIC SIGN GENERALLY OVERLOOKED

M. B. WESSON, B.S., M.D.

EL PASO, TEXAS

Aside from the pioneer communications on hydrophobia, very little has been written on the subject, and that little is extremely vague and indefinite. Having an opportunity to observe a series of over two hundred rabbits inoculated with rabies (for use in the El Paso Pasteur Institute), as well as a number of animals infected with "street rabies," I was impressed with the uniformity of the development of the symptoms, and particularly of a left hemiplegia starting in the leg (simulating Landry's paralysis) of which I could find only vague references in the literature.

The first symptom of the disease in the rabbits was a general nervousness; the entire body seemed to be trembling and, if the animal was startled by the sudden clapping of hands, it would stagger and apparently have great trouble in maintaining its balance. Soon a limping of the left hind leg was noticed and, if the rabbit was taken from the cage and made to hurry across the floor, that leg gave way entirely. In a short time a weakness in the corresponding front leg developed, then in the neck, as in acute ascending paralysis. Hence when the animal attempted to walk it would move around the cage clockwise, supporting its weak left side against the wall. A few of the rabbits had convulsions, and when that happened they rolled over and over from right to left. If the rabbits are not molested they will remain crouching in a corner of the cage, and then the first apparent weakness is the left torticollis; but if the animal is made to move, the paralysis will be found to be greatest in the left hind leg. The rabbits lie fully extended on the left side as the paralysis progresses, apparently dead, the only sign of life for several hours before the end being an occasional movement of the muscles about the nose and eyes.

In man after the expiration of the incubative period, the patient complains of loss of appetite and headache; he becomes depressed, ill-tempered, apprehensive and excitable; then the breathing becomes difficult and labored, accompanied by spasmodic contractions of pharynx and larynx.

It was at this stage of the disease that I saw J. M., an albino Mexican, who had been bitten about the middle of September by his pet dog (which died the following day in a convulsion). He was sitting up in bed, as he could not breathe in a recumbent position. The stridulous breathing sounded like the bark of a dog, and the frequent shaking of his head emphasized the resemblance and caused the neighbors to make the correct diagnosis. He attempted to convince them that they were wrong by frequently demonstrating how easily he could drink water, but after one or two swallows he always became strangled; salivation was marked. He had a strong grip with his right hand, but that of his left was very weak. On attempting to walk he seemed to have perfect control over his right leg, but his left gave way under him and he had to be supported on that side. As he moved across the room his entire left side was weak, his head almost lying on his left shoulder, which in turn drooped. The following day hallucinations appeared, which caused the patient great anxiety and excitability. A little later paroxysms occurred which resembled maniacal attacks with delirium. They were of short duration, but large doses of morphin, chloral and potassium bromid had no effect in controlling them. Paralysis became general, and death took place suddenly on the fourth day, during a paroxysm, from asphyxia.

On October 5 a neighbor's dog, which had been bitten by that of the Mexican boy, became restless and ill tempered. He bit the grocery boy (on the hand) and a young hog (on the nose) before he was frightened away by the owner. Three days later it was noticed that something was wrong with the dog's left hind leg. When he wanted to lie down he would turn round and round several times from right to left and then when he allowed his left thigh to touch the floor he would at once bound up with a sharp cry, holding the leg in the air and whining as if in pain. The following day the leg was completely paralyzed, and there was a weakness of the corresponding front leg and neck. The development of the paralysis, preceded by a left hemiplegia, and followed by death, was the same as seen in the rabbits. (The brain was sent to the local Pasteur institute and they reported the presence of Negri bodies.) The groceryman was immediately started on Pasteur treatment, and the bitten hog isolated. On November 12 the hog became restless and began to limp with the left hind leg; it was unable to drink, though it made frequent attempts and would put its head to the level of its eyes in a bucket of water; salivation became marked, and progressive paralysis and death, as seen in the rabbits, followed the next day.

An interesting point here is the fact that a "mad" fox-terrier at almost precisely the same time bit a man and a hog. The man was given Pasteur treatment and is well, while the hog received no treatment and died of rabies.

### SUMMARY

1. These cases are reported to call attention to the characteristic development of the paralysis of rabies as noted in a series of animals, including man, dog, hog, guinea-pigs and rabbits.

2. The initial site of paralysis was the "left hind leg," and this in a short time developed into a left hemiplegia, the paralysis eventually becoming general.

3. In an animal that has suddenly become extremely nervous and irritable, the development of a weakness in the left hind leg, without any apparent reason, is sufficient to warrant a tentative diagnosis of rabies.

---

## THE PREPARATION AND EMPLOYMENT, IN A SERIES OF CASES, OF A POTENT POLYVALENT ANTISTAPHYLOCOCCIC SERUM *

B. A. THOMAS, A.M., M.D.
PHILADELPHIA

Impressed by the questionable propriety of the employment of active immunity with bacterins in the acute stage of an infection, whether localized or generalized, as in furuncle or septicemia — conditions in which, it seems logical to infer, the human organism is already sufficiently stimulated by viable bacteria to the production of specific antibodies, if not completely overwhelmed as in the latter instance, rendering the employment of an inactivated specific antigen inadvisable if not positively harmful — I attempted in September, 1909, the preparation of an antiserum which I hoped might prove useful in antagonizing the diverse lesions of that commonest of all pyogenic cocci, the *Micrococcus pyogenes aureus*.

Various attempts have been made on horses and other animals to produce a potent antistaphylococcic serum, but they have almost invariably resulted unsuccessfully, although Doyen and Paltchikowsky assert that they have succeeded partially. Emery states that "it is possible by special methods to produce a serum which has a slight bactericidal effect, but normal human serum or the serum of a patient who has been submitted to a course of antistaphylococcic vaccination is quite powerless in this respect." Schorer asserts that "the value of the serum . . . is inconsiderable, and its injection in the treatment of staphylococcus infections is seldom or never warranted." Such noted authorities as Ehrlich, Bordet and Citron omit even to mention, in their works on immunity, the existence of antistaphylococcic serum. It is therefore with considerable trepidation that I venture to assert the successful preparation of a potent polyvalent antistaphylococcic serum.

The experiments of Neisser and Wechsberg show the production of a typical hemolysin by the *Micrococcus albus* and *M. aureus* in culture growth. Following the subsequent discovery by these two serologists that human and certain other animal serums normally contain antistaphylolysin, although less than is the case with immune serums, Bruck, Michaelis and Schulze have attempted to employ the presence of antistaphylolysin in blood-serum as evidence of the existence of staphylococcic infection.

Furthermore, agglutination tests have shown that the staphylococci in pus may be agglutinated by the serum of the patient, while those from the air, skin, etc., are not so influenced, thus demonstrating, as is the case with many other bacteria, the variability or diversity of the strains of the bacterium in question. I feel convinced that one of the most important factors conducive to the successful production of our serum has been the utilization of staphylococcus cultures from many sources, thereby effecting a polyvalency of unmistakable potency.

### PREPARATION OF THE SERUM

Eighteen strains of the *Micrococcus aureus* were isolated in pure culture from as many various sources, as follows:

| | |
|---|---|
| Furunculosis | 3 |
| Carbunculosis | 4 |
| Subcutaneous abscesses (scalp) | 3 |
| Thoracic empyema | 1 |
| Axillary abscess | 1 |
| Septicemia (osteomyelitic) | 1 |
| Total | 18 |

Each of these strains was cultured on agar-agar tube-slants at 37 C. (98.6 F.) for twenty-four hours, and the resultant growths washed off by the addition of 5 c.c. of bouillon to each of the cultures. The combined 90 c.c. were then shaken mechanically for fifteen minutes; 0.25 c.c. of this bacterial suspension was then flooded on the agar-agar surface of each of two Petri dishes, presenting, respectively, an area of 12½ square inches. The growths from the two Petri dish cultures, after an incubation at 37 C. for twenty-four hours, were washed off in 30 c.c. of sterile 0.85 per cent. sodium chlorid solution. This bacterial suspension was standardized so that each cubic centimeter was estimated to contain 32,400,000,000 cocci and then sterilized by submersion in a water-bath at 60 C. (140 F.) for one hour.

From the same polyvalent staphylococcic suspension, agar-agar tube-slant cultures were made preparatory to the determination of the opsonic indices[1] — the controls

* From the William Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Read before the Philadelphia Pathological Society, Dec. 12, 1912.

1. In all determinations of the opsonic index of the animal, washed human leukocytes were employed for the purpose of phagocytosis.

by which the degree of immunity of the animal to be inoculated was governed.

The animal selected for the purpose of immunization was a full-grown, 3-year old, vigorous, muscular ram weighing 165 pounds. His opsonic index, Sept. 9, 1909, prior to inoculation, for the polyvalent staphylococcic culture was determined to be 0.12. The curve of the indices during the course of inoculations can best be studied by reference to the accompanying chart. On the same date the ram received intraperitoneally the initial dose of 972,000,000,000 dead staphylococci. September 15, the ram's opsonic index was found to be 0.51, and he was inoculated with the growth from three Petri dishes, containing 1,050,000,000,000 cocci heated at 60 C. for one hour. September 23, the animal's index had fallen to 0.27, and he received intraperitoneally, 903,600,000,000 staphylococci heated at 60 C. for half an hour.

October 7, the index was 0.35 and the ram was injected with the agar-agar growth from six Petri dishes, estimated to contain 32,000,000,000 cocci heated for half an hour at 60 C. October 13, the animal received his fifth inoculation of 186,560,000,000 cocci,

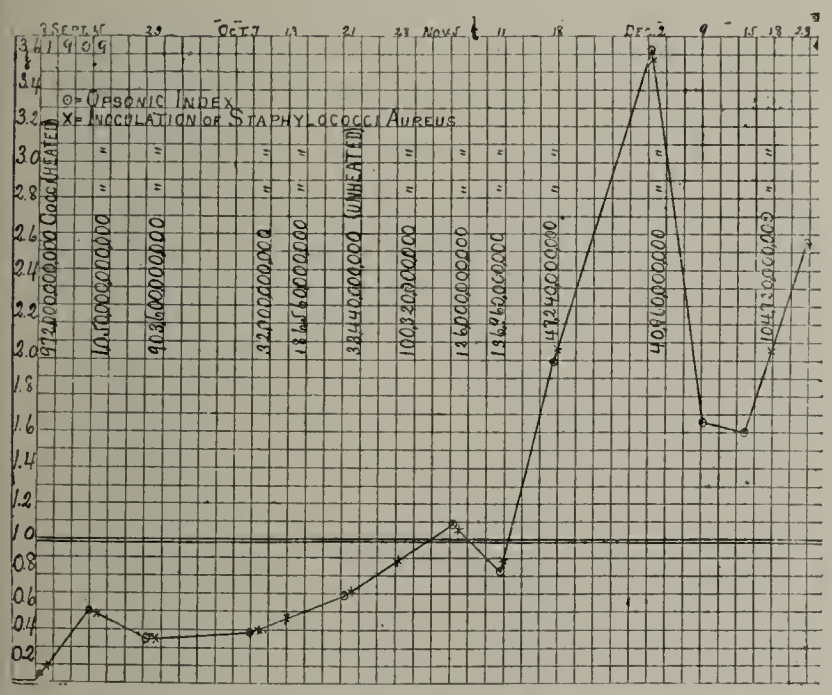



Chart showing inoculations and curve of opsonic indices illustrating immunity of ram.

heated at 60 C. for only fifteen minutes. October 21, the eighteen various strains of staphylococci were again subcultured and fresh polyvalent suspensions prepared for Petri dish growths and culture for the determination of the opsonic index. The ram's index on this date was found still to be in the negative phase, namely 0.64, and his health appeared to be excellent. Accordingly it was decided to continue the inoculation with living bacteria, and 33,140,000,000 unheated staphylococci were injected intraperitoneally. One week later another injection of 100,320,000,000 living cocci was made. November 5 the opsonic index had risen to 1.02 and the ram received intraperitoneally the bacterial suspension from four Petri dishes, containing approximately 126,000,000,000 unheated staphylococci. Six days later the index had fallen to 0.8 and the ram was inoculated with 136,960,000,000 unheated cocci. November 18 the opsonic index was found to be considerably higher, reaching 2.0; the animal was inoculated with 47,240,000,000 unheated bacteria. December 2, the ram's immunity apparently reached its highest point, 3.55; nevertheless in an attempt to carry it still higher an injection of 40,960,000,000 unheated cocci was given. The indices determined seven and thirteen days later were found to have fallen to 1.65 and 1.6, respectively. December 18, the seventh inoculation (104,720,000,000 unheated cocci), with living bacteria, and the twelfth injection in all of staphylococci, was given. Five days later, December 23, the opsonic index was found to have risen to 2.6 and on the following day the ram was bled to death aseptically from the carotid artery. The serum was separated from the clot and hermetically sealed in glass ampules containing 1 and 2 c.c. each.

The employment, practically, of this product of which I still possess a few sample ampules, I shall describe in twenty-eight case reports largely from the Surgical Outpatient Service of the Hospital of the University of Pennsylvania.

## EMPLOYMENT, CLINICALLY, OF ANTISTAPHYLOCOCCIC SERUM

Although it was my desire to test the value of this serum practically in cases of staphylococcic bacteriemia, I have been disappointed in that respect, since there has been but a single case of septicemia, in which the blood-culture demonstrated the *Micrococcus aureus*. Consequently I have been obliged to apply it therapeutically, during its period of probable potency in a series of carbuncles and furuncles, many of which have been of an aggravated type.

Case 1.—Feb. 8, 1910. S. S., aged 15. An acute osteomyelitis of tibia, following osteotomy, developed a typical septicemia. Cultures both from the medullary cavity of the tibia at operation and subsequently from the blood demonstrated *M. aureus*. Later a suppurative arthritis of knee, demanding arthrotomy, and a suppurative inflammation of the wrist supervened. Bacterin therapy, instead of improving, probably aggravated the patient's condition. A course of hypodermic medication with mercury succinimid, strychnin sulphate, iron citrate and arsenic trioxid converted a most desperate condition into a curable case. After an illness of ten months, inoculations with antistaphylococcic serum were instituted. During a period of four weeks, five subcutaneous brachial injections of 1, 2, 2, 1.5 and 2 c.c., respectively, of the serum were administered. The patient exhibited marked improvement, his wrist healed immediately, he was able to go about on crutches, he gained greatly in weight, all sinuses about the knee, with a single exception, healed and he was discharged from the hospital precisely one month later.

Case 2.—March 11, 1910: J. P., aged 20. A virulent furunculosis of the head, face, neck, shoulders and arms had existed for two or three weeks. The infection was advancing rapidly, several new boils appearing daily; patient was feverish and obviously suffering from marked toxemia. Two c.c. of antistaphylococcic serum were injected subscapularly; two days later 2 c.c. more; four days later, 3 c.c. additional, and after another interval of four days a final 3 c.c. dose. After the first inoculation no new furuncles developed, and within two weeks the patient was entirely well, even the old boils having disappeared.

Case 3.—Dec. 3, 1910: V. C., aged 19. A recurrent furunculosis of four weeks' duration began in the axilla and recently manifested itself on the back of the neck. Patient was given 2 c.c. of antistaphylococcic serum subcutaneously. Two days later patient stated that boils on neck and in axilla were practically painless; he felt much better generally than for four weeks, no new boils developed and six days after the inoculation he was discharged cured.

Case 4.—Dec. 3, 1910: D. E. M., aged 23. Patient had suffered for a week, with no improvement, from a large carbuncle of the back, measuring 2 inches in diameter. One inoculation of 2 c.c. of antistaphylococcic serum caused a marked subsidence in the inflammatory phenomena, and the lesion progressed to a rapid healing.

Case 5.—Dec. 19, 1910: W. W., aged 24. Patient has a predisposition to furunculosis and recently lost considerable weight. During the past five days he has been the victim of an extensive outbreak of boils, no less than twenty appearing on the leg, thigh, hip and back, all on the left side. He was given an inoculation in the hip of 4 c.c. of antistaphylococcic serum. When seen six days later he felt much improved generally, and had noted the development of but two new boils. A second inoculation of a similar quantity of serum, increased to 6 c.c. one week later, caused the rapid disappearance of all furuncles.

Case 6.—Jan. 4, 1911: E. B., aged 34. Patient had a carbuncle, similar to the present one, on his wrist eight months ago; the present carbuncle is located on the upper forearm, is about 2 inches in diameter, and has six or eight openings. One injection of 4 c.c. of antistaphylococcic serum caused the lesion to undergo rapid resolution.

Case 7.—Jan. 10, 1911: L. G., aged 21. A relapsing furunculosis of the back, confined to an area 6 inches in diameter, had existed for two weeks, with little or no tendency toward improvement. An inoculation of 4 c.c. of the serum was given; the result cannot be noted, as the patient never returned to the dispensary.

Case 8.—Jan. 23, 1911: M. T., aged 21. Three days previously carbuncle developed on neck; this was followed by the formation of three additional associated boils. An inoculation of 4 c.c. of antistaphylococcic serum was given in the scapular region, followed three days later by a second similar inoculation. The effect was marked and the patient proceeded to a speedy convalescence.

Case 9.—Feb. 14, 1911: P. A., aged 36. Patient was the victim of furunculosis one year ago; during the past three weeks two or three furuncles formed on the neck, followed, the present week, by two additional ones. Two inoculations of 4 c.c. each of the serum, with an interval of three days, caused the rapid disappearance of all old boils and prevented the development of any new ones. Three days later when the patient was discharged he was given a prophylactic dose of 6 c.c. of the serum.

Case 10.—Feb. 18, 1911: L. P., aged 20. For two weeks, patient has been the victim of a virulent furunculosis; at present he has more than a hundred boils distributed over the hips and lower extremities. An inoculation of 4 c.c. of antistaphylococcic serum in the thigh produced a most pronounced benefit, although during the following four days three new boils appeared. A second inoculation of 6 c.c. of the serum sufficed to produce a complete cure.

Case 11.—March 20, 1911: H. H., aged 11. Patient was the victim of acute furunculosis. A single inoculation of 15 minims of the serum resulted in immediate cure.

Case 12.—April 1, 1911: E. McL., aged 17. Patient had acute furunculosis. An inoculation of 2 c.c. of antistaphylococcic serum resulted in rapid convalescence.

Case 13.—May 21, 1911: G. H. B., aged 21. Patient suffered from an acute boil. An injection of 4 c.c. of antistaphylococcic serum caused the furuncle to heal unusually rapidly with no recurrence.

Case 14.—May 29, 1911: G. W. L., aged 19. A large, indolent, painful furuncle of the buttock had existed for several days. On the second day after the administration of 4 c.c. of the serum, the condition was markedly improved and the "core" of the boil was readily removed. Healing followed rapidly.

Case 15.—May 31, 1911: L. A. E., aged 21. Acute furunculosis of the buttock. An injection of 4 c.c. of antistaphylococcic serum remarkably improved the lesion, and convalescence was rapid.

Case 16.—June 12, 1911: W. W. C., aged 20. Acute relapsing furunculosis of the buttocks. An inoculation of 4 c.c. of antistaphylococcic serum beneficially influenced the lesions, although convalescence was more protracted than is usually the case, owing to the fact that the patient was an oarsman and obliged to row daily.

Case 17.—June 17, 1911: F. E., aged 20. Furunculosis of the forearm. Inoculations of the serum of 4 and 6 c.c., respectively, with an interval of two days, caused the furuncle to heal rapidly. About one month later a new boil appeared on the leg; this also rapidly disappeared after an injection of 4 c.c. of the serum. No recurrences subsequently were observed.

Case 18.—June 20, 1911: J. N., aged 21. Furunculosis. June 20: Inoculation with *Micrococcus aureus* bacterin, 4 minims. June 23: antistaphylococcic serum, 2 c.c. June 26: antistaphylococcic serum 1 c.c., no new furuncles. June 29: antistaphylococcic serum, 1 c.c., two small abortive furuncles observed. July 3: *Micrococcus aureus* bacterin, 0.25 c.c. July 6: *Micrococcus aureus* bacterin, 0.5 c.c. July 10: *Micrococcus aureus* bacterin, 1.0 c.c. July 14: *Micrococcus aureus* bacterin, 1.6 c.c. July 17: *Micrococcus aureus* bacterin, 3.5 c.c. July 21: *Micrococcus aureus* bacterin, 2.0 c.c. July 28: *Micrococcus aureus* bacterin, 2.0 c.c. August 15: Has had but one boil on buttock since last visit, but none now for two weeks.

Case 19.—July 7, 1911: N. B. M., aged 31. Furuncle of forearm. Patient was not observed after the initial inoculation of 20 minims of antistaphylococcic serum.

Case 20.—Nov. 9, 1911: G. T., aged 25. Carbunculosis of neck. An inoculation of 2 c.c. of antistaphylococcic serum produced a notable improvement in the condition of the carbuncle. Two days later a second injection of 4 c.c. of the serum was given. The lesion healed rapidly and four days later the patient was discharged cured. One year later patient returned with recurrent boils of the neck. This time the treatment consisted of simple incision and drainage and tincture of ferric chlorid internally. No serum was employed, and it is of interest to note that the convalescence this time required just twice the time consumed on the former occasion.

Case 21.—Nov. 14, 1911: W. M., aged 42; acute furunculosis. Patient has had an attack of recurrent furuncles of seven days' duration; at present three boils are active on the forearm. An inoculation of 3 c.c. of antistaphylococcic serum, repeated three days later by one inoculation of 4 c.c., caused the furuncle to heal very rapidly without recurrence.

Case 22.—Dec. 8, 1911: G. W. S., aged 61. Furunculosis of the scalp. An inoculation of antistaphylococcic serum of 2 c.c., repeated in eight days by a similar injection, caused the prompt disappearance of all active lesions. At a subsequent visit it was learned that no furuncles had reformed.

Case 23.—Dec. 9, 1911: C. P. K., aged 22. The present condition, a recurrent furunculosis, seemed to be the exponent of a bacteriemia, originating from an infected wound of the knee associated with inguinofemoral lymphadenitis, fever and other symptoms of a general toxemia, occurring two weeks ago. At present patient suffers from several furuncles on the neck, accompanied with bilateral superficial cervical lymphadenitis. Four c.c. of antistaphylococcic serum were injected on each side below the furuncle-bearing area. Although the patient was greatly improved, two of the three boils having completely healed, two days later 2 c.c. of the serum were again administered on each side. On the fourth day following the patient's first visit, the neck was entirely healed, although some lymphadenitis still persisted. No more furuncles developed, but in order to increase the duration of the immunity, inoculation of autogenous bacterins was utilized. Accordingly an injection of 150,000,000 dead *Micrococci aurei* was given followed after two weeks by a second inoculation of 300,000,000 staphylococci, when the patient was discharged cured.

Case 24.—Dec. 12, 1911: J. J. R., aged 22; acute furunculosis of neck. An inoculation of 2 c.c. of the antistaphylococcic serum caused the furuncle to heal rapidly. Patient seen one month later was in excellent condition and had had no recurrence.

Case 25.—March 22, 1912: F. F., aged 23; recurrent furunculosis. During past two months patient has been the victim of repeated boils of thigh and neck. The present offender is quite large and painful. Five days after the inoculation of 4 c.c. of the serum, the furuncle was completely healed. There has been no recurrence to date.

Case 26.—March 25, 1912: E. G. W., aged 42; carbuncle of neck. Present trouble began one week ago as a small papule; it steadily increased to its present dimensions, 2 inches in diameter, and is extremely painful, preventing all sleep last

night; pain extends to base of neck and even into arms. Patient has had a headache for two days and is nauseated. Four c.c. of antistaphylococcic serum were injected on each side in the suprascapular regions. Two days later, patient declared himself to be 50 per cent. better; said that most of the pain had disappeared. The inflammatory phenomena were remarkably decreased and circumscribed, and the "core" was removed. Two days later the patient was given a second inoculation of 8 c.c. of the serum and discharged.

CASE 27.—April 12, 1912: T. C. N., aged 26; recurrent furunculosis. During the past six months, patient has suffered from recurrent boils in the nose. An inoculation of 4 c.c. of antistaphylococcic serum was administered. The final result is not noted in this case as the patient did not return.

CASE 28.—May 20, 1912: P. Z., aged 12; acute recurrent furunculosis. During the past week at least a dozen metastatic boils have made their appearance, principally on the neck. One inoculation of 2 c.c. of the antistaphylococcic serum was given. This immediately prevented further recurrence and caused the present lesions to heal spontaneously.

### SUMMARY AND CONCLUSIONS

1. The antistaphylococcic serum as herein prepared and described possessed unquestionable therapeutic efficiency in a series of conditions, both general and local, due to infections by the *Micrococcus aureus*.

2. Biologic therapy by a potent polyvalent antistaphylococcic serum is more effective in the presence of a staphylococcic bacteriemia than is the corresponding autogenous bacterin.

3. By virtue of the more immediate and decisive effects of the antiserum, it deserves first choice over the bacterin in the treatment of furunculosis and carbunculosis; on the other hand, a more intensive and lasting immunity can be conferred on the individual by supplementing the serum with two or three inoculations of the autogenous bacterin.

4. It is to be regretted that no attempt was made to standardize this antiserum with respect to standard units, since it must be conceded that the therapeutic failure or inefficiency of many serums is referable to the deficiency of the immune body content of that particular serum; or in other words to an improper or incomplete immunization of the animal utilized for the production of the antiserum.

116 South Nineteenth Street.

---

## INTERMITTENT PYURIA DUE TO INFECTION OF THE PROSTATIC UTRICLE

ALBERT J. UNDERHILL, M.D., BALTIMORE

Chief of Clinic, Genito-Urinary Department, University Hospital

Geraghty, in March, 1912, called attention to the importance of infections of the prostatic utricle. The two following cases of intermittent pyuria attributable to the same cause are of interest in that such cases must be differentiated from intermittent pyuria due to conditions higher up in the urinary tract.

CASE 1.—A. W. E., clerk, aged 32, unmarried, complained of frequency of urination. His family and personal history showed nothing of interest except an attack of gonorrheal urethritis eight years previously. He stated that his attack had lasted six months and was uncomplicated except for prostatitis, for which infection the gland had been massaged for some weeks. He had noticed no discharge since that time. At irregular intervals for the past three years he had had attacks of frequency of micturition lasting several days. He had noticed that during these attacks his urine seemed cloudy. The attacks were unaccompanied by any other symptoms.

On examination the external genitalia were normal in appearance, and there was no discharge from the meatus. The urine (three glasses) was turbid, the turbidity being due to pus. A catheter coudé was passed into the bladder in order to wash it out preparatory to a cystoscopic examination. It was noticed that the first 50 c.c. of distilled water run into the bladder came away practically clear, which was somewhat surprising in view of the turbid urine he had just passed. The bladder was then filled. The interior was found to be normal. The urine taken from each of the ureters was also clear and normal both microscopically and chemically. When I saw him a week later the urine he passed was perfectly clear and apparently normal. I then by endoscope found the following conditions in the posterior urethra: Verumontanum was swollen, edematous and congested, bleeding easily. The lips at the entrance of the prostatic utricle were glued together. When forced apart with a probe a drop of pus welled out, showing that it was under slight pressure. The pouch was then emptied by means of the instrument devised by Dr. Geraghty (improved by the addition of rings for the thumb and two fingers) and washed out with a 1 per cent. silver nitrate solution. After four such treatments at intervals of five days the patient recovered. He has had no attacks for the past eight months.

CASE 2.—A. M. S., physician, aged 34, unmarried, complained of a "morning drop." He had had an attack of urethritis six years previously. No organisms had been demonstrated in the discharge at the time even after repeated examinations by different men. On a number of occasions he had noticed pus in his urine. At these times he had a sense of fulness in his perineum and aching in his testicles, especially after exercising. On one occasion a shaking chill accompanied by fever and general malaise had ushered in the attack. He had had no frequency of micturition or bladder symptoms at any time.

Examination of morning discharge showed pus but no organisms. Three glasses of urine were all turbid, showing pus. Combined secretions from the prostate and seminal vesicles were normal with the exception of a few pus cells. Neither gland was tender on pressure and both were normal in size and consistency.

Examination of the posterior urethra through the endoscope showed the verumontanum to be very edematous, the entrance to the prostatic utricle forming a deep longitudinal slit 2 mm. in length. The lips were adherent and after separation with a probe a quantity of pus was aspirated. One per cent. silver nitrate solution was injected. The urine became clear in three days. Seven days later when the posterior urethra was examined the lips of the utricle were again found adherent. They were separated and a quantity of pus mixed with spermatozoa aspirated. This happened in three successive sittings, the silver nitrate by eroding the mucous membrane evidently causing the adhesions. I then used a 1:1.000 dilution of liquor formaldehydi, let it remain about five minutes and withdrew it. The secretion aspirated some days later contained no pus but a number of normal spermatozoa. The patient has had no attacks for the past six months.

### COMMENT

Geraghty mentions recurring attacks of posterior urethritis as one of the results of infection of the prostatic utricle. In the cases here reported the point of interest is the intermittent pyuria lasting a day or so and followed by the disappearance of all symptoms during the intervals, until sufficient pus accumulated for the pressure to overcome the resistance offered by the adherent opening to the utricle.

The symptoms shown by these patients are not unlike conditions of tuberculous and other infections of the upper urinary tract and should be considered in that connection.

A further point of interest in the second case (reported with permission of patient) was the opening of the ejaculatory ducts within the lumen of the utricle, as each time this was aspirated spermatozoa were withdrawn with the contents of the pouch. This probably accounted for the pain in the testicles of which the patient complained. It is surprising that he did not have a more marked infection of the seminal vesicles and epididymides.

Charles and Lafayette Avenue.

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

**ACNE VACCINE.**—(See N. N. R., 1913, p. 221).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Acne Vaccin.*—Marketed in packages of six ampoules containing 5,000,000, 10,000,000, 25,000,000, 50,000,000, 100,000,000 and 200,000,000 killed bacteria.

**ANTIMENINGOCOCCUS SERUM.**—(See N. N. R., 1913, p. 215).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Antimeningitis Serum.*—A polyvalent serum prepared from the blood of horses immunized to the meningococcus of Weichselbaum (*Diplococcus intracellularis*), according to the method of Flexner (inoculation of autolyzed cultures followed by living organisms). Put up in a special form of container of 50 c.c. with needle and trocar.

**BACILLUS COLI VACCINE.**—(See N. N. R., 1913, p. 221).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent B. Coli-Communis Vaccin.*—Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

**SERUM ANTIDIPHTHERICUM AND ANTIDIPHTHERIC GLOBULINES.**—(See N. N. R., 1913, p. 213).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Refined and Concentrated Diphtheria Antitoxin* (Antidiphtheric Globulin). Put up in a syringe container. Immunizing dose, 1,000 units.

**GONOCOCCUS VACCINE.**—(See N. N. R., 1913, p. 223).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Gonococcus Vaccin.* Marketed in packages of six ampoules containing respectively 50,000,000, 100,000,000, 150,000,000, 200,000,000, 350,000,000 and 500,000,000 killed bacteria.

**MENINGOCOCCUS VACCINE.**—(See N. N. R., 1913, p. 223).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Meningococcus Vaccin.* Marketed in packages of three ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

**PNEUMOCOCCUS VACCINE.**—(See N. N. R., 1913, p. 224).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Pneumococcus Vaccin.* Marketed in packages of six ampoules containing respectively 20,000,000, 50,000,000, 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

**BACILLUS PYOCYANEUS VACCINE.**—(See N. N. R., 1913, p. 222).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Pyocyaneus Vaccin.* Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

**STAPHYLOCOCCUS VACCINES.**—(See N. N. R., 1913, p. 225).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Staphylococcus Vaccin.* Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

*Polyvalent Staphylo-Acne Vaccin.* Marketed in packages of six ampoules containing respectively 100,000,000 killed staphylococci and 20,000,000 acne bacteria; 500,000,000 killed staphylococci and 50,000,000 killed acne bacteria; 1,000,000,000 killed staphylococci and 100,000,000 killed acne bacteria.

**STREPTOCOCCUS VACCINE.**—(See N. N. R., 1913, p. 226).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Streptococcus Vaccin.* Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

**TYPHOID VACCINE.**—(See N. N. R., 1913, p. 227).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Polyvalent Typhoid Vaccin.* Marketed in packages of three ampoules containing respectively 500,000,000 and 1,000,000,000 killed bacteria.

**TRANSFER OF AGENCY.**—The Antirabic Vaccine, formerly manufactured by the American Biologic Company, Kansas City, Mo. (See New and Nonofficial Remedies, 1913), is now manufactured by the Sophian-Hall-Alexander Laboratories, Kansas City, Mo.

# Therapeutics

## CHRONIC URETHRITIS

In spite of the more general discussion of the so-called social evil and the wide-spread dissemination of knowledge concerning the so-called social diseases, specific urethritis, gonorrhea, is not less frequent or less protracted than formerly, and uneradicated gonococcus infection in the male continues to be all too frequent. It is still generally believed by the laity that gonorrhea is a simple disease and syphilis a serious one, and, although they begin to understand that syphilis can generally be cured after several years of proper treatment, they still do not recognize that gonorrhea is difficult to eradicate absolutely, and that apparent cures are very deceptive. Physicians also are too hasty to pronounce a specific urethritis cured, especially as it is so difficult to cause a patient who has no urethral discharge except the merest gleety exudate or a few shreds in the urine to believe that it is necessary to be treated, or to convince him that he could transmit the disease to some innocent woman. While sometimes the physician is at fault, in the majority of instances it is the patient who fails to listen to the physician's warnings; therefore the specialist in genito-urinary diseases should not blame the general practitioner for the many cases of uncured gleet that he has to treat.

This article is not so much to describe in detail the many valuable treatments for chronic urethritis, but is to urge more careful investigation as to the cause of the gleety discharge in any one patient. The urethra should be carefully studied for the localization of the chronic inflammation. Drugs administered internally in gleety conditions are worthless. The continued and prolonged use of urethral injections is not only worthless, but also harmful. A localized inflammation or a slight ulceration may have caused a narrowing of the canal or a stricture of large caliber which causes no

obstruction. In such a condition there is still no question that the proper use of sounds, with massage of the inflamed region, dilatation of the constricted portion to normal caliber and prevention of the irritating secretions from being dammed back of this narrowed spot, often produces a cure; the discharge ceases, the shreds disappear, and gonococci cannot be found in the secretions. On the other hand, since electrically lighted urethroscopes are available, to treat a chronic urethritis without seeking the point or points of inflammation is as inexcusable as treating a sore throat with gargles without looking at the throat.

Dr. Victor C. Pedersen,[1] in two recent papers urges the use of the urethroscope, and describes the various makes. He reminds us that the structure of the urethra is eminently fitted for the growth of germs; it is not a hollow tube, but its walls are in contact, except when dilated by the passage of some fluid or an instrument. As the prostatic portion of the urethra is the widest part, with almost a pouch-like cavity, it forms a good harbor for the gonococci and a good place for their development. From this region they also readily infect the deeper parts of the mucous membrane. The prostatic sinuses on each side of the verumontanum also afford good sites for infection, especially if they happen to be deep. Besides the prostatic ducts, the folds in the roof of the urethra in this region also become easily infected. While the membranous portion of the urethra is less likely to become infected, the bulbous portion, which is more easily distensible and where the mucous membrane contains more folds, becomes easily infected, and in this region ulcerations and strictures are likely to occur.

Pedersen finds that the many mucous follicles along the dorsum of the anterior urethra often form mucous crypts, and when these become infected with the gonococcus the infection is difficult to eradicate. The infecting gonococcus, then, may be looked for not only in the folds of the mucous membrane of the urethra, especially in the bulbous and prostatic portions, but also in the mucous crypts or follicles, in the prostatic ducts, in the seminal ducts, and in the outlets of Cowper's glands. Pedersen also reminds us that after the specific inflammation of urethritis has become chronic there may result a thickening of the mucous membrane, cystic degeneration, inflammation and obliteration of the mucous crypts, and the production of unhealthy granulations which may finally become wart-like or papillomatous in character, and, acting as a foreign body, may perpetuate the chronic discharge, which may continually contain gonococci.

Such papers as these of Pedersen are valuable and necessary to remind the general practitioner continually that gonorrhea is always a serious disease, and that the harm a single attack can cause, both to the individual and to one or more women, must not be forgotten. It is useless for the gynecologist to present continually to the general practitioner the story of the lesions in the female from this germ unless it causes physicians to combat more energetically chronic urethritis or other left-over lesions from an acute gonorrhea. In other words, the best treatment of gonococcic gynecologic lesions is the prevention of chronic gonococcic urethral discharge in the male.

It should also be noted that with a chronic inflammation in the posterior part of the urethra or in the region of the prostate, sexual desire is stimulated, and with sexual gratification there is an increase in the congestion, and the disease is thereby perpetuated.

The lesion in chronic urethritis having been located by the urethroscope, local applications of weak solutions of silver nitrate, from 1 to 5 per cent. or even stronger perhaps, or the application of various more modern silver solutions at three or five day intervals, will frequently effect a cure. If the lesions are small, the swab treatment is best. If a whole region is inflamed, the instillation of from 0.5 to 1 c.c. (7½ to 15 minims) of a silver solution of proper strength at the same intervals is often a better treatment. When there is more serious chronic disturbance such as cystic degeneration or warty granulations, or when the follicles are affected, more scientific and more radical treatment is indicated, and a specialist certainly should be given the care of the patient. Pedersen finds that the best results are obtained by electrical applications with the fulguration wire, as it is termed. He varies the strength of the current from that of mere desiccation to actual cauterization, and he gives the treatment at intervals of from one to two weeks. Naturally such treatment should be given to but one small region at a time. Such electrical treatments must always remain in the hands of an expert. In order to specialize properly in this line of work, the physician should take clinical instruction under an expert.

The subject may be summed up as follows:

1. Acute gonorrhea is always a serious disease.

2. A large number of acute gonorrheas are only apparently cured.

3. Chronic urethral discharge, with or without gonococci, may be caused by lesions in various parts of the urethral tract and its adnexa.

4. Before the treatment of chronic urethritis is begun a careful examination of all parts of the urethra with the urethroscope should be made, as well as the usual examinations of the urine.

5. A urethral discharge, if evidenced by nothing more than a considerable number of shreds, should not be considered satisfactorily cured, but should be carefully investigated by an expert, and if definite lesions are found, the proper treatment should be administered by one who has specialized in genito-urinary work.

It is only by recognizing these conclusions as presenting fairly the menace of gonorrhea to the public that the serious gynecologic consequences can be prevented.

1. Pedersen, Victor C.: New York Med. Jour., Oct. 19, 1912, p. 779; A Light-Carrier with Lens and a Rheostat for Urethroscopy, THE JOURNAL A. M. A., Jan. 18, 1913, p. 182. Dr. Pedersen also ably discusses the treatment of the acute stage of specific urethritis in the New York Medical Journal, Feb. 15, 1913, p. 327.

**Working Men's Compensation Laws and Defective Sight.**—As pointed out by Shastid, in consequence of working men's compensation laws, which render employers liable for injuries to their workmen, irrespective of technical matters, it is important for the employer to know to a certainty before he grants employment that the applicant is possessed of sufficient visual power to keep him from being hurt. Visual deficiencies which would jeopardize a man at work are usually due to a diseased condition of the media or of the optic nerve, retina or chorioid. Refraction errors are less likely to endanger limb or life because the field of vision is not materially contracted, and because such errors are usually of a congenital nature so that the possessor of them has learned in a measure to compensate for them. But there can be no doubt that errors of such a degree as materially to reduce vision and thus require the eye to be brought closer to the work than is usual would entail danger by bringing the body in proximity to unprotected (but, under natural conditions, safe) parts of machinery.—W. Zentmayer in *Ann. Ophth.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, APRIL 5, 1913

## SOME PHYSIOLOGIC ASPECTS OF EXERCISE

The indulgence in athletics as a mode of promoting health and physical well-being, and the rational employment of exercise as one of the devices of physical therapy, demand a thorough understanding of the physiologic phenomena and consequences attending various forms of muscular activity. It has come to be widely recognized that no person should be permitted to engage in exhausting sports or unusual physical exercises who has not a normal constitution which will insure him against possible untoward effects of extraordinary effort. A careful physical examination by a competent medical adviser has become a recognized practice in gymnasiums, sanatoriums and comparable institutions in order that those of weaker physique who may be handicapped by some bodily defect or particularly susceptible organ may not suffer damage from undue activity. When we inquire, on the other hand, what the actual physiologic consequences of exercise are, what functions are altered and how, it is not always easy to find an answer. The physiology (and pathology) of exercise is a theme which largely remains to be written. Certain facts have forced themselves on our attention in an emphatic way, and permit of broad generalization. This is true, for instance, of the general response of the heart and the changes in the circulation incident to muscular activity. The underlying causes, the regulating mechanisms, the abnormal responses—all demand critical interpretation. And this statement applies in still larger measure to other related phenomena such as the manifestations of fatigue or the escape of the organism from it.

The careful studies of Cook and Pembrey[1] of London will be welcomed in this connection. They have made many observations on the respiration, pulse and temperature of healthy men before and after exercise, for the purpose of elucidating the phenomena of muscular dyspnea, "second wind" and training. The mean composition of the alveolar air during rest was found to be 5.57 vols. per cent. of carbon dioxid and 14.89 of oxygen; directly after muscular exercise the means were 6.52 vols. per cent. of carbon dioxid and 14.33 of oxygen.

1. Cook, F., and Pembrey, M. S.: Observations on the Effects of Muscular Exercise on Man, Jour. Physiol., 1913, xlv, 429.

The respiratory quotient $\frac{CO_2}{O_2}$ is often quoted to indicate the nature of the compounds consumed in the body when energy is liberated for various physiologic functions. The figures for protein, fat or carbohydrate combustion are distinctive and can be used under appropriate conditions as an index of the character of the metabolism going on. Cook and Pembrey have pointed out that during vigorous muscular work the respiratory quotient can no longer be depended on to represent the resultant of the metabolic activities, for the rapid ventilation of the lungs in the dyspneic stage can wash carbon dioxid out of the blood without producing a corresponding increase in the absorption of oxygen. The quotient is thus raised as the result of the altered pulmonary ventilation without regard to the metabolism itself.

The ventilation of the lungs is, of course, greatly augmented by exercise, and the respirations are increased in frequency and amplitude. The influence of oxygen on these phenomena has been the subject of considerable discussion in recent years. According to the London investigators there appears to be little or no definite influence on the volume breathed and the number of respirations when the subject at rest breathes oxygen instead of air through a mask and valves. It is necessary, they state, to take precautions to prevent the influence of suggestion and also to moisten the oxygen, which otherwise would differ from the air in being dry and cool. Under such carefully guarded conditions, which indicate the tendency of incompetent observers to draw false conclusions, most men at rest cannot recognize any difference between pure oxygen and air. After exercise the postponement of distress during breathing in and out of a spirometer enabled subjects to recognize when the latter contained oxygen. The lack of oxygen as well as the accumulation of carbon dioxid may act as a stimulus to respiration, especially after active exercise; but the amount of oxygen in the alveolar air is less affected under ordinary conditions of work than is that of carbon dioxid, so that the administration of oxygen is regarded of value by Cook and Pembrey as a rule only when the conditions are pathologic.

The differences in the pulse-rate in healthy men are reported to range from 47 to 90 per minute. Directly after exercise the pulse-rate may be as high as 180 per minute. The return of the pulse to its rate during rest is of considerable importance. The influence of training comes into distinct relief in this connection. In the well-trained man there is a rapid recovery and a tendency for the rate of the pulse to fall below its original value during rest; in the untrained man the rate remains high and often irregular for some time. Irregularity of the pulse after exercise has been observed frequently. Apart from the rapid decrease in the rate, Cook and Pembrey have noticed that in some strong and well-trained men beats appear to be dropped: in untrained men the irregularity shows itself in the rate

and volume of the pulse. It appears from the studies on record that an examination of the pulse affords the readiest means of testing the influence of muscular exercise, but it is necessary to make determinations before and at various periods after the work. A rapid return of the pulse to its original frequency during rest appears to be the best indication of good accommodation and training; in well-trained men the return is so rapid that observations must be taken in successive periods of fifteen seconds, if true indications of the influence of exercise are to be obtained.

It is well known that muscular exercise increases the temperature of the body when the measurement is made in the rectum or in the stream of urine. The values obtained in the mouth are not very reliable as indications of the internal temperature of the body, for the boundaries of the mouth are thin and easily cooled by the air and by evaporation from the external skin surfaces. Time has been required for the recognition of this physiologic rise in temperature owing to the fact that the practice of observing temperature in the mouth has been and still is so wide-spread. It is stated that the internal temperature may rise to 102 F. (39 C.) in perfectly healthy men without provoking distress or discomfort if the body is lightly clad and there is no obstacle to the free evaporation of sweat. Only when the clothing is unsuitable or the muscular work is performed in a warm, moist atmosphere does discomfort manifest itself.

Cook and Pembrey maintain that the rise of internal temperature found in men well trained and in perfect health has a beneficial effect on the performance of muscular work. Persons work more efficiently when they are "warmed for their work." There are several explanations for this beneficial influence: the excitability of the respiratory and cardiac centers is increased and the blood gives up its oxygen more readily to the tissues.

Athletes are familiar with the phenomenon of "second wind," the expression popularly applied to the disappearance of the discomfort and dyspnea which frequently arise very soon after the initiation of vigorous muscular exercise. This accommodation can scarcely be due to training; for in the untrained the phenomena are often more marked than in the trained. Any vigorous and continuous muscular activity may produce the conditions. Experimental analysis has led to the conclusion that "second wind" is an adjustment of the respiratory and circulatory systems to the demands of the muscles for an adequate supply of blood. Carbon dioxid appears to be the chief factor in effecting the accommodation.

---

## ANIMAL PARASITES IN TUMOR FORMATION

There are some who hold that non-malignant tumors may be caused by the irritation of various parasitic organisms, while others go so far as to assert that malignant tumors are the result of the direct and specific action of certain germs. Of the correctness of the latter view, however, there is no generally accepted proof; but it is an established fact that the presence of parasites in the tissues may become associated with tumors. Thus there have been observed numerous instances of the association of tuberculosis and carcinoma. Perhaps as striking an example as any of parasites associated with malignant tumors is seen in bilharziosis of the urinary bladder. The cystitis caused by *Bilharzia haematobia* is so frequently accompanied with malignant growth, mostly epithelial, that it seems as if there must be a more or less direct connection between the parasite and the cellular proliferation.

Recently Fibiger[1] described an interesting instance of this general nature which he has studied with great care. By chance he found papillomatous growths in the stomachs of three wild rats. The growths originated in the fundus, which in the rat is lined with squamous epithelium. There were no metastases. Both acute and chronic inflammatory changes were present, and epithelial strands delved downward, pushing their way into the muscularis mucosae, some even into the submucosa, where cysts and crude epithelial pearls were found. In the epithelium beneath the stratum corneum were inclusions which later proved to be animal (nematode) parasites which it was possible to reconstruct from the serial sections. Post-mortem examination of over a thousand other rats in routine laboratory work revealed no conditions similar to those just described, nor were nematodes found. Examination of sixty-one rats from a sugar refinery showed nematodes in the fundus of the stomachs of forty and in eighteen papillomatous proliferation of varying degrees was present; in nine there were well-defined tumors. These rats were known to feed on certain roaches (*Periplaneta americana*) infesting the refinery, and examination revealed trichina-like organisms in the striped muscle of the extremities and prothorax of the roaches. When normal rats were fed with roaches from this refinery, nematodes appeared in the mucosa of the fundus of almost all of the rats, and many of them developed the hyperplastic changes suggestive of early stages of tumor. Appearances interpreted as genuine tumors were found in some.

Roaches free from parasites, when fed on the eggs of this nematode and on rat feces containing such eggs, developed the muscle infection, and when fed to fresh rats readily caused the disease in the stomach, so that in from six to eight weeks the feces constantly contained eggs. Direct transmission of the ova to normal rats failed to infect, and hence it is concluded that the roach is a necessary host in the life-cycle of the parasite.

Of a total of 118 rats fed on roaches containing larvae, ninety-four showed parasites in some of that part of the alimentary tract which is lined by squamous epithe-

1. Fibiger, J.: Cancer Induced in Rats by Feeding with Parasites of Cockroaches, Berl. klin. Wchnschr., 1913, L, 289; abstr., THE JOURNAL A. M. A., March 22, 1913, p. 948.

lium. In twenty-three of these rats there were moderate hyperplastic changes accompanied by small papillomas of the mucosa. In sixteen the papillomas were well developed so that the wall of the stomach measured as much as 1 cm. in thickness and was studded with "fibro-epithelial excrescences"; in five the lumen of the fundus was entirely occluded; in three cases the papillomas were solitary and about the size of a walnut. Microscopically a hyperplasia of the upper epithelial layers was invariably present. Eosinophils and plasma cells and collections of leukocytes in the submucosa were not infrequently seen. In general it was found that the intensity of the pathologic changes varied directly with the number of included parasites. Bacteria were seldom found except in the upper epithelial layers.

Fibiger makes a special report of four cases in which the growth was infiltrative and distinctly carcinomatous. These animals had been fed on roaches containing larvae. In one of them a second tumor was found in the urinary bladder, and Fibiger believes that the latter may have been metastatic. In another rat a metastatic nodule was found in the lung, while a third rat showed metastases in regional lymph-nodes, and serial sections of the metastases failed to reveal the presence of nematodes in any of them.

The work is most interesting. That the parasites described are responsible for the proliferations in the mucous membrane of the rats seems almost beyond question. That the parasites establish themselves only in that part of the alimentary tract which is lined by squamous epithelium points to a peculiar affinity. Their action would seem to depend on the production of some substance that stimulates cells to undue proliferation. Can this substance be extracted? This and other questions await further research. A most valuable result of Fibiger's observations would seem to be that he has discovered an example of close association of an animal parasite and cellular proliferation at times becoming malignant under such conditions that it is easily susceptible of experimental study.

## THE PIGMENT OF THE CORPUS LUTEUM

With the progress of biochemical research the marked analogies that exist between the processes and physiologic performances of animals and those of plants, and the comparable chemical nature of the many compounds which occur in both types of living organisms, are becoming more and more clearly recognized. The pronounced contrasts between animals and plants which were until recently described as distinguishing characteristics are now offset by the emphasis on similar features which differ in the two groups solely in their quantitative rather than their qualitative aspects. Foodstuffs and enzymes find related representatives in both kingdoms; and pigments once supposed to represent an exclusive character of vegetable forms have yielded evidence of a close structural relationship to animal color products.

The truth is that with the gradual elimination of "vitalistic" notions from biology there is no logical reason for the barriers once set up between the different examples of animate forms. A recent illustration of the little suspected identity of two products of very diverse origin has been brought to light in Professor Willstätter's laboratory in Zurich. Escher[1] has isolated in pure form the yellow pigment of the corpus luteum and subjected it to careful chemical investigation. He has revealed the complete correspondence of this long-known coloring-matter with the pigment known as carotin and already prepared from carrots and green leaves. This is likewise closely related to lycopin, a pigmentary substance of tomatoes.

Some time ago Willstätter divided yellow plant pigments into two groups on the basis of certain solubility reactions. Each of these has now found a representative in the tissues of animals. The corpus luteum pigment, just identified with the carotin of vegetables, furnishes an example of one of the groups; in the other is found the so-called lutein which characterizes the color of the yolk of the hen's egg. Here then are two different, though hitherto confused, animal coloring-matters, each corresponding to an identical or nearly related analogue in plants. Henceforth we shall be expected to speak of carotin from corpus luteum and carotin from carrots, reserving the old designation "lutein" solely for the egg-yolk pigment.

The functions and significance of these coloring matters call for renewed investigation. An oxygen-carrying activity has been suggested for them, but it is too soon to relate the compounds to the internal respiration of the tissues in which they are known to occur. The difficulties of the study of the properties of carotin and the expense and labor involved may be gathered from Escher's experience. From ten thousand cattle ovaries, weighing 146 kg. (about 322 pounds), there was isolated less than half a gram (7 grains) of purified product. Such are the limitations of exact research.

## THE NATURE OF THE SO-CALLED KLAUSNER SEROREACTION

In 1908 Klausner[2] described an easily executed reaction which was observed to occur in certain blood-serums and gave promise of having a useful diagnostic bearing. He noted that when distilled water is added in certain proportions to fresh human serum a distinct flocculent precipitate separates in some instances within a period not exceeding twelve hours. This precipitation phenomenon was regularly manifested by luetic serums,

1. Escher, H. H.: Ueber den Farbstoff des Corpus Luteum, Ztschr. f. physiol. Chem., 1913, lxxxiii, 198.

2. Klausner, E.: Vorläufige Mitteilung über eine Methode der Serumdiagnostik bei Lues, Wien. klin. Wchnschr., 1908, No. 7; Ueber eine Methode der Serumdiagnostik bei Lues, ibid., No. 11; Ergebnisse mit der von mir angegebenen Präcipitationsreaktion bei Syphilis, Prag. med. Wchnschr., 1908, xxxiii, No. 46; Klinische Erfahrungen über das Präcipitationsphänomen mit destilliertem Wasser im Serum Syphilitischer, Wien. klin. Wchnschr., 1908, No. 26.

whereas it was not a usual manifestation in the serum from non-syphilitic individuals.

The incidence of the precipitation reaction thus indicated at once gave emphasis to the possibility of utilizing the phenomenon as a specific test for syphilitic infection. More extended observation soon proved, however, that the Klausner seroreaction with distilled water is shown in other diseases, notably in certain skin affections, so that its specificity for syphilis can no longer be asserted, particularly in contrast with the behavior of the Wassermann test. Nevertheless, it is interesting to learn that despite an occasional manifestation of the precipitation in other cases, the Klausner reaction is said to follow almost invariably in certain stages of the syphilitic exanthem.

Notwithstanding the problematic or negative value of the formation of a precipitate in selected instances when an empirically ascertained proportion of water is added to fresh serum, the underlying significance of the reaction calls for elucidation. From the point of view of the chemistry of the serum proteins one would anticipate that dilution with water might precipitate the globulin fraction which is less soluble as the concentration of salts diminishes. One might assume at first consideration therefore, that luetic serum and the serum of some of the other disorders are exceptionally rich in globulins and thus account for the possibility of inducing a more ready precipitation with distilled water. Klausner has lately shown that this explanation will not suffice.[3] An extended experimental study of the reaction has led him to the conclusion that lipoids are involved in the phenomenon. Every serum with which the precipitation can be demonstrated can be "inactivated" by extraction with ether or by heating. Serum inactivated by ether can be restored to a reactive state by addition of lipoids; the effect of heat cannot thus be compensated. Normal serum which does not give the Klausner test can be "activated" by addition of lipoids if it has not been heated. These and added features which need not be detailed here strongly suggest that the positive outcome of the Klausner reaction is dependent on an increased content of lipoids in the blood-serum in certain stages of syphilis and in other infections. Once more this indefinite group of ether-soluble compounds has been brought into relation to some of the phenomena of immunology.

3. Klausner, E.: Ueber das Wesen der sogenannten Klausnerschen Serumreaktion, Biochem. Ztschr., 1912, xlvii, 36.

## PRESIDENT WILSON RISES TO AN EMERGENCY

The recent situation caused by floods and storms was the first emergency to confront the new federal administration, still only a month old, yet there was no delay or lack of readiness to rise to the occasion. President Wilson promptly offered the help of the entire country to the stricken communities. Tents, cots, blankets and food were ordered into the storm-swept and flooded districts, in the most expeditious manner possible. But the President did more than this. Within twenty-four hours after the development of the floods in Ohio and Indiana, he directed three steps to be taken, which, so far as we are aware, are unprecedented. They are also highly significant of the attitude of the President and the new administration toward the activities of the federal government. Yet they were taken so quietly, and so much as a matter of course, that probably nine out of ten of those who read the dispatch from Washington saw no significance in the orders which had been given.

The first was that the crews and equipments from the life-saving stations on Lake Michigan and Lake Erie were ordered to proceed at once to the flooded districts to assist in saving lives. Like all simple but unprecedented acts, the common sense of this move commends itself at once to all. Boats were lacking, and the government had them. Experienced men were needed and the government had them. The season of navigation on the lake is closed at present and there was no great need for the life-saving crews at their stations. What more natural than to use the trained men and the special equipment of the Life-Saving Service to save lives in the flooded districts?

The second was to direct the Secretaries of the Treasury and of War to send at once into the afflicted districts all of the available medical officers of the Public Health Service and of the Army. Government surgeons have been sent before to establish quarantine and to stamp out existing epidemics. But, so far as we know, this is the first time that the health officers of the federal government have been ordered into a region to prevent the breaking out of epidemics and disease. Again the quiet common sense and disregard of governmental red tape on the part of the President must win the commendation of every sensible citizen.

The third thing the President did was to order ten thousand vaccine points and a thousand ampules of anti-typhoid serum sent at once into Ohio and Indiana for use in preventing epidemics of small-pox and typhoid. He did not expect the government surgeons to go to their work without being properly equipped. They were to be given all the aid that science could give them. Modern bacteriology and sanitation have proved that small-pox, which generally breaks out following great disasters, can be prevented and stamped out by vaccination. Extensive experience in the United States Army and elsewhere has proved positively, in the last three years, that typhoid can be prevented by proper vaccination.

The nation is fortunate in having as its chief executive a man who does not fear official red tape, moss-grown precedents or the opposition of the ignorant and fanatical followers of fantastic cults, but who will calmly, fearlessly and sensibly place at the disposal of any stricken or afflicted community all the available resources of the government and of modern science for the prevention of disease and the saving of life.

## DOCTORS IN TIMES OF PERIL

During the recent period of disaster and havoc ordinary events were relegated to the back pages of the newspapers. Every issue of the dailies was full of heart-rending and pathetic stories of disasters, storms and floods. The people responded to the call for help with the magnanimity and promptness which characterize the nation. From the scenes of the disaster came the call for food, clothing and shelter. But before this there came a call for physicians to minister to the wounded, the sick and the dying. From almost every afflicted locality soon came the same statement, "A special train carrying volunteer physicians, nurses, dressings and medical supplies is on the way to the scene of disaster."

So it is after every great calamity. The first men on the scene are physicians, performing their sacred work of saving life and relieving the suffering. This happens so constantly as to be an accepted occurrence. No one expresses any surprise. On the contrary, surprise would be aroused only if the nearest available physicians ever failed to respond in numbers equal to the need. Leaving their own work, volunteering without hesitation for the hardest service, they toil often for days and nights without intermission, without asking for or expecting compensation. Instances are not hard to find. Following the recent cyclone in Omaha, our correspondent writes: "I have personal knowledge of physicians whose homes were destroyed, yet the moment they knew their families were not injured they left them and worked all night, ministering to the maimed and dying.". There never has been a public calamity in which the services of physicians were not instantly offered, without money and without price.

At such times what becomes of the innumerable sects and cults which, under ordinary conditions, are constantly trying to usurp the place of the scientific medical profession and undermine the confidence of the public? Apparently they sink into obscurity and silence. When the emergency arises, what have they to offer? Suppose the dispatch from Ohio last week had read: "A special train containing one hundred osteopaths is on the way to Dayton. All of the sufferers will be given spinal adjustments as soon as the train arrives." Or "It is reported that two hundred people are dead and thousands rendered homeless and in danger of their lives through exposure due to the floods in Columbus. A special train containing one hundred chiropractics is being sent to the scene at once. Those suffering from injury and exposure will be given immediate treatment for nerve impingement." Or let us even suppose that those who disdain all material methods should emerge from their state of self-absorption long enough to do something practical: "Senator Works telegraphs that he has arranged for a special train, containing one hundred Christian Science healers, to be sent to Omaha. This train has been given the right of way over all railroads. All persons injured in the cyclone and the blizzard will be given mental treatment as soon as the train arrives." No such items have appeared in any of the newspapers. They would be greeted with laughter from all over the country. The peculiarity common to all of the unscientific and irrational cults and fads is that, in times of real peril and need, they have nothing to offer. When lives are in danger and when death rides on the wind and waters, the people want the men of scientific training and experience, of cool judgment and steady nerves, who can carry to them all the aid the human intellect in its centuries of struggle has been able to discover. Fads and isms may be followed by some of our people in times of peace and safety, but they fail when real danger threatens.

---

## COOPERATION AMONG PUBLIC HEALTH ORGANIZATIONS

The present campaign against disease and preventable death is now about two decades old. The causes, methods of transmission and means of prevention of almost all infectious diseases have been discovered within that period. During this time each state has had some form of health organization; but owing to the diversity and limitations of laws in the different states, as well as to the rapidity with which our knowledge regarding the causation and prevention of disease has developed, state and local health boards have been supplemented, in many cases, by volunteer, philanthropic bodies, interested in some special phase of the health situation. These organizations have proved important factors in the general public health campaign. Of late, however, it has been increasingly evident that with the multiplication of independent organizations there is danger of overlapping of function, interference in work, duplication of efforts and expenses, and — most important of all — lack of effective cooperation for want of a common program of procedure which would unite all organizations interested on a common platform, without interfering with the special work for which each organization was created.

After careful consideration of this problem, the Council on Health and Public Instruction of the American Medical Association, early in January, addressed a letter to the executive officers of thirty of the more important national organizations, suggesting a conference of executive officers to consider whether there is any overlapping of organizations and also whether there is, at present, any common ground for cooperation and mutual helpfulness among the organizations now in existence. This proposal was generally endorsed; and a second letter suggested that a conference be held in New York, Saturday, April 12, at the headquarters of the American Association for Labor Legislation, 131 East Twenty-Third Street, and asked for suggestions regarding other organizations interested. The bodies addressed included official and governmental organizations such as the United States Public Health Service, the Division of Vital Statistics and the Child Welfare Bureau; semipublic organizations, such as the National

Red Cross, the American Public Health Association and the Conference of State and Provincial Boards of Health; professional organizations, including the American Institute of Criminal Law and Criminology, the American School Hygiene Association, and the National Educational Association; scientific bodies such as the American Association for the Advancement of Science; philanthropic organizations of which the Russell Sage Foundation, the Rockefeller Sanitary Commission, the Elizabeth McCormick Memorial Fund and the Carnegie Institution are examples; business organizations, including the Association of Life-Insurance Presidents, as well as the Metropolitan, Prudential, Equitable, Postal and other insurance companies carrying on conservation work; special organizations, like the American Association for the Study and Prevention of Infant Mortality, the Association for the Study of the Feeble-Minded, the Association for the Study and Prevention of Tuberculosis, the National Child Labor Committee, the American Association for Labor Legislation, and the National Breeders' Association, and great national organizations interested in civic and national conservation, such as the National Conservation Congress, the American Civic Association, the National Civic Federation, the National Housing Association, and others.

The unanimity with which these organizations have responded to the suggestion for a conference plainly shows that the movement inaugurated by the Council on Health and Public Instruction is timely and necessary. The conference to be held in New York next week will be unique. About sixty organizations, all of national scope and all interested in some phase of the public health question, have intimated that they will be represented, in the majority of cases, by executive officers or by those having in their hands direct administration of the public health functions of the organization. The general subject for discussion will be: "How can better cooperation and coordination be established among the health forces of the country, so that the best results can be secured?" The discussion which will be presented on this subject cannot fail to be illuminating and valuable. In fact, it is reasonable to hope that this conference may mark a new era in our public health campaign.

## Current Comment

### SYSTEMATIC PREVENTION OF MINE ACCIDENTS

As the result of a conference which was held under the auspices of the United States Bureau of Mines last September, the American Mine Safety Association has been organized, with headquarters at Pittsburgh, Pa. Its members include the leading coal and metal mine operators, mining engineers and mine safety engineers of the country. Its purpose is the conservation of the life and health of the miner and a reduction in property loss due to explosions or fires in mines. It will attempt to place before the miners standard methods to be used in rescue work and in first aid to the injured. The work of the Bureau of Mines in reducing the number of deaths in the mines has led to the adoption of many different types of rescue apparatus, and also to the use of many different methods of resuscitation and first aid to the injured. Hundreds of mines within the last three or four years have been equipped with rescue apparatus, rescue corps and first-aid corps. Many of the men, in emergencies, have developed their own ways of doing things. The organizers of this association feel that the most efficient methods and apparatus in actual use should be found and recommended to the mining industry for general use. There were 2,719 persons killed in the coal-mines of the United States during the year 1911, and 9,106 seriously and 22,228 slightly injured. Nearly an equal number of men were injured in metal mines and quarries. Mine operators now realize that it is more expensive to restore wrecked mines, more costly to fight damage suits through the courts, and less profitable to pay regulated liability charges or even workmen's compensation, than it is to bear the cost involved in reducing these charges by means of diminishing the number of accidents and the duration of the resulting disability by the adoption of improved safety, rescue and first-aid methods. Fifty-eight per cent. of all industrial accidents are shown by statistics to be due to negligence, carelessness or lack of knowledge of employers or employees. The vital necessity of learning everything possible about the causes and means of preventing these accidents must be evident to every man concerned in mining. To the operator it spells business success or failure; to the miner, life or the physical ability to work and support a family.

### THE "ORIGINAL ARTICLE" FRAUD—A RECRUDESCENCE

In our article[1] on "Flours and Foods for Diabetics," two weeks ago, some space was given to a discussion of the Jireh Diabetic Food Company. This is a concern which sells a dangerous and frandulent product for diabetics under the claim that the starch in it has been so "treated" that it is not dangerous for those who suffer from diabetes. The Jireh concern has so juggled its advertising matter as to keep within the letter of the Food and Drugs Act while violating its spirit. We said in the article that the Jireh Diabetic Food Company was evidently intending to invade the medical journal advertising field. Our belief was based on the fact that the company was already advertising in the *Dietetic and Hygienic Gazette*, the *Medical Summary*, the *Medical Times* and the *Therapeutic Record*. The belief was further strengthened by the appearance of an advertisement—whether paid for or not, we do not know—in the form of an "original article" that has already appeared in the March issues of the *Southern Practitioner* and the *Medical Summary*. How many other journals will print this "article" remains to be seen. The article is entitled: "The Value of Starch-Treated Foods in the Dietotherapy of Diabetes Mellitus," by one George M. Norton, M.D., Savannah, Ga. During the past few days

1. Propaganda Department, THE JOURNAL A. M. A., March 22, 1913, p. 922.

the editors of medical journals in various parts of the country have received typewritten abstracts of the Norton "article," together with letters signed by George M. Norton stating that "it occurs" to him that should an abstract of his article appear in the various journals to whose editors he writes, it "would be appreciated by your many thousand readers, and the abstract is, therefore, respectfully submitted." The Norton letter continues: "I hope you will extend to me the courtesy of giving space to this extract in an early issue of your most excellent journal." We had fondly hoped that the "original article" method of advertising had gone out of date, thanks to the publicity this method of humbugging physicians had received from The Journal. But "eternal vigilance is the price of freedom" — from advertising fraud. Possibly the Jireh Diabetic Food Company may consider that it has very smartly "put one over" on our profession. If so, it is mistaken. The employment of methods belonging to an advertising era fortunately past will merely serve to emphasize the fact that the sale of Jireh Diabetic Foods depends on misrepresentation or deceit.

---

## "THERE'S A REASON"

Those readers of advertisements who are of an inquiring turn of mind may have wondered wherein lay the secret of the marvelous properties that have been ascribed—by the manufacturer—to Grape-Nuts. It is admitted to be but a combination of wheat and barley, and yet we have been told that this combination is a "special food for the brain and nerves," is good for appendicitis, "loose teeth," and various other unpleasant conditions. The manufacturer has at last explained. "There's a reason." Naturally enough, he makes this explanation in the pages of scientific publications, to wit, medical journals. Thus we read in current issues of some medical journals:

> To estimate the "calorie" value of Whole Wheat and Barley would seem (in the laboratory) to be a correct computation of the dietetic value of the well-known food (made of these two cereals)—Grape Nuts.
>
> But, professional accuracy of observation from a clinical standpoint, and confirmed, in an empirical way by many of the more intelligent laity, has shown in many individual cases during a decade or more, that Grape Nuts, for some reason possibly not readily demonstrable by the mathematics of chemistry, supplies in a prompt and practical way far more *real nutritive value* than the laboratory chart gives to mere Wheat and Barley.

After thus destroying the idols of science, the iconoclastic advertisement writer naively remarks: "The above is well worth looking into. . . ." Yes, indeed. So also are the conservation of energy and the immutability of the elements and the indestructibility of matter and Newton's law of gravitation and a few other fundamentals that scientific men fondly imagine to be fairly well-demonstrated scientific facts. It would seem to be the apotheosis of advertising misrepresentation when it becomes necessary for the exploiter of a breakfast-food to try to convince physicians that $2 + 2 = 5$. Why medical journals should be willing to "fall for" this sort of pseudoscientific twaddle we do not know; but, doubtless, "There's a reason."

## ONE CENT A DAY FOR HEALTH

Every one has been interested in the wonderful work being done in Panama in the construction of the canal. Startling as have been the results of the work of the engineers and builders, the work of the Sanitary Department has been even more wonderful. In a region noted as the most unhealthful in the world, in which our predecessors, the French, were unable to succeed because they could not keep the workers alive, American Army surgeons, by the use of scientific facts known to all, have succeeded in lowering the death-rate among American residents far below that of our most favored American communities. According to Colonel Gorgas, the chief sanitary officer of the Canal Zone, the death-rate for 1911 among 10,489 Americans was only 4.48 per thousand. While this result has been mainly due to the control of yellow fever and malaria, and while it is true that the American population consisted of picked individuals, largely of educated men and women in the prime of life, yet even with all these conditions recognized, the record is a remarkable one, and is probably without a rival. And all this, says Colonel Gorgas, has been accomplished at an expense averaging one cent per day for each individual. If this result can be secured at this cost in the center of a tropical jungle, what would not a similar expenditure do for our American cities? One cent a day is what the average American pays for a daily newspaper. It is one-fifth the cost of one five-cent cigar. It is one-fifth the price of a daily street-car ride. It is one-fifth the cost of admission to a moving-picture show. It is one-fifth of what we pay for a glass of soda-water or a package of chewing-gum. Who would say that the expenditure of this amount would be any burden to this rich and extravagant nation? And yet it is the cost of life itself. Is one cent a day too much to pay to protect the life and health of an American citizen?

---

## MUNICIPAL CHARITIES OF PHILADELPHIA

We have received the "Report of the Committee on Municipal Charities of Philadelphia," a book of 150 pages. The committee consisted of representative physicians and citizens of Philadelphia appointed by Mayor Blankenburg, and the report is a record of, and a protest against, the manner in which the public institutions and charities of a great city have been organized, provided for and managed. One receives the impression that better terms to denote the conditions would be "unorganized," "unprovided for" and "mismanaged," though all these terms represent shortcomings of the city government rather than of the officials of particular institutions. Politics and pull seem to be writ large over the whole situation, and lack of classification and separate provision for the different classes of the city's wards, or lack of cooperation and coordination in the work of the various institutions already established, is the crying fault. For instance, in Blockley, the largest municipal hospital and almshouse, an attempt is made to take care of all sorts of patients, from the infant with summer-complaint to violently insane adults, and the overcrowding is such that five thousand patients are housed on about five acres of ground. The committee

has been making a thorough study of the situation, and recommendations are made by the different subcommittees for the temporary and permanent improvement of conditions. The outspoken manner in which conditions are described and pictured and the blunders and mistakes of judgment of former administrations pointed out is refreshing in a public document. Many of the criticisms would undoubtedly apply with equal force to the management of public charities in every city in the land.

---

### PROTECTION AGAINST THE DEADLY BICHLORID

The dangers in the indiscriminate sale and use of mercuric chlorid (corrosive sublimate) tablets have been shown, or referred to, many times in THE JOURNAL. Attention has also been called to the dangers of popularizing these tablets by selling them under catchy or inferentially misleading names, such as "Clover Antiseptic Tablets." Each of these innocently named tablets contain seven and one-half grains of mercuric chlorid. The *Practical Druggist* discusses the same problem and refers to the provisions that are made in some more paternalistic countries for the protection of the public. The mercuric chlorid pastilles of the German Pharmacopeia consist of equal parts of mercuric chlorid and sodium chlorid. That pharmacopeia declares that the pastilles must be colored bright red with anilin dye, have a cylindrical shape and be twice as long as thick. Further, in display type, the proviso is made that "bichlorid tablets must be dispensed in glass bottles and must be labeled 'poison.'" Each tablet must be wrapped in black paper, each paper must contain in white letters the word "poison," and the weight of mercuric chlorid must be stated. Besides giving directions to protect them from light and moisture it is specified that they should be kept under lock and key. The German Pharmacopeia is a government-owned pharmacopeia, and the protection it gives the public in this specific instance is a good argument for the governmental control of such publications. Theoretically, the United States Pharmacopeia should be a work potent for much good; but unfortunately its preparation—at least in recent years—has been dominated by the commercial pharmaceutical interests to such an extent that neither the interests nor the wishes of the public or the medical profession have received much consideration. The *Practical Druggist* suggests editorially that each state should adopt stringent laws to regulate the sale of bichlorid tablets; but it would seem much simpler and more effective if steps could be taken to insure in future revisions of the Pharmacopeia greater efforts for conserving the health and welfare of the public.

---

**The Future of Preventive Medicine.**—Preventive medicine is capable, in the future, of doing away with poverty and misery, of remedying industrial disputes and of contributing to the cause of international peace. . . . It is capable of removing those causes of human misery, poverty and sorrow which lead to internal rebellion and disorder and, among nations, to war and strife. . . . We are going to get, through preventive medicine, relief from the frictions which arise out of immigration among the leading nations of the world.—Charles W. Eliot.

# *Medical News*

## ARKANSAS

**State Society Meeting.**—The annual meeting of the Arkansas Society will be held in Little Rock, May 20-23.

**State Board Election.**—At the annual meeting of the State Board of Health held in Little Rock, March 20, Dr. Morgan Smith, Little Rock, was elected secretary.

**Society Meets in New Quarters.**—The Pulaski County Medical Society held its February meeting in the new quarters tendered it by the Little Rock Public Library. The library has also arranged to house the medical library left by the will of Dr. W. E. Green to the society.

**District Society Election.**—At the annual meeting of the Tenth Councilor District Society, which includes the seven northwestern counties of the state, held in Rogers, March 18, Dr. J. L. Smiley, Siloam Springs, was elected president and Dr. J. A. Fergus, Rogers, secretary.

## CALIFORNIA

**Wiley in Los Angeles.**—Dr. Harvey W. Wiley lectured at the Temple Auditorium, Los Angeles, March 28, on "Public Health, Our Greatest National Asset."

**State Society Meeting.**—The annual meeting of the Medical Society of the State of California will be held in Oakland, April, 15-17. One of the features of the entertainment to be provided will be an automobile trip through Oakland and adjoining cities.

**Sanatorium News.**—The tuberculosis sanatorium erected by the Independent Order of Foresters of Lopez Canon, near Mulholland, was dedicated with appropriate ceremonies, March 15. The sanatorium will accommodate forty patients, is erected on the cottage plan and the buildings are arranged in a semicircle.——Mrs. Hattie M. Holmes, Watsonville, is making arrangements for the construction of a building in Patterson to be used as a general hospital and to cost about $3,500.

## COLORADO

**Free Antityphoid Vaccination.**—The health commissioner of Denver announces that he is prepared to give free antityphoid inoculation to all applicants.

**Tuberculosis Communicable.**—The state legislature has declared tuberculosis to be a communicable disease and requires that reports of cases of tuberculosis be made by the attending physician to the local board of health.

**Tuberculosis Hospital for Denver.**—The Board of Charities and Corrections of Denver has planned a city tuberculosis hospital to cost about $15,000, to take the place of the old tuberculosis ward at the Denver City and County Hospital.

**New Officers.**—Freemont County Medical Society at Florence: president, Dr. V. A. Hutton, Florence; secretary, Dr W. T. Little, Canon City.——Northeast Colorado Medical Society in Sterling: president, Dr. Cook, Julesburg; secretary-treasurer, Dr. Barney, Sterling.

**State Board Appointments.**—The governor has nominated Dr. L. G. Crosby, Ouray, Mr. A. W. Scott, a druggist of Fort Collins, and Mr. H. J. Merriweather a sanitary engineer of Denver, as members of the Board of Health to succeed Drs. C. S. Morrison, Colorado City, and W. C. K. Berlin and James Rae Arneill, both of Denver.

## CONNECTICUT

**Alumni Election.**—At the semiannual meeting of the St. Francis Hospital Alumni Association, Hartford, Dr. Joseph P. Ryan, Hartford, was elected president; Dr James Rooney, Hartford, vice-president; Dr. George W. Dunn, New Britain, secretary, and Dr. Thomas Herr, Waterbury, treasurer.

**Sanatorium to be Enlarged.**—An appropriation of $30,000 for new buildings at the Hartford County Tuberculosis Sanatorium was passed by the legislature. This will increase the capacity of the institution from forty-three to seventy-five and will permit of the erection of some rooms, a cottage for servants, a cottage for the superintendent and a dining-room for nurses.

## ILLINOIS

**Sanatorium for La Salle County.**—The board of supervisors of La Salle County have adopted plans for a tuberculosis sanatorium to be erected at the county farm to accommodate ten patients and to cost not more than $2,400.

**Personal.**—Dr. Wilbur W. McCleary, Chicago, who was operated on for inguinal hernia at St. Bernard's Hospital, March 19, is reported to be convalescent.——Dr. and Mrs. O. D. Holland, Streator, have returned from Europe.

**Home for Epileptics Endorsed.**—Members of the Evanston Woman's Club have approved the plan urged by Illinois club women to erect a home for epilepties. It is suggested that the building be erected in a white pine grove, near Galena.

**Memorial to Indianapolis Physician.**—The Woman's Medical Club of Chicago gave a professional tea as a memorial benefit to Dr. Helene Knabe, at the Hotel La Salle, March 29, at which Dr. Lillian Crockett-Lowder, Indianapolis, was the guest of honor.

**Ask for Woman Physician on Board of Education.**—The Chicago Woman's Club, at the suggestion of the Woman's City Club, has sent a resolution to the mayor asking the appointment of another woman on the board of education, and urging that a woman physician be appointed.

**Physicians Acquitted.**—In the case in which action for damages of $10,000 was brought against Drs. Charles E. Hill and Ato C. Housh, East St. Louis, on account of the death of a boy under chloroform anesthesia while being operated on for phymosis, a verdict has been rendered in favor of the defendants. It was shown in the trial that chloroform is recognized as the anesthetic of choice in children, and that deaths during any operation, no matter how simple, are a part of the risk which the patient must assume, if ordinary care and skill be given.

**The New Cook County Hospital.**—The Cook County board has appointed a committee consisting of Drs. William L. Baum, Henry B. Favill, John A. Hornsby, A. J. Ochsner and Mr. L. R. Curtis, superintendent of St. Luke's Hospital, Chicago, to investigate the plans for the new Cook County Hospital and suggest changes. Changes were suggested by the committee which consist of the elimination of unnecessary fixtures and the addition of facilities for more patients, these changes effecting a decrease in cost of half a million dollars. The committee objected to the use of 20 per cent of the total space in the building for the housing of interns and other employees.

## KENTUCKY

**Fresh Air School Opens.**—The first open-air school in Kentucky for tuberculous children was opened in Lexington on the roof of the new Lincoln school building, March 17.

**Hospital Notes.**—The Winchester City Hospital committee has purchased a site for its proposed hospital for $3,000.——At Henderson, arrangements are being made for the purchase of the old high school building for $3,000 to be used as the city hospital and the present hospital is to be fitted up for tuberculosis patients.

**Personal.**—Dr. Arthur T. McCormack, Bowling Green, is in Rochester, Minn., where he took Mrs. McCormack for an operation from which she is slowly recovering.——Dr. Henry C. Kehoe, Flemingsburg, has been appointed superintendent of the State Institute for the Feeble-Minded, vice Dr. G. W. Armes, Frankfort, resigned.

## MARYLAND

**Expense of Small-Pox Epidemic.**—The total expense of the recent small-pox epidemic in Allegany County is said to have been $8,000.

**To Celebrate Sixtieth Anniversary.**—The trustees of the Sheppard and Enoch Pratt Hospital, Towson, are planning to celebrate the sixtieth anniversary of the granting of the charter for the institution. It is expected that the celebration will be held either just before or just after the meeting of the Congress of American Physicians in Washington. The hospital was incorporated in 1853, Moses Sheppard the founder, being the first president of the board of trustees, but the institution has been receiving patients for only twenty-one years.

### Baltimore

**Personal.**—Dr. Henry Barton Jacobs has been reelected president of the Society of Colonial Wars.——Dr. Andrew C. Gillis, superintendent of Mercy Hospital, has resigned and will leave Baltimore for Germany, April 9.

**Royal Society Honors Physicians.**—Drs. William H. Welch and Dr Eugene F. Cordell, Baltimore, and Col. William D. McCaw, M. C., U. S. A., librarian of the Surgeon-General's Library, Washington, have been elected honorary members of the Royal Society of Medicine, London, in the Section of History of Medicine.

## MINNESOTA

**Inebriate Farm Saved.**—The legislature at its session, March 26, voted down by a vote of 48 to 24, the W. T. Stone bill which sought to abolish the State Inebriate Farm, Willmar, and convert it into a state sanatorium for tubereulosis.

**Leprosy Suspect.**—A case has recently been reported to the health department of Minneapolis by Dr. Th. Thoresen, who declares the ailment leprosy and its diagnosis is concurred in by Dr. J. Hvoslef. The attending physician, however, does not agree with this diagnosis and a conference of physicians is to be called to decide the matter.——The City Health Commissioner, on March 20, concurred in the diagnosis of leprosy, and expressed his belief that the case is less a menace to public health than is a case of tubereulosis.

## NEBRASKA

**The Cyclone in Omaha.**—In the path of the recent cyclone in Omaha were the houses of Drs. D. C. Bryant, J. C. Bishop, Howard B. Hamilton, C. T. Needham and H. L. Arnold. These houses were wholly destroyed. The houses of many other physicians were damaged by the cyclone, but no fire occurred in the house of any physician nor was a member of a physician's family seriously hurt. One or two physicians received minor injuries. In no case were the doctors deterred from active service in aiding the injured. Physicians, nurses and hospitals worked in concord for relief of the suffering, irrespective of financial or social standing.——The medical section of the University of Nebraska which has its building at Forty-Second and Harney Streets, Omaha, directly in the path of the recent cyclone, escaped with damages estimated not to exceed $1,000. The building was badly rocked, water, sewer and gas pipes and many windows were broken.

## NEW YORK

**Library Open to All Physicians.**—A circular letter has been sent to all physicians of Buffalo inviting them to use the University of Buffalo Library which contains about 9,000 medical volumes and receive regularly about 130 English and foreign medical periodicals.

**Senate Confirms Nominations.**—The senate has confirmed Governor Sulzer's reappointment of William Rhinelander Stewart, Dr. Stephen Smith and Hermann Ridder of New York as members of the State Board of Charities. The appointment of Dr. J. Richard Kevin of Brooklyn as a member of the State Board of Charities was also confirmed.

**Personal.**—Dr. F. M. Meader, city bacteriologist of Syracuse, has been given an indefinite leave of absence that he may undertake studies in preventive medicine.——Dr. F. W. Lister has been elected president of the Seneca Falls Antituberculosis Society and Dr. Robert Knight, treasurer.——Dr. George H. Fox has been appointed assistant physician and Dr. S. B. Blakely assistant surgeon of the Binghamton City Hospital.

### New York City

**Campaign for Hospital.**—On April 2 a campaign was inaugurated to raise $160,000 to equip the new St. Anthony's Hospital, Brooklyn.

**New Clinical Building.**—Plans have been filed for a six-story building to be known as the Hospital of Deformities and Joint Diseases, to be erected at a cost of $90,000 on One Hundred and Twenty-Eighth Street near Madison Avenue.

**Personal.**—Dr. G. K. W. Schenck has been elected president and Drs. F. P. Hatfield, A. Goldberg and E. L. Friedman, members of the medical board of Rockaway Beach Hospital. ——Dr. Edward Carter Perkins at the completion of his service in St. Luke's Hospital will start for Kukiang, China, where he has purchased a site and has arranged for the erection and maintenance of a hospital.

**To Kill the Mosquito.**—Health Commissioner Lederle recently appeared before the finance committee of the board of aldermen and asked for an issue of special revenue bonds of $66,400 with which to fight the mosquito in all the boroughs of the Greater City. Brooklyn citizens have agreed to raise $25,000 toward the campaign provided New York will contribute a like sum. The committee will hold a public hearing before acting on the request.

**Health Department Destroys Much Food.**—According to the figures given out by the health commissioner, the nineteen food inspectors of the Department of Health condemned and destroyed 23,950,321 pounds of foodstuffs during the year 1912. In commenting on this loss of food Dr. Lederle points

out that it is a factor in the high cost of living and recommends a central board of control which would regulate the quantity of material to be shipped to any one city at a given time. He also points out that the prohibition against the sale of skimmed milk and butterine is economically absurd and unscientific.

**Protests Against Report of Venereal Diseases.**—The Medical Society of the Borough of the Bronx at its meeting February 12, entered a protest against the recent order of the Health Department to certain hospitals in the city requiring these institutions to record with the department, the names and addresses of all persons suffering from venereal diseases, and if possible the names and addresses of all persons supposed to be sources of infection. The reasons assigned are: that venereal diseases are regarded as a reproach and stigma and knowledge of such cases is confidential and privileged; that the continued reporting of such cases in this way will cause blackmail and divorce suits; that statistics will not be improved; that all diagnoses in such cases are not correct; and furthermore, the society believes that prevention will not result from this order, for the poor man will either go untreated or treat himself, or will fall into the hands of the advertising quack and will carry on the deadly work of communicating to others his disease.

## PENNSYLVANIA

**Hospital Addition Needed.**—Although the addition to the Miners' Hospital, Spangler, was opened in February, the institution is already overcrowded and plans have been set on foot for the building of a new extension.

### Philadelphia

**New Officers.**—Jefferson Hospital Clinical Society, March 2: president, Dr. Francis T. Stewart; secretary, Dr. Elmer H. Funk.

**Personal.**—Dr. L. C. Peter has been elected ophthalmologist to the Rush Hospital for Consumption and Allied Diseases, vice Dr. Wendell Reber, resigned.——Dr. Edward A. Spitzka, director of the Baugh Institute of Anatomy, is suffering from a general nervous breakdown and has gone abroad to recuperate.

**Alumni Dinner.**—The annual meeting and dinner of the Society of the Alumni of the Medical Department of the University of Pennsylvania will be held in the Bellevue-Stratford, April 18. Among the speakers are Drs. S. Weir Mitchell, Richard C. Cabot, Boston, Lewis H. Taylor, Wilkes-Barre and John G. Clark. Dr. William Pepper will act as toastmaster.

**Suggests College Merger.**—Dr. Henry W. Cattell in a public letter, proposes to bring the University of Pennsylvania under the direct control of the state legislature and of the councils of the first and second-class cities and to devote an annual appropriation for administration purposes; to compel the union of certain medical schools and hospitals by not granting state aid to them unless they merge within a specified time; to cause the managers of hospitals under private management and receiving state aid, to keep their books so as to permit the auditing committee to pay over the per capita allowance for the care of each poor patient treated, and to forbid, with penalty of fine, the receipt of medical attention from hospitals receiving state aid, by those able to pay for such services.

## WISCONSIN

**Contracts Awarded.**—The Racine Board of Health has awarded the contract for the municipal isolation hospital at Gatliff for $39,055.——The Eau Claire County Sanatorium Tuberculosis Committee has awarded the contract for the construction of the building for $15,075.

**Personal.**—Dr. Herbert W. Powers, formerly of the Kenilworth (Ill.) Sanitarium, has been appointed senior physician at the Milwaukee Sanatorium, Wauwatosa.——Dr. E. C. Grosskopf, Milwaukee, has been appointed a member of the board of trustees of the Milwaukee Hospital for the Insane.——Dr. Alfred H. C. Carthaus, surgeon at the Milwaukee Soldiers' Home, has been transferred to the Soldiers' Home at Togus, Maine.——Dr. George H. Scheer, Sheboygan, has been commissioned first lieutenant, M. C., N. G., Wis.——Dr. Sara Elliott, Waukesha, has gone South on account of ill health.——Dr. A. P. Axdrus, Ashland, a member of the police and fire commission, has resigned to accept the position of health commissioner.——Dr. John M. Kelley, Cato, has been appointed attending physician at the Manatowoc County Tuberculosis Sanatorium, Whitelaw.——Major E. H. Gramis, M. C., N. G., Wis., has been appointed surgeon-general.

## WYOMING

**Nurses' Home at Sheridan.**—A bill appropriating $15,000 for a nurses' home at Sheridan has been passed by the legislature and approved by the governor.

**State Board Organized.**—The State Board of Medical Examiners met for organization at Cheyenne, March 7, and elected Dr. C. D. Stafford, Kemmerer, president; Dr. J. G. Cogswell, Riverton, vice-president, and Dr. John B. Tyrrell, Laramie, secretary and executive officer.

## GENERAL

**Antimalaria Congress.**—The first antimalaria congress is to be held in St. Louis, April 10-12. It will convene as a section of the International Drainage Congress.

**Surgeons Meet in New Orleans.**—The Society of Clinical Surgery held its twentieth annual meeting in New Orleans, March 21-22. At the clinic held by Dr. Rudolph Matas, at the Charity Hospital, his treatment of neuralgia by the injection of alcohol under the nerve ganglions at the base of the skull, was presented and demonstrated. Clinics were held at the various hospitals of the city and at the close of the meeting a luncheon was given by Dr. Matas and the local surgeons' committee of the society at the Boston Club. The society was also entertained at luncheon by the medical staff of Tulane University.

**Bequests and Donations.**—The following bequests and donations have been announced:

New York University and Bellevue Hospital Dispensary, $25,000 for the endowment fund by the will of Maria G. Taylor.

Methodist Hospital, Philadelphia, and St. Luke's Hospital, South Bethlehem, Pa., each $21,000 by the will of John Fritz of Bethlehem.

Southside Hospital, Pittsburgh, a large sum by the will of Martha Schweitzer.

Abington (Pa.) General Hospital, $22,200 subscribed by pledge to the building fund.

Syracuse (N. Y.) Hospital for Women, $10,000, by the will of Maud D. Smith to endow a room in memory of her parents.

Reading (Pa.) Hospital, $10,000 by the will of James H. Sternberg.

St. Luke's Hospital, contingent trust funds of $125,000 and $30,000; Cromans Hospital, New York City, $25,000 by the will of S. F. Thompson.

University of Pennsylvania Hospital, General Hospital and Jefferson Medical Hospital, each $50,000 for hospital beds.

Pennsylvania Asylum for Indigent Widows and Single Women, $10,000; Pennsylvania Institute for the Deaf and Dumb, $10,000 and Hospital of the Protestant Episcopal Church, $10,000 by the will of Anne H. Carver.

National Jewish Hospital for Consumptives, Denver, $50,000 by Samuel Grabfelder, Philadelphia.

Lowell (Mass.) General Hospital, $100,000 for the erection of a hospital for the Care of Incurable Patients to be known as the Freeman Ballard Shedd Memorial Hospital, by the will of Freeman Ballard Shedd.

Robert W. Long Memorial Hospital, Indianapolis, an additional gift of $25,000 for completion and furnishing, by Dr. Robert W. Long.

**The Flood Situation.**—On March 27 the Secretary of the Treasury directed Surgeon-General Rupert Blue, U. S. P. H. Service, to visit the flooded districts in Ohio, to represent the department in sanitary matters, and he is now in Cincinnati accompanied by Assistant Surgeon-General William Colby Rucker. On March 26 Surgeon-General Blue ordered Surgeon Clarence W. Wille from Cleveland to Columbus, Ohio, to assist the health authorities in the flooded district and on the same day, Surgeon Julius O. Cobb and two assistants were ordered to Indianapolis for duty. He left on the morning of March 27, accompanied by Passed Assistant Surgeon Hugh de Valin and Dr. Carl Michel, intern in the Marine Hospital. Surgeon Leslie L. Lumsden is held awaiting orders at Roanoke, Va., in readiness for duty, wherever his services are needed. It is understood that the relief measures in Dayton and other Ohio cities are being handled by the War Department and the American National Red Cross, whose officers and assistants stationed at ports on the Ohio and Mississippi rivers are prepared to cope with all emergencies. Other officers are available for duty on short notice if occasion arises. The marine hospitals at Louisville, Evansville, Cairo, Memphis and New Orleans are available to care for the sick. The flood situation in southern Illinois on March 30 was so menacing that Governor Dunne ordered two companies of the National Guard and a ship's crew of the Naval Reserve to Shawneetown, and on the following day ordered the Seventh Infantry and the Chicago Division of the Naval Reserve to proceed to Cairo. Maj. Thomas J. Sullivan, M. C., accompanied the Seventh Infantry and on arrival at once installed Darnall filters for the use of the men. Assistant Surgeon Charles A Costello accompanied the Naval

Reserve. Considering the devastation caused by the floods, the destruction of systems of water supply, the contamination of water by sewage and the exposure there has been, there is very little disease in the flooded districts, but all precautions are being taken to prevent or limit typhoid and other communicable diseases. The subject is also taken up editorially in this issue.

**Report of Public Health Service.**—The annual report of the United States Public Health Service for the fiscal year 1912 summarizes its various activities. After noting the death of Surgeon-General Wyman and the appointment of Surgeon-General Blue, the report states that the corps of commissioned medical officers now numbers 138, and that there are 227 acting-assistant surgeons, 968 attendants and nurses and 123 pharmacists, pilots, engineers and other employees, making a total of 1,456. The total expenditures of the service for the year amounted to $1,226,811.88. During the year the title of the Service was changed from Public Health and Marine-Hospital Service to Public Health Service; the salaries of commissioned officers were increased to rates commensurate with those of the officers of the Army and Navy Medical Corps and the duties and functions of the service were largely increased, empowering it to "study and investigate the diseases of man and conditions influencing propagation and spread thereof, including sanitation and sewage, and the pollution, either directly or indirectly of the navigable streams and lakes of the United States." During the year 381,772 copies of various reports and bulletins were distributed containing information regarding the prevalence of preventable diseases, with copies of regulations for safeguarding public health and other pertinent information. In addition to the investigations constantly being carried on in the Hygienic Laboratory at Washington, extensive field studies were made of typhoid fever in Texas, Arkansas, Iowa, Nebraska, Virginia and Alabama; of septic sore throat in Baltimore; of trachoma in Kentucky and Wisconsin, and of many other epidemic diseases. Surveys were also made of the Missouri watershed and of the Great Lakes; epidemiologic studies of various outbreaks of poliomyelitis, meningitis, etc., were continued and researches into the etiology and the control of typhus fever, measles, Rocky Mountain spotted fever, pellagra and the prevention and eradication of hookworm disease, trachoma, cholera and other infections were made. Supervision was also maintained over the manufacture of viruses, serums, toxins and vaccins. At the leprosy investigation station, Molokai, T. H., lines of experimentation have been followed in two directions, one consisting of studies in the vaccine and serum therapy of the disease, and the other the determination of the rôle played by lice, bedbugs and fleas in its transmission. Epidemiologic studies are in progress to determine the success of segregation, and the nature of the association necessary for the spread of leprosy. An acid-fast bacillus, differing from the human lepra bacillus, has been grown at the station from cases of rat leprosy. The Hygienic Laboratory gave special aid, during the year, to the revision committee of the pharmacopeia and standard methods were prepared for the determination of boiling and melting points and solubilities. Antirabic virus was administered to 84 persons, 1,106 treatments were sent out and the heads of 94 animals were examined for rabies, with 49 positive results. The establishment of a branch laboratory at New York for the study of contagious and infectious diseases is recommended. During the year, 12,911 vessels were inspected at domestic and insular quarantine stations and foreign ports. Of these, 1,419 were fumigated or disinfected and 1,564,071 persons were inspected. The steamer *Bratton* was placed in commission during the year, equipped with the Harker fumigation apparatus for the destruction of rats. The apparatus utilizes the flue gases from furnaces and boilers for deratization. A new quarantine station has been provided at Galveston and the quarantine function at Providence, R. I., has been transferred to the national control. After an absence of six years, plague has reappeared in the Philippines. Infection was probably introduced by means of fleas on sick rats. A severe epidemic of measles also occurred in the Philippines, the infection being traceable to patients from the United States. The disease was of a severe type and caused 23 deaths out of 524 cases. Officers of the service made during the year examinations of 1,143,234 immigrants at 83 stations and of these 27,021 were certified for physical or mental defects. Throughout the year, the service operated 23 marine hospitals and maintained 125 additional relief stations where hospital and dispensary care were furnished to American merchant seamen. In these hospitals and dispensaries, 51,078 seamen received treatment and of these, 14,717 were hospital patients. There were also made 10,264 physical examinations of masters, mates and pilots, and for entrance and promotion into the various government services. The tuberculosis sanatorium of the service at Fort Stanton, N. Mex., admitted 176 patients, discharged 178 and had a mortality of 56. Of the 178 patients discharged, 20 appeared to be cured; in 57 the disease was arrested; 25 improved; 15 were discharged unimproved; 55 died; 2 were found not to have pulmonary tuberculosis, and 4 patients were readmitted. The total cost of maintenance was $115,900.29, making, with the reduction due to sale of by-products, a cost per patient per day of $1.5554. The surgeon-general requests an increase in the number of officers in the field service to meet the constant increase in demands for aid and for the enforcement of federal quarantine laws. Ample appropriations are also required to carry out the provisions of the law regarding the investigation of problems bearing on the pollution of streams, sewage disposal and pure water supply. He also asks that provision be made for the study of pellagra, Rocky-Mountain spotted fever and malaria, and emphasizes the need of a new, large, modern building for the Hygienic Laboratory.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, March 22, 1913.

### Improper Use of a Medical Certificate by a Nostrum Vender

A nostrum vender in this country hit on a new device for humbugging the public which landed him in the law courts. An action was brought by Dr. Arthur Latham, a well-known authority on tuberculosis, against Stevens & Co., the venders of a "cure" for consumption, to restrain them from using a medical certificate relating to one A. G. Hodgson, or from representing that Dr. Latham had expressed any approval of their alleged "cure."

The certificate was obtained by a trick. Hodgson wrote to Dr. Latham stating that for some time he had had a bad cough; that a physician had considered him consumptive and treated him for consumption, and that consequently he was shunned by his friends and business acquaintances; that the cough had left him for twelve months, but that his friends still held aloof, and that he thought that if Dr. Latham examined him and gave him a certificate to show his friends it would be useful. Dr. Latham accordingly examined him and gave him a signed certificate to the following effect:

> I have recently examined Mr. A. G. Hodgson and come to the conclusion that he is not now suffering from consumption and is therefore not a source of danger to other people. In order to make quite certain I had his expectoration examined on two occasions and found tubercle bacilli absent. I therefore have no hesitation in saying that Mr. Hodgson cannot infect other people.

In his examination of the man's lungs, Dr. Latham found slight evidence of fibrosis, probably due to healed tuberculosis. The certificate with Dr. Latham's signature was subsequently published by Stevens & Co. in their advertisements of their "cure" for consumption, the suggestion being that they had cured Hodgson. Of course the object was to give the public the impression that the treatment was countenanced by an eminent specialist. It was admitted that Stevens & Co. paid the fees for the examination of Hodgson and for the certificate. They asserted that they cured Hodgson and denied that the advertisement conveyed the suggestion that Dr. Latham certified Hodgson's condition as being the result of their treatment. Their intention was merely to show that Hodgson was free from consumption at the date when he was seen by the plaintiff. They submitted to the injunction, however, and were ordered by the judge to pay the costs. It may be remembered that in consequence of the attack made on Stevens & Co. in "Secret Remedies" the firm brought an action against the British Medical Association, and that the jury could not agree to a verdict (THE JOURNAL, Dec. 14, 1912, p. 2166).

### A Campaign Against Flies

A national campaign against flies, which will be begun during National Health Week, April 6 to April 12, is being organized, and it is estimated that five million people will take part in it. From eighty thousand to a million volunteer workers will distribute literature showing the evils wrought by the house-fly. The object is to exterminate the fly, chiefly by the removal and destruction of the garbage on which it feeds.

### Bequest to the Liverpool School of Tropical Medicine by Sir Alfred Jones

During his life Sir Alfred Jones, a Liverpool ship-owner, was the main supporter of the Liverpool School of Tropical Med-

icine, to which he made princely donations. He paid the expense of the large number of expeditions to tropical lands for the investigation of disease on the spot which have from time to time been described in THE JOURNAL, and placed his ships freely at the disposal of the school. By his will he has left the school a bequest of $400,000. The effect will be to give a tremendous impetus to the development of the school and will enable its work to be carried on unhampered for some years. At present the school suffers from the inconvenience that its laboratories at the Liverpool University are situated two miles from the Royal Southern Hospital, where the cases of tropical disease are treated. Owing to the discovery of new diseases and the necessity for the closest personal inspection, the needs of the school have outgrown its bounds. The present munificent bequest will enable wards, laboratories and a museum to be erected near the university, the headquarters of the school. The work of the school is world-wide, and almost covers all recent progress in tropical medicine. Four chairs have been established in the university—tropical medicine, entomology, parasitology and tropical sanitation. The chair of parasitology is at present vacant; the others are held by Newstead, Stevens and Sir Ronald Ross. An expedition of the school is now returning from the investigation of vomiting-sickness in Jamaica. On its return it will be sent to Africa to investigate yellow fever.

### Impersonation of a Dead Physician

A man named Harry Virtue has been sentenced to nine months' imprisonment for giving false death-certificates. Only a registered physician is entitled to give a death-certificate, and when he does so he has to declare that he is such. On the other hand, any one can practice medicine provided he does not represent himself to be a qualified physician. In the present case the prisoner was acquainted with the late Richard Henry Barber, L.R.C.P., who was drowned accidentally in 1904 at Portland, Ore. The General Medical Council (which keeps the Medical Register), was not aware of his death, and in 1906 and at subsequent dates received requests from the prisoner for changing Dr. Barber's address to Liverpool and other places. The prisoner was born at Manchester, and after working as a grocer and butcher went to the United States, where he appears to have studied veterinary surgery.

### Failure of Action for Negligence Against a Well-Known Surgeon

An action for negligence was brought against Charles Leedham-Green, the well-known Birmingham surgeon, under the following circumstances: He removed a wart from a woman's thumb. After the operation the thumb became gangrenous and had to be amputated. It was alleged that the gangrene was due to the driving of blood from the arm by bandages and the excessive use of the freezing-mixture. Leedham-Green denied that rubber bandages were applied to the patient's arm and said that the freezing-mixture was applied only for a few seconds in order to deaden the prick of the needle used in injecting the anesthetic. He found later that the patient suffered from a bad circulation in the extremities. Medical evidence was given to the effect that the treatment was proper, and the jury gave a verdict for the defendant.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, March 14, 1913.

### The Physiologic Value of the Vegetarian Diet

Dr. E. Gley, professor of physiology at the Collège de France, recently delivered under the auspices of the Société scientifique d'hygiène alimentaire et d'alimentation rationnelle de l'homme an interesting lecture on vegetarianism considered from the point of view of present-day ideas on the rôle of digestion.

Physiologically it seems clear that a vegetarian diet easily furnishes all the necessary food-elements—water, mineral salts in the desired proportion, carbohydrates, the fats and proteins. It has, moreover, three great advantages which are recognized even by one of its opponents, W. Caspari: It is poor in elements giving rise to uric acid, which is an important factor in view of the prevalence of arthritis; it facilitates the disuse and still more the non-abuse of alcohol, because those who use a vegetarian diet are almost never thirsty, the water in their food supplying the organism's need for water, and because these foods do not excite thirst as do the condiments with which meats are often accompanied; and finally it is cheap.

On the other hand, according to the same authority, it appears to present three disadvantages: that of being non-stimulating, that of presenting too great a volume, being cumbrous for the digestive tube and that of not being rich enough in proteins. According to Gley these disadvantages are perhaps more apparent than real. The lack of stimulating substances does not appear to him a great evil. Civilized persons are only too often tempted to abuse stimulants. Moreover, the volume of the foodstuffs would be excessive only if one ate solely cabbages, potatoes and similar vegetables, but not if one uses a diet rich in cereals and in dried fruits. In fact, the vegetarian diet is now used to a sufficiently wide extent to render it possible to collate scientifically made observations showing how far it is compatible with the integrity of all functions in a fully developed life. The experiments of Mdlles. Joteyko and Kipiani, made on forty-three vegetarians of Brussels (students, professors, merchants, employees, artisans, society women and housekeepers) have shown that vegetarians can work two or three times longer than meat-eaters before reaching exhaustion, and that the work of vegetarians is much more productive. The repair of fatigue is also more rapidly effected in vegetarians: two minutes' rest suffices to enable them to recuperate their forces.

But while recognizing that vegetable foods suffice for the normal maintenance of life and for the integral accomplishment of all organic functions, Gley believes that in the present stage of our knowledge, physiologists are compelled to recognize an important difference between the two diets, vegetarian and mixed. This difference has reference to their value from the point of view of the digestive utilization of foods, especially protein foods. It is not a question here of the respective digestibility of vegetable or animal substances. This question, already old, may be considered settled. It is a question of the nutritive value of animal proteins with proteins suitably selected. The work of digestion is accomplished according to the law of economy of labor, to which the organism always tends in its functions, and the application of which is at once advantageous and inexpensive for it. Since the organism is obliged to reconstruct its specific albumins with foreign albumins, this operation will be carried on at a loss in proportion to the difference in composition between the albumins of the food and the specific albumin of the organism. Now there is a considerable difference between vegetable albumins and animal albumins. If, on the other hand, one gives an animal the same albumin as that of its own tissues to build up into its own substance out of the elementary fragments, it is probable that the mutilized part of these fragments, the loss, will be minimum or nil. On this is founded the hypothesis of Magnus-Levy that protein assimilation can be effected in the physiologically least expensive way by feeding animals on the flesh of those closely related to them. Magnus-Levy remarks that at the beginning of their development the highest animals in the series, mammals and birds, use in fact only the albumins of their own species, the first in the form of milk, the second in the form of egg albumin. From the point of view of digestion, we are compelled to admit the superiority of albuminoids of animal origin. It is clear that, for man, these are the substances which are most similar to his own proteins. Magnus-Levy humorously remarks that a cannibal, that is, a creature who feeds on his own species, perhaps realizes more closely the condition of physiologically inexpensive assimilation. Recent experiments have demonstrated the sound foundation of this theory. Physiologists, to be sure, are making no attempt to rehabilitate cannibalism, but they are unable to recommend vegetarianism in place of a mixed diet in which there is place for a moderate quantity of animal proteins more closely related to their own tissues than vegetable proteins.

### University Studies and the Three-Year Term of Army Service

In view of the present tense international situation, there is a serious tendency in France toward the reestablishment of the three-year term of military service. The plan, however, has aroused earnest protest, especially in university circles. Protests have been published from a group of students, on the ground that so important a military measure should not be hurried into effect without serious legislative deliberation or discussion, and from a group of professors, including Anatole France, Dr. Gley and Dr. Prenant, who believe that the project would seriously "affect the economical and intellectual life of the country and may even cause retrogression of French civilization." The proposed law provides that medical students who have completed three years of study and who have successfully passed at the end of their first year of service the examination for auxiliary physicians, shall be appointed to that post and shall complete their second and third years of service as auxiliary physicians. The objection to this is that a year is much too long for the preparation of three-year students for

the examination of auxiliary physicians. From four to eight weeks well utilized would be ample. How should the remaining ten or eleven months of the year be employed? In the military instruction of students? But this is useless for physicians who will never be combatants. In a term of service as nurses? This is useless if not harmful, for such service in subordinate capacity is rather calculated to diminish the moral authority so necessary to the physician. Dr. Lepaitre, general secretary of the Union des Syndicats médicaux, suggests that medical students should be attached to the present military hospitals. There during a year they would act as externs and interns, perfecting themselves at the same time in general medicine and learning the details of military medicine. At the end of the first year competitive examination would enable them to be assigned the grades of auxiliary physicians and of reservists, respectively. It is to be feared also that this three years' service may give advantages in various civil competitive examinations to foreign students and to native students not subject to military service. Professor Calmette of Lille in the *Bulletin médical* asks whether women medical students ought not to be compelled before passing their doctorate theses or the examinations for hospital extern or intern to pass three years of service as nurses in the military hospitals.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, March 14, 1913.

### Personal

It is reported that Professor Czerny of Heidelberg will give up next year the direction of the institute for cancer research, which was founded by him.

### Medical Expert Member of City Council in Berlin

As the result of the persistent efforts of the Berlin medical profession, the municipal authorities have established the office of municipal medical councilor (Stadt-Medizinalrat), and out of forty candidates have chosen Professor Weber, director of the Imperial Bureau of Hygiene, for this position. Weber, who is now 40 years old, was at first an army surgeon, and in 1898 was detailed to the Imperial Bureau of Hygiene. In 1904 he became a regular member of the staff of the bureau. During his official activity he produced a number of works on bacteriology; he took an especially important part in the investigations on the significance of bovine tubercle bacilli to man, which have been carried on by the Imperial Bureau of Hygiene. In 1909 he received leave of absence in order to take the position of secretary-general of the Dresden Exposition of Hygiene. He rendered such excellent service in organizing this exposition that he was appointed, after the close of it, director of the bacteriobiologic department of the Imperial Bureau of Hygiene, as successor to Professor Uhlenhuth, who was called to Strasburg. Weber was one of the delegates from Germany to the International Congress on Hygiene at Washington. On this occasion he read a report on the suppression of epidemic diseases in Germany. In view of his abilities it is expected that he will carry on the arduous duties of his office satisfactorily.

### Status of Cancer Research in Germany

A few days ago the Central German Committee on Investigation and Extermination of Cancer (Deutsche Zentralkomitee zur Erforschung und Bekämpfung der Krebskrankheiten) held its annual session in Berlin, in connection with the German Provincial Committee on Investigation of Cancer (Deutsches Landeskomitee für Krebsforschung). The reports on the status of cancer research, made by Professor Orth, who was in charge of the meeting, were not encouraging. As yet nothing definite is known about the origin of cancer in man. The results of the investigations of Fibiger of Copenhagen, who produced with intestinal worms artificial cancerous tumors in rats, cannot be applied to human beings, and therefore his investigations are not of such importance as at first announced by some overenthusiastic correspondents of the lay press. These results do not deal with a direct production of cancer by a parasite, but with only one of the stimuli which have long been known to be active in the formation of epithelioma, such as chimney-sweepers' cancer and similar growths. [See Abstr. 52, p. 948.]

Orth remarked that so long as nothing definite is known concerning the etiology of cancer, our efforts to cure this disease are much handicapped. Through the latest investigations, some scientists have succeeded in curing animal cancer, especially in mice and rats; efforts to obtain the same results in man, however, have so far been negative. Under the circumstances there is nothing else to be done at present on the part of the cancer committee than to enlighten the public and physicians on this subject. The possibility of curing cancer, which at present can be done only by operation, depends on the patient's seeking medical attention as early as possible, and on the physician's skill in diagnosing, which should be so developed that he may recognize the disease in its very beginning. The secretary, George Meyer, reported on the measures taken in this direction. A considerable number of explanatory pamphlets treating of the early diagnosis were distributed.

In the provincial committee the most interesting proposition was made by the Baden delegate, von Wasiliewski of Heidelberg. He referred to the fact that, although no connection is known at present between human cancer and the corresponding tumors in domestic animals, the study of the latter diseases is interesting, scientifically, at least. He proposed making collections of animal tumors. In this connection he had made arrangements with societies for animal breeding and other similar associations to send to the Heidelberger Krebsinstitut animals with tumors, he paying the cost of such animals, which are of no use for any other purpose. In this way scientific material for comparative pathologic and therapeutic studies will be procured, and a sort of statistics as to the origin of tumors in animals will be collected, which can later probably be compared with the corresponding statistics of human beings. This subject was discussed in a lively manner. Privy-Councilor Orth recommended general adoption of such measures. Boas pointed out that certain provinces showed an especially high quota of cancer of the digestive organs, and that in the small manorial districts such cases occur sometimes with remarkable frequency. Also gamekeepers and other persons whose occupation brings them in contact with animals suffer with relative frequency from this disease, so that some relation between human cancer and animal cancer cannot be disregarded.

### Home for the Berlin Medical Society

As readers of THE JOURNAL will remember, the Berliner medizinische Gesellschaft has been contemplating for several years building a meeting-house for its sessions, to be dedicated to Rudolph Virchow, who was for many years president of the society. Two years ago the society purchased two houses, paying for these with money gained through a special collection, in the hope that the funds necessary for building might soon again be acquired. This hope, however, has not been realized. In spite of all efforts of the financial experts who are on the executive board of the society, they have failed up to the present to collect the necessary sum; and as the houses purchased do not afford any profit, but are besides a continual loss on account of their dilapidated condition, the society finds itself in an unpleasant situation. After the presentation of these conditions at the general meeting of the society a few days ago, it is expected that the necessary capital will be procured through a loan.

### Catholic and Protestant Hospital Diets

An amusing story, which throws a light on the difficulties that sometimes arise in the denominational German hospitals, is reported from Augsburg. This city, which has always played an important rôle in history so far as religious disputes are concerned, has recently been facing a new war of religions in debating the question whether the municipal hospital should sustain, as heretofore, two separate kitchens for the Roman Catholic and Protestant patients, or whether meals for patients of both denominations should be prepared in one central kitchen. The nursing and boarding of the Catholics is in charge of Sisters of Mercy, and the Protestants are taken care of by the evangelical deaconesses. For economic reasons the city authorities wish to consolidate these two departments and establish a central kitchen under the direction of the Roman Catholic sisterhood. The deaconesses, however, feel that they are slighted, and fear the destruction of the amicable relations which have heretofore existed between the two denominations in the hospital. "If the central kitchen comes into effect, we shall withdraw," the deaconesses declared. Also the management of the united Protestant churches of Augsburg has seized this opportunity for announcing that peace between the two denominations will be endangered if the wish of the deaconesses is not granted. So in spite of the fact that the physicians connected with the hospital also advised the consolidation of the kitchens, the city council has decided to retain both departments, so as to avoid a serious conflict with the Protestant population of Augsburg. Consequently, there are still to be had at the hospitals of Augsburg both Catholic and Protestant dumplings.

## BUDAPEST LETTER

*(From Our Occasional Correspondent)*

BUDAPEST, March 5, 1913.

### State-Supported Medical Officers in Small Towns

Nagy-Varad (Grosswardein), a flourishing industrial center with 66,900 inhabitants, will be the first town in this country (others to follow from time to time) to establish a university extension with a policlinic for the poorer classes. The policlinic will be open for outpatients, and will be furnished with all modern equipment. The medical staff will include a specialist in clinical medicine, a neurologist, an aural surgeon, a dermatologist, a Roentgen-ray expert and a bacteriologist, who will also conduct the station for the examination of typhoid carriers. The equipment will cost about $15,000, and the medical staff will receive salaries of about $500 a year for attending one hour daily except Sundays. The policlinic will be maintained by the town, and will cost about $10,000 yearly.

The idea of the policlinic, that is to say, the university extension, originated with the chief medical officer of the town, who found that the medical treatment of the poorer classes in the town, as hitherto conducted, was not up to the level of the times. Nominally the poor people have been attended by the three district medical officers, who, being general practitioners (private practice being allowed them), could not afford adequate assistance in cases in which only a specialist could help. Thanks to the Western education of the mayor, the town council has heartily welcomed the creation of the policlinic, and the necessary amount to rent premises and to equip the institution has been voted unanimously.

### The Prevention of Tuberculosis in Rural Districts

Dr. Alexander Koranyi, professor of clinical medicine in the University of Budapest, recently delivered an address on the above subject at the Congress of Hungarian Specialists in Tuberculosis. He said that from a prophylactic point of view —with special regard to the agricultural classes—the sanatoriums were not satisfactory. A patient who was severely ill—whether rich or poor—had no proper place in a sanatorium, and would never recover his health there. He also occupied the place of a patient for whom sanatorium treatment might be very useful, namely, one in the initial stage. A poor person, even if in the initial stage, derived very little benefit from sanatorium treatment. If he improved to some extent, after several months' treatment in a sanatorium his condition soon deteriorated when he returned to his insanitary home. Dr. Koranyi said that he was not opposed to sanatoriums as such, but he maintained that only patients in the initial stage, and those who could afford to live under favorable conditions after the sanatorium treatment, should avail themselves of these institutions.

From a prophylactic point of view he regarded the establishing of special tuberculosis pavilions in the general hospitals, and the creation of tuberculosis dispensaries (of which there are about twenty-five in Hungary) as of the first importance. Such institutions, however, would be of little or no benefit to villagers, who would refuse to become inmates of a hospital for a considerable period. They had not the patience necessary for this purpose, and dispensaries could not be established in villages. Dr. Koranyi said that a Danish scientist, as a result of observations made for several years on cows, found that half of them were tuberculous. This was very important, not only in connection with the health of the population but also in connection with national prosperity. The tuberculosis in the cows was evidently perpetuated from generation to generation, the calves being infected by the cows which gave them suck. The Danish scientist in order to prevent the further spread of tuberculosis among his animals had separated the infected ones from the non-infected by means of the tuberculin reaction, and the calves of the infected cows were fed either on sterilized milk or suckled by healthy cows. This experiment resulted in a decrease of the number of infected cows from 70 per cent. to 30 per cent. In this way it was possible to check the spread of tuberculosis in cows with absolute certainty.

From this fact Dr. Koranyi drew the inference that the unhealthfulness of village dwellings was aggravated by the practice of whole families living in one room. A tuberculous and expectorating member of such a family endangered those living with him under the same roof. Children were particularly predisposed to tuberculosis. According to the latest statistics in Hungary 10,000 children died yearly from tuberculosis, and many children who were carriers of Koch's bacillus became ill when grown up and died from tuberculosis. This being so, it was reasonable to separate children from parents who were suffering from manifest tuberculosis with expectoration as long as the children's health was in danger. In order that this might be made possible in the circumstances prevailing in villages, Dr. Koranyi said that one or two villages might maintain one house for this purpose. This house would require only that its windows should be wider than the usual ones and that the house should be kept scrupulously clean. Here the children might be accommodated until the danger had disappeared from their homes. He did not propose to separate a child from its parents entirely; the parents might see it from time to time, but only out of doors. Dr. Koranyi added that he had been successful in persuading several large landowners to build on their estates such special houses for children. He asserted that all the aristocracy and the clergy (who own millions of acres of land in Hungary), would in time follow the example of those above mentioned, and then tuberculosis would not make such ravages in Hungary as it does at present.

---

# *Miscellany*

### Conclusions Regarding Pellagra

After an extensive and intensive epidemiologic study of pellagra in the South, Assistant Surgeon R. M. Grimm (*Public Health Reports*) thus summarizes his findings:

Race: More cases were found among the whites than among the negroes.

Sex: More cases were found among the females of each race than among the males.

Age: More persons developed the disease at ages between 20 and 40 years than at other ages.

Case Mortality-Rate: The case mortality-rate is higher among the negroes than among the whites, highest among the colored females, and lowest among the white males.

Case Insanity-Rate: The case-rate of insanity incidence is higher among the negroes than among the whites, and higher among the males than among the females.

Marital Condition: Among the married and widowed pellagrins the females predominate; the single pellagrins are equally divided among the sexes.

Environment: More cases occurred under conditions of poverty than of comfort, and more under conditions of comfort than of affluence.

Location of Homes: More cases developed in persons living in small towns and villages than among those living in the rural districts.

Relation of Cases: More cases developed in the immediate vicinity of other cases than otherwise.

Food: The relationship existing between the cases of pellagra in this series and the character of the food-supply admits, at present, of no conclusion. In investigations of this character, however, this relationship demands consideration.

Incidence: Pellagra seems to have been on a gradual but constant increase in the districts visited, with the probable exception of the year 1912.

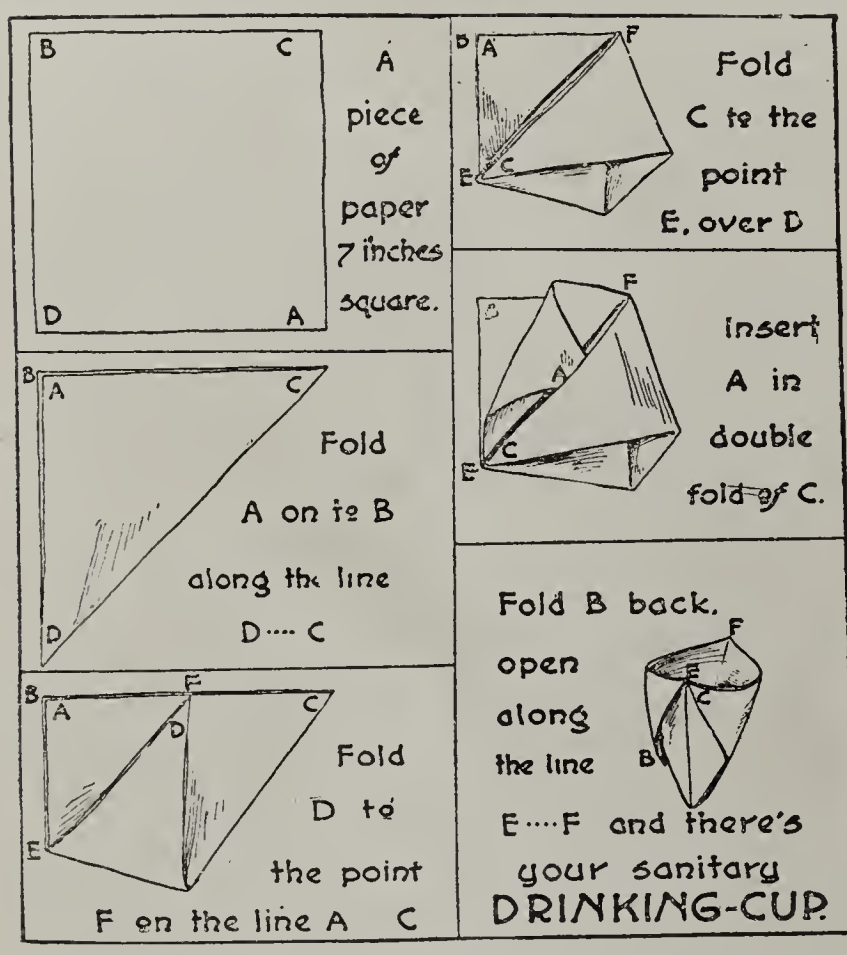
Prevalence: Pellagra is more prevalent than is ordinarily supposed even by the physicians practicing in pellagrous communities, and there are many persons in pellagrous communities who present symptoms of a mild pellagrous condition which do not ordinarily come to the attention of the physician on account of the mild character of these symptoms.

Since the deduction of a correct conclusion presupposes the existence of unquestionable premises, no definite conclusion regarding etiology has been drawn from the results of the work. Premises based on work in other lines seem to be necessary before such a conclusion on this point can be drawn. The possibility of some insect playing a part in the dissemination of the disease does not seem inconsistent with the facts presented above. From Grimm's observations the relationship between food and pellagra seems to be a real one, but whether the character of the food may act only in predisposing to conditions which favor the development of pellagra, or whether certain articles of food act as the real exciting agent, or

whether they act only as exaggerators of the symptoms (as the sunlight, for instance), is an open question. It is possible that certain articles of food may act in all three ways. In the present state of this question no investigation of the etiology of pellagra can entirely ignore the character of the food-supply used by the people among whom the disease is prevalent.

**The Value of Open-Air Schools in Fighting Tuberculosis.**—S. Bernheim and H. P. Grancher estimate that about 15 per cent. of the children of school age have some form of tuberculosis. Many of these are early and curable cases. Open-air schools should be established for these and should include all thickly children and those with hereditary alcoholism or syphilis. A few such schools have been established by private initiative, and the gain in health and mental activity on the part of the children has shown them to be means of fighting tuberculosis worthy of adoption by the state. It is remarkable further that while the hours of study are shorter and much of the time is devoted to physical exercise and manual training, yet the pupils keep up in their scholastic studies with those in indoor schools, in addition to making marked gains in weight and general health. This article appeared in the *Revue Internat. de la Tuberculose*, 1912, xxii, 413.

**An Improvised Individual Drinking-Cup.**—This illustration of a method of making an individual drinking-cup from a square sheet of tough paper is taken from the *Health Bulletin* of the Rhode Island State Board of Health. In view of the




approaching picnic and outing season, the improvised cup here shown is recommended. Any tough paper will do for temporary use. Paraffin paper is not necessary. Not all paper is sanitary, of course, but any sheet of clean paper would probably be more sanitary than a common drinking-cup.

**The Social Influence of Impure Air.**—Although we are more immediately concerned with the effects of dust on the lungs, yet the whole body, including the skin, mucous membrane, and the internal organs, suffers in due course by exposure to dust. We seldom think of the part which dust and smoke have played in indirectly shaping the social habits of a people. How to get rid of dust and fume in the factory, of smoke in the atmosphere, and of the incidence of all these on the skin and the respiratory organs of man, has formed not only the subject of many a scientific discussion, but has stimulated enterprise and encouraged manufacture. In trying to combat their begriming effects we have become a well-washed people. The dispersion of these waste products has led to the manufacture and use of soap in proportions hitherto unparalleled in the history of man, while these, again, have indirectly added to employment, wealth and health. Frequent ablution has become the rule, so that baths, a luxury in even large houses in my own country four or five decades ago, are now a necessity, for they find a place in many of the modern houses of the working classes. Dust and fume, begriming agents as they are, have therefore done something to socialize mankind, to promote public health, and to advance civilization, for those nations are leading in the path of progress to-day whose workers not only require soap and water for themselves, but who, by the factory dust and smoke they create, oblige all of us to resort to similar usage.—Sir Thomas Oliver at the International Congress on Hygiene and Demography.

## Marriages

RICHARD DERBY, M.D., New York City, to Miss Ethel Carow Roosevelt of Oyster Bay, N. Y., April 4.

EMIL NOVAK, M.D., Baltimore, to Miss Elizabeth Grace Rogers of Brookline, Mass., March 24.

EMIL T. TOHULKA, M.D., to Miss Denna Pierson, both of Glasford, Ill., at Peoria, Ill., March 19.

WALTER ANTHONY STUHR, M.D., to Miss Gladys Caroline White, both of Chicago, April 2.

OSCAR CHARLES KLASS, M.D., to Miss Stella Watkins, both of Muskogee, Okla., March 5.

JESSE S. HIXSON, M.D., to Miss Mary Cooper, both of San Angelo, Tex., March 17.

## Deaths

**Algernon Thomas Bristow, M.D.** College of Physicians and Surgeons, New York City, 1876; a member of the American Medical Association; American Academy of Medicine, and American Surgical Association; once vice-president of the New York Academy of Medicine; editor of the *New York State Journal of Medicine*; clinical professor of surgery in the Long Island College Hospital, Brooklyn; consulting surgeon to St. John's Long Island College, Long Island State, Swedish, Coney Island and Bushwick hospitals; representative of the Medical Society of the State of New York in the House of Delegates of the American Medical Association continuously since 1906 except at the 1908 annual session; chairman of the committee of the American Medical Association to inquire of the British Medical Association whether or not a joint meeting of these two organizations is desirable and possible; a prolific writer, and always an active worker for the betterment of the profession and higher ideals in medicine and surgery; died at his home in Brooklyn, March 26, aged 61, from septicemia, the result of a prick of the finger while operating, two weeks before.

**James A. Egan, M.D.,** since 1897 secretary of the Illinois State Board of Health; died at his home in Springfield, March 30, from nephritis, aged 53. Dr. Egan was a native of Massachusetts and came to Chicago in 1887. He was graduated from Northwestern University Medical School in 1893. For four years after his graduation he was attached in various positions to the department of health of Chicago. After four years as secretary of the State Board of Health he was appointed a member of the board and later was made its treasurer and executive officer. He was a first lieutenant M. R. C., U. S. Army, and a member of the American Medical Association, Association of Military Surgeons of the United States and American Public Health Association. Dr. Egan was aggressive as a public health official and during his incumbency of sixteen years took legal measures against many diploma mills and illegal practitioners. While a man of strong likes and prejudices, he was stalwart and steadfast in his friendship and his death will be deplored by his many friends in and out of the profession.

**Sylvester Emory Strong, M.D.** New York University, New York City, 1862; founder in 1864 and proprietor of a sanatorium in Saratoga Springs, N. Y., which is known by his name; surgeon of volunteers and acting medical director of the Army of the Cumberland during the Civil War; a member of the American Medical Association; died at his home in Saratoga Springs, N. Y., March 17, aged 75.

**John W. Reifel, M.D.** University of Texas, Galveston, 1903; of El Paso; for a time a patient at the United States Public Health Service Sanatorium, Fort Stanton, N. Mex.; later superintendent of a sanatorium at Alamagordo, N. Mex., and for a year thereafter state quarantine officer at El Paso; died at the home of his brother in Grand View, El Paso, March 11, from tuberculosis, aged 34.

**John Fitz Herbert Sugg, M.D.** Rush Medical College, 1880; a member of the American Medical Association; sometime president of the district and Clinton County medical associations; a much-esteemed practitioner of Iowa; founder of the first newspaper in Carroll, known as the *Western Herald*; died at his home in Clinton, March 21, aged 66.

**Malcolm Toland Sime, M.D.** College of Physicians and Surgeons, New York City, 1895; for ten years a member of the visiting staff of the Woman's Hospital, Philadelphia; formerly assistant surgeon, N. G. Pa., assigned Sixth Infantry; for the last two years a resident of New York City; died in St. Joseph's Hospital, March 3.

**John Alfred Hayes, M.D.** Dartmouth Medical School, Hanover, N. H., 1862; a member of the New Hampshire Medical Society; surgeon of the Eleventh New Hampshire Infantry throughout the Civil War and brevetted lieutenant-colonel for meritorious service; died at his home in Somersworth, March 21, aged 73.

**Frederic Clift, M.D.** Keokuk (Ia.) Medical College, 1891; a member of the Utah State Medical Association and secretary of the Davis County Medical Association; for six years assistant to the medical director of the State Mental Hospital; editor of the *Utah Medical Journal*; died at his home in Kaysville, March 28, from pneumonia, aged 65.

**Frank Abraham McMahon, M.D.** University of California, San Francisco, 1897; surgeon of volunteers during the Spanish-American War, with service in the Philippine Islands and later chief surgeon of the Veterans' Home, Napa County, Cal.; died at his home in Fresno, March 3, aged 45.

**Robert Hamilton Campbell, M.D.** University of Maryland, Baltimore, 1889; formerly of Rockville, Md.; for two years a medical missionary in China and for three years a resident of Yokohoma, Japan; died at his home in New Orleans, March 17, from typhoid, aged 44.

**Lorenzo Waite, M.D.** Berkshire Medical College, Pittsfield, Mass., 1854; a practitioner of Berkshire County for fifty-eight years; said to have been the oldest graduate of Berkshire Medical College; died at his home in Pittsfield, March 18, from senile debility, aged 84.

**Justus Morris Brown, M.D.** University of Pennsylvania, Philadelphia, 1862; Brigadier-General, U. S. Army, retired; assistant surgeon during the Civil War; died at his home in Hackensack, N. J., recently, from cerebral hemorrhage, aged 72.

**John Clear, M.D.** Kentucky School of Medicine, Louisville, 1885; a member of the Tennessee State Medical Association; of Clinton; died in the Lincoln Memorial Hospital, Knoxville, March 23, from cerebral hemorrhage, aged 57.

**Lancelot M. Ardiel, M.D.** Western University, London, Ont., 1891; of Avoca, Mich.; a member of the American Medical Association; died at the home of his brother-in-law in London, Ont., March 19, from heart disease, aged 45.

**Edward Pardee Bucke, M.D.** Western University, London, Ont., 1899; assistant lecturer on diseases of the eye, ear, nose and throat in his alma mater; died at his home in London, February 15, from pneumonia, aged 37.

**Gustave A. Zimmerman, M.D.** University of Pennsylvania, Philadelphia, 1878; a practitioner of Johnstown, Pa.; died in the Presbyterian Hospital, Albuquerque, N. Mex., March 14, from tuberculosis, aged 63.

**Ulysses S. Durham, M.D.** St. Louis College of Physicians and Surgeons, 1890; a member of the American Medical Association; of Cairo, Mo.; died in the Woodland Hospital, Moberly, Mo., March 17, aged 47.

**Theodore Lincoln Hatch, M.D.** University of Michigan, Ann Arbor, 1871; a member of the Minnesota State Medical Association; died at his home in Owatonna, March 11, from heart disease, aged 65.

**James L. Hendricks, M.D.** Cincinnati College of Medicine and Surgery, 1891; for one term coroner of Boone County, Ind.; died at his home in Lebanon, March 14, from cerebral hemorrhage, aged 67.

**Ernst Hildebrandt, M.D.** Royal Christian-Albrechts University, Kiel, Germany, 1849; a member of the Minnesota State Medical Association; died at his home in Forest City, about March 17.

**Augustus Meek Duncan, M.D.** University of Alabama, Mobile, 1874; for many years a practitioner of West Green, Ala.; died at the home of his niece in Birmingham, March 15, aged 66.

**Edward Elward Kitchen, M.D.** Toronto School of Medicine, 1865; formerly chairman of the Provincial Board of Health of Ontario; died at his home in St. George, February 19, aged 66.

**Theodore L. Wiegers, M.D.** St. Louis College of Physicians and Surgeons, 1904; a member of the American Medical Association; died at his home in Wentzville, Mo., March 3, aged 34.

**Robert Preston Robinson, M.D.** Trinity Medical College, Toronto, Ont., 1888; for many years a practitioner of Ottawa; died in Hyde Park Sanitarium, Toronto, January 16, aged 47.

**Bruce Thomas, M.D.** University of Maryland, Baltimore, 1852; of Philadelphia; formerly of Frederick, Md.; died in the American Hospital, Philadelphia, March 14, aged 80.

**F. E. Guibor, M.D.** Missouri Medical College, St. Louis, 1872, a member of the American Medical Association; died at his home in Maplewood, St. Louis, January, aged 61.

**Miles Hall Bronson, M.D.** Homeopathic Medical College of Pennsylvania, Philadelphia, 1861; died at his home in Lowville, N. Y., March 16, from pneumonia, aged 78.

**Thomas Knowlton Marcy, M.D.** College of Physicians and Surgeons, New York City, 1860; died at his home in Poquonock, Conn., March 2, aged 78.

**Samuel C. Skeel, M.D.** St. Louis College of Physicians and Surgeons, 1884; died at his home in St. Louis, March 15, from cirrhosis of the liver, aged 73.

**James F. Flynn, M.D.** Chicago Homeopathic Medical College, 1893; died at his home in Humboldt, Kan., February 1, from cerebral hemorrhage, aged 50.

**Elias McKay Jenkins, M.D.** University of Michigan, Ann Arbor, 1856; died at his home in Addison, about March 13, from senile debility, aged 84.

**Myra Amanda Gillette, M.D.** Hahnemann Medical College, Chicago, 1886; died at her home in Medina, N. Y., March 13, from tuberculosis, aged 58.

**Dan L. Fry, M.D.** Kentucky School of Medicine, Louisville, 1889; a practitioner and dentist of Hickory, N. C.; died at his home, March 16, aged 49.

**John L. Guill, M.D.** University of Nashville, Tenn., 1856; died at his home in Mount Juliet, Tenn., March 13, from senile debility, aged 82.

**William Richard Cann, M.D.** University of Toronto, 1911; died at his home in Horning's Mills, Ont., January 19, from pneumonia, aged 28.

**Albert Lawrence Collins, M.D.** Medical College of Indiana, Indianapolis, 1883; died at his home in Long Creek, Ill., February 4, aged 52.

**James Lovick Sappington, M.D.** Atlanta (Ga.) Medical College, 1870; died at his home in Whitesville, Ga., about March 13, aged 63.

**William I. Reese, M.D.** College of Physicians and Surgeons, Baltimore, 1893; died suddenly at his home in Red Oak, Okla., February 14.

**Frank Pitman Osborn, M.D.** University of Missouri, Columbia, 1906; died at his home in Oakwood, Okla., January 29, aged 48.

**George Albert Clark, M.D.** Medical School of Maine, Brunswick, 1870; died at his home in Portland, Me., February 18, aged 66.

**Reuben D. Love, M.D.** Louisville (Ky.) Medical College, 1892; of Hugo, Okla.; died in Mineral Wells, Tex., March 12, aged 59.

**Lucien W. McKinley, M.D.** Jefferson Medical College, 1880; died at his home in Columbus, O., March 13, aged 55.

**Francis Xavier Aveline** (license, Indiana, 1897); died at his home in Marion, February 9, aged 55.

**James D. Neel, M.D.** Jefferson Medical College, 1859; died at his home near Troy, S. C., March 12.

**N. Graham Shaw** (license, N. C., 1898); died at his home in Maysville, February 13, aged 52.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## MANOLA

### Physicians as Unpaid Pedlers of Nostrums

One of the most disheartening features of the fight against the proprietary evil within the profession is the slowness with which physicians awake to their responsibilities in the matter. It is a notorious fact, familiar to physician and advertising man alike, that the simplest and cheapest way to introduce a nostrum to the public is through the instrumentality of the medical profession. Ever since the birth of the proprietary evil in this country, shrewd manufacturers have persuaded doctors to act as unpaid pedlers for their wretched nostrums and to become *particeps criminis* in the exploitation of such wares.

Manola is an alcoholic nostrum with just enough more or less inert medicinal products added to exempt it from the internal revenue tax, but not enough to prevent it being used as a tipple by those who object to taking their "toddy" in a simpler form. It is prepared by the Luyties Pharmacy Company of St. Louis, a homeopathic concern whose hahnemannian leanings are not so strong but that it is willing to cater to the various sectarian schools of medicine as well as to the regular profession. Since the promoters realize, doubtless, that to put this stuff out under a homeopathic label might not be conducive to stimulating physicians' confidence, Manola is labeled: "Prepared only by the Manola Company, St. Louis." In other words, it is the old dodge of forming subsidiary companies for the purpose of hiding the identity of the real owners. In this connection, it is worth reminding our readers, incidentally, that the Walker Pharmacal Company, St. Louis, is another subsidiary concern of the Luyties Pharmacy Company, created for the purpose of pushing another nostrum—Hymosa.

Manola is seldom advertised in medical journals. Instead the Luyties Pharmacy Company has discovered a more effective method of "putting one over" on physicians and druggists. The method which has been pursued for years and which, under the same title and subtitle that head this article, was exposed in THE JOURNAL as long ago as May 6, 1905, consists in sending to physicians a letter containing three postcards—unstamped, of course. With the postcards there is a slip that reads:

INSTRUCTION FOR OBTAINING
3 BOTTLES OF MANOLA FREE

*Dear Doctor:* Fill out the attached cards Nos. 1 and 2. Mail No. 1 to *us* and hand Nos. 2 and 3 to *your druggist*. Impress upon him the necessity of mailing postal card No. 3 *direct* to us, and *not* to his jobber.

Yours truly, THE MANOLA COMPANY.

The postcards are numbered, respectively, 1, 2 and 3. Here is No. 1:

1 **Mail This Card to the Manola Co., St. Louis, Mo.**

Date.....19....

**THE MANOLA COMPANY**
**St. Louis, Mo.**

Gentlemen:

I have requested Mr. .....
druggist, to order one dozen bottles of MANOLA for my prescriptions. Please include with his order three bottles for me, as per your offer.

DR. [redacted]
[redacted]
CHICAGO ILL.

Dr. Ezymark writes the name of his druggist on Card 1, puts a stamp on it and mails it to the Manola Company, alias Luyties Pharmacy Co

Card 2, addressed to his druggist, also is filled out by Dr. Ezymark. Here it is:

2 **Please Hand This Card to Your Druggist**

Mr. Druggist.

Please order of the Manola Company, St. Louis, Mo., 1 dozen bottles of Manola, all of which I agree to prescribe in my practice. By filling out card No. 3 and forwarding it to the Manola Company, St. Louis, Mo., they will include for me, with your order, three bottles of Manola, free, for clinical purposes.

Yours truly,

.....M. D

Town .....

Then the doctor, acting the part of errand-boy, delivers Card 2 and also Card 3 to his druggist. Here is Card 3:

3 **PLEASE FILL OUT AND MAIL THIS CARD TO THE MANOLA CO., ST. LOUIS, MO., NOT TO YOUR JOBBER**

Date.....19....

**THE MANOLA COMPANY, St. Louis, Mo.**

Gentlemen:

Please ship me / us as per your offer

1 dozen MANOLA.....at $8.00 per dozen.

¼ dozen MANOLA, free, for Dr.....

Ship through my jobber: Signed .....Druggist.

M .....

Town..... Town.....

State..... State.....

This, Mr. Goat, the druggist, has to fill out, affix a stamp and send to the Manola Company. In return for all this, Mr. Goat has his shelves loaded up with a dozen bottles of Manola and, for that privilege pays $8 out of his own pocket. Dr. Ezymark gets three free bottles. Incidentally, he also gets the contempt of his druggist—and of such patients as learn of it.

The only one who profits by all this is the Luyties Pharmacy Co., alias the Manola Co., alias the Walker Pharmacal Company.

Evidently this method of exploitation pays; that it does pay is a disgrace to the medical profession. To those physicians who have in the past acted as pedlers for Manola we would say: If your patients really need sherry wine let them purchase it under its own name and at the ordinary market price. You will then know what they are getting and you will be able to retain not only your own self-respect but also the respect of your druggist and the public.

## THE GATLIN INSTITUTE

A physician who asks us to sign his letter X. Y. Z., Nashville, Tenn., writes:

"Can you give me any information in regard to the 'Gatlin Treatment' for the cure of alcoholics and drug fiends? Does it do the work successfully? Would it be considered ethical for a regular M.D. to use it in connection with other treatments for these conditions, and make that his specialty? I understand it is a patented treatment and that one has to pay a royalty for the privilege of using it."

The Gatlin Institute is one of the many "three-day liquor cures" with which the country is at present afflicted. What the treatment is, we do not know. Ipecac seems to be an important part of the "treatment," judging from a specimen of one of the preparations said to be used by this concern and sent us by a physician. The claim made in some of their advertising that "by this method failure to cure is impossible" is, of course, false on the face of it. The claim, also, that "for ten years the Gatlin Institute treatment has been restoring

men to mental and physical health in three days . . ." is equally impossible and absurd. There seems to be a close connection between the "Gatlin Institute" and the "Neal Three-Day Liquor Cure." The Neal concern is operated from the Chicago Hospital. Connected with the Neal outfit is one Joseph DeBarthe, who calls himself "doctor" and who for some time exploited the "DeBarthe Rheumatism Cure." The DeBarthe fakery was discussed in THE JOURNAL, Dec. 16, 1911, and the matter has been reprinted in "Nostrums and Quackery." At present DeBarthe seems to be pushing a new mail-order fraud that he calls Kinpo, which is guaranteed to "sober you up immediately." We are told:

"Kinpo is not a cure but a sobering up process."
"No medicine can cure the drink habit."
"Kinpo does, in a few hours, for two dollars, what so-called cures cannot do in three days at a cost of $125."

It should not be difficult for our correspondent to answer his own question from the data given.

## THE AMOUNT OF COD-LIVER OIL IN VARIOUS PREPARATIONS

The following inquiry was received from Dr. E. H. Morgan, Granbury, Tex.:

"Some time ago I noticed in THE JOURNAL an article comparing the amount of cod-liver oil in the different preparations of the various manufacturers, including Wampole, Parke, Davis & Co., Wyeth & Brother, and others, stating that the amount of cod-liver oil did not come up to the statements of the manufacturers, and giving the percentage in each preparation. I have been looking for this article in back numbers of THE JOURNAL and have failed to find it. I have been prescribing Wampole's but it seems that some of the other preparations contained more cod-liver oil than Wampole's, and of course I am anxious to find out the one containing the most cod-liver oil that I may specify it."

A sharp distinction must be made between emulsions of cod-liver oil, which contain the oil, and the so-called extracts, in which no oil is present. Regarding emulsions, the results of analyses made by the Connecticut Agricultural Experiment Station (and abstracted in THE JOURNAL, March 30, 1912), show that when the preparations were labeled U. S. P. or N. F. they complied fairly well with the requirements. Consequently if a physician desires to use preparations of this sort, it is well to see that they are labeled as official preparations, or to employ some of the approved preparations which will be mentioned. A number of cod-liver oil emulsions are described in the National Formulary. Thus, glycerin emulsion of cod-liver oil, N. F., is an emulsion made with yolk of egg, and contains 50 per cent. of cod-liver oil. This emulsion may be made by any competent pharmacist or can be purchased from pharmaceutical manufacturing houses. For instance, the H. K. Mulford Company lists:

"Cod-liver oil, nutritive (egg emulsion) Cod-liver oil, 40 per cent., emulsified with eggs and brandy."

Also, Parke, Davis & Co. list:

"Egg emulsion of cod-liver oil, improved. . . . Contains 40 per cent. by volume, of pure cod-liver oil, emulsified with fresh eggs and flavored with superior brandy."

And in the appendix to New and Nonofficial Remedies are mentioned the following preparations of cod-liver oil and malt extract:

Maltine with Cod-Liver Oil: Representing maltine, 56.115 per cent.; glycerin, 10 per cent.; cod-liver oil, 30 per cent.; alcohol, 3.885 per cent.
Maltzyme with Cod-Liver Oil: Consisting of maltzyme concentrated and brought back to its original volume by the addition of 25 per cent. of Lofoten cod-liver oil.

The second class, the so-called extracts, includes preparations which are devoid of oil and which are said to represent extractive matter obtained either from cod-liver oil or from cod livers. They are asserted to represent the virtues of cod-liver oil, but lack the very constituent which lends the oil its virtues, namely, the fat. A discussion of cod-liver oil substitutes appeared in THE JOURNAL, Oct. 13, 1906, and gave simple directions whereby they may be distinguished from real cod-liver oil emulsions. The notorious Waterbury humbug was discussed in THE JOURNAL, Oct. 9, and 23, 1909. Like most substitutes for cod-liver oil, the Wampole preparation is said to contain various other ingredients, such as malt extract and an assortment of hypophosphites. The following comment appears in the report of the Connecticut Agricultural Experiment Station:

Wampole's Perfected Tasteless Preparation of the Extract of Cod Liver: "Contains a solution of the extractive obtainable from fresh cod liver, the oily or fatty portion being afterward eliminated. This extractive is combined with liquid extract of malt, fluidextract of wild cherry bark and compound syrup of hypophosphites (containing calcium, sodium, potassium, iron, manganese, quinin and strychnin)." In spite of the presence of the different hypophosphites as claimed, the total phosphoric acid in this sample amounts to only 0.14 per cent., so that the amount of hypophosphites present cannot be great. In other respects the label is a reasonably accurate description of the product.

While Henry K. Wampole & Co. do not claim the presence of cod-liver oil in their compound, the error of our correspondent in assuming its presence is natural and illustrates how not only the public but also the medical profession are misled by this class of preparations.

# Association News

## THE MINNEAPOLIS SESSION

### Plans for the Reception and Entertainment of Members Aside from the Scientific Meetings

Plans for the meeting of the American Medical Association in June are being rapidly matured by the local committees at Minneapolis and associate committees in the sister city of St. Paul. While Minneapolis is the special hostess on the occasion, the city of St. Paul will take a substantial part in helping to entertain the large body of medical guests, with their families. From six to eight thousand visitors are expected by the local committee.

The University of Minnesota has placed at the disposal of the local executive committee the entire campus, with its many buildings, as the special meeting-place of the Association. The scientific exhibit and the commercial exhibit have been provided with ample quarters in the university buildings.

#### HOW TO MAKE HOTEL RESERVATIONS

Members of the Association are requested to notify Dr. S. Marx White, chairman of the Committee on Hotels, as speedily as possible, of the date of their expected arrival and of the extent and character of the accommodations they will require. The hotels, which are of unusually good capacity, will be reinforced by the several private clubs of the two cities, which are placing their rooms at the disposal of the committee. For a list of hotels, giving their location, rates and other information, see THE JOURNAL, March 8, 1913, p. 764.

#### ATTENTIONS TO BE SHOWN VISITING MEMBERS

A large reception committee has been organized, members of which will be assigned to each railway station, to meet each incoming train and pilot to their destination the guests of the Association. Bureaus of information for the benefit of visitors will be established at stations, hotels and meeting-places. A special committee of women physicians will take care of their professional associates who attend the meeting.

A committee on local transportation will make it its special business to pilot guests about the city and to secure adequate street-car, taxicab and automobile facilities for the larger events on the program.

#### OTHER ANNUAL MEETINGS

Among the unaffiliated scientific bodies which take advantage of the meeting of the American Medical Association to hold their annual sessions, just before it or just after, are the American Academy of Medicine, which will meet June 13 to 15, at the Hotel Leamington, Minneapolis; the Association of

American Teachers of Diseases of Children, which meets at the Commercial Club, June 16. Other announcements will be made later.

OBSERVANCE OF PUBLIC HEALTH SUNDAY

Association Week will be opened with the observance of Public Health Sunday, June 15, in Minneapolis and St. Paul. The various ministers' associations have given their cordial support to this plan, and with practical unanimity the individual churches will invite to their pulpits public health speakers provided by the Council on Health and Public Instruction of the American Medical Association. The ready sympathy this movement has met goes to prove the appeal of the gospel of sanitation to the people.

RECEPTIONS AND PLEASURE-TRIPS

The plans of the entertainment committees in both Minneapolis and St. Paul include arrangements for an unusually brilliant series of social events. The ladies of the Twin Cities are anticipating the attendance of a large number of the wives and daughters of members and are preparing to make their visit an enjoyable one. The environs of the Twin Cities are of remarkable natural beauty and, linked with their park systems, which are wonderfully well developed, give ample opportunity for outdoor pleasure.

EXCURSIONS FROM MINNEAPOLIS

Minneapolis is a good point from which members and their families may extend their annual holiday by way of excursions to the great sight-seeing regions of the Northwest. A committee of arrangements, appointed for this purpose, has planned a party to go by special train on a twelve days' trip to the Yellowstone National Park. From this point special opportunities will be given for extended excursions to the Colorado Rockies, the Canadian Rockies, to California and the Puget Sound country, and on to Alaska for a twelve days' cruise by way of the inland passage, to the Land of the Midnight Sun, including visits to some interesting Indian and Eskimo villages and to some of the finest of the Alaskan glaciers. (See The Journal, February 8, p. 460 and March 29, p. 1010.)

THE MINNEAPOLIS NUMBER

The usual illustrated convention number of The Journal will be issued May 10. The "Minneapolis Number" will describe the plans for the meeting, the convention city, and give details of the programs, hotels, social events, railroad excursions and other matters of interest.

## Correspondence

### A Device to Increase Humidity in the House in Winter

*To the Editor:*—The problem of getting enough moisture in the air of our houses in winter has been rather difficult to solve; but after trying many experiments I have hit on a simple device which may be worth passing along.

Some of the various contrivances in the shape of radiator pans are unsightly, and most of them, in my experience, inadequate. Shallow pans placed on top of the radiators are the most effective, but are usually inconvenient and unsightly. The concealed, fluted, deep pans which are made to hang back of the radiators have too small a surface to allow much vaporization, and are poorly heated.

To furnish air fit to breathe, a quart of water transformed into vapor every twenty-four hours is none too much for a room 14 feet square. These pans, as I have seen them used, furnish much less than that amount.

I have found that the vaporization can be doubled or quadrupled by the use of cloths of any absorbent material twisted through two or three coils in the back of the radiator, with one or both ends dropped into the pan of water. The material acts like the wick of a lamp, drawing up the water as fast as it is evaporated. As it is in close contact with the radiator surface it is heated very quickly, and the extensive surface of the twisted cloth fulfils the second requirement for securing rapid evaporation.

With this device, any sort of pan which admits of easy concealment under or behind the radiator may be used, and the amount of water evaporated may be regulated at will by the number and size of the cloths used. The cloths, of course, can easily be concealed.

I have increased the average for each radiator from a pint or less in twenty-four hours to a gallon in the same time, by the use of these absorbent cloths, and it could be increased still further almost *ad libitum*.

Kenneth Taylor, St. Paul.

## Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### ABELEN'S REACTION FOR SALVARSAN IN URINE

*To the Editor:*—Please explain the method described in The Journal, Oct. 19, 1912, p. 1493, for detecting salvarsan in urine. How is the 10 per cent. alkaline resorcin solution made?

O. D. P.

Answer.—The writer of the article referred to uses Abelen's reaction for salvarsan in urine as follows: From 7 to 8 c.c. of urine are made acid by 2 or 3 drops of 0.1 per cent. hydrochloric acid. Then 3 or 4 drops of a 10 per cent. sodium nitrite solution are added (by a typographic error this was given in our abstract as "nitrate"); then 2 or 3 drops of alkaline resorein solution (10 per cent.) and at last an excess of sodium hydroxid. The whole reaction should be carried out with the vessels in ice-water, as a higher temperature destroys the diazo compounds formed. The article does not explain what is meant by alkaline resorcin, but we judge that it is simply a solution of resoreinol which has been made slightly alkaline. Evidently this is a reaction for the benzol constituent of salvarsan and not for the arsenic.

### OZONE AS A MEDICINE

Several inquiries have been received recently regarding the use of ozone. The following list of references to this subject may be of general interest:


Schaefer, F. W.: The Supposed Beneficial Effects of Ozone, a Popular Medical Fallacy, *Dietet. and Hyg. Gaz.*, 1908, xxiv, 385.

Stoker, G.: Cavity of Lung Successfully Treated with Ozone, *Lancet*, London, April 18, 1908.

Purification of Water by Ozone, editorial, The Journal, Aug. 21, 1909, p. 636.

Purification of Water by Ozone, correspondence, The Journal, Sept. 25, 1909, p. 1042.

Franklin, M. W.: Ozone, *New York Med. Jour.*, April 8, 1911.

The Alleged Hygienic Value of Ozone, editorial, The Journal, Oct. 21, 1911, p. 1370.

Ozone Myths, editorial, The Journal, Feb. 10, 1912, p. 412.

Effects of Ozonization, Vienna Letter, The Journal, July 13, 1912, p. 131.

Pfannenstill, S. A.: Local Treatment of Tuberculous and Other Infectious Processes with Combined Action of Sodium Iodid and Ozone, *Nord med. Ark.*, 1912, abstr., The Journal, July 27, 1912, p. 318.


### DISCOLORATION OF THE SKIN FROM GOLD JEWELRY

*To the Editor:*—I have a peculiar case regarding which I can find nothing in my books. A young woman, aged 24, is much annoyed by a dark discoloration of the skin of the neck whenever she wears any gold chain, locket, etc. If the jewelry is left off, this discoloration wears away after several days. It is not noticed on any other part of the body, the patient says. She is taking no medicine internally, nor does she use any external application other than pure talcum powder. C. N. S. R.

Answer.—This is probably due to the formation of the oleate of gold. Some persons are more prone to it than others. This point was taken up at greater length in this department, June 1, 1912.

### SUBSTITUTE FOR COFFEE

*To the Editor:*—In answer to the inquiry in The Journal, Feb. 1, 1913, p. 390, a satisfactory substitute for coffee, which was used during the war, is made of rye. Roast the grains in oven and grind like coffee; boil from fifteen to twenty minutes. If served hot with cream and sugar it is delicious. S. D. W.

### AUTO-INTOXICATION AND THE REACTIONS OF TOXINS

*To the Editor:*—1. Please give me a few references to magazine articles or books on intestinal intoxication, wrongly termed "auto-intoxication."

2. What reaction (alkaline or acid) do the invasions of bacterial organisms produce in the human or animal body? Please cite references along this line.

H. L. STITT, M.D., Washington C. H., Ohio.

ANSWER.—1. Abrams: Auto-Intoxication, E. B. Treat & Co., 241 West Twenty-Fifth Street, New York, $1.50.
Bouchard: Auto-intoxication, F. A. Davis Co., 1914 Cherry Street, Philadelphia, $2.
Combe: Intestinal Auto-Intoxication, Rebman Co., 1123 Broadway, New York, $4.

2. Both alkaline and acid reactions are produced. As a rule, organisms which decompose carbohydrates produce acids, while the putrefaction of protein substances results in the formation of ammonia or of some of the combined ammoniums which are alkaline in reaction. Some of the products of putrefaction are, however, neutral. A good book on this subject is Herter's "Bacterial Infections of the Digestive Tract," published by the Macmillan Company, 66 Fifth Avenue, New York, at $1.50.

### AMERICAN SOCIETY FOR PHYSICIANS' STUDY TRAVELS

*To the Editor:*—I understand there is a doctors' club going abroad this summer to visit various clinics. If you could give me any information on the subject, I should greatly appreciate the favor.

ALBERT SMITH, M.D., Parsons, Kan.

ANSWER.—Our correspondent presumably refers to the American Society for Physicians' Study Travels. He can write to the chairman, Dr. J. M. Anders, 1605 Walnut Street, Philadelphia, for further information. A preliminary announcement concerning this new organization appeared in THE JOURNAL, Jan. 4, 1913, p. 66.

### REPRINTS CANNOT BE SHIPPED BY PARCEL POST

A number of authors in ordering reprints have requested that these be shipped by parcel post in order to save expense. THE JOURNAL has had to reply that at present the post-office does not permit the shipment of reprints by parcel post; they are classified with books—at the third class rate. There are a number of features about the parcel post which it is hoped may be modified. This certainly is one. Just why books should not be treated so favorably as a box of cigars, for instance, we cannot see.

## *Medical Economics*

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

### EDUCATIONAL WORK OF THE SPEAKERS BUREAU

One of the important activities of the Council on Health and Public Instruction of the American Medical Association is the Speakers Bureau. This has been in existence for the past year. Most of the work done during the spring of 1912 was in the nature of experiment, as it was necessary to learn the best methods for carrying on the work, as well as the best mediums for publicity. In October, 1912, an announcement was sent to the presidents and secretaries of all county and state medical societies and women's clubs, to the presidents and the secretaries of the faculties of universities, colleges, academies, normal schools, etc., as well as to chautauquas and teachers' institutes, offering to furnish speakers from a selected list of about a hundred and twenty-five well-known members of the Association. The Council offered to pay the expenses of the speakers, provided the local organization would furnish a meeting-place and advertise the meeting to the public.

The reception given the announcement of this plan showed that the public was interested in health matters and that the organization of such a bureau met a real need. Requests for speakers began to come in at once and have been received steadily ever since. From November 1 to March 31, the bureau has furnished speakers for 119 public meetings. The letters and clippings regarding the meetings have been interesting, as showing the point of view of the public and the appreciation of any efforts made for their education on health subjects. Extracts from a few of these letters may be of interest. The following are selected at random:

Dr. Lewellys F. Barker of Johns Hopkins University Medical School spoke recently in New Windsor, Md. Mr. J. C. Keller, the chairman of the local committee, writes:

"Dr. Barker delighted all who heard him. 'Why do you not speak longer?' was the question asked by many. In a simple, clear and beautiful manner he told us of the triumphs of modern medicine. We very much appreciate the favor which the American Medical Association has conferred on us in giving us this opportunity to hear Dr. Barker. I am sure that lasting benefits will result from his visit."

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, spoke, Sunday afternoon, February 9, at West Medway, Mass. The committee on arrangements was made up of representatives of the women's clubs, men's club, local board of health, board of aldermen, grange, school committee, Village School Improvement Society and the Historical Society. As a result the audience was a large and representative one. Mrs. E. S. Woodman, writing for the committee, says:

"We feel very grateful to the American Medical Association for making such a meeting possible, and if the offer is repeated next year we shall certainly avail ourselves of it."

The offer will be repeated next year. The education of the public by the scientific physicians of the country has just begun.

Dr. George B. Young, health commissioner of Chicago, spoke, March 19, in Des Moines, Iowa. Mrs. S. J. Dillon writes:

"I wish to thank you in behalf of the Des Moines Woman's Club for your splendid arrangement which made it possible for us to have Dr. Young address our people. We were able to secure an unusual thing in our city—an audience composed of representative people, including members of the various social service organizations, physicians and representatives from the city council. We look for good results to follow. Dr. Young's address made a profound impression."

In college towns the intellectual life of the place generally centers around the college. The Y. W. C. A. of Albion, Mich., evidently believes that good health is necessary for true Christianity. The association recently arranged for a public meeting and asked for Dr. Miles F. Porter of Fort Wayne, Ind. Following Dr. Porter's address, the young woman who was chairman of the committee on arrangements wrote:

"Dr. Porter's talk was not only of interest but has met a genuine need in our community. The people are very much interested in public health questions and are appreciative of an opportunity of learning."

One of the subjects on which much interest has been manifested is that of sex hygiene and the proper instruction of girls and boys on this subject. Dr. E. W. Fiegenbaum of Edwardsville, Ill., is one of the most active members of the organization in his part of the state. He was for some time an efficient secretary of his county society. He has been deeply interested in the education of the public on sex hygiene, in order to protect the innocent and ignorant from becoming victims of disease. Dr. Fiegenbaum recently spoke in Granite City, under the anspices of the local board of education. The secretary of the board writes:

"Dr. Fiegenbaum delivered his address here to a large and well-pleased audience. The church was well filled, there being some three hundred present, and from the comments made it was apparent that all were well pleased and instructed."

The state superintendent of schools of West Virginia asked the Speakers Bureau to send Dr. A. T. McCormack of Bowling Green, Ky., to give an illustrated address before a conference of county superintendents. Dr. McCormack spoke in the Y. M. C. A. Hall to an audience made up of superintendents of education, members of the state legislature and the general public. The impression made is shown by the fact that the

state superintendent, Prof. M. P. Shawkey, at onee asked if the bureau could arrange for Dr. McCormack to give an illustrated address before each of the teachers' institutes in the state. The bureau is arranging to do so.

Athens, Tenn., is interested in municipal hygiene. The local woman's club secured the cooperation of all the public-spirited organizations in the city, arranged for a public meeting and asked the bureau for Dr. William Krauss of Memphis. Mrs. E. C. Ferguson, the chairman of the local committee on arrangements says:

"The address was given at the court-house. Mayor Grant presided and introduced the speaker to a large audience, which included not only citizens of the town but many from other parts of the county, as the county court was in session at the time. Dr. Krauss was listened to with close attention in his discussion of public welfare, sanitation and health."

In response to invitations, Dr. E. E. Montgomery of Philadelphia filled appointments on two consecutive evenings in Easton and Grove City, Pa. The chairman of the local committee at Grove City writes:

"Our meeting here Saturday evening was a pronounced success. A good attendance was present, and all thoroughly enjoyed Dr. Montgomery's lecture. Many kind expressions were heard concerning the American Medical Association and its splendid work. Dr. Montgomery made a good impression by his ability, sincerity and complete knowledge of his subject. We hope you will keep us on your list for next year, as we shall be glad to cooperate in your campaign of educating the public on health matters. We thank the American Medical Association for its kindness and for the great privilege of having Dr. Montgomery here."

Following Dr. Winfield S. Hall's address at Benton Harbor, Mich., the chairman of the local committee, after commenting on the favorable impression made by Dr. Hall on his audience, composed of members of several literary clubs, mothers' clubs, teachers, physicians and business men, and on the value of the meeting to the public, says:

"This plan of the American Medical Association seems a very wise one and one which will surely result in a clearer knowledge of what the young people need. We thank you very much for what you have done to help us get the benefit of this plan."

Another member of the local committee writes:

"I have wished many times that you might hear the enthusiastic discussion and comments which Dr. Hall's lecture called forth. The most gratifying result was that the women, who are not usually interested in lectures, attended this one and earnestly discussed with other women who had not been present, thereby spreading enthusiasm and creating a greater interest in the subject."

Some of the meetings have been arranged for by the university faculties, the audiences being made up of teachers, students and the local public. Dr. Victor C. Vaughan, dean of the Department of Medicine and Surgery of the University of Michigan, arranged, through the bureau, for a series of addresses on public health, one of which was delivered by Dr. Abraham Jacobi, President of the American Medical Association. Following the meeting, Dr. Vaughan wrote:

"Dr. Jacobi was here February 19, and gave us splendid talks. The whole town is enthusiastic about him and they have pronounced him a grand old man. We have never had so successful a meeting."

Similar series of meetings have been arranged for by the bureau in connection with the universities of Wisconsin, Minnesota, Illinois, Arizona and others. The work of the Speakers Bureau is only beginning. It is capable of great expansion in scope and increase in usefulness. Readers of THE JOURNAL should know of its existence and of its work, so as to be able to inform any local organization desiring an authoritative speaker on health topics how the cooperation and assistance of the bureau can be secured.

# *Medical Education and State Boards of Registration*

## COMING EXAMINATIONS

ARIZONA: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.

DISTRICT OF COLUMBIA: Washington, April 8. Sec., Dr. George C. Ober, 125 B St., S.-E.

ILLINOIS: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

NEW MEXICO: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.

OKLAHOMA: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.

WEST VIRGINIA: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

## THE PRESENT STATUS OF MEDICAL EDUCATION *

N. P. COLWELL, M.D.

Secretary of the Council on Medical Education of the American Medical Association

CHICAGO

As shown by Chart 1, in 1904, there were 166 medical schools in the United States which was nearly one-half of the world's supply of medical colleges. Since that time, very largely since 1907 when the first classification of colleges was prepared, the decrease in the number of schools has been quite rapid. This has been brought about partly by the disappearance of the commercial medical schools which have gone out of existence but more largely through the merger of several small schools in each of numerous localities, leaving in each instance one larger and stronger school, such as was done in Louisville, Ky., where five colleges merged into one. The same thing has occurred in Indiana, Minnesota, Iowa and elsewhere. The number of medical schools will be about 110 at the end of the present college session. This decrease in the number of medical colleges has not been to the detriment of medical education but to its advantage. It has not removed or lessened the opportunities for students to study medicine, but has resulted in giving them better opportunities. It has resulted in reducing the abnormal oversupply to a smaller number but a better grade of medical schools.

A word or two with reference to the reduction in the number of medical schools. Statements are frequently made about "the poor boy who cannot get a medical education." That statement has been made so often that it is hardly worth while to refer to it in this conference, but the last educational number of THE JOURNAL, Aug. 24, 1912, shows the tuition fees that are charged by medical schools. The fees charged by some Class C colleges are more excessive than those in several of the Class A Plus schools. Some high-grade state university medical schools have fees as low as $50 to $60, whereas, some of the Class C schools charge fees of from $100 to $200, so that the plea for the continued existence of a low-grade medical school is apparently more for the boy who is "poor" in scholarship rather than poor in purse. Why should a student spend his time and money in a low-grade college when in the same time and with even less money he can attend one of the best equipped colleges?

It is the state boards which have the legal power in connection with low-grade medical schools. On the action taken by state boards will depend whether this country is going to be relieved of the disgrace of longer tolerating medical schools which admit poorly prepared students, which lack the means to provide the essential well equipped laboratories and expert teachers, or which do not possess ample dispensary and hospital facilities. In other words it is up to the state licensing boards, so far as legal power has been given them, to say whether the future output of physicians in this country shall be thoroughly trained, or whether the supply is longer to be contaminated by the ill-trained output from the low-grade colleges. The public has the right to expect that only properly trained physicians will obtain the license to practice.

*Report given at the Ninth Annual Conference of the Council on Medical Education, Chicago, Feb. 24, 1913.

CHART 1—MEDICAL COLLEGES; QUANTITY VS. QUALITY

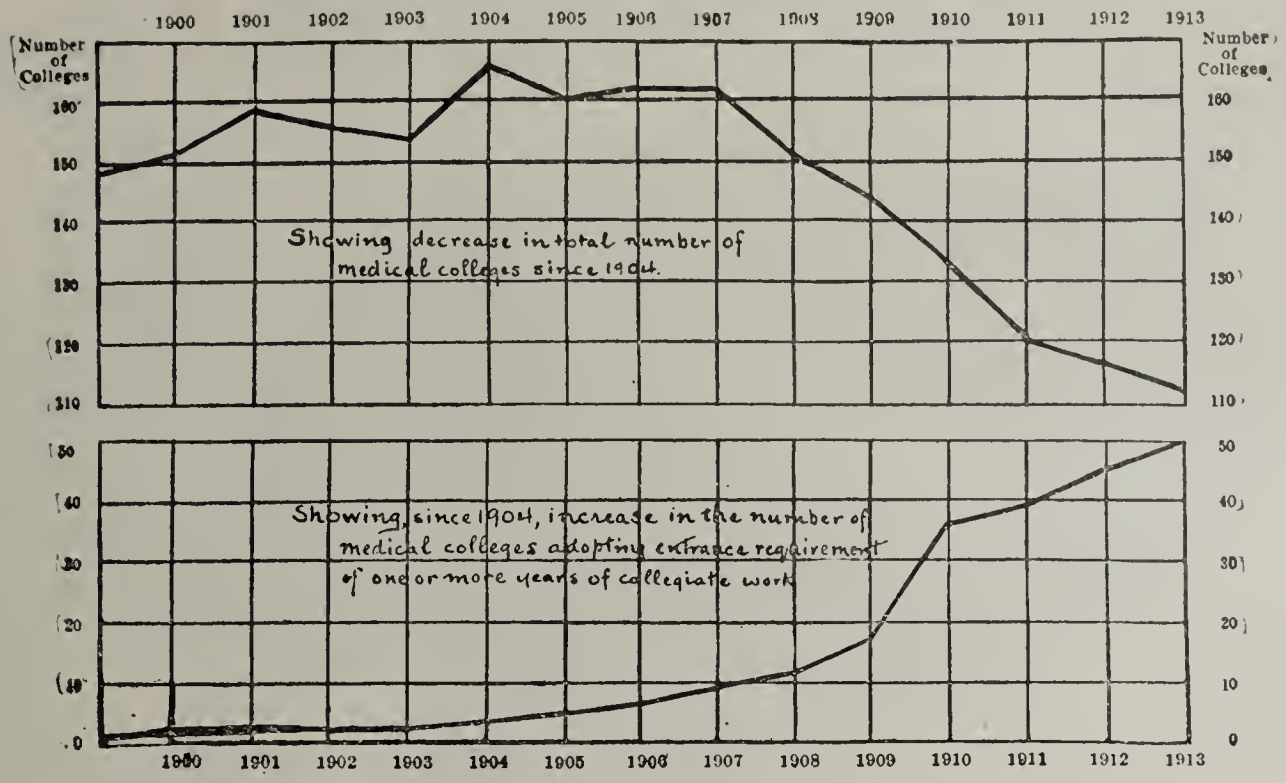



Chart 1 shows the increase in the number of colleges which have adopted higher standards of admission. In 1904 there were only four medical schools requiring for admission any work above a high-school course and of the others, the majority were practically admitting all who applied. Since that year, however, through agitation and through publicity given to the need and importance of higher requirements, the number has been rapidly increased, so that we now have fifty schools which are exacting these higher requirements. In the last few weeks several other colleges have announced the adoption of the higher standard, making a total of about sixty medical schools which have adopted the higher preliminary requirement.

CHART 2—STATE REQUIREMENTS OF PRELIMINARY EDUCATION

Minimum required for those who secure licenses to practice

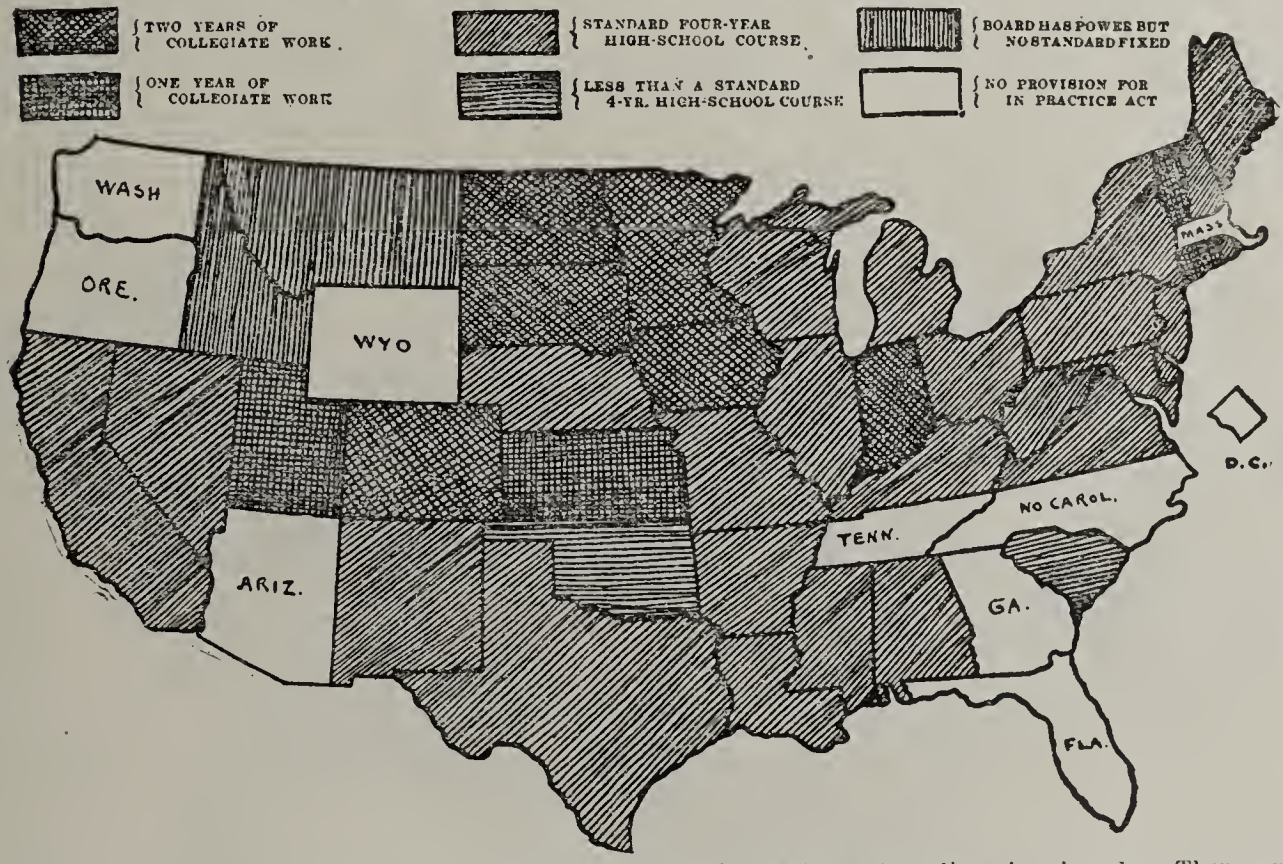



Chart 2 refers to the requirements of preliminary education by the various state licensing boards. There are six states which have adopted as a minimum requirement two years of collegiate work. These states are, Minnesota, North Dakota, South Dakota, Colorado, Indiana and Iowa. Four others, Connecticut, Kansas, Utah and Vermont, have adopted the one-year requirement and at the present time several other states are on the verge of making changes. There are twenty-five states in which the legal requirement is a standard four-year high-school education, these being:

| | | | | | |
|---|---|---|---|---|---|
| Alabama | Kentucky | Michigan | Nevada | New York | Texas |
| Arkansas | Louisiana | Mississippi | New Hampshire | Ohio | Virginia |
| California | Maine | Missouri | New Jersey | Pennsylvania | West Virginia |
| Delaware | Maryland | Nebraska | New Mexico | Rhode Island | Wisconsin |
| Illinois | | | | | |

In Oklahoma the law specifically states that the standard is that of the Association of American Medical Colleges. That was all right since that required completion of a standard four-year high-school course, but another clause was inserted making legal the standard of the Southern Medical College Association which represented only two years or less of high-school work. In three states, Idaho, Montana and South Carolina, the practice acts give the boards authority to fix the standard of preliminary education, but no such standards have as yet been announced. In ten states no provision for preliminary education is made by the medical practice act. These states are:

| | | | | |
|---|---|---|---|---|
| Arizona | Florida | Massachusetts | Oregon | Washington |
| District of Columbia | Georgia | North Carolina | Tennessee | Wyoming |

In a chart presented at our conference five years ago, it will be remembered, there were eight states, four of these being in the South, which did not require that before being admitted to the examination for a license to practice medicine every candidate must have graduated from a reputable medical college.

CHART 3—STATES REQUIRING THAT APPLICANTS BE GRADUATES FROM A MEDICAL COLLEGE.

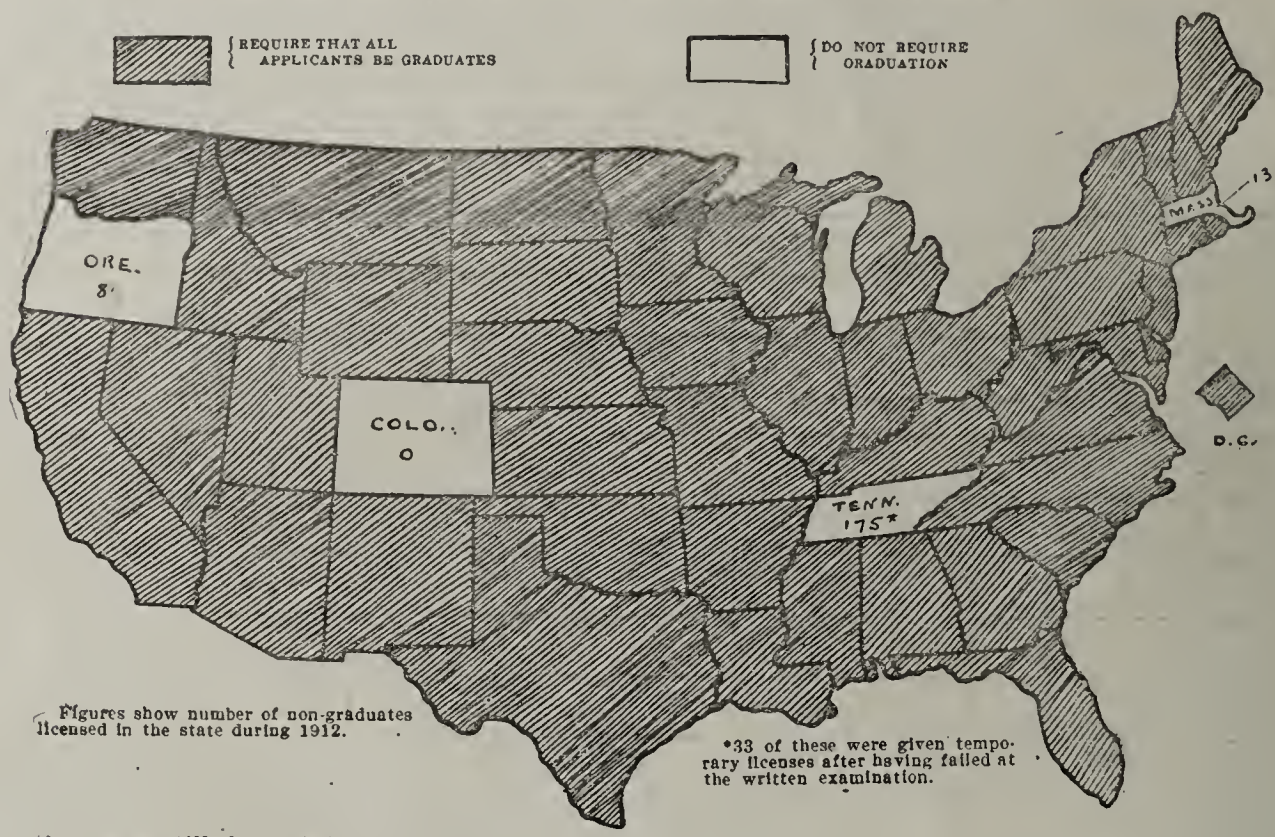



Chart 3 shows there are still four states that do not require graduation:

Oregon Tennessee Colorado Massachusetts

The figures show, however, that in Colorado no non-graduates were licensed in 1912. In Oregon there were eight and in Massachusetts only thirteen licensed. The darkest record was in Tennessee where 175 non-graduates, nearly half of the total number licensed in that state during the year, were non-graduates. Since it is "always darkest just before day" so it is hoped the vigorous efforts now being made to amend the practice act in that state will be successful and that this disgrace of registering partly trained medical men will be forever removed.

CHART 4—STATE BOARDS HAVING AUTHORITY TO REFUSE RECOGNITION OF LOW GRADE MEDICAL COLLEGES

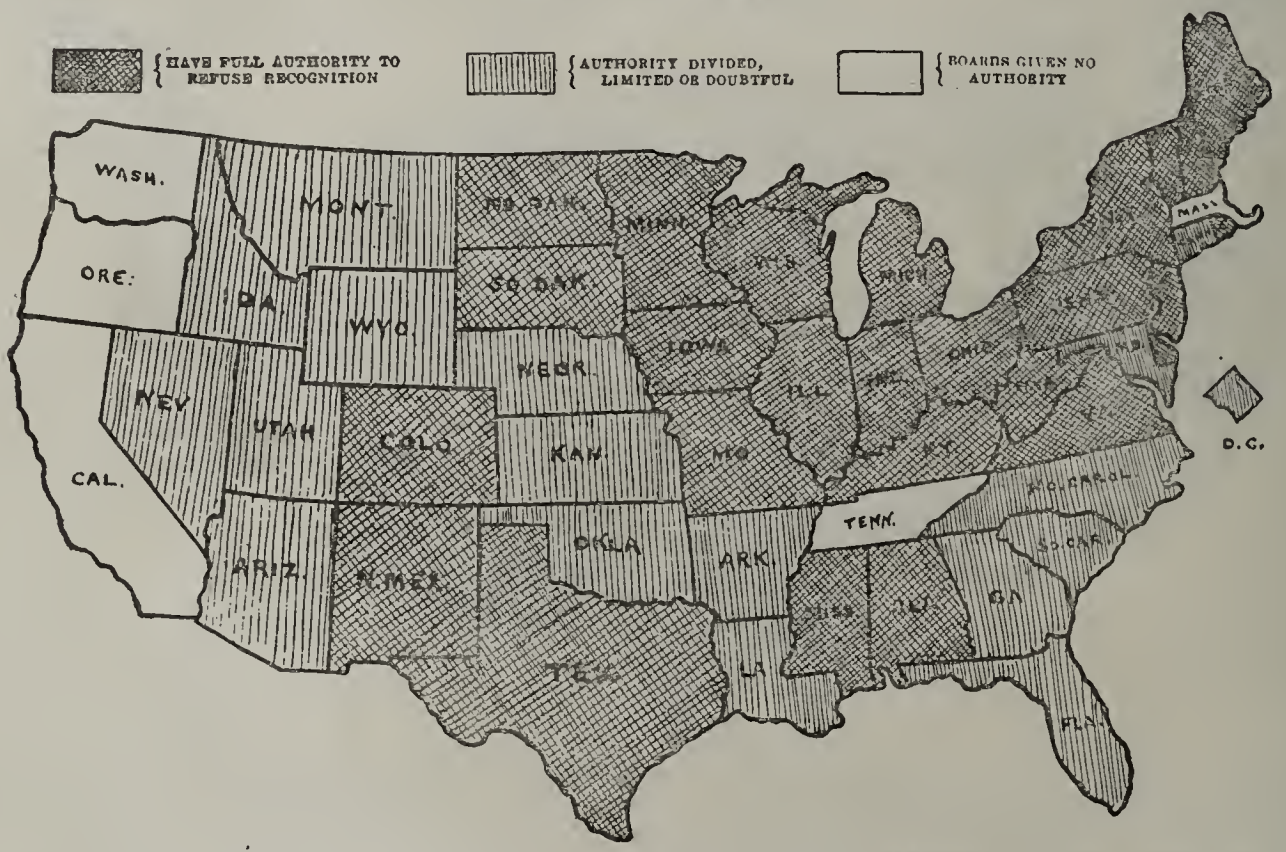



Chart 4 shows that according to our latest information the licensing boards in twenty-seven states have full authority to refuse recognition to low-grade medical colleges. These states are:

| | | | | | |
|---|---|---|---|---|---|
| Alabama | Iowa | Mississippi | New Mexico | Rhode Island | West Virginia |
| Colorado | Kentucky | Missouri | New York | South Dakota | Wisconsin |
| Delaware | Maine | Montana | North Dakota | Texas | |
| Illinois | Michigan | New Hampshire | Ohio | Vermont | |
| Indiana | Minnesota | New Jersey | Pennsylvania | Virginia | |

In each of those states there is a single board having complete or entire control of the situation. They can refuse recognition to any college which in the opinion of the board is not worthy of such recognition. There are seventeen states (counting the District of Columbia) in which authority to refuse recognition to low-grade medical colleges is divided with other boards or otherwise limited or doubtful. These states are:

| | | | | | |
|---|---|---|---|---|---|
| Arizona | District of Columbia | Idaho | Maryland (2 Boards) | North Carolina | Utah |
| Arkansas (3 Boards) | Florida (3 Boards) | Kansas | Nebraska | Oklahoma | Wyoming |
| Connecticut (3 Boards) | Georgia (3 Boards) | Louisiana (2 Boards) | Nevada | South Carolina | |

There are five states—California, Massachusetts, Oregon, Tennessee and Washington—which have no legal power to refuse such recognition.

## CHART 5—STATES HAVING MEDICAL COLLEGES

(Showing location of those rated in class C by the Council on Medical Education)

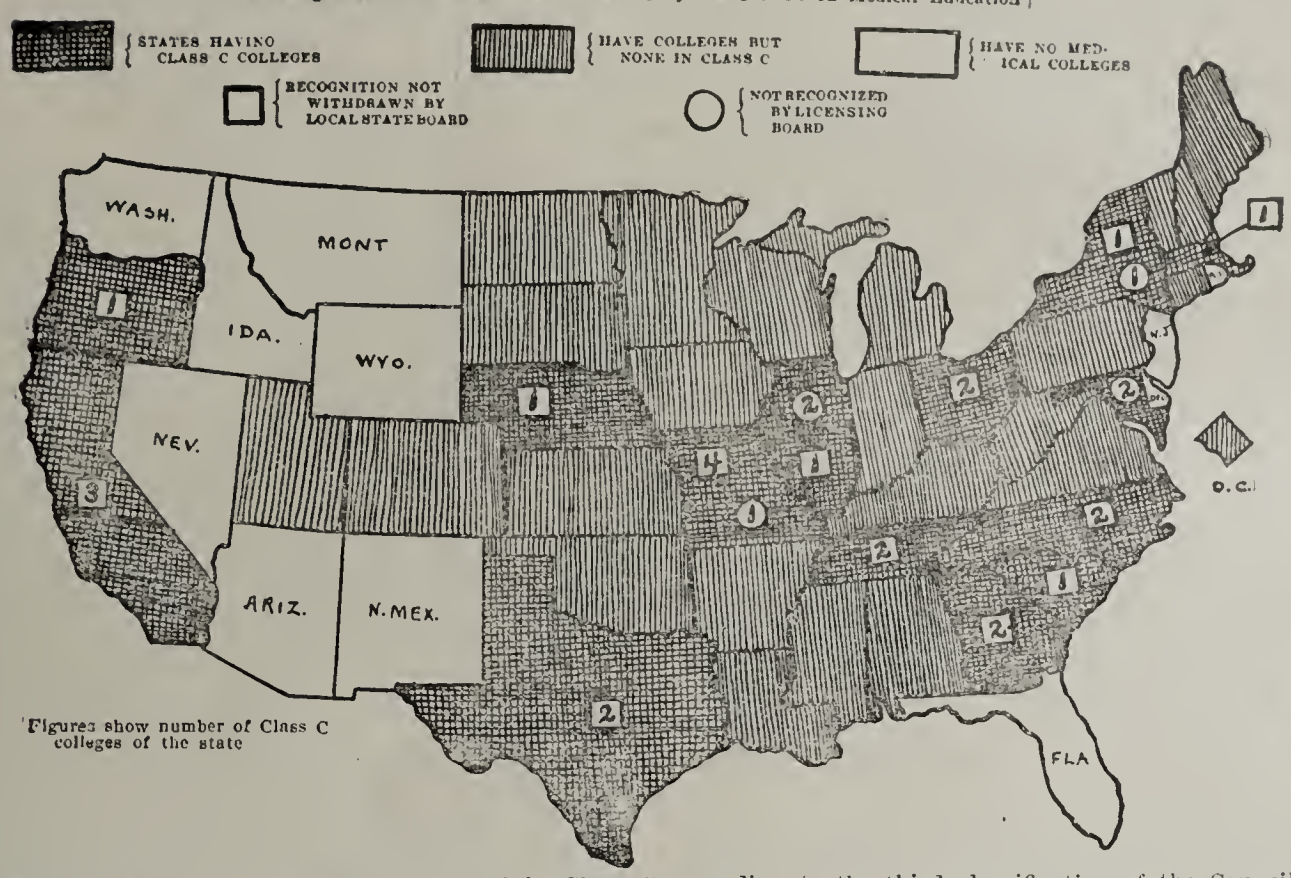



Chart 5 shows the states which have colleges rated in Class C according to the third classification of the Council on Medical Education. The figures in the squares show the Class C colleges from which recognition has not been withdrawn in their home state, while those in circles give the number from which the local board has withdrawn recognition. States having Class C colleges not penalized by the local board:

| | | | |
|---|---|---|---|
| California .....3 | Massachusetts .....1 | New York .....1 | Oregon .....1 |
| Georgia* .....1 | Missouri .....4 | North Carolina .....2 | Tennessee .....2 |
| Illinois .....1 | Nebraska .....1 | Ohio .....2 | Texas .....2 |

*Recognized by the Eclectic Board.

Total 21.

States having Class C colleges reported as not recognized by the local licensing boards are:

| | | | | |
|---|---|---|---|---|
| Georgia .....1 | Illinois .....2 | Maryland .....2 | Missouri .....1 | New York .....1 |

Total 7.

## CHART 6—REPORTED NON-RECOGNITION OF LOW-GRADE COLLEGES

(Compare with Chart 4)

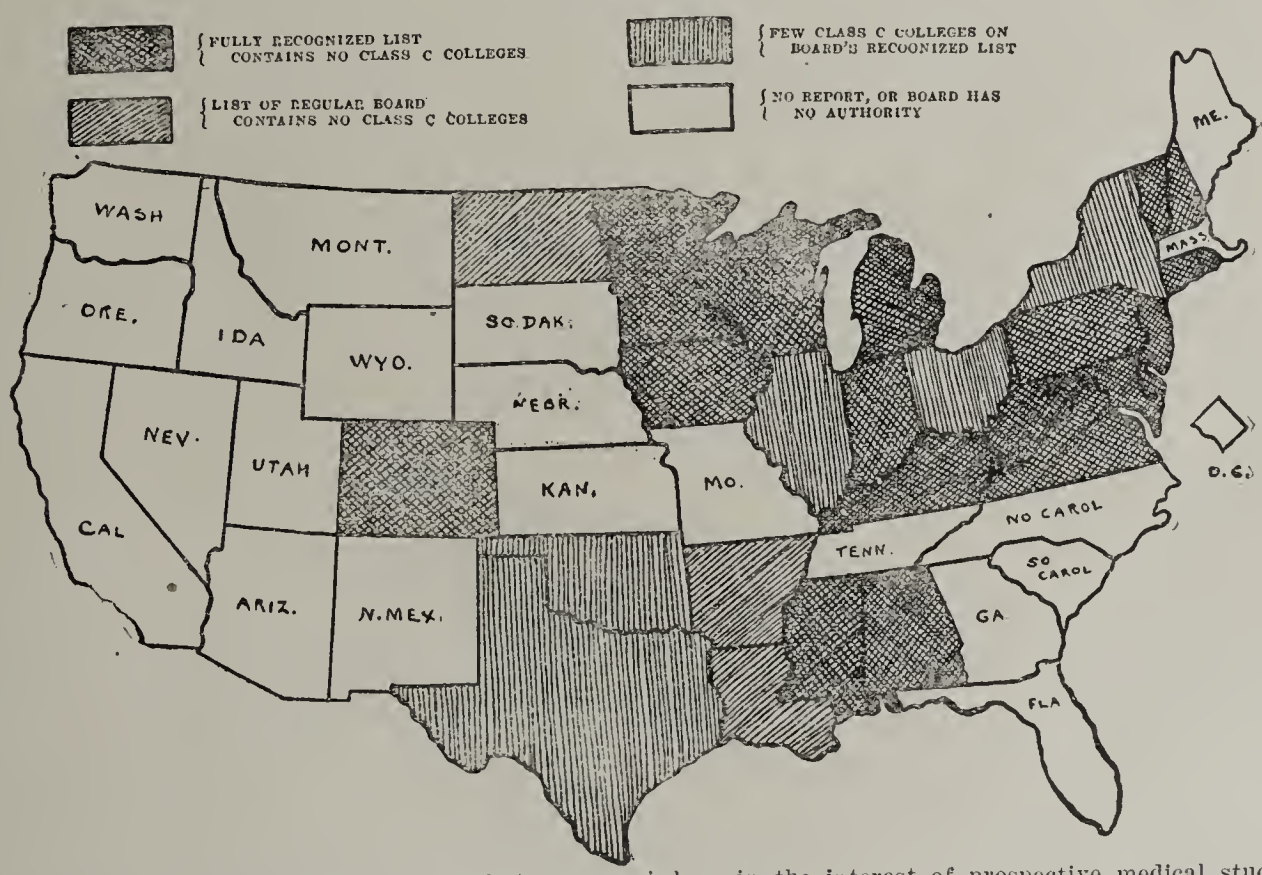



Chart 6 shows the results of some correspondence that was carried on in the interest of prospective medical students, to ascertain what states were recognizing Class C medical schools. Some of the boards are apparently guided more or less by the Council's ratings while others—to be preferred—have prepared their own lists. From this investigation it is apparent that no medical colleges rated in Class C are fully recognized by the following state boards:

| | | | | | |
|---|---|---|---|---|---|
| Alabama | Delaware | Maryland (Reg.) | New Hampshire | Pennsylvania | Virginia |
| Arkansas (Reg.) | Iowa | Michigan | New Jersey | Rhode Island | West Virginia |
| Colorado | Kentucky | Minnesota | North Dakota | Vermont | Wisconsin |
| Connecticut (Reg.) | Louisiana (Reg.) | Mississippi | | | |

In the following states it is apparent that the majority of Class C medical colleges are not fully recognized:

| | | | | | |
|---|---|---|---|---|---|
| Illinois | Indiana | New York | Ohio | Oklahoma | Texas |

It will be seen therefore by comparing this chart with Chart 4, that practically all state boards having authority to do so have taken more or less vigorous action in regard to low-grade medical colleges.

# Book Notices

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By William Osler, Bt., M.D., F.R.S., Regius Professor of Medicine, Oxford University. Eighth Edition, Largely Rewritten and Thoroughly Revised, with the Assistance of Thomas McCrae, M.D., Professor of Medicine, Jefferson Medical College, Philadelphia. Cloth. Price, $5.50. Pp. 1225. New York: D. Appleton & Co., 1912.

This classic in medical literature has undergone another of its periodical revisions in pursuance of the author's expressed ambition to keep it up to date. The rapid advances in the knowledge of many diseases, particularly the infectious diseases, has necessitated many changes which the author with able assistants has endeavored to make. The subjects have been rearranged and in many instances have been almost entirely rewritten. The publishers have changed the size of the page and have made the margins narrower. In this respect the book is not improved in appearance. It would be presumptuous to attempt to criticize the text of this standard work on practice, yet there are many who will still feel that the matter of treatment is regrettably brief. The enormous experience and the good judgment of the author, which have made the work so valuable as it is, would seem to fit him especially to guide more definitely the general practitioner in his daily work.

FORTSCHRITTE DER NATURWISSENSCHAFTLICHEN FORSCHUNG. Herausgegeben von Prof. Dr. Emil Abderhalden, Direktor des physiologischen Institutes der Universität Halle a.S. Volume VII. Paper. Price, 15 marks. Pp. 268, with 106 illustrations. Berlin: Urban & Schwarzenberg, 1913.

This volume of the "Fortschritte" is extremely interesting to physicians occupying themselves with scientific subjects. Of especial value is the monograph on comparative neurology and psychology, by Dr. V. Franz, in which some revolutionary statements are made. To mention only one: The size of the brain and the depth of its convolutions depend less on the psychic qualities of the animal possessing them than on its total body-weight. The entire monograph constitutes a frank attempt to overthrow stereotyped statements still in need of proof. Another monograph equally interesting to physicians is the one contributed by Dr. Hermann Klaatsch on the human foot and erect locomotion, in which he discusses the origin and acquisition of human characteristics. This is a profound biologic study written in non-technical language.

EXPERIMENTAL STUDIES OF MENTAL DEFECTIVES. A Critique of the Binet-Simon Tests and a Contribution to the Psychology of Epilepsy. By J. E. Wallace Wallin, Ph.D., Director of the Psychologic Clinic, School of Education, University of Pittsburgh. Educational Psychology Monographs, No. 7. Cloth. Price, $1.25 net. Pp. 155, with illustrations. Baltimore: Warwick & York, 1912.

This monograph embodies the results of a critical study of the Binet-Simon scale when applied to a colony of over three hundred epileptics. Dr. Wallin finds that the scale needs further development and correction before it can become generally applicable to routine mental testing. He further discovered that though there are exceptions, yet the great majority of those suffering from epilepsy fail to reach normal mental maturity and fall into the upper group of the feeble-minded, the so-called moron class. The latter fact he could ascertain only by a faithful application of the Binet-Simon scale, imperfect as it is. He believes the test to be in its experimental stage, but capable of yielding more positive results than any method hitherto followed.

EIN WEITERER BEITRAG ZUR GLAUKOM-FRAGE. By Dr. W. Wagner. Paper. Price, 1.50 marks. Pp. 45. Berlin: S. Karger, 1912.

This is the personal experience of a physician who gives the symptoms, progress and treatment of glaucoma in his own eyes. While the recital really adds nothing to our knowledge of that formidable disease, yet it constitutes an interesting contribution to the literature by a serious student of the subject. He strongly advocates the employment of iridectomy as the method most likely, in the average run of cases, to stay the advance of the malady.

# Medicolegal

## Validity and Construction of Provisions Relative to Itinerant Physicians

*(Kirk vs. State (Tenn.), 150 S. W. R. 83)*

The Supreme Court of Tennessee holds constitutional section 4 of chapter 543 of Acts of 1907, amending chapter 78 of Acts of 1901, which section provides that "it shall be unlawful for any itinerant physician, or vendor of any drug, nostrum, ointment, or application of any kind intended for the treatment of disease or injury, to sell or apply the same," etc. The court says that the object of the legislature in enacting these statutes—the original and that amending it—was to regulate the practice of medicine and surgery in the state of Tennessee, and the legislation in each act must be confined to this object. It was not intended by the general assembly to prohibit the sales of drugs, etc., but to forbid the sale and application of them. The disjunctive "or" is used in the statute in the sense of the conjunctive "and" between the words "sell" and "apply." This is clear from the subject expressed in the original act, "The regulation of the practice of medicine and surgery," and the body of both acts. There was no intention to go beyond the subject expressed and to legislate concerning the sale of drugs, nostrums, etc.

Reading the word "and" instead of "or" in the statute preserves it from the vice of containing two subjects, that of practicing medicine and that of engaging in the sale of medicine. Construing the act only to prohibit the sale and application of drugs, etc., the provision in question applies strictly and solely to the practice of medicine and surgery, the subject of the act expressed in the title. This construction has been given the word "or" in a similar statute enacted in Louisiana.

The court is of the opinion, too, that there is no unlawful discrimination in the provisions of the statute, and that it is not subject to the objection that it is vicious and arbitrary class legislation. The court thinks, on the contrary, that the distinctions made between physicians, surgeons, and vendors who have an established place of business, where they are known to the public and all who may be reasonably expected to become their patients and patrons, and itinerant physicians and vendors of drugs, medicines, appliances, etc., intended for the treatment of disease or injury, is supported by a natural and reasonable basis, and has reasonable relation to the subject-matter. The object of the prohibition is to prevent physicians and vendors who have no fixed place of business, are unknown to those to whom they tender their services and medicine, and have no reputation for professional skill, honesty, and fair dealing to maintain, from traveling about the country and defrauding the people by working on the fears and hopes of the unfortunate and afflicted. It is well known that itinerant physicians and vendors of medicines, nostrums, appliances, etc., of this character are generally and as a class unreliable, and that the money which they obtain from an unfortunate class of people is without consideration. Statutes for this purpose, similar to the one under consideration here, have been enacted in most of the states, and their constitutionality generally sustained.

The specific provision of the statute which the plaintiff in error Kirk was charged with violating was that which prohibits itinerant physicians and vendors, by writing, printing, or other methods, to profess to cure or treat disease or deformity by drugs, manipulation, or other expedient. The object of this provision is to prevent such persons from practicing the frauds prohibited in the first clause of the sentence. It is well known that fakers of the kind here legislated against usually advertise their services and medicines, and that advertising, if not altogether necessary, greatly aids them in perpetrating their fraudulent practices on the people. It is well settled that the legislature may enact laws which tend to prevent the perpetration of fraud, although the act prohibited is otherwise harmless. This provision has usually been contained in the statutes passed by other states for the suppression of itinerant physicians and nostrum-vendors, and generally sustained.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17 20

Alabama State Medical Association, Mobile, April 15-18.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
American Urological Association, Boston, April 15-17.
Association of American Physicians, Washington, May 6-7.
California State Medical Society, Oakland, April 15-17.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Florida Medical Association, Miami, May 13-15.
Georgia State Medical Association, Savannah, April 16-18.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.
Texas State Medical Association, San Antonio, May 6-8.

## MEDICAL SOCIETY OF THE MISSOURI VALLEY

*Twenty-fifth Semiannual Meeting, held at Kansas City, Mo., March 20-21, 1913*

The Second Vice-President, DR. B. T. QUIGLEY, Mound City, Mo., in the Chair.

### Genital Tuberculosis in the Female

DR. W. O. HENRY, Omaha: Abortions, gonorrhea, and other inflammations, injuries or contusions, and a general run-down or anemic condition may be predisposing factors in the origin and development of genital and peritoneal tuberculosis. We should be more careful and thorough in examinations of patients lest we overlook the true conditions at the time when they are most amenable to treatment. It behooves us to safeguard the public by teaching prevention and encouraging the afflicted by a favorable prognosis, unless other serious complications are also found.

### Management of Genital Tuberculosis in the Female

DR. PALMER FINDLEY, Omaha: Genital tuberculosis in woman is rarely a direct cause of death. The fatal issue is usually determined by a primary lesion in the lung or bowel. In at least 50 per cent. of cases there are some symptoms directly chargeable to the tuberculous lesion in the genital organs. It follows that in fully half the cases there is no urgent indication for operative interference. Inasmuch as genital tuberculosis is rarely primary, we must discriminate, if we can, between the symptoms directly due to the primary lesion and those due to the secondary lesion in the genital organs. The symptoms referred to the genital organs will usually yield to palliative measures. A radical operation is rarely justified for relief from symptoms caused by genital tuberculosis. There is danger in operative interference from the awakening of a latent primary focus, from the high primary mortality in these cases and from the possible sacrifice of organs, inasmuch as spontaneous healing is a possibility as in tuberculosis elsewhere in the body. In tuberculous peritonitis the cause of death in 90 per cent. of cases is chargeable to the primary focus. In operating on patients with tuberculous peritonitis it is well to remove the tubes when infected, in order to cut off the source of supply to the peritoneum. The utmost conservatism should be exercised in dealing with ovaries and uteri in young women. The exudative type of tuberculous peritonitis is alone favorable to operation. One should not operate in the presence of a fever or an active primary focus in the body. Medicinal and hygienic treatment is not to be underrated in the management of these cases. In the absence of severe symptoms directly referred to the lesion in the genitalia or peritoneum, operative measures should give way to the usual hygienic measures, at least for an extended trial.

#### DISCUSSION

DR. H. C. CROWELL, Kansas City, Mo.: In a large percentage of cases of tuberculosis of the genital organs the symptoms are very acute and pronounced. Whether the disease causes death immediately or not is probably open to question, but ultimately the majority of such patients, even with a local tuberculosis in the pelvis, succumb to the disease. I have had quite a number of cases in which there was no evident involvement of the lung; operative procedure has effected a perfect cure, and the patients have recovered without secondary involvement of other organs. About fifteen years ago a woman, aged 26, unmarried, came to me with what appeared to be a pyosalpinx. Examination of the discharge from the uterus did not demonstrate satisfactorily the nature of the infection, but we found large abscesses and ulceration in the posterior surface of the uterus; so extensive was the suppuration that I did a hysterectomy, and cleaned out everything thoroughly, and the woman made a perfect recovery.

DR. W. O. HENRY, Omaha: It would be a mistake to leave an active focus of tuberculosis in the pelvis or in any of the pelvic organs and expect by local treatment to get rid of it. Removal of the local focus is essential to the patient's recovery.

### The Rôle of Tonus in the Digestive Canal

DR. JOHN M. BELL, St. Joseph, Mo.: Atony of the digestive tract exists in all gradations, from a mere slight delay in motility to absolute kinking and retention. The key-note of treatment, except in cases of more or less acute kinking, is the restoration of normal tone, not merely to the digestive canal, but to the body; not essentially drugging, but hygiene, diet, daily habits and all those measures which tend to restore vitality.

### Diverticulitis of the Sigmoid

DR. ARTHUR D. DUNN, Omaha: The following symptoms, in the absence of evidence to the contrary, are presumptive of a diverticulitis: (1) alternating constipation and looseness of the bowels in an individual not previously much troubled in this respect, which are accompanied by fulness, soreness or colicky pain in the hypogastrium; (2) febrile manifestations, and a sharp neutrophilic leukocytosis; (3) frequency of and pain on urination in the presence of symptoms referable to the lower colon; (4) a palpable tumor mass, usually discovered by rectal examination, often sausage-shaped and extending to the left in close relationship to the sigmoid.

### Membranous Pericolitis

DR. CHARLES RYAN, Des Moines, Ia.: My personal experience has been confined to twelve cases within the past eighteen months, only one of which would furnish special interest for a detailed description. The patient was a woman, aged 38, who presented symptoms of a chronic cholecystitis and chronic appendicitis. At operation there was found a well-developed membrane extending from a point about 3 inches above the caput coli to a point on the transverse colon 2 inches to the left of the median line; the transverse colon had been raised until it occupied a position approximating the anterior border of the liver, the gall-bladder covered, and the membrane spreading over the anterior surface of the stomach. The appendix was kinked, the distal end being incarcerated in a well-formed Lane's kink. Simple division of this extensive membrane and Lane's kink, with the application of sterile petrolatum to the latter, with appendectomy and cholecystotomy was the treatment. While she was greatly benefited, the symptoms did not

entirely disappear. The results in 12 cases at present are: complete cure, 4; great benefit, 3; recurrence to a variable degree, 3; 2 patients were operated on within the past week.

DISCUSSION

Dr. C. C. Conover, Kansas City, Mo.: I recall the case of a woman who had stenosis 3 inches to the left of the heptic flexure, with alternating constipation and diarrhea. She had been treated for neurasthenia for almost four years. She had symptoms of intestinal stenosis. The little band or pericolic membrane was removed, she recovered, and gained 25 pounds in weight.

Dr. Henry S. Munro, Omaha: With every method of treatment in this class of cases, a carefully regulated dietetic regimen, coupled with systematic exercise, must follow the operative procedure, no matter what it is.

Dr. E. W. Powell, Omaha: If we could get these patients to the internist early he could make the diagnosis and correct the condition before the patient reached the stage of the pathologic condition known as Lane's kink; but unfortunately the average patient does not consult the internist or the surgeon early.

Dr. John F. Binnie, Kansas City, Mo.: We have colons of all sorts and peculiar shapes tucked away in all sorts of ridiculous fashions, and yet they work exceedingly well. If we have a mobile cecum and a mobile (lowest) portion of the ileum, we have a loop of intestine which is pretty much in the same condition as the normal sigmoid, and the intestinal work can be carried on very well in that patient; but if we have a fixed ileum near the cecum, and a mobile cecum, then, of course, the cecum can pop around in various directions and produce temporary obstructions. In operating, I do not bother about ileac kinks and a mobile cecum very much unless I find them combined. In operative work, or in post-mortem work, when I have exposed the cecum and found it mobile, I have looked at the sigmoid and found it plastered down to the abdominal parieties. That, I think, is usually the case. Whether it is a congenital condition or not, I do not know, but I think many of these conditions are congenital.

Dr. William T. Reynolds, Kansas City, Mo.: A girl, aged 14, had trouble in the right side. We operated on her with the idea that we had to deal with appendicitis. We found the appendix comparatively normal, but she had a membrane at the head of the cecum. There was nothing to be observed in the formation of the membrane on the colon higher up. After operation she went home and was well for about six weeks. Since that time she had been having the same pain as formerly. We operated a second time and found a smooth, white glistening membrane high up on the colon which had formed in ten months.

Dr. Howard Hill, Kansas City, Mo.: We need more observation as to what causes these malformations or deviations of the colon. The looseness of attachment of viscera may be responsible primarily for angulation and things of that sort. When a patient has difficulty in propelling the contents of the intestinal tract onward, if it produces pain and great discomfort, that patient will consult a surgeon. There is no use in operating on the cecum alone, as in six or eight weeks these patients get into the same condition they were in before operation. We should do an ileosigmoidoscopy. The difference between an ileosigmoidoscopy and operations on the cecum and colon is that after an ileosigmoidoscopy the patient recovers slowly, but when he has become well he stays well.

Dr. M. J. Ford, Omaha: I wish to cite two cases. In one, on opening the abdomen we found the colon in proper anatomic position, but within an inch and a half of the cecum and caput coli; extending up over the colon for 3 inches was a distinct band running longitudinally across the colon, holding it down. This was released. The other patient was a girl, aged 22, who had the chain of symptoms which usually accompanies these cases, and was treated by various physicians for neurasthenia. On opening the abdomen I found I could not get to the head of the colon unless I broke through a number of adhesions to reach the pericolic membrane which extended clear over, and when I got down to where the appendix was I found it was normal, within a little sac, and was not adherent to the tissues around it.

### Landry's Paralysis

Dr. E. M. Hummel, New Orleans: While no specific organism is likely to be proved the cause of Landry's paralysis, it seems that some condition of toxicity springing out of unwonted virulence of some one of the bacterial flora native to the body and operating under the auspices of lowered resistance will be settled on as the cause of this disease. One case I saw strongly supported this belief.

DISCUSSION

Dr. A. L. Skoog, Kansas City, Mo.: We know that with mental and physical fatigue infectious processes are more likely to be engrafted on the individual. I think that has been shown in some animal experiments, with no bacilli present.

Dr. C. R. Woodson, St. Joseph, Mo.: There can be no question but that there are cases of Landry's paralysis in which we have elevation of temperature and sphincter involvement. Some writers are disposed to believe that the disease is a polyneuritis. It has some characteristics, however, which are quite different from the ordinary types of polyneuritis and some types which are very much like it. The symmetrical symptoms are quite like those of polyneuritis.

Dr. C. C. Goddard, Leavenworth, Kan.: I recall the case of a prison physician who was apparently perfectly well up to a certain evening, when he reached out his hand to take hold of the ear of his dog and found he could not hold the ear. He tried several times to do so. Then he tried with the other hand and found he could hold the dog's ear all right. He tried to pick up different objects and hold them but could not do so. He could move and flex his fingers, but the next morning that arm (the left) was dead to the world. The other arm became involved. That day he thought he was bound to get out of bed. He threw himself out of bed and fell to the floor. My diagnosis was Landry's paralysis or acute ascending paralysis. The patient could move his feet in bed that day, but from that time he became completely paralyzed as to both sensation and motion. It started in the left arm, which is unusual, as it generally begins in the feet. His mind was perfectly clear; the pupils looked all right at the time he went to bed. He had no pain; he had to be catheterized; he could not pass urine voluntarily after the second day; after the fourth or fifth day paralysis of deglutition set in; the pulse became weaker and weaker; he gave a sighing respiration and died.

Dr. S. Grover Burnett, Kansas City, Mo.: Landry's paralysis involves the muscles of the legs, the trunk, the arms, the respiratory muscles and the throat muscles, and the story is usually ended. The patient does not die from toxemia, but from the want of air. He dies because he has become paralyzed as far as respiratory function is concerned. I have seen but one patient recover. It is a question whether or not I was correct in my diagnosis. Maybe I was not, but the patient recovered. The disease began in the lower extremities, took the usual course, extended up and involved the throat muscles. The paralysis was progressive from one six-hour period to another. In desperation I gave dram doses of fluidextract of ergot every three hours. Under the influence of the ergot the disease seemed to be checked; but we know that once in a while a few patients recover without treatment. Possibly this was one of those cases, or I was mistaken in my diagnosis.

Dr. Abraham Sophian, New York: From the studies that have been carried on during the past few years, particularly with reference to clinical and laboratory analyses, the relationship between Landry's paralysis and poliomyelitis has been established, and there is no question but that in some instances Landry's paralysis and poliomyelitis are one and the same disease. Poliomyelitis may affect any part of the central nervous system. The characteristic feature of Landry's paralysis is the ascending paralysis. The cerebrospinal findings in the two diseases are similar.

### Discussion on Cancer

Dr. John F. Binnie, Kansas City, Mo.: Too much abuse has been poured on the unfavorable statistics after operative treatment for frank malignant disease in the matter of recur-

rence. I think that other terms should be used. After cutting out diseased tissue, if we have a reappearance of the disease within a comparatively short period, say after two or three years, it is a true reappearance of the disease, but it is not a recurrence. It means that some diseased tissue was left and still continues to grow; but when we have a true recurrence, things are somewhat different. If the growth appears again after a lapse of three years, why can it not be the original causes of the disease working again on a patient who has shown himself non-resistant to the noxious influence, so that we have a fresh incidence of the disease, not necessarily a recurrence?

DR. J. P. KANOKY, Kansas City, Mo.: When the disease is very malignant and affects the deeper tissue, the Roentgen ray will relieve, although it may not cure. In superficial ulceration or rodent ulcer, years ago I employed the actual cautery or the knife. Within the last few years I have used carbon dioxid snow. It is as efficacious as the cautery, and much pleasanter than the knife, and the cosmetic results are superior to both. Superficial cancer or so-called rodent ulcer can be treated with snow in my opinion with absolute success.

DR. H. M. LYLE, Kansas City, Mo.: There are some types of epithelioma which the carbon dioxid snow will cure, but I would not depend too much on it because it is too superficial in its action. In using the Roentgen ray there are several things that come up which the individual operator has to watch for in the way of protecting the patient. It has been my experience that it is well to begin with short treatments and give them often until you find just exactly how the patient is going to stand the treatment. Others give one or two large doses of from fifteen to thirty minutes' duration. I believe that does more harm than good.

DR. ROLLIN H. BARNES, St. Louis: I do not think that we are able to diagnose cancer of the colon early enough to expect the promising results which we can obtain from cancer in some other locations of the body, but we should carefully observe these patients who show the least indication of trouble in this region and always keep in mind cancer.

DR. W. O. HENRY, Omaha: Committees have been appointed by various societies in the United States to do what they can to enlighten the public about cancer of the uterus. Physicians who are abreast of the times, who attend regularly city, county, state and national meetings, are well informed, but there is a large class of practitioners who do not attend these society meetings, and who do not read up-to-date medical journals. These men need to be educated as well as the laity, and the way to do it is for every state society to have a publicity committee, backed by the authority of the society, to prepare proper articles for the daily press and for the weekly papers in every county.

DR. DONALD MACRAE, Council Bluffs, Ia.: This and other societies ought to take a strong stand with regard to a publicity campaign in educating the laity about cancer. In the country we see the majority of cases of cancer too late to do much, if any, good. The right time to operate on such patients is in the precancerous stage.

DR. H. C. CROWELL, Kansas City, Mo.: If one thing is of greater importance in regard to cancer than anything else, it is the education of the people. The average physician of the country is better informed on the scientific methods and procedures and the advanced treatment and advanced theories of cancer than he is on the diagnosis. I know from experience that patients are treated by one physician after another without a diagnosis of cancer having been made, when they should have been subjected to some means by which the diagnosis might have been made early enough to eradicate the cancer.

### Cancer Information Committee

A committee composed of Drs. H. C. Crowell and Howard Hill, Kansas City; E. C. Henry, Omaha; Donald Macrae, Council Bluffs, and Daniel Morton, St. Joseph, was appointed to conduct a campaign of education to familiarize the public with the early manifestations of malignant disease in the interest of prompt diagnosis.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Diseases of Children, Chicago

*March, V, No. 3, pp. 205-284*

1 *Dietetic Treatment of Convulsions and Allied Conditions Occurring in Infants. C. G. Grulee, Chicago.
2 Significance of Pyloric Reflex in True and Pseudopyloric Stenosis in Infants. D. M. Cowie, Ann Arbor, Mich.
3 *Statistical Comparison of Mortality of Breast-Fed and Bottle-Fed Infants. W. H. Davis, Boston.
4 *Vulvovaginitis in Children. E. R. Spaulding, Boston.
5 Pancreatic Ferments in Infants in Acute Intestinal Indigestion (Alimentary Intoxication). A. F. Hess, New York.

**1. Dietetic Treatment of Convulsions in Infants.**—It is the general belief, says Grulee, that the calcium and magnesium salts act antagonistically to the sodium and potassium salts, the former tending to allay nervous irritability, the latter to increase it. When there is a relative increase of Ca and Mg over the Na and K, one would expect, following the reasonings on this subject, to have a decreased nervous irritability, while the opposite proposition would also be true. Grulee determined to approach the subject of spasmophilia from a somewhat different standpoint from that which has generally been taken in the past. He determined to endeavor to produce increased electrical irritability by the use of the sodium salts. Before doing this, however, a study of the metabolism of the inorganic salts in animals before and after thyroidectomy was made. In dogs in which a hyperirritability of the nervous system existed, as shown by the increased electrical irritability, and as produced by removal of the thyroid, there is no regular variation in the formula,

$$\frac{Ca}{Na} \text{ or } \frac{Ca+Mg}{Na+K}$$

before and after operation, as shown by metabolic experiment. While in three dogs thus examined there was apparently some support of the proposition that the quotient of this formula is increased during the period of hyperirritability of the nervous system; in the fourth dog no such reaction could be noticed. In estimating the salt content of the brains of five dogs, the first being a control, there was regularly found a decrease in the calcium content in the thyroidectomized animals. In one instance, however the

$$\frac{Ca}{Na}$$

formula — was less than that of the control animal.

No variation in electrical irritability nor severity of the convulsive period could be demonstrated by intraperitoneal injections of normal sodium and calcium salts in the quantity of 40 to 45 c.c. of sodium salts, and 2 to 4 c.c of calcium salts in twenty-four hours. Even under normal conditions, when carefully estimated, the electrical irritability in dogs varied quite widely. While food containing whey is distinctly irritating to spasmophilic infants, the sodium and potassium salts corresponding in quantity to those contained in the whey do not regularly produce the increased electrical irritability which one would expect were the sodium to be regarded as the irritating substance in the whey.

This failure of the sodium and potassium to produce results, Grulee says, may be explained either by the fact that the forms in which the sodium and potassium were given, i. e., NaCl and KCl, were not readily absorbed in the gastro-intestinal canal, or that these salts were not in themselves the irritating factors. The latter proposition would seem to be much more probable. These experiments therefore have brought little or no confirmation of the hypothesis that the increased electrical irritability in spasmophilia is the result of a disturbance of calcium and sodium equilibrium.

**3. Mortality of Breast-Fed and Bottle-Fed Infants.**—Of 736 babies, 533, or 72.4 per cent., were breast-fed, and 203, or 27.6 per cent., were bottle-fed. Davis estimates that 68 per cent. of all Boston babies between the ages of 2 weeks and 1 year

are breast-fed; that of Boston babies with Canadian mothers only 51 per cent. are breast-fed; of those with native mothers 59 per cent.; of those with Irish mothers 73 per cent.; of those with Russian and Polish mothers 79 per cent., and of those with Italian mothers 83 per cent. Seventy-four per cent. of the deaths of these infants were among bottle-fed babies, and those between the ages of 1 and 3 months show the highest mortality, especially those having mothers born in the United States. Therefore if 74 per cent. of infant deaths above the age of 2 weeks are among bottle-fed babies and only 32 per cent. of babies over 2 weeks are bottle-fed, then of such infants the bottle-fed is six times as likely to die as the breast-fed. During July and August, 1911, the number of deaths among the breast-fed infants was only slightly increased, while among the bottle-fed infants the mortality was trebled. The bottle-fed baby apparently is more suseeptible to the communicable diseases or does not possess as much stamina as the breast-fed baby effectually to combat them. The same fact is apparent also in septicemia. Bronchopneumonia and pneumonia had a total of 309 deaths between two weeks and one year with 184 bottle-fed. It was especially in the study of diarrhea and enteritis that the terrible effects of bottle-feeding were revealed. There were in Boston in 1911, in infants between the ages of two weeks and one year, 621 deaths due to this cause, 534 of which were bottle-fed. Of infants reaching the age of two weeks, one in five dies before a year old if bottle-fed, while if breast-fed only one in thirty fails to reach the one year mark. This means that the deaths of these infants would be 60 per cent. less if all could be breast-fed.

4. **Vulvovaginitis in Children.**—For two years and a half the cases of vaginitis at the Children's Hospital in Boston have been treated at a special clinic. During the two years the individual cases have been studied and the attempt has been made to gain some progress in the treatment and knowledge of this very intractable disease. The purpose of Spaulding's article is to emphasize the following five points, which stand out clearly as the result of their experience and the experience of others: 1. The prevalence of the gonococcus as the etiologic factor in cases of vaginitis, and the unreliability of bacteriologic examination in all stages. 2. The total duration of the disease, including the long periods of latency. 3. The importance of the disease on account of its serious complications and sequelae. 4. Inefficiency of treatment at best. 5. The consequent importance of prophylaxis, both at home and in hospitals.

The treatment which has given the best results in their cases is local treatment plus vaccine treatment. The local treatment corresponds to the treatment given a case of specific ophthalmia and consists in a cleansing douche followed by the instillation into the vagina of some preparation of silver. The usual directions given the mother are to use a two-quart fountain syringe in which there is a saturated solution of boric acid, and to which the smallest rectal tip is attached. This is to be given three times a day for at least ten minutes, as warm as the child can stand it, and with hot water added to it, that the temperature may be kept up. Following this three times a day, either argyrol 25 per cent., or a solution of another silver salt 1 to 1,000, is instilled into the vagina with a small rubber ear syringe. Added to this treatment they have given gonococcic vaccine, beginning with doses of fifty million and increasing twenty-five million, until four hundred million is reached. The vaccine at present is being given once a week, but previously was given twice a week, but with less rapid increase in the dose.

They have used the gonococcus vaccine in thirty-five cases. Fourteen of these cases have been acute cases, and in this class have been included all cases with profuse discharge of a month's duration or less. Six have been subacute (from two to four months' duration); fifteen have been chronic. In all, there have been 399 injections, making an average of eleven doses for each case, while in reality some cases received as many as thirty-six injections. The average length of treatment for each child was three months, while some treatments extended over eight months. Twenty of these cases still had a discharge, in some cases intermittent, and in many cases very slight, when they were lost sight of. In seven cases there was still a positive smear, although the discharge had cleared up. In only six of the cases was there both negative smears and an entire clearing up of the discharge, and three of these had a return some time within two years. So that the vaccine has not proved a specific.

## Annals of Surgery, Philadelphia

*March, LVII, No. 3, pp. 305-448*

6 *Myositis Ossificans Traumatica. W. B. Coley, New York.
7 *Sub-Temporal Muscle Drainage by Aid of Silver Wire Drainage Mats in Cases of Congenital Hydrocephalus. W. H. Hudson, Atlanta, Ga.
8 *Thyrogenic Origin of Exophthalmic Goiter. J. H. Jacobson, Toledo, O.
9 *Cheek Defect and Its Repair by Plastic Operation. J. S. Davis, Baltimore.
10 Temporary Arrest of Heart Beats Following Incision of Pericardium for Suppurative Pericarditis. A. H. Harrigan, New York.
11 Membranous Pericolitis and Allied Conditions of Ileocecal Region. J. N. Jackson, Kansas City, Mo.
12 Carcinoma of Papilla of Vater. G. W. Outerbridge, Philadelphia.
13 Tendon Fixation. W. E. Gallie, Toronto, Can.
14 End Result of Excision of Elbow for Tuberculosis. T. W. Todd, Manchester, Eng.
15 *Arrest of Hemorrhage from Bone by Plugging with Soft Tissues. G. T. Vaughan, Washington, D. C.
16 Operating Table for Use in Animal Research. K. Stebbins, New York.

6. **Myositis Ossificans Traumatica.**—Various conditions may simulate myositis ossificans, particularly in the early stages, e. g., contusion, hematoma, myositis, periostitis, periarthritis, syphilitic tumors; but all of these conditions, Coley says, can be differentiated by means of a careful examination aided with a good roentgenogram. In periostitis and osteomyelitis, there usually is elevation of temperature, local tenderness, severe pain which is worse at night. Myositis is prone to develop in certain muscles which are seldom the site of syphilitic disease, and the Wassermann test will furnish an additional aid in differentiating the conditions. On the other hand, the age of the patients (usually young adults) and the fact that the tumor developed shortly after an injury furnish a history almost identical with that observed in sarcoma. In many cases, too, there is a striking similarity in the roentgenogram between the two diseases.

In Coley's first case, the roentgenogram had been examined by at least half a dozen roentgenologists and all pronounced the lesion sarcoma. Careful examination, however, of the roentgenograms which Coley has been able to observe personally shows this important difference: In myositis ossificans the sharp outline, corresponding to the junction of the tumor with the bone, is always present, while in sarcoma it is less distinct except in the very early stages of the disease. It was this feature which influenced him chiefly in making the diagnosis of myositis ossificans in the first case.

In the second case the same clear line of differentiation is observed in the earlier picture, although it is not so distinct in the later. Coley has seen but one case of periosteal sarcoma in which this was not true, and this happened to be a case of extremely rapid growth, apparently sarcoma, in a young adult, a woman of nineteen. The roentgenogram taken about a month after the beginning of the tumor showed a clear line without any roughness or indentations, which could easily be mistaken for myositis ossificans. In this case, however, there was the absence of a severe injury which is almost always the exciting cause in myositis ossificans, which furnished an important aid in making the diagnosis.

A further and very important point, which Coley says he has not seen noted in other articles, is the marked difference in the consistence of the tumors as determined by palpation.

In myositis ossificans the consistence is much harder than in sarcoma; furthermore, it is almost always uniform in character, whereas in sarcoma it is very apt to be soft in some places and harder in others, but there is never the bony hardness that is typical of myositis ossificans. The pain is another

important differential symptom. In sarcoma there is rarely pain in the early stages, unless the tumor is situated near some important nerve, whereas in myositis ossificans pain is much more apt to be a feature in the early development of the disease. Furthermore, the early disability of the neighboring joint, as usually observed in myositis ossificans, has been seldom noted in sarcoma in the early stages. Flexion of the knee is almost lost or greatly limited, and this may occur very soon, a few days after the injury, in myositis ossificans.

The clinical history together with the characteristic features already enumerated will, in most cases, enable one to render a correct diagnosis of myositis ossificans; yet the great importance of making an early and absolutely certain differentiation from sarcoma, in Coley's opinion, justifies an early exploratory operation and removal of sufficient material for a microscopic examination. This is especially true if the tumor is located along the shaft of the bone and not in the neighborhood of a joint. In case the patient is unwilling to submit to an exploratory operation, very careful and frequent observations will soon determine the true character of the disease. If it is sarcoma, there will be steady and fairly rapid increase in size; if myositis ossificans, but very slow increase in size, if any, is noted.

7. **Subtemporal Muscle Drainage.**—In cases of congenital hydrocephalus in which drainage underneath the scalp is attempted Hudson has found a vast additional drainage capacity by using the under surface of the temporal muscle for the absorption surface by inserting under this muscle silver wire drainage mats. Where this is to be attempted the operation should be done in the following manner: The usual point for perforating the skull dura and brain, posterior and above the right ear is selected. An incision about 2½ inches long, with its curve in a backward direction, is made down to the temporal muscle. A point about an inch in front of the curved incision is selected, and the fibers of the temporal muscle separated at this point. A flat separator with its point hugging the bone closely is pushed in every direction to its line of insertion under the entire skull area of the temporal muscle. Then the skull is opened with a self-stopping spiral perforator, its bottom cleared with the smallest size self-stopping burr.

The dura is then split the full extent of the opening in the skull. The two edges of the dura are then caught with mosquito forceps and the incision held open as far as possible. Through this opening a long, dull-pointed ventricular puncturing tube is inserted into the brain until the cerebrospinal fluid flows from its open end. The depth is read off on the side of the tube, which is marked in quarter inches. The permanent drainage tube is then cut to its proper measured length, and then slipped over the puncturing tube and carefully rotated to its proper permanent location in the brain, the two lateral fixation wires being carefully preserved. The silver drainage mat, which was fixed under the temporal muscle immediately after the muscle was separated from the bone, is now fixed in position, and the fixation wires of the permanent tube carefully twisted around the central ring of the drainage mat. The temporal muscle is then carefully sewed over the mat and tube with the finest possible black silk. The incision in the scalp is also closed with the finest possible black silk.

This operation must be done under the strictest aseptic precautions, with the use of new rubber gloves and the most careful sterilization of the patient's scalp. A loose dressing finished with plaster-of-Paris bandages should be applied in such manner that no direct pressure is applied over the operation wound or the temporal region of the operated side. The greatest possible accuracy and delicacy of operative procedure should be observed.

8. **Thyrogenic Origin of Exophthalmic Goiter.**—From a review of the experimental and clinical evidences relating to the thyroid origin of exophthalmic goiter by Jacobson he draws the following conclusions: Exophthalmic goiter can and has been produced experimentally in lower animals by the injection of thyroid pressure fluid (Klose), by implantation of the thymus (Bircher), and by the injection of the macerated thyroid (Baruch). Symptoms closely resembling exophthalmic goiter can be produced in animals by thyroid feeding.

The evidence at hand indicates a close relationship between the thymus and thyroid. That the symptoms of exophthalmic goiter are due to either an excess or perverted secretion of the thyroid, with the primary disturbance existing in the thymus, the action of the thyroid being that of a "multiplicator" according to the theory of von Mikulicz. Exophthalmic goiter has been produced in man by the excessive administration of thyroid extracts and preparations of iodin. That there are changes in the thyroid, chemically, macroscopically and microscopically, which are characteristic for exophthalmic goiter. Typical exophthalmic goiter or symptoms of hyperthyroidism (so-called exophthalmic goiter) occurs after or in connection with other affections of the thyroid, such as simple and adenomatous goiter, cancer and inflammations. That there is a characteristic blood-picture in exophthalmic goiter which disappears after the surgical removal of a sufficient amount of the diseased thyroid tissue. The successful treatment of exophthalmic goiter by measures directed toward the thyroid itself, as well as by serum therapy, proves the thyroid origin of the disease. Exophthalmic goiter can be cured by the surgical removal of portions of the gland in approximately 70 per cent. of all cases.

9. Published in the *Old Dominion Journal of Medicine and Surgery* for February, and abstracted in THE JOURNAL, March 22, p. 944.

15. **Arrest of Hemorrhage from Bone.**—The method to which Vaughan first called attention ten years ago consists in cutting a fragment of soft tissue, muscle or fascia, preferably muscle, from any convenient place in the field of operation and applying the fragment to the bleeding surface or edge of the exposed, broken or cut bone by means of the fingers. If the tissue does not adhere at once it should be rubbed into the bleeding area by some suitable instrument, as a knife handle, dissector or chisel, so that the vascular openings in the bone become plugged with little fragments of soft tissue. The advantages, he says, are obvious—the material is always present, it does not act as a foreign body, and, according to Vaughan's experience, it is always efficient.

## Boston Medical and Surgical Journal

*March 20, CLXVIII, No. 12, pp. 409-448*

17 The Registered Midwife: A Necessity. E. F. Cody, New Bedford, Mass.
18 Midwife in Massachusetts: Her Anomalous Position. J. L. Huntington, Boston.
19 Seasonal Variation of Symptomatology of Pulmonary Tuberculosis. N. B. Burns, North Wilmington, Mass.
20 Collection of Facts, Ideas and Theories Relating to Diverse Elements that Contribute to Success in Treatment of Joint Diseases. Relationships Between Visceral Ptosis and Arthritis. Comparisons Between Mild Intestinal Toxemias and Gout. H. W. Marshall, Boston.

## Bulletin of Manila Medical Society

*January, V, No. 1, pp. 1-11*

21 Basic Principle of Psychotherapy and Identity of All Systems of Mental Healing. R. E. L. Newberne, Manila, P. I.

## Canadian Medical Association Journal, Toronto

*March, III, No. 3, pp. 167-260*

22 Prostatectomy-Suspension of Bladder. G. E. Armstrong, Montreal, Can.
23 Penalties of Late Diagnosis of Diseases of Urinary Tract. G. S. Gordon, Vancouver, B. C.
24 Fallacies of Existing Fatality Rates. H. W. Hill, London, Ont.
25 Municipal Health Work Pertaining to Infant Welfare. R. E. Wodehouse, Fort William, Ont.

## Colorado Medicine, Denver

*March, X, No. 3, pp. 71-107*

26 Practical Considerations in Prostatic Surgery. W. N. Wishard, Indianapolis, Ind.
27 Deviated Nasal Septum—Its Influence on General Health; Surgical Treatment. A. C. Magruder, Colorado Springs.
28 Recent Advances in Cerebral Localization. G. A. Moleen, Denver.
29 The Friedmann "Cure." P. Hillowitz, Denver.

## Indiana State Medical Association Journal, Fort Wayne

*March 15, VI, No. 3, pp. 99-146*

30 Relation of Defective Heart Muscle to Valvular Symptoms. S. E. Earp, Indianapolis.
31 Defective School Child. O. B. Nesbit, Valparaisq.
32 Artificial Infant-Feeding with Special Reference to Stool Examination. O. N. Torian, Indianapolis.
33 Case of Tuberculous Ulcer of Ileum and Cecum. M. F. Porter, Ft. Wayne.

## Journal of Infectious Diseases, Chicago

*March, XII, No. 2, pp. 127-275*

34 *Relation of Calcium to Anaphylaxis. J. H. Kastle, D. J. Healy and G. D. Buckner, Lexington, Ky.
35 *Isoagglutination in Man and Lower Animals. M. Fishbein, Chicago.
36 Interagglutination Experiments with Various Strains of Sporothrix. D. J. Davis, Chicago.
37 *Statistical Study of Streptococci from Milk and from Human Throat. E. C. Stowell, C. M. Hilliard and M. J. Schlesinger, Dublin, N. H.
38 *A Motile Curved Anaerobic Bacillus in Uterine Discharges. A. H. Curtis, Chicago.
39 Conjunctival Reaction for Glanders. (Ophthalmic Test.) K. F. Meyer, Philadelphia.
40 *Fusiform Bacilli Associated with Various Pathologic Processes. G. F. Dick, Chicago.
41 Fusiform Bacilli. Isolation and Cultivation. C. Krumwiede and J. Pratt, New York.
42 *Two Methods for Obtaining Virus of Rabies, Freed from Cells of Host and from Contaminating Organisms, and Application of These Methods to Other Filterable Viruses or Glycerin-Extracts. D. W. Poor and E. Steinhardt, New York.
43 Studies on Virus of Hog Cholera. W. E. King, F. W. Baeslack and G. L. Hoffmann, Detroit, Mich.
44 *Tuberculosis of Stomach with Extensive Tuberculous Lymphangitis. K. W. Dewey, Chicago.
45 Behavior of Tubercle Bacillus Toward Fat-Dyes. H. Sherman, Chicago.
46 Intra-Vitam Staining of Tuberculous Guinea-Pigs with Fat-Soluble Dyes. H. J. Corper, Chicago.

34. **Relation of Calcium to Anaphylaxis.**—As a result of their experiments the authors conclude: first, that a 5 per cent. solution of calcium chlorid used subcutaneously is much too irritating to allow of a fair estimate of the value of calcium as an anti-anaphylactic; second, that an isotonic solution of calcium lactate used intraperitoneally, in large doses of 5 to 10 c.c., is very poisonous to male guinea-pigs, the mortality being over 62 per cent.; third, that an isotonic solution of calcium lactate used intraperitoneally, in small doses of 1 to 4 c.c., and at the proper time, does protect guinea-pigs from the anaphylactic shock resulting from milk, horse-serum, egg-white and cat-serum. In the first experiment, in which milk was used, the fact that only one pig survived the calcium leaves the question somewhat in doubt, although it is quite reasonable to infer that the calcium saved the second pig.

In the second experiment, in which horse-serum was used, there is again doubt, due to the fact that the horse-serum was not very toxic. In the third, fourth and fifth experiments, however, there is no room for doubt. In these experiments egg-white was employed as the anaphylactic agent with a mortality of 88.9 per cent., whereas the mortality from the second dose of egg-white, following the injection of an isotonic solution of calcium lactate, was only 20 per cent. The writers, therefore, are disposed to agree with Besredka that the use of calcium in the proper doses and at the proper time does protect the animal against anaphylactic shock. These investigations are being continued.

35. **Isoagglutination in Man and Lower Animals.**—According to Fishbein, there is a distinct isoagglutinative grouping possible; that in other mammals, isoagglutination is present but according to no special order, and that in frogs, as representing amphibians, it appears to be absent. It is suggested that where facilities permit, tests be made on a wide variety of species, including monkeys and higher apes, to see whether any definite gradation exists.

37. **Streptococci from Milk and from Throat.**—Two hundred and forty pure strains of streptococci isolated from milk and from the normal human throat were compared by the authors as to their morphology, Gram-stain reaction, character and amount of growth, and their quantitative acid production in seven carbohydrate and related organic substances. Hemolysis and gentian violet cultural test have been studied in part of the cultures. They have not found that any of the features other than the fermentative reactions are sufficiently correlated with one another or with acid production to assist in the fixing of the organisms in groups or in distinguishing the source of isolation. The seven organic substances tested show a definite order of availability for acid production. This order and the percentage of cultures yielding 1.2 per cent. or more of acid when grown at 37 C. for three days is shown.

According to the positive reaction—over 1.2 per cent. acid—in the test substances, 90 per cent. of the cultures may be correlated so as to fall into nine groups. Milk streptococci are distinguishable from the throat organisms of the same morphology (1) by their higher acid production in substances in which they grow, (2) by their greater independence of temperature relations, (3) by their general incapacity to ferment more complex test substances than the disaccharids. On the other hand, the throat strains in at least half the cases (1) ferment a more complex test substance and (2) in almost all cases fail to ferment a higher test substance than the monosaccharid at the room temperature.

38. **Anaerobic Bacillus in Uterine Discharges.**—In a bacterologic study of leukofrheal discharges now in progress, curved bacilli have been found by Curtis in a considerable number of cases. These bacilli are as a rule sparsely scattered among other organisms without definite indication that they play a part in maintaining the leukorrhea. Because of the small number of curved bacilli and the difficulty with which they are isolated, numerous early attempts to obtain pure cultures met repeated failures. In two later cases, however, morphologically similar bacteria were found in large numbers. One patient suffered from an infection following instrumental abortion; in the other case infection complicated labor at full term. Smears from the first patient revealed an overwhelming number of Gram-negative, curved bacilli. Stained specimens of the vaginal and cervical discharges obtained from the patient with puerperal infection contained a great preponderance of apparently identical organisms. There were also present scattered Gram-negative, fusiform bacilli, a fair number of Gram-positive diplococci and some Gram-negative diplococci. A single set of cultures from the abortion case failed to yield the desired growth and material for later cultures was not available. In anaerobic cultures from the vagina and from the uterus of the patient with puerperal infection, the bacillus was readily isolated. The presence of the bacillus in overwhelming numbers in two cases of infection, together with the fact that similar organisms are found in patients with leukorrheal discharge, makes further clinical observation desirable.

40. **Fusiform Bacilli and Pathologic Processes.**—Fusiform bacilli were found by Dick in three cases of meningitis. In one of these cases, the infection probably arose from the middle ear which is in communication with the nasopharynx in which fusiform bacilli are commonly found. In the other two cases the infection probably followed chronic bronchitis. Three cases of lung infection associated with fusiform bacilli are described, the first a bronchiectasis, the second a gangrene, and the third an empyema. Fusiform bacilli were found in a case of peritonitis following endometritis. The importance of the fusiform bacilli in causing the pathologic processes with which they were associated, must remain an open question. The negative results of all attempts to demonstrate pathogenic powers for animals suggest that the organism may have been present only as a secondary invader, as other organisms were found in all the cases.

42. **Methods for Obtaining Virus of Rabies.**—These two new methods are: first, the application of collodion sacs for the dialysis of glycerin; second, the use of aspiration for obtaining the virus of rabies from the submaxillary glands of rabid dogs. This aspiration extract is virulent when filtered through a Berkefeld filter. These methods have enabled Poor and Steinhardt to obtain a virus of rabies freed from the cells of the host and other contaminating organisms and to suspend this virus in any desired fluid. The results of their studies on

rabies will be published later. They have also done some comparative work with vaccinia, and are beginning similar studies with epidemic poliomyelitis, the virus of which, as frequently noted, has a strong likeness to that of rabies. For obtaining a dry tuberculin from the glycerin preparation, they believe the use of the collodion sacs for dialysis to be superior to other methods.

44. **Tuberculosis of Stomach.**—Dewey's case was one of tuberculous lymphangitis not associated with ulcers as the starting-point, but which, in all probability, would ultimately lead to the development of ulcers of the various types known to us from the literature. The ensemble of the conditions in this case, the fact of the general tendency of tuberculous processes to spread along lymph channels, and conclusions drawn from the literature on this subject lead Dewey to assume the lymphogenous nature of the infection not only in this case, but in the larger number of cases of tuberculosis of the stomach.

## Maine Medical Association Journal, Portland

*March, III, No. 8, pp. 1219-1262*

47 Present Day Method of Anesthesia. W. M. Boothby, Boston.
48 Chronic Lead Poisoning from Drinking-Water. D. M. Stewart, South Paris.
49 Small-Pox. E. T. Flint, Foxcroft.

## Medical Record, New York

*March 22, LXXXIII, No. 12, pp. 507-552*

50 Relative Value of Living and Dead Tubercle Bacilli and of Their Endotoxins in Solution in Active Immunization Against Tuberculosis. K. Von Ruck, Asheville, N. C.
51 Radical and Conservative Methods in Obstetric Treatment. G. W. Kosmak, New York.
52 Treatment of Lime Starvation. J. F. Russell, New York.
53 *High Calory Diet in Typhoid. M. H. Sicard, New York.
54 Gradually Developing Hemiplegia Due to Cerebral Neoplasm. M. H. Fussell and S. Leopold, Philadelphia.
55 State Care for Mental Defectives. M. M. Vinton, East Orange, N. J.
56 Medical Treatment of Appendicitis. B. Robinson, New York.

53. **High Calory Diet in Typhoid.**—The high calory diet in typhoid is endorsed by Sicard. This diet consists of milk as a basis and carbohydrates. Carbohydrates being the best sparers of proteids, it is this ingredient chiefly that is used to obtain the caloric increase. Carbohydrates are best supplied in the form of milk-sugar, cereals, bread, toast, crackers, baked or mashed potatoes; they are the best proteid sparers available, and milk-sugar is preferred because of its lesser bulk and high caloric value. Fats are best given as cream, butter and cocoa. The most available food for maintaining proteid equilibrium are milk, eggs and the protein containing carbohydrates. The quantity of food taken is of great importance, and depends on the requirement of each individual case; every patient should be given as much as he will take and digest without being forced; aversion to food is often dependent on lack of variety, and a person will often be tempted by liberal feeding when milk would be declined; nausea, vomiting, distention, diarrhea, undigested milk in the stools, all call for a change of feeding if they are present. The loss of weight depends, generally speaking, on the amount of food taken; under the old period of fluid diet, patients lost from 15 to 25 or more pounds during their illness; but with sufficient food the loss is rarely more than 10 pounds in severe cases; in moderately severe cases the loss is slight, and not infrequently patients will gain weight.

Vomiting seldom proves a contra-indication to the feeding of high fuel values; if any article prove to be distasteful, the patient will soon complain of it and it can be stopped; if vomiting continues the diet is to be stopped until the stomach is quiet and then resumed. Diarrhea is not common; it may be due to an excess of fat which can be easily stopped.

Distention, if due to milk-sugar, is not relieved by the ordinary means, so the sugar can be reduced; these conditions are not common, however, as patients get accustomed to fat and milk-sugar and take and handle them well.

In the twenty-nine cases cited by Sicard there were four cases of hemorrhage, two of which were large and fatal; one of these was an alcoholic subject who had delirium tremens on admission. As to the occurrence of relapses, Sicard's feeling is that it makes but little difference; patients liberally fed and those lightly fed, seen to relapse equally; there were four relapses in his twenty-nine cases. He had no cases of perforation in his series.

Of the twenty-nine patients, three died, approximately 10 per cent.; of these one died of hemorrhage, one other also died of hemorrhage who was alcoholic and who was on a low calory diet only; one died who had persistent vomiting both before and after admission, and who had but little feeding of any kind. Sicard is convinced that these patients show a cleaner, moister tongue, more comfortable mouth, less offensive breath, less emaciation, less nervous exhaustion which was shown by continuous muttering and constant picking at the bedclothes, a cleaner, healthier skin, greater comfort, less diarrhea, probably lessened mortality, and fewer complications. The most evident features of the high calory feeding are the sustenance of weight and nutrition, and the amelioration of hunger and the lessened tedium of convalescence.

## Michigan State Medical Society Journal, Grand Rapids

*March, XII, No. 3, pp. 149-188*

57 Social Legislation and the Physician. B. R. Corbus, Grand Rapids.
58 Care of Feeble-Minded. H. A. Haynes, Lapeer.
59 Pernicious Anæmia. C. N. Sowers, Benton Harbor.
60 Use of Calcium Hypochlorites in Water Purification. F. C. Penoyer, South Haven.
61 Membranous Pericolitis or Jackson's Membrane. H. E. Randall, Flint.
62 Few Aids for General Practitioner. N. DeHaas, Fremont.

## New York Medical Journal

*March 22, XCVII, No. 12, pp. 581-632*

63 Artificial Pneumothorax: Indications and Contraindications. S. A. Knopf, New York.
64 Idem: Technic and Results. M. E. Lapham, Highlands, N. C.
65 Shortening Uterosacral Ligaments. H. Grad, New York.
66 Homosexuality: Its Psychogenesis and Treatment. I. H. Coriat, Boston.
67 Psychic Constitutional Inferiority. M. J. Karpas, New York.
68 Experiences with Neosalvarsan. J. Kaufman, New York.
69 Surgical Catharsis. S. B. Overlock, Pomfret, Conn.
70 Removal of Mucocele of Appendix. J. W. Kennedy, Philadelphia.
71 Therapeutic Possibilities of Manual Adjustment. R. K. Smith, Boston.
72 Unconscious Impairment of Vision. S. E. Pendexter, East Orange, N. J.
73 Epidemic Cerebrospinal Meningitis. M. B. Wesson, El Paso, Tex.
74 Effect of Diplodia Zeae and Some Other Fungi on Some Phosphorus Compounds of Maize. H. S. Reed, Blacksburg, Va.

## New York State Journal of Medicine, New York

*March, XIII, No. 3, pp. 117-176*

75 *Use of Fetal Serum to Cause Onset of Labor. A. J. Rongy, New York.
76 Fetal Overgrowth and Its Significance in Labor. G. W. Kosmak, New York.
77 Indications for Abdominal Cesarean Section, with Technic of Operation and Analysis of 352 Cases. R. McPherson, New York.
78 Delivery of Placenta and Membranes. L. Faust, Schenectady.
79 Renal Hematuria. H. L. Elsner, Syracuse.
80 Optimistic View of Migraine. E. M. Alger, New York.
81 Dispensary and Day Camp in Relation to Anti-Tuberculosis Movement. G. J. Eckel, Buffalo.
82 Exhibitions of Sections of Temporal Bone-Dry Specimens Showing Nasal Accessory Sinuses. W. M. Dunning, New York.
83 Work and Aims of County Medical Society. B. H. Wells, New York.
84 Mineral Springs of Saratoga. G. H. Fish, Saratoga Springs.

75. **Fetal Serum in Onset of Labor.**—Rongy's nineteen clinical observations fully affirm the results and findings of Von der Heide in almost every particular.

## Ohio State Medical Journal, Columbus

*March, IX, No. 3, pp. 105-164*

85 *Diagnosis and Treatment of Syphilis. L. A. Levison, Toledo.
86 Stones in Common Duct of Liver. W. D. Hamilton, Columbus.
87 Experiences with Yankauer Treatment in Tubotympanic Trouble. H. B. Harris, Dayton.
38 Diagnosis of Puerperal Sepsis. S. J. Goodman, Columbus.
89 Metastatic Purulent Ophthalmia (Endophthalmitis Septica). F. W. Alter, Toledo.

90 Treatment of Acute Inflammation of Accessory Sinuses. J. J. LaSalle, Toledo.
91 Physician and Patient in Prevention of Malpractice Suits. W. J. Stone, Toledo.

85. Abstracted in The Journal, Nov. 25, 1912, p. 1671.

### Oklahoma State Medical Association Journal, Muskogee

*March, V, No. 10, pp. 441-484*

92 Family Physician and Insane Patient. D. W. Griffin, Normal.
93 Management of Uterine Misplacement. R. J. Baze, Chickasha.
94 Radium Water. A. N. Lerskov, Claremore.
95 Two Hundred Obstetric Cases—Deductions Therefrom and Unusual Cases. L. H. Murdock, Okeene.
96 Disorder Due to Intense Heat. G. A. Kilpatrick, Wilburton.
97 Urinary Symptoms Caused by Uterine Fibroids. V. Berry, Okmulgee.

### Texas State Journal of Medicine, Fort Worth

*March, VIII, No. 11, pp. 287-320*

98 Diagnosis of Duodenal Ulcer. W. B. Thorning, Houston.
99 Use of Bismuth Paste in Treatment of Chronic Suppurations. A. C. McDaniel, San Antonio.
100 Preference of Operations for Retroversions. J. M. Inge, Denton.
101 Use and Abuse of Uterine Curette. B. C. Eskridge, Houston.
102 Non-Malignant Retraction of Nipple. J. J. Terrill, Galveston.
103 Hemophilia: Report of Three Cases. J. E. Gilcreest, Gainesville.
104 Uncinariasis—Pathology and Diagnosis. L. F. Johnson, Bessmay.
105 Opium Fiend. W. C. Rountree, Fort Worth.
106 Venous Anesthesia. I. C. Chase, Fort Worth.
107 Shortcomings. E. H. Snyder, Canadian, Tex.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*March 1, I, No. 2722, pp. 425-476*

1 Death by Electric Currents and by Lightning. A. J. Jex-Blake.
2 Use of Physical Constants in Toxicology. O. C. M. Davis.
3 *Intramural Spread of Rectal Carcinoma. P. P. Cole.
4 Dislocation of Metatarsus with Account of Three Cases. A. Young.
5 Application of Fungi as Styptics. A Historical Review. E. Knight.
6 *After-History of Gastro-Enterostomy for Peptic Ulcer. A. W. Bourne.
7 *Method of Performing Gastrojejunostomy. K. Black.

*March 8, I, No. 2723, pp. 477-536*

8 Recent Advances in Diagnosis, Prognosis and Treatment of Heart Disease: the Polygraph. F. W. Price.
9 Certain Physical Signs of Myocardial Involvement. T. Lewis.
10 Manifestations of a Healthy Heart. W. B. Thorne.
11 Ventricular Rate in Complete Heart-Block. A. E. Naish.
12 Auricle in Mitral Stenosis. D. W. Samways.
13 Death by Electric Currents and by Lightning. A. A. Jex-Blake.

3. **Intramural Spread of Rectal Carcinoma.**—Twenty cases of rectal carcinoma, in eighteen of which the bowel investigated was removed by operation, were analyzed by Cole. The growth in every case was an adenocarcinoma. In eighteen cases the appearance presented was that of a typical carcinomatous ulcer; in one there was a tendency to mass formation approximating to the papilliferous form, while one exhibited a diffuse colloid infiltration. The ulcers presented the usual features. Their edges were irregular, rolled and everted. The long axis of the ulcer was transverse in every case, showing a tendency to involve the bowel circularly rather than longitudinally.

Another point noted with regard to these ulcers was the frequency with which a narrow tract of mucous membrane was found to be involved in cases in which clinical examination suggested that the ulcer had completely encircled the bowel. This narrow tract of apparently normal mucous membrane was always situated in the midline posteriorly. Examination of other specimens, preserved in the museum of the Cancer Hospital, indicates that this condition is so common as to be almost characteristic. The favorite site of origin of cancer of the rectum would appear to be on the anterior or lateral wall. From this point the growth spreads round the bowel, a partial indication of its progress being afforded by ulceration which begins to occur at a very early stage.

6. **After-History of Gastro-Enterostomy.**—Bourne presents the results of his study of the after-history of sixty-seven cases in which the operation of gastro-enterostomy had been performed for ulcer of the stomach or duodenum. The operations were done by many different surgeons, and for almost every clinical type of ulcer—during a period beginning in 1904 and ending in April, 1910. In the most recent cases there was an interval of at least eighteen months between the operations and the inquiry as to the present condition of the patients, while in the older cases more than five years had elapsed. Out of ninety-two cases there were seven deaths immediately following the operation (7.6 per cent.) All these deaths occurred among the first thirty-nine cases; throughout the last fifty-three cases there was no death. Of the ninety-two cases of the series, sixty-eight have been traced; of these three have died in the interval (4.4 per cent.).

Reviewing the results of this series broadly, Bourne says that as a general rule gastro-enterostomy is excellent for men of middle age who suffer from duodenal ulcer, especially if associated with some pyloric stenosis, whereas failure generally follows operation in cases of young women suffering from gastric ulcer.

Thus, of 12 females under 35—all subjects of gastric ulcer—ten cases were complete failures and two only were successful. Some of these cases were in young and anemic women, and on opening the abdomen no ulcer was found. There were four cases in which no ulcer was discovered, and of these three did badly. Probably in these four cases no ulcer existed, and it is clear that operative treatment could have been of no avail.

A more exact knowledge of the symptomatology and morbid anatomy of the ulcer might enable us to predict, with even more confidence, the result of gastro-enterostomy. The immediate mortality of ninety-two cases was 7.6 per cent., but of the last fifty-three cases it is *nil*. The general results are: 43 per cent. excellent; 38 per cent. bad. Prognosis is much better when the patient is over 40. According to sex, 69 per cent. of males are cured; 28 per cent. of females are not improved. The duration of symptoms is of no assistance in forecasting the result of operation. The length of time elapsing between the meal and the onset of the pain is of great importance; the longer it is the better the outlook. Duodenal ulcers yield very much better results than gastric ulcers; the gastric give 38 per cent. of cures, duodenal 70 per cent. of cures. Cases of pyloric stenosis yield the best results. The degree of hyperchlorhydria is of importance, cases showing a total acidity of over 0.2 per cent. reacting well, cases with normal acidity doing badly.

The improvement effected by the operation is probably due to the relief of dilatation, pyloric spasm and hyperacidity by the drainage of the stomach. Failures may follow the closing of the anastomosis. The position of the anastomotic opening on the posterior wall of the stomach may be of great importance. Failures may be due to: (a) recurrence or failure to heal of the original ulcer; (b) formation of jejunal ulcer. Apparent relapses: (a) adhesions—causing pain, vomiting, etc.; (b) carcinomatous degeneration. Cases in which an ulcer is not found at operation do badly.

7. **Method of Performing Gastrojejunostomy.**—The method described by Black has been used in twenty-six consecutive operations with two fatal results. In one case (of very advanced carcinoma of the pylorus) the patient died from exhaustion two days after the operation; and in the other (of duodenal ulcer) the patient, who had previously undergone an operation for some pelvic disease, died three weeks after an apparently successful gastrojejunostomy operation, from the effects of an abdominal abscess, the cause of which was not ascertained, but which, it is believed, was unconnected with the gastrojejunostomy operation. The method of operation is described as follows: After the abdomen has been opened in the usual way, and the diseased area examined, the stomach, transverse colon and great omentum are over on to the abdominal wall, so that the posterior wall of the stomach is uppermost. The transverse mesocolon is then cut through and the stomach drawn through the opening.

Two short-bladed forceps are then applied, one to each end of the portion of stomach selected for junction with the jejunum. This portion of stomach—that is, the portion lying between the two forceps—is not "clamped" with a forceps, but is left "free." The omission to check, by clamping hemorrhage and gastric contents is a special feature of Black's modified method of operation. The edges of the cut in the transverse mesocolon are fastened, with a few stitches, to the stomach wall. The next step is to select a portion of the jejunum for junction with the stomach. Each end of the selected portion is grasped with a short-bladed clamp forceps of the same kind as previously applied to the stomach. By means of these two pairs of forceps the portions of stomach and jejunum which are to be connected are brought close together and held side by side. Sponge cloths are then packed round the exposed portions of stomach and jejunum. With a Lembert suture the outer coats of the stomach and jejunum are then stitched together for a length of about 4½ inches. Openings of the requisite length (3½ to 4 inches) are made in both the stomach and the jejunum. When the stomach is opened its larger vessels are secured and ligatured. This is a special feature of the operation, the object being to check hemorrhage during the operation and to prevent postoperative hemorrhage.

The next step is to join the opening in the stomach to that in the jejunum. There are four rows of stitching. The first row is simply peritoneal stitching. The second row, just in front of the first row, joins one side of the opening in the stomach to the corresponding side of the opening in the jejunum; this row of stitches secures the whole thickness of the stomach wall to the jejunum. And, similarly, the third row, joining the other side of the opening in the stomach to the other side of the opening in the jejunum, extends to the whole thickness of the walls of the stomach and jejunum. This third row closes the openings in and completes the junction of the stomach and jejunum. The fourth row of stitches, similar to the first row and corresponding to it, on the other side of the openings, is simply a Lembert peritoneal continuous suture. The sponge cloths are then removed and the stomach turned down and replaced in the abdominal cavity, which is closed in the usual way.

### Journal of Laryngology, Rhinology and Otology, London

*March, XXVIII, No. 3, pp. 113-168*

14 Sir Felix Semon—His Work and Its Influence on Laryngology. P. McBride.
15 Diffuse Osteomyelitis from Nasal Sinus Suppuration. D. McKenzie.
16 Some Dental Aspects of Rhinology. J. H. Gibbs.

### Lancet, London

*March 1, I, No. 4670, pp. 583-662*

17 Surgery of Thyroid, with Special Reference to Exophthalmic Goiter. J. Berry.
18 Elements of Prognosis in Pulmonary Tuberculosis. J. M. Bruce.
19 *Typhoid and Paratyphoid Vaccination with Live Attenuated Vaccines; Mixed Vaccines. A. Castellani.
20 Should a Man with Miner's Nystagmus Work? S. Riseley.
21 Perforation of Gastric or Duodenal (Pyloric) Ulcers. E. M. Corner.
22 Contraction Ring as Cause of Dystocia. C. White.
23 Summary of 340 Cases of Pulmonary Tuberculosis. J. C. Voigt.

*March 8, X, No. 4671, pp. 663-736*

24 *Peritoneal Adhesions. J. E. Adams.
25 Surgery of Thyroid, with Special Reference to Exophthalmic Goiter. J. Berry.
26 Principles of Percussion and Auscultation. F. Müller.
27 Blood in Cancer with Bone Metastases. G. R. Ward.
28 Fatal Hematemesis in Case of Hepatic Syphilis. D. E. Core.
29 Case of Subcortical Cerebral Tumor, Tuberculous in Nature, Removed by Operation; Recovery. G. Hall and H. B. Angus.
30 Treatment of Pulmonary Tuberculosis. N. D. Bardswell.

19. **Typhoid and Paratyphoid Vaccination.**—Castellani says that the use of live attenuated vaccine prepared according to the method introduced by him in 1904 is harmless. In preparing the vaccine the strain used should be non-virulent but rich in antigen, as found out by animal experiments. Such vaccine in the lower animals, and probably in man, too, gives rise to a higher degree of immunization than obtainable with dead vaccines. It must be stated, however, that in man the immunization obtained by two inoculations of this vaccine or any of the dead vaccines is never complete; it is only partial. Cholera and dysentery attenuated live vaccines can be obtained by using a somewhat similar method as that for preparing the typhoid vaccine; but for the dysentery vaccine peptone-water cultures and not broth cultures should be used, as these give rise to an extremely painful infiltration at the site of inoculation.

Castellani has no personal experience with the sensitized live vaccine prepared in 1911 by Metchnikoff and Besredka, but their results seem to be extremely good, as shown by Alcock. The experimental work of these observers on live vaccines is of great importance, having demonstrated that chimpanzees can be rendered immune to typhoid only by the inoculation of living vaccines, either sensitized or non-sensitized. Various mixed vaccines can be prepared, either dead or live attenuated vaccines. The inoculation of such mixed vaccines is harmless, and apparently in the lower animals they induce a degree of polyimmunization, the blood developing protective substances for each of the germs inoculated. Castellani is of the opinion that in countries where paratyphoid A and B are endemic besides typhoid, a mixed vaccine typhoid + paratyphoid A + paratyphoid B should be used. If a live mixed vaccine should be objected to, a dead mixed vaccine can be used with satisfactory results. The inoculation of such vaccines as shown by him since 1909 is harmless, and it is probable that they give a certain degree of immunization for all three infections.

24. **Peritoneal Adhesions.**—In those cases in which gauze was fixed in position, as in a drainage wound, Adams found that fairly firm adhesions form within a few hours, and they form more quickly in an infected than in a sterile wound. Sterilized sponges were placed in the peritoneal cavity of guinea-pigs and left in position for periods varying from one to six days. In every instance the sponge was found adherent to the omentum, not to the intestine, and the density of the adhesions was directly proportional to the length of the sponge's stay in the abdomen; after one day it was easily detached from the omentum; after six days the sponge was embedded in the omentum. In every case the sponge was saturated with blood-stained fluid, and from this films were made by gently squeezing the sponge, and these were treated with Leishman's stain. The cells present were red blood-corpuscles, finely granular leukocytes, lymphocytes and endothelial cells, and while red cells were always numerous, the films exhibited a progressive, proportional increase in both lymphocytes and endothelial cells.

Further experiments were carried out on rabbits, and a number of sterile sponges were placed in different parts of the peritoneal cavity, being left *in situ* for varying periods. In a very large proportion of these cases the sponge was taken up by the omentum and was not adherent to the intestine, but where it had escaped the embrace of the omentum firm adhesions were found between sponge and bowel, or between sponge and solid organs. Pressure and peristaltic activity both played a part in the ultimate result, for in the case of sponges placed between the liver and the diaphragm the latter remained unattached, while the sponge was found partially embedded in the liver substance, so that only its upper surface lay exposed. Sponges which were placed in the pelvis were sometimes adherent only by that surface which was the lower in the customary attitude of the animal. If adhesions were present between intestine and sponge it was very rarely the small bowel which was implicated, and a reasonable explanation of this is afforded. In one experiment a sterile sponge was left in position for one month, and it had then become adherent to both small and large intestine. Microscopy revealed healthy gut with fibrosis of its serous coat, and a broad band of fibrous tissue passed between the sponge and the colon. Cultures from the sponge were sterile. Microscopic examination of these non-infective adhesions showed evidence of well-formed fibrous tissue after the third day, and a specimen obtained seventy-two hours after a sponge had been placed between the diaphragm and the liver showed a horizontal palisade of fibroblasts over the congested

liver capsule, and, on the distal side, masses of fibrin surrounding cotton fibers, with numbers of finely granular leukocytes and some endothelial cells.

Next Adams experimented with drainage-tubes. The tubes were fixed in position and buried beneath the sutured abdominal wall; lateral openings were closed in a very short time, and in twenty-four hours the whole of the tube was plastered over with newly-formed tissue consisting of fibrin containing numbers of red blood-corpuscles and degenerated finely granular leukocytes. This, Adams believes, tends to show that tube-drainage of the peritoneum, unless there is an abscess cavity with well-defined walls, is of very limited value, and he voices the belief that in septic cases the presence of a tube may, by its pressure, favor the transmigration of organisms from the interior of the gut to the infected area; and this view is supported by the clinical observation that there is often very little discharge until the third or fourth day after operation, when, by the action of organisms, leukocytes and the body fluids, liquefaction of the inflammatory tissue will have taken place.

In the course of Adams' investigation many methods were utilized to induce fibrosis, but only one proved invariably successful, and that was the introduction of sterile foreign bodies. After the removal of sponges adhesions have practically always been found between the omentum and bowel, or between intestinal coils only; to ensure the formation of the latter the omentum has been removed at the operation for insertion of the sponge. Other methods employed have been scarification of visceral surfaces and of the parietal peritoneum, the injection of chemical irritants and of emulsions of sand and chalk.

In the inoculation experiments the omentum always played an important part in the changes which occurred, and the results of intraperitoneal injection of 4 c.c. of a 15 per cent. sterilized emulsion of silver sand in guinea-pigs are of interest. Nine inoculations were performed on one day, and the peritoneum was examined at periods varying from three days to fourteen weeks. In every case there was a granulomatous mass on the parietal peritoneum containing particles of sand close to the injection puncture, and these areas, a quarter of an inch wide and raised slightly above the surrounding surface, were often multiple. In seven of the animals the omentum was lightly adherent to the granulomata, and the only two in which it was free were examined after thirty-seven and ninety-five days, respectively. In the last case it appeared that the peritoneum had recovered from the irritation, since there was scarring, but the granulomata were very small. In six instances a portion of the omentum was cut off at the post-mortem and dropped into a broth tube; five of these were sterile; the sixth gave a pure culture of a *Staphylococcus albus*, and in this animal the omentum was found plastered over the surface of the liver. In two cases definite fine bands of fibrous tissue were present, in addition to omental adhesions.

Similar experiments were carried out on rabbits, the sand emulsion being introduced by open operation. After eleven days the parietal peritoneum was studded with nodules of a grey-yellow color, raised about a quarter of an inch above the surface, and similar nodules with pointed tags were present on the large intestine; the small bowel was entirely free from these granulomata. After twenty days it was found that definite fibrous bands passed from the colon to the parietal peritoneum. Microscopy of the inflammatory tags found after eleven days revealed connective-tissue cells arranged in whorls and surrounded by fibrous tissue; in the central parts of the section giant cells were seen, and between the true fibrous tissue and the connective-tissue cells numbers of elongated oval fibroblasts were present. The absence of blood-vessels was striking.

Chemical irritants were found to be much less reliable in the production of adhesions, although they caused marked endothelial proliferation, excess of exudation and occasionally fibrinous agglutination of the viscera. The effect of scarlet red was absolutely negative as a producer of peritoneal adhesions. With regard to scarification of serous surfaces, an attempt was made in a number of experiments to ascertain whether intact peritoneum readily adheres to raw areas, or whether two raw surfaces are required to ensure the formation of adhesions. It was found, in the first place, that merely rubbing an endothelial surface with sterilized gauze was not to be relied on to excite such cellular proliferation, and that such irritation could be rapidly recovered from without showing any definite traces of injury or repair. Secondly, linear scarification with the point of a scalpel was often repaired with very little evidence of change. Lastly, where definite areas of the wall of the stomach or colon were denuded of their peritoneal coat it was almost certain that the omentum would become adherent if the bare area lay within its field of excursion. Adams' investigations into infective adhesions were directed to the study of the changes which followed the introduction of cotton-wool sponges inoculated with broth emulsions of agar cultures of such organisms as the *Staphylococcus aureus* and the *Bacillus coli*. It was by no means certain that a pure infection with one organism will not become a mixed bacterial infection; in fact, it seems probable that such change will occur. Using at first excessively small doses of the *Bacillus coli*, it was found that adhesions developed more quickly than around aseptic foreign bodies, and the same organism was recovered in pure culture up to three days after the operation. With the *Staphylococcus aureus* the adhesions were less dense, and in a case in which one sponge was placed between the diaphragm and the liver and another in the pelvis, the latter was free from adhesions, whereas the former was partially sunk into the upper surface of the liver. Cultures from the upper sponge were sterile, while from the lower an attenuated growth of a white staphylococcus was obtained. This appears to show the bactericidal action of the peritoneum and the superior power of absorption possessed by that covering the diaphragm. In this case only a single platinum loop of a twenty-four-hour broth culture of the organism was used, and the subsequent cultures were taken at the end of three days. When larger doses were employed the changes were correspondingly more extensive and more rapid.

In connection with infective adhesions the result of applying pure phenol to the serous coat of the large intestine is of interest. One drop of this chemical irritant was applied on the point of a pair of artery forceps to an area, half an inch in diameter, of the surface of the colon, and also to several smaller spots on both large and small intestine. The serosa became white and lost its polish, but it still moved freely on the subjacent muscle; the omentum was not touched. The abdomen was reopened at the end of a week; the small intestine showed no change, and all traces of the caustic had disappeared. In the case of the large bowel several small areas showed thickening and proliferation of inflammatory origin similar to that seen after scarification with the point of a scalpel. At one spot, corresponding to the larger area of carbolic cauterization, a very vascular band of omentum was adherent. A portion of this was excised and dropped into a broth tube; a pure growth of the *Bacillus coli* was obtained. The adhesion was not divided until three weeks after the first operation, and the *Bacillus coli* was still present. Excision of nearly the whole of this band failed to prevent its forming again, but when the animal was killed two months after the first operation cultures from the reformed omental band proved to be sterile. In this case it appears probable that the adhesion was largely due to the presence of the colon bacillus, which had passed through the damaged serous coat of the gut, and although the infection gradually died out its ill results remained in the form of permanent fibrous tissue.

## Practitioner, London

*March, XC, No. 3, pp. 513-644*

31 Prevention of Malingering Under National Insurance Act. J. Collie.
32 Cholelithiasis. J. Sherren.
33 Idem. W. Bain.
34 Suppuration in Nasal Sinuses. C. W. M. Hope.
35 Cavernous Sinus Thrombosis. A. Dighton.
36 Treatment of Adenoids and Tonsils. E. Ward.
37 Ear, Nose and Throat Work in General Practice. H. P. Costobadie.
38 Recent Work on Vaccine Treatment. A. Fleming.
39 Progress of Study of Diseases of Women During 1912. F. J. McCann.
40 Oxygen as Adjuvant in General Anesthesia. H. R. Phillips.
41 Electrical Operative Treatments for Diseases of Skin and Mucous Membrane. W. K. Sibley.

42 Clinical Significance of Blood-Pressure Records. L. T. Thorne.
43 Diagnosis of Congenital Syphilis. H. L. McCarthy.
44 Medical Certificates of Lunacy. G. K. Aubrey.
45 Salicylate of Iron. M. C. S. Lawrance.

### Sei-I-Kwai Medical Journal, Tokyo

*February, XXXII, No. 2, pp. 9-15*

46 *Two Cases of Tumor of Spinal Cord. S. Sato.
47 Hemolytic Action of Adrenalin. S. Kariya and H. Tanaka.
48 Nutrition of Eggs of Schistosomum Japonicum and Changes They Undergo Under Action of Various Physical and Chemical Agents. Y. Miyakawa.
49 Blackwater Fever and Its Clinical Study in Korenko, Formosa. K. Nakagawa.
50 Experimental Study on Cause and Nature of Beriberi. R. Yamagiwa, T. Koyano, H. Midorikawa and T. Mogi.

46. **Tumor of Spinal Cord.**—One of the cases reported by Sato was an extradural fibrosarcoma of the cervical portion, which caused a strong pressure on the cord and interfered with the movements of the body and limbs to a considerable extent. These motor paralyses recovered, however, almost completely through the extirpation of the tumor. The second case was a meningitis spinalis chronica circumscripta of the conus medullaris, which caused almost the same clinical symptoms as the tumor of the spinal cord, namely, the paralysis of both the lower extremities. In this case the movements of the left limb have remarkably recovered through the loosening of the adherent spinal membranes and the resection of the necrosed part on the right side of the cord. From these experiences the author raises the following points as noteworthy: The disturbance of the motility in the limbs which was caused by the pressure of a tumor on the cord can be relieved by the removal of the cause—tumor—within a few hours even when it has existed for a few years, and patients always get better in another year and a half. In the first case the recovery of the motor disturbances occurred more quickly and markedly than that of the sensory disturbances, and in the second case it was just the reverse. The extirpation of tumors of the spinal cord is not a very severe operation, and one can resect two or three spinal arches without subsequent disturbances. The sarcoma occurs most frequently in the statistics of operations by various authors and the fibroma comes next to it. The results of the operation are good in the cases of the tumor of the dorsal cord, but bad in those of the lumbar region.

### Annales de Gynécologie et d'Obstétrique, Paris

*February, XL, No. 2, pp. 65-128*

51 *Uncontrollable Vomiting of Pregnancy and Retroversion. A. Herrgott.
52 *Cystoscopy in Determining Operability of Cancer of Uterine Cervix. P. Cruet. Commenced in No. 1.
53 Salvarsan for Syphilitic Pregnant Women. C. Sauvage. Commenced in No. 1. (See Abstract 34, p. 788.)

51. **Uncontrollable Vomiting of Pregnancy.**—Herrgott emphasizes that the cause of the uterine vomiting varies in different women. In a recent case myelitis and polyneuritis developed in the course of the uncontrollable vomiting, and the patient died thirty-seven days after the pregnancy had been interrupted. Necropsy showed degeneration of the nerve fibers and cells analogous to the lesions produced by certain poisons, arsenic for example. In another group of cases, however, some displacement of the uterus is responsible for the vomiting, retroversion or retroflexion. Reflex influences from this source often induce coughing and dyspeptic derangement outside of pregnancy, and in a pregnant woman may bring on the uncontrollable vomiting. Correction of the displacement puts an end at once to all trouble from this source, as he illustrates by a typical example from his own experience. The vomiting returned after a first correction of the displacement and it was found that the uterus had slipped back into its old position. The displacement was then corrected anew and the uterus held in place with a pessary and the vomiting was arrested at once and permanently.

52. **Cystoscopy in Case of Cancer of Uterine Cervix.**—Cruet's final conclusions from study of ten operable and seventeen inoperable cancers are that simple bulging of the floor of the bladder with or without slight disturbances in the local circulation is of no moment. No complications developed in any case of this kind. Pronounced ridges and valleys in the floor of the bladder are a sign of adhesions, generally of inflammatory origin, which will render it difficult to loosen up the bladder and ureters. Diffuse edema in parallel folds was usually a sign of numerous adhesions, sometimes connected with the cancer and always enhancing the difficulty of the operation or rendering it futile. The edema was never encountered in the operable cases. Compression of the ureter entails irregularity and delay in the evacuation of urine into the bladder, and the force of the jet is impaired. There is liable to be a spasm of the outlet and sometimes a stiffening of the adjoining mucosa after the ejaculation. These signs of compression of the ureter locate the site of the cancer, and the absence of these signs is presumptive evidence that the trouble is of non-malignant nature. When in doubt whether to operate or not, the cystoscopic findings will often decide for or against an operation. (See abstract of first instalment, THE JOURNAL, March 8 p. 788.)

### Archives Générales de Médecine, Paris

*February, XCII, No. 2, pp. 101-192*

54 Paraffin Prosthesis and Deformity of the Nose. M. Lagarde.

### Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

*February, II, No. 2, pp. 113-224*

55 Salvarsan and Neosalvarsan for Pregnant and Parturient Women and New-Born Infants. J. Lemeland and H. Brisson.
56 Carbon-Monoxid Poisoning of Woman Eight Months Pregnant and of the Fetus. (Dosage de l'oxyde de carbone dans le sang maternel et dans le sang fœtal.) V. Balthazard and M. Nieloux.
57 Congenital Malaria. Tissier and Brumpt.
58 *Primary Malignant Tumors of the Vagina. M. Virenque.
59 Lymphatics of the Vulva and Vagina. C. Girode.

58. **Primary Cancer of the Vagina.**—Virenque reviews the various types of primary malignant tumors of the vagina and reports a case of epithelioma treated by vagino-abdominal colpohysterectomy by a technic described in detail. He reviews the methods of others, remarking that with all the prognosis is grave. Postoperative fatalities are not rare and recurrence is constantly threatening.

### Bulletin de l'Académie de Médecine, Paris

*February 25, No. 7, LXXVII, pp. 109-135*

60 From the Seat of War. (La chirurgie de guerre en Bulgarie.) O. Laurent and E. Delorme.
61 *Dysenterie Abscess in Liver Perforating into Bronchus. Rapid Recovery under Emetin. A. Chauffard.

61. **Efficacy of Emetin in Amebic Disease.**—Chauffard's communication was summarized in the Paris Letter in THE JOURNAL, March 22, p. 917. His success in this case confirms the clinical experiences of others and apparently demonstrates that emetin is a specific for amebic disease, like quinin for malaria. The young man had contracted dysentery in northern Africa and only transient improvement had been obtained by repeated courses of treatment with serotherapy and silver nitrate. After about a year a large abscess in the liver perforated into a bronchus and ran a debilitating course of alternating evacuation and retention of pus for five months, when complete recovery followed a five-day course of a soluble salt of emetin. The charts and Roentgen findings "before and after" accompany the article. The results observed explain the benefit from ipecac used empirically in Brazil. They also confirm the dual nature of dysentery—the bacillary form amenable to serotherapy, the amebic form to emetin.

### Journal de Chirurgie, Paris

*February, X, No. 2, pp. 129-272*

62 *Extraction of Intercostal Nerves in Treatment of Gastric Crises. (L'opération de Franke.) L. Sauvé and J. Tinel.

62. **Operation on Intercostal Nerves for Gastric Crises.**—Sauvé and Tinel have applied Franke's operation in three cases of tabetic gastric crises and have found records of ten others in the literature. They summarize this material and give twelve illustrations of the technic. There were two fatalities in the thirteen operations; the crises recurred at once unmodified in two cases and in three after a longer or shorter interval. Five of the patients have been cured but the length of the interval

since is not known. Only one patient has been completely cured for over eleven months to date. These figures show that the operation is serious and that it is not always successful, but still it is the least dangerous and the most easily executed of all the operations for gastric crises that have been suggested to date. The gastric crises subside spontaneously when the irritation of the spinal roots has led to complete destruction, as they are then no longer capable of transmitting sensation. In the severe cases showing no tendency to spontaneous retrogression or amelioration under medical treatment, operative measures should be considered. Förster's operation is logical and effectual, but enough roots must be resected to answer the purpose—from the fifth to the twelfth dorsal roots—but this technic is dangerous; Hovelacque compiled forty-nine cases last year with ten deaths and five paraplegias. The risks are too great for this operation, except as a last resort. Franke's operation does not directly interrupt the reflex arc but by tearing out the intercostal nerves the ganglion beyond is liable to degenerate and thus hasten the destruction of the irritated roots. Its simplicity commends it so that it might be proposed as the first operative measure in serious gastric crises. Sauvé and Tinel think that the same result might be obtained by simply throwing a ligature around the dorsal roots between the ganglion and the dura. This acts also on the anterior roots, but this occurs also with the Franke technic and has been found harmless. The only inconvenience seems to be an occasional slight paresis and relaxation of the abdominal muscles in the epigastric region. Sicard and Demarest recently have applied this ligature but combine with it resection of the spinal ganglion. This complicates and lengthens the operation and exposes to danger of hemorrhage. They reported a sudden arrest of respiration and slowing of the pulse, all briefly transient, as the ligature was applied. Sauvé and Tinel declare in conclusion that simple ligation seems to offer the least risk and the maximum of simplicity while it logically arrests the functioning of the irritated nerve roots and interrupts the reflex arc responsible for the gastric crises.

### Presse Médicale, Paris

*February 26, XXI, No. 17, pp. 157-164*

63 *Neurasthenia. (Compréhension de la neurasthénie.) J. Dejerine and E. Gauckler.

63. **Neurasthenia.**—Dejerine and Gauckler say that in a series of 300 patients in the last few years who had come to them with the diagnosis of neurasthenia, not one presented any of the symptoms supposed twenty-five years ago to be characteristic of neurasthenia. Only three symptoms were common to all, namely, lassitude, depression and a tendency to become easily fatigued, and the special feature of neurasthenia is that nothing can be found to explain the lassitude and depression. In this recent series of 300 cases they took special pains to ascertain the exact way in which these symptoms first developed, and they found that there had been some mental disturbance in 34 per cent.; some organic derangement in 40 per cent. and some emotional stress in 25 per cent. of the total 300. In the first group there had been a typical attack of melancholia or depression from a periodical psychosis or actual psychasthenia or hypochondria. Suggestion did not seem to play any part in the primary development. In the group of organic disorders thyroid influences were apparent in 3 per cent. of the total; in others malaria or arteriosclerosis were certainly to be incriminated. In 6.66 per cent. simple debility was responsible. These individuals got along without disturbance in their usual mild sedentary routine but under unusual physical stress the "neurasthenia" developed at once. They weighed much less than their appearance would indicate. In 15 per cent. of the total, simple fatigue from some overexertion brought on the trouble. Although capable of normal efforts, they were unable to recuperate after some unusual strain. Others had some unsuspected focus of periostitis, floating kidney, liver trouble, tuberculous lesion in the xiphoid appendix or other organic affection which had escaped detection at the time the "neurasthenia" had been diagnosed but later revealed its true character. The diagnosis of a purely "nervous" disorder is often merely a makeshift differentiation. In thirty of the series of 300 cases of neurasthenia under discussion an unsuspected organic lesion made its existence known a little later. In over 25 per cent. some primary emotional factor predominated. In 7.66 per cent. this was long continued brooding over loneliness or the like; in 17.66 it was some one serious emotional stress. But in all cases of neurasthenia an emotional factor is evident; so much so that neurasthenia might even be defined as the grouping of disturbances developing on a predisposed soil directly or indirectly, primarily or secondarily, under the influence of persisting emotional states —the specific pathology of emotion.

### Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

*February, VIII, No. 2, pp. 73-148*

64 *Management of Women after Childbirth. (Sur les divers éléments de la technique rationelle du traitement myogénétique et ambulatoire des suites de couches.) L. Bouchacourt.

65 *Menstruation in the Gouty Diathesis. L. Pierra.

66 *Dystocia from Excessively Large Children; Successful Induction of Premature Delivery; Two Cases. V. Le Lorier.

67 *Carbon Monoxid Poisoning Responsible for Anemia in City Infants. (Les facteurs urbains de l'anémie chlorotique des nourrissons et son traitement préventif.) P. F. A. Delille.

68 *Iron in Anemia of New-Born Infants. (Le traitement martial de l'anémie post-hémorragique du nouveau-né et le rôle eutrophique du fer chez certains nourrissons.) P. F. A. Delille.

64. **Position After Delivery.**—Bouchacourt discusses the various measures needed in management of parturients during convalescence. During the first twenty-four hours after delivery he has the woman lie flat on back, side or abdomen, without a pillow. This averts danger of syncope from cerebral anemia if there has been much loss of blood. The second day he has the shoulders raised with a couple of pillows, believing that this sloping position aids in the evacuation of the lochia. Reclining on the stomach facilitates the passage of gases and combats constipation. He does not permit the patient to sit up in bed until after the first week and then only in the position as in a reclining chair, the legs extended. He has her exercise by raising the trunk and bending and extending the legs as she reclines, bending and stretching the pelvis as she lies on her stomach and occasionally permitting her to sit on the edge of the bed, the legs pendent, but only for a very brief period. Faradization with the negative electrode on the perineum or in the rectum promotes the involution of the uterus and recovery of tone by the abdominal musculature in general.

65. **Menstruation in the Neuro-Arthritic.**—Pierra applies this term to women with the gouty diathesis, inclined to sluggishness in the vital processes and auto-intoxication. There are two types, the thin form with a tendency to neuralgia and sudden violent hemorrhages, and the obese form with relaxation of the tissues and inclination to ptosis and congestion. In both there is a constant tendency to hemorrhage and to recurring pains. Amenorrhea is exceptional; the gynecologic disturbances may suggest attacks of gout in the viscera. The women in this class of neuro-arthritics almost invariably have more or less menstrual disturbance; the menses are nearly always painful, often abnormally frequent, profuse and prolonged. There is a tendency to catarrhal glandular derangement. Puberty occurs early, the menopause late; both types are accompanied by hemorrhages and pain. Every patient with vague genital troubles not dependent on any organic lesion in the uterus or adnexa should be suspected of belonging to this class of sluggish nutrition, and treatment should be general to combat this tendency.

66. **Premature Delivery for Extra Large Children.**—Le Lorier had two patients whose children were so large that normal delivery was impossible. In the following pregnancy he kept watch of the growth of the fetus and when it had reached the normal size of an average fetus at term, he induced artificial delivery a month before term. The children were easily delivered and mother and child have been in the best of health since. The women were normally built but their children were extra large.

67-68. **Anemia in Infants.**—Delille became convinced that poisoning from illuminating gas or defective stoves is the cause of the anemia in many new-born infants. To counteract this he

gave iron systematically to the mothers during the pregnancy, two courses of protoxalate of iron in daily doses of 0.2 gm., each course lasting three weeks. In the five cases reported in detail the effects were excellent, none of the children showing signs of anemia, when all the children previously born in the family had been markedly anemic. He also administered the same drug for three weeks, in a daily dose of 0.05 gm., to a young infant with intense anemia following profuse melena the second day after birth. He has applied the same treatment to a number of others, either alone or accompanied by one drop of Fowler's solution a day. A three weeks' course of this kind seems to be a powerful stimulant for the nutrition in general. All the infants began to thrive at once. Carbon monoxid is especially prevalent in the air at Paris, he says, from escaping gas and primitive methods of heating, and iron is needed to counteract its effects on the blood.

### Revue Pratique d'Obstétrique et de Gynécologie, Paris

*February, XXI, No. 2, pp. 33-60*

69 Supplementary or Vicarious Menstruation. (Les hémorragies supplémentaires des règles et les règles déviées.) P. E. Weil.

70 Tuberculous Peritonitis Developing after Childbirth. (Cas de granulie péritonéale dans le post partum chez une malade présentant une tuberculose annexielle ancienne.) P. Fabre and Bourret.

### Semaine Médicale, Paris

*February 26, XXXIII, No. 9, pp. 97-108*

71 Experimental Study of Connection Between Excessive Functioning of Viscera and Morbid Conditions in the Corresponding Vascular System. (Contribution expérimentale à l'étude des rapports entre l'hyperfonctionnement viscéral et la morbidité du réseau vasculaire correspondant.) C. Frugoni.

*March 5, No. 10, pp. 109-120*

72 Advantages of Curetting in Febrile Abortion. (La question du curettage dans les avortements fébriles.) R. de Bovis.

73 Cesarean Section on Infected Uterus. R. de Bovis.

### Archiv für Kinderheilkunde, Stuttgart

*LIX, Nos. 5-6, pp. 321-486. Last indexed February 8, p. 482*

74 *Leishman Anemia in Southern Italy; Sixty-seven Cases. G. Caronia.

75 Foundations of Modern Pediatries. (Zur Einführung in das Studium der Pädiatrie.) A. O. Karnitzki.

76 City Babies' Hygiene. A. Baginsky.

77 *Pathology of School Children. (Kinderkrankheiten während des Schullebens.) A. Baginsky.

74. **Leishman Anemia in Italy.**—The disease develops mostly in the early spring and only two of Caronia's sixty-seven patients recovered. The duration is generally from three to six months or a little longer; in exceptional cases the disease may drag along for years. After tuberculosis, diphtheria and the eruptive diseases, this leishmaniosis is the most prevalent disease in southern Italy. Families living in rural districts or having much to do with domestic animals are specially subject to it; in only one of the total sixty-seven was the family city-bred. Direct contagion could be incriminated in most of the cases, the virus probably being transmitted by means of bedbugs. But in a few instances there did not seem to be any possibility for direct contagion, and there is much to sustain the view that dogs and dog fleas are responsible for its transmission. Franchini has recently found the parasites in gnats.

77. **Pathology of School Children.**—Baginsky remarks that a number of pathologic conditions develop during school life which should be prevented or corrected. The group of symptoms which we call overwork or overfatigue should not be ascribed to congenital or acquired neurasthenia or a psychopathy. Myopia developing during school life is not in a malignant form and it can generally be corrected by reducing the number of hours devoted to near work. Curvature of the spine developing during school age is exclusively the consequence of too long sitting and especially too long writing. It is absurd, he adds, to bring into causal relation with school life a number of diseases which occur at the school period. He anticipates the dawn of a better day in regard to tuberculosis when medical school inspectors are on the alert to detect it, but adds that education of the public down to its lowest strata is the only rational means to protect against the spread of tuberculosis.

### Berliner klinische Wochenschrift

*February 24, L, No. 8, pp. 333-380*

78 *Opening up the Fourth Ventricle and Resection of Vermiform Process for Tumor. (Partielle Entfernung des Wurms wegen Geschwulstbildung unter breiter Eröffnung des vierten Ventrikels.) H. Oppenheim and F. Krause.

79 Topography of the Cerebellum. (Zur Kleinhirnlokalisation.) M. Rothmann.

80 The Pancreas, Liver and Carbohydrate Metabolism. J. Wohlgemuth.

81 Anesthetic Action of Cinchona Alkaloids on the Cornea. (Hornhautanästhesie durch Chinaalkaloide.) J. Morgenroth and S. Ginsberg.

82 Thorium X in Treatment of Anemia, Leukemia and Rheumatism. A. Bickel.

83 *Non-Operative Treatment of Cancer. (Zur Frage von der operationslosen Behandlung des Carcinoms.) A. Theilhaber.

78. **Operation on the Vermiform Process.**—Oppenheim's patient was an unmarried woman of 30 who for eighteen months had had recurring attacks of headache and vomiting with occasional diplopia, vertigo, singultus and tinnitus, especially on the left. The progressive symptoms were soon accompanied by choked disk on both sides, slight exophthalmos, tenderness in the left side of the lower part of the back of the head and other signs of general pressure on the brain. There was no nystagmus but the reflexes in the left cornea were abolished when the patient lay on her right side and there was constant adiadochokinesis with varying pains in the left half of the face, deviation of the lower jaw to the left and slight paresis of the left palate. There was no modification under tentative mercurial treatment, and as the symptoms were increasing and the general health running down he advised trephining the left half of the cerebellum. A plexiform lymphangiosarcoma was found between the cerebellum and the vermiform process and its removal required opening up of the fourth ventricle. No special symptoms from this extensive operation developed and the patient had soon gained 25 pounds in weight; the fundus of the eye and vision are now normal and all the objective pathologic manifestations have disappeared. The patient still has occasional headache and morning vomiting but these seem to be of a hysteric nature. The lack of local symptoms, of nystagmus and of cerebellar incoordination from the tumor and the way in which this part of the brain tolerated the operation confer special interest on the case.

83. **Non-Operative Treatment of Cancer.**—Theilhaber declares that the efforts of Nature to throw off malignant disease are along the lines of hyperemia, hyperleukocytosis and abnormally intense proliferation of connective-tissue cells. All the non-surgical measures which have proved useful in treatment of cancer have an action in one or more of these directions.

### Correspondenz-Blatt für Schweizer Aerzte, Basel

*February 22, XLIII, No. 8, pp. 225-256*

84 Treatment of Third Stage of Labor. (Zur Behandlung der Nachgeburtsperiode.) K. Reber.

85 *Varicella in Adults. C. Staeubli.

85. **Chicken-Pox in Adults.**—Staeubli had two young men, brothers, in his charge on account of pleurisy and influenza. They both were confined to their room and in bed most of the time from December 22 to January 17, when one complained of headache and the other of cold feet as they were convalescing from their other troubles. Other symptoms developed suggesting small-pox. One of the young men then developed a typical varicella eruption, and the disease was also unmistakably varicella in the other patient but the diagnosis would certainly have been variola in this case if it had not been for the attending circumstances and the small numbers of leukocytes. With variola there is almost invariably high leukocytosis. The two young men had been shut in for so long that infection could have been only by indirect means, possibly by the intermediation of more than one person. Staeubli had had no varicella patients for some time before and during his care of these patients. The rapid recovery confirmed the diagnosis.

### Deutsche medizinische Wochenschrift, Berlin

*February 27, XXXIX, No. 9, pp. 393-440*

86 Antimony in Spirochete and Trypanosome Disease. (Die chemotherapeutische Wirkung von organischen Antimonpräparaten bei Spirochäten- und Trypanosomenkrankheiten.) P. Uhlenhuth, P. Mulzer and G. Hügel.

87 Pharmacologic Study of Opium; Its Elements and Its Substitutes. J. Pal.
88 *Thrombosis of Splenic Vein. (Milzvenenthrombose mit tödlicher Magenblutung.) C. A. Ewald.
89 Fistula Between Bronchus and Esophagus with Aortic Aneurysm. G. Dorner.
90 Action of Hormonal. (Experimentelle und klinische Beiträge zur Keuntnis der Hormonalwirkung.) P. Sackur.
91 *Influence of Iodid Medication on Phagocytosis of Tubercle Bacilli in the Sputum. D. Rothschild.
92 Sources of Error in Wassermann Reaction. (Ueber "eigenlösende" Eigenschaften des Meerschweinchenserums und dadurch bedingte Fehlerquellen der Wa.R.) C. Stern.
93 Combined Treatment of Syphilis. G. Stümpke.
94 Salvarsan in Otiatry. J. Lang.
95 *Findings with the Duodenal Catheter in Infants. (Untersuchungen über Pylorospasmus und Pankreasfermente beim Säugling vermittels eines einfachen Duodenalkatheters.) A. F. Hess.
96 Development and Prevention of Hirschsprung's Disease. O. Meyer.
97 Relapsing Fever in Persia. (Das Rückfallfieber in Persien.) E. Dschunkowsky.

88. **Fatal Gastric Hemorrhage with Thrombosis of the Splenic Vein.**—Ewald's patient was a previously healthy man of 48. The only pathologic antecedent was a seventeen weeks' attack of articular rheumatism, twenty years before. He noticed that a tumor was developing in the left upper abdomen and after nine months he entered the clinic on this account, although the tumor caused no disturbance except slight oppression after relatively small meals. The hard tumor was evidently in the spleen but there was no trace of leukemia, anemia, ascites or jaundice. While an exploratory laparotomy was being considered, the man died from a sudden parenchymatous hemorrhage from the stomach; in less than half an hour 1,240 c.c. of fresh red blood poured out of the stomach and another hemorrhage followed in the night. There was no pain and the heart sounds were pure. Necropsy showed obliterating phlebitis of part of the portal vein and thrombosis, with chronic stasis and hyperplasia of the spleen. The case is unique in that the hemorrhage occurred so suddenly and without exciting cause, nothing being found in the stomach to suggest a varix.

91. **Influence of Iodin on the Tubercle Bacilli in the Sputum.**—Rothschild has made a practice for some years of giving a little potassium iodid in cases suspicious of tuberculosis in order to increase the amount of sputum. He regards this diagnostic measure as much less harmful than injection of tuberculin, while the tubercle bacilli swept into the sputum are more convincing than the best radiogram. At the same time he admits that to induce catarrh in a lung suspected of tuberculosis and thus more sensitive than a sound lung is not always entirely safe. He has long noticed that in the sputum obtained in this way an unusual number of the tubercle bacilli are incorporated in the leukocytes. It seems evident that the iodin medication promotes phagocytosis and that this phagocytosis in the sputum is an important guide to the prognosis of pulmonary tuberculosis. In the cases with toxemia, the bacilli are not found incorporated in the corpuscles. In advanced cases with secondary infection the bacilli in the corpuscles are in a more or less mutilated condition. Instructive information can thus be obtained by administration of iodin in this way, especially when ten specimens of sputum are examined and at least thirty fields are counted. In his study of cases in which before the administration of the iodin tubercle bacilli were found both inside and outside of the corpuscles, the number of phagocyted bacilli increased in 70 per cent.; in 20 per cent. by the end of two months all the bacilli were found thus incorporated. In the other group of cases in which no phagocyted bacilli could be found previous to the administration of the iodin, phagocytosis was evident later in two of the twelve cases. The effect of the iodin medication thus approximated that of tuberculin. In all the cases he was impressed with the increase in the number of lymphocytes after the iodin medication and that the cases with more pronounced phagocytosis seemed to run a more favorable course. The Italians have long lauded the action of iodin in tuberculosis; some have reported a favorable influence on the opsonins from it. Rothschild is well aware of the danger inherent in iodin medication in tuberculosis on account of the possible pathologic condition of the thyroid—the frequent combination of Basedow symptoms and pulmonary tuberculosis is more than a mere coincidence. But at the same time he declares that iodid medication, possibly in combination with tuberculin, must be credited with a highly specific influence in rendering harmless the tubercle bacilli in the infected organism when the iodid is given prudently, under constant supervision and control.

95. **Duodenal Catheter for Infants.**—Hess' work in this line is familiar to our readers. Compare with abstracts in THE JOURNAL, 1912, lviii, 892 and 1997.

## Deutsche Zeitschrift für Chirurgie, Leipsic

*February, CXXI, Nos. 1-2, pp. 1-196*

98 Causes of Outward Bending of the Ankle and Flat-Foot. (Ursachen des Knick- und Plattfusses.) P. Ewald.
99 *Gastric Crises in Tabes. A. Cade and R. Leriche.
100 Extension by Bardenheuer's Technic versus Steinmann's Nail Technic for Fracture. O. Grune.
101 Internal Fistulas after Gastro-Enterostomy. (Jejunumcolon- und Magencolonfistel nach Gastroenterostomie.) E. Polya.
102 Bullet Passes Through Brain Without Apparent Injury. (Grosshirn-Schussverletzuug durch ein 7-mm.-Geschoss ohne erhebliche Folgen.) C. Lauensteiu.
103 Rupture of Bladder from Contusiou; Recovery after Suture. (Quetschuug des Leibes durch Fahrstuhl. Intraperitoneale Zerreissung der Blase. Laparotomie, Naht der Blase. Heilung.) C. Lauenstein.
104 Restoration of Entire Cheek. (Zur totalen Meloplastik.) G. Lerda.
105 Operative Correction of Fractures Healed in Abnormal Position. (Die blutige Stellung schlecht steheuder Frakturen.) W. Keppler.
106 Restoration of Clavicle. (Kleidoplastik aus der Spina scapulae.) Molineus.

99. **Gastric Crises.**—Cade and Leriche describe the gastric crises in tabes from the clinical point of view and also discuss the pathogenesis and treatment. They say that gastric crises usually develop in the initial stage of the tabes but ten or twenty years have been known to elapse before other symptoms developed outside of the gastro-intestinal disturbances. As a rule, however, other symptoms soon accompany the crises. Lumbar puncture has relieved the patients in some cases but the writers have never obtained any benefit from it, and Mouriquand has recently reported a case of threatening syncope after withdrawal of 25 c.c. of fluid. In prophylaxis, hygiene of the diet, avoidance of alcohol and of medicinal injections are recommended, with cauterization with the actual cautery along the spine. In inveterate cases, operative treatment should be considered, and for this there are several methods. The history of each is given in turn with the results to date: resection of the posterior roots (Foerster); extraction of the intercostal nerves (Franke); stretching the solar plexus (Jaboulay), and bilateral vagotomy (Exner). The final conclusions are that it is necessary to distinguish between vagus and sympathetic gastric crises. If the attack is extremely painful, with much vomiting, tachycardia, dropping of pulse-beats and disturbances in the larynx, the vagus is probably responsible. This must be tested. But these cases are not so frequent as the sympathetic crises. In the latter case, begin with the simplest operative measures, leaving the major procedures for the last resort. The simplest measure is König's method of injecting 100 c.c. of a 0.5 per cent. solution of novocain into the muscles of the back on each side of the line of the spinous processes. It might be possible to use alcohol instead of an anesthetic and thus realize a permanent effect, treating the tendency to gastric crises like a facial neuralgia. If this fails, the Franke operation might be tried, pulling out the fifth to seventh intercostal nerves, or the Jaboulay method of stretching the solar plexus. (In the case reported by Cotte this relieved the patient for two years but then the crises returned. Leriche did not obtain any benefit in the one case in which he has applied the measure.) If all these fail or the crises recur, the Foerster operation must be considered and Guleke's epidural modification is recommended, and the severing of seven roots on each side if possible. At the same time, Cade and Leriche believe that with a good general condition and very severe crises involving also the intestines they would proceed at once without further delay to section of the posterior spinal roots in a given case.

### Medizinische Klinik, Berlin

*February 23, IX, No. 8, pp. 281-318 and Supplement*

107 *Treatment of Weakness of the Bladder in Women. (Zur Behandlung der Blasenschwäche des Weibes.) H. Fehling.
108 Pathology of the Throat and its Importance for the Organism as a Whole. (Der Waldeyersche Rachenring und der Organismus.) O. Pfaff.
109 *Non-Operative Treatment of Club-Foot. (Die unblutige Behandlung des Klumpfusses.) H. H. Dreesmann.
110 *Influence of Gelatin on Coagulation. (Zur Frage der gerinnungsfördernden Wirkung der Gelatine.) E. Ruediger.
111 Hands Off the Uterus in Third Stage of Labor. (Ueber die Ausräumung von Placentarresten.) K. Himmelheber.
112 Differentiation of Scarlet Fever by Urobilinogen in the Urine. (Ehrlichs Amidobenzaldehydreaktion im Harne bei Scharlach und scharlachähnlichen Exanthemen.) O. Hesse.
113 Prophylaxis of Diphtheria. F. Schanz.
114 Jaundice of the Newly Born. (Zur Kenntnis des Icterus neonatorum.) E. Maliwa.
115 *Tuberculosis and Pregnancy. O. Hoehne.
116 *Urogenital Tuberculosis in Women. O. Hoehne.
117 *Prophylaxis of Placenta Praevia. O. Hoehne.

107. **Treatment of Weakness of the Bladder in Women.**—Fehling does not mean by this complete paralysis of the bladder but only partial incontinence of the bladder sphincter, occurring during coughing, sneezing, laughing, etc. It is most common in women who have borne children, and he warns that it is necessary to guard against it after delivery. The parturients should be warned not to strain in urinating when there is difficulty in micturition, and they should not be allowed to sit up to urinate at first. In older women, astringent vaginal douches or pessaries may be useful, or application of electricity. Cathelin's epidural injections may prove useful, injecting from 10 to 40 c.c. of salt solution to act suddenly on the sacral nerve fibers. Fehling discusses further the various operative measures that might be applied. He slit the urethra its entire length and excised a strip in one case but without permanent success. Albarran's technic seems preferable; a fold is taken up in the urethra its entire length and sutured to reduce the lumen, but Fehling has been most pleased with the results of plication of the bladder itself. In five cases he supplemented this technic with a support made by drawing down the rear surface of the uterus to form a cushion on which the bladder rests. In three cases the operation was a complete success, but disturbances returned in two cases after two or three months in connection with some physical strain.

109. **Non-Operative Treatment of Club-Foot.**—Dreesmann gives an illustrated description of the metal sole and elastic harness fitting over the opposite shoulder with which he has corrected club-foot in young infants.

110. **Gelatin to Promote Coagulation of the Blood.**—Ruediger reports a case which confirms the efficiency of gelatin by the mouth in promoting the coagulability of the blood. The patient was a man of 55 who had had for years a very large aneurysm of the arch of the aorta. To apply the Wassermann test blood was drawn but it coagulated too soon for the test or even for determination of the hemoglobin content and blood-count. It coagulated in the capillary tube before it was half full and no tests could be applied to the blood on this account. This remarkable coagulating property was explained by the fact that a physician had ordered the man eighteen months before to eat gelatin freely, and since then he had taken daily from 30 to 40 gm. of gelatin in lemonade. He had thus ingested about 20 kilograms of gelatin in eighteen months. The case teaches that the internal administration of gelatin may be of prophylactic importance as a preliminary to operations and childbirths or in treatment of recurring hemorrhages. To obtain the desired result prolonged administration is necessary; it is of little use to give gelatin to arrest a sudden hemorrhage. In this case better results can be anticipated from von den Velden's intravenous injection of 3 or 5 c.c. of a 10 per cent. sterile salt solution. This acts promptly and well but no fluid must be left near the vein as otherwise gangrene may follow. The salt solution may be supplemented by subcutaneous and oral administration of gelatin.

115-117. **Some Gynecologic Problems.**—Hoehne discusses a number of the most pressing problems in the sphere of obstetrics and gynecology. He concludes his study of tuberculosis in connection with pregnancy by saying that an extreme standpoint is unwise, either on the radical or conservative side. The internist and obstetrician must work together to determine indications in each individual case. When active progressive pulmonary tuberculosis and especially laryngeal tuberculosis suggest the necessity for interrupting the pregnancy, the woman should be rendered sterile thereafter and should be given a course of treatment in a sanatorium as a necessary adjuvant. He says of tuberculosis of the urogenital apparatus in women that an early diagnosis is the main thing. Stoeckel goes so far as to say that a failure to diagnose tuberculosis of the urinary system until bilateral renal tuberculosis has developed is as bad as for a general practitioner to let a cancer of the uterus go on to an inoperable stage. The diagnosis may require mastery of cystoscopy, catheterization of the ureters and inoculation of guinea-pigs by the latest improved bacteriologic methods. Gauss thinks that no one should omit the indigo-carmin test and roentgenoscopy. Total obliteration of the ureter is regarded as of inevitably tuberculous origin and hence a reliable sign of tuberculosis of the kidney.

In discussing abnormal implantation of the placenta, Hoehne calls attention to the peculiarly intense ciliary movements which he has found an invariable accompaniment of chronic hyperplastic conditions in the mucosa of the uterus. It is possible that this pathologic extent and intensity of the waves of contraction in the cilia have some causal connection with abnormal implantation of the ovum in the lower parts of the uterus. He found this most marked in four of five placenta praevia cases. His practical conclusion is that the uterus should be curetted after involution in every placenta praevia case. In this way it might be possible to put an end to the abnormally exaggerated movements of the ciliated cells of the epithelium.

### Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

*XXV, No. 5, pp. 797-963. Last indexed February 15, p. 561*

118 *Pneumococcus Sepsis from Gall-Stones. (Ueber Pneumokokkensepsis und Pneumokokkenmeningitis im Anschluss an kalkulöse purulente Cholecystitis und abszedierende Cholangitis.) J. Severin.
119 *Goiter. (Kritische und experimentelle Untersuchungen über die kropfigen Erkrankungen der Schilddrüse.) B. Breitner.
120 *Serodiagnosis of Cancer. (Zur Serumdiagnose maligner Tumoren.—Kellingsche hämolytische Proben, Ascolische Meiostagminreaktion und Wassermannsche Reaktion.) A. Brüggemann.
121 *Further Research on Hormonal. R. Mohr and R. Dittler.
122 The Importance of the Bronchi from the Mechanical Standpoint. M. Jansen.
123 Excessive Irritability of the Nerves in Tetany. W. G. MacCallum (New York).

118. **Pneumococcus Sepsis Following Gall-Stone Trouble.**—Severin gives the details of two cases of pneumococcus sepsis and meningitis in women of 53 and 54 who had long suffered from attacks of gall-stone colic. Fever and jaundice developed first but there was nothing pathologic to be detected in the ears, throat or lungs; the liver was much enlarged and tender and the spleen enlarged. The fever was intermittent and sometimes preceded by chills. Jaundice and leukocytosis of 30,000 were accompanied by pneumococci in the blood. Necropsy confirmed the diagnosis of suppurative cholecystitis and cholangitis with abscesses in the liver, in the course of which the pneumococcus sepsis had developed with the fatal meningitis after a few days. Pneumococci were found in the gall-bladder pus in one case with staphylococci and streptococci. It is remarkable that the pneumococcus was the only one of the trio to make its way into the blood and induce the general sepsis. In the total seven cases of pneumococcus infection he has been able to compile from the literature, secondary pneumococcus meningitis developed in four instances. The discovery of pneumococci in the blood with cholelithiasis is therefore a bad omen in comparison to pneumococcus bacteremia in pneumonia.

119. **Goiter.**—Breitner is convinced that colloid in the goitrous thyroid gland is a sign or cause of insufficient functioning of the gland while excessive functioning occurs only in the absence of colloid. His research on the interrelations between the internal secretions confirms the great importance of the serologic side of the problems connected with the thyroid, as

he shows by graphie formulas. He declares that goiter is increasing in frequency, as also adenoma of the breast.

120. **Serodiagnosis of Cancer.**—Brüggemann tabulates the findings with Kelling's hemolytic test in 175 cases and Ascoli's meiostagmin reaction in seventy cases, and states that in forty cases of cancer both tests were positive in twelve instances; the Ascoli alone in nine, and the Kelling alone in eight. In one case of non-malignant fibroma of the breast, both tests were negative. In one case of gastric cancer both tests were positive but after resection the Kelling test was negative. Of the forty cases of cancer, positive reactions were obtained in 72.5 per cent. In twenty-nine patients with other affections each test was positive only once and in different cases. The Wassermann reaction was negative in all the cancer cases in non-syphilitics. He regrets that the technic of the meiostagmin reaction is still too complicated for general use. If the extracts required could be made more durable, this would be essential progress. (The technics for both the Kelling and Ascoli tests have been already described in these columns, abstract 107, July 20, 1912, p. 231, and May 28, 1910, p. 1790.)

121. **Hormonal.**—Dittler and Mohr report further research which confirms their previous statements that the peristalsis-inducing action is merely the result of the drop in blood-pressure caused by the hormonal. When the injection is made very slowly it does not induce peristalsis in animals. They found that injection of chloral had a pronounced effect in inducing intestinal peristalsis in rabbits, even in doses of less than 0.05 gm. per kilogram. This effect never failed, and it is possible that some of the action attributed to hormonal may have been due to the preliminary injection of chloral in the experimental tests of the new remedy.

### Münchener medizinische Wochenschrift

*February 25, LX, No. 8, pp. 393-448*

124 Arguments against the Drinking-Water Origin of Goiter. (Gegen die Wasserätiologie des Kropfes und des Kretinismus.) A. Kutschera.
125 Combined Drug and Serotherapy in Experimental Pneumococcus Infection. K. E. Boehncke.
126 Tubercle Bacilli in the Blood. (Vorkommen von Tuberkelbazillen im strömenden Blut.) E. Querner and E. Rosenberg.
127 *Sugar as a Local Disinfectant. (Wundbehandlung mit Zucker.) G. Magnus.
128 Advantages of Venesection in Polycythemia; Three Cases. A. Wagner.
129 Roasted Wheat Grains in Diet for Constipation, Neurasthenia, Heart Disease, etc. (Röstweizen als Diätetikum.) Hirschkowitz.
130 Perforation of Tuberculous Lymph-Node into a Bronchus; Recovery. F. Oeri.
131 Serodiagnosis of Pregnancy. (Ueber Serumfermentwirkung bei Schwangeren und Tumorkranken.) E. Abderhalden.
132 Radiotherapy of Deep-Seated Cancers. (Zur Frage der Beeinflussbarkeit tiefliegender Krebse durch strahlende Energie.) Asehoff, B. Krönig and Gauss. Commenced in No. 7.

127. **Sugar as an Antiseptic.**—Magnus has been using sugar in substance in treatment of wounds during the last three months with very promising results. It combats infection and putrefaction, has a solvent action on fibrin and stimulates secretion by the intense osmotic changes induced, thus rinsing out the wound with serum from within outward—all this produces conditions extremely favorable for healing, cleansing, deodorizing and promotion of healthy granulation. The tolerance of the body for sugar solutions is remarkable. Magnus injected a 10 per cent. solution of sugar subcutaneously into his own arm and the same amount of physiologic salt solution in the other arm and could see no difference between them in regard to sensation or absorption. His experiences confirm Kuhn's recent endorsement of sugar in the treatment of peritonitis. The fibrin-dissolving action of sugar is striking. Patients with leg ulcers were particularly impressed with the way the sore cleaned up under the influence of the sugar.

### Therapie der Gegenwart, Berlin

*March, LIV, No. 3, pp. 97-144*

133 *The Seashore from the Therapeutic Standpoint. (Die Heilwirkung der deutschen Seebäder.) L. Huismans.
134 *Inadequate Respiration in the Anemie and Means to Improve It. (Zur Behandlung der herabgesetzten Atmungsenergie bei Anämischen.) F. Sippell
135 *Loss of Appetite. (Therapie der Appetitlosigkeit.) W. Sternberg.
136 *Early Forms of Infantile Scorbutus. (Frühformen der Möller-Barlowschen Krankheit und ihre Behandlung.) O. Meyer.
137 Ileus from Helminths. (Fall von Darmverschluss durch Ascariden.) W. Ruland.
138 Serotherapy in Tuberculosis. (Die spezifische Tuberculosetherapie nach Maragliano.) P. Schrumpf.

133. **The Seashore in Therapeutics.**—Huismans discusses the various elements which go to make up the general effect on the health of a stay at the seashore and the contra-indications. The sea has sovereign means to eradicate the conditions predisposing to morbidity. The various factors should be utilized more than hitherto—in summer, the sunshine, the sea air and the bathing; in winter, sun baths with indoor baths in warm sea water.

134. **The Diminished Breathing Capacity in Anemia.**—Sippell expresses surprise that so few pay attention to the superficial nature of the breathing in anemia. The physical depression and weakness of the muscles entailed by the anemia are felt particularly in the muscles involved in respiration. The inadequate ventilation of the lung increases the tendency to anemia, and the lungs suffer directly from the lack of normal expansion. In examining the anemic it is extremely important to investigate the breathing capacity and to institute deep breathing exercises. He has his patients stand by an open window and take from ten to fifteen breaths as deep as possible, warning them beforehand that it may bring vertigo. These exercises are done in the early morning, and again in the afternoon and evening, especially when the patient can be out-of-doors and reclining. During a walk, at each hundred steps he should stop and take ten or fifteen deep inspirations. A cane passed through the arms bent backward helps to expand the chest. These deep breathing exercises are also useful after pneumonia or pleurisy or any wasting disease, but neglect of the reduced breathing capacity is particularly dangerous in the anemic.

135. **Loss of Appetite.**—Sternberg thinks that the cachexia of cancer is due in large part to the loss of appetite, and that in this as in other conditions with loss of appetite much can be done by fostering the appetite. The artificial food preparations which are commended by many in case of loss of appetite are either tasteless or have a disagreeable taste or smell. The one great point in treatment of loss of appetite, second only to removal of the cause, is to prepare the food in such a way that it "tastes good." When it "tastes good" appetite returns, and he has long preached that the refinements of the culinary art practiced by the chefs in the homes of the very wealthy should be applied in the diet of the sick and wherever there is a tendency to loss of appetite.

136. **Early Forms of Infantile Scorbutus.**—Meyer relates three typical cases to show that when other causes for the non-thriving of infants can be excluded, the trouble may prove to be an unsuspected tendency to infantile scorbutus. The improvement under change of the milk and a little fresh fruit or vegetables confirms the assumption of the underlying Möller-Barlow disease.

### Zeitschrift für klinische Medizin, Berlin

*LXXVII, Nos. 1-2, pp. 1-144. Last indexed February 8, p. 488*

139 Technic for Removing Albumin and Determining the Residual Nitrogen in Organic Fluids. (Ueber Enteiweissung und Reststickstoffbestimmung des Blutes und seröser Flüssigkeiten mittels Uranilazetats.) A. Oszacki.
140 Amino-Acids in the Urine in Health and Disease. (Ueber Eiweissstoffwechselstörungen bei Diabetes mellitus.) A. Galambos and B. Tausz.
141 Digestion of Starches. I and II. (Untersuchungen über die Verdauung der Amylazeen.) R. Ehrmann and H. Wolff.
142 *Schmidt's Nuclei Test of Pancreas Functioning. (Verwendbarkeit der Schmidtschen Kernprobe zur Pankreasfunktionsprüfung.) H. Fronzig.
143 Familial Neuromyxofibrosarcomatosis. Four Cases. A Mathies.
144 Study of the Blood-Pressure. (Zur Blutdruckmessung.) D de Vries Reilingh.
145 *Orthostatic Albuminuria. V. Gomolitsky.
146 The Cammidge Reaction. H. Karas.
147 Effect of General Anesthetics on Composition of the Blood. (Einfluss der Chloroform-, Aether- und Misch-Narkose auf die physikalisch-chemische Beschaffenheit des Blutes.) C. Oliva.

142. **Schmidt's Nuclei Test for Pancreas Functioning.**—Fronzig discusses why opinions differ so widely in respect to the value of this test. He thinks its theoretical basis has been misunderstood and he describes extensive research which has confirmed the assumption that neither the gastric juice nor the intestinal juice, with or without bile, is capable of digesting the nuclei contained in meat. Of all the organic fluids, the pancreatic juice alone is able to dissolve the nuclei. Bases even in very weak concentration are able to dissolve the nuclei but these bases or other substances formed in the process of putrefaction are not produced in sufficient amounts in less than ninety-six hours to destroy the nuclei. The nuclei test is therefore based on a sure foundation. He has simplified the technic by using dried blood from frogs or fowls, as this contains nuclei, instead of the small pieces of meat, and the results are the same while the technic is simpler. He used goose blood defibrinated, washed in physiologic salt solution several times and dried with addition of alcohol on the water-bath. He then ground the blood-corpuscles, mixed this blood dust to a third with barium sulphate, and gave several tablespoonsful of the mixture to normal patients who had eaten no meat for twenty-four hours. The blood mixture was incorporated with their food. Examination of the stools showed that the nuclei in the isolated blood-corpuscles had been entirely digested. The pancreatin seems to be the element involved in this destruction of the nuclei.

145. **Orthostatic Albuminuria.**—Gomolitsky lightly compressed, massaged or shook the sagging kidney in thirty-five patients with nephroptosis. He also tested the effect of varying positions in eighteen patients with scarlet fever and twenty-seven with various other acute infections. The results of this extensive research are tabulated and compared. They show that traumatic injury plays no part in the causation of orthostatic albuminuria. It is rare with nephroptosis. It does not develop unless there is some functional impairment of the kidney, inherited or the consequence of some infection weakening the organism at the period of its most intensive growth. Injury of the kidney from toxic elements and a temporary overstrain from the erect position, which makes greater demands on the energy of the nerves and muscles—these factors are sufficient to explain orthostatic albuminuria without incriminating lordosis as the main causal element.

### Zentralblatt für Chirurgie, Leipsic

*March 1, XL, No. 9, pp. 297-336*

148 *Treatment of Incipient Gangrene. M. Borchardt.
149 *Technic for Excluding Pylorus. (Pylorusausschaltung mittels Schnur und nicht mittels Fadens.) G. Parlavecchio.
150 Technic for Saline Infusion. (Kochsalzinfusionen.) F. Kuhn.

148. **Treatment of Incipient Gangrene.**—Borchardt reports a case in which a man of 54 with severe arteriosclerosis required amputation of the thigh, after several operations below, on account of progressive gangrene. Convalescence was retarded by thrombosis and gastro-intestinal hemorrhages. Then the other foot developed symptoms in the same sequence as on the foot first affected with gangrene, namely, pains in the toes, heaviness in the limb and blue discoloration. As the usual measures, raising the limb, heat, etc., gave no relief, Borchardt applied alternating hot and cold baths to the knee. Two tall pails were filled with water, 95 F. in one and cold water in the other. The leg was placed in each pail for a few seconds and then changed to the other pail, the water reaching to the knee. This was done for thirty times up to fifty times at a sitting and gradually the water was used at a higher temperature and the cold water was drawn directly from the faucet. These baths were taken morning and evening for weeks. The result was surprising; the pains promptly disappeared and the leg always looked red and warm during the bath. The hyperemia was much more pronounced than in a hot bath alone. The patient has continued these baths to date, about fifteen months, and the circulation in the limb is growing progressively better while gangrene has not developed. The relief of pain was pronounced in some other cases of the kind, although the gangrene was too far advanced to be arrested. These alternating baths seem to be indicated in intermittent limping which sometimes runs into gangrene. They favor the development of a collateral circulation and improve the blood-supply even with existing gangrene. The degree of hyperemia also shows where to amputate. The systematic use of these alternating baths trains the vessels much better than superheated air alone.

149. **Technic for Exclusion of the Pylorus.**—Parlavecchio has now applied in five clinical cases the technic he advocates based on experimental research. Instead of a thread or catgut, he winds a cotton tape, about 1 cm. wide, or a threefold strip of gauze around the antrum of the pylorus, suturing the ends instead of tying this inelastic ligature. He is very careful not to injure the tissues in any way or strangulate them. He concludes by drawing up the serosa over it, suturing serosa to serosa, and then proceeds to the vertical, posterior gastro-enterostomy. He describes the advantages of this technic and answers the objections that have been made to it.

### Zentralblatt für Gynäkologie, Leipsic

*March 1, XXXVII, No. 9, pp. 297-328*

151 *Serotherapy of Eclampsia. (Ueber die Heilung der Eklampsie durch intralumbale Injektion von normalem Schwangerenserum.) A. Mayer.
152 *Serology of Eclampsia. (Zur Eklampsiefrage.) B. Stange.
153 *Treatment of Eclampsia. A. J. Jarzew and Uthmöller.
154 Inefficacy of Serotherapy for Uncontrollable Vomiting of Pregnancy. (Normales Schwangerenserum bei unstillbarem Erbrechen der Schwangeren.) W. Rubeska.

151. **Serotherapy of Eclampsia.**—Mayer reported in 1911 a severe case of eclampsia with recovery after intravenous injection of serum from a normal pregnant woman. He has applied this serotherapy in two other cases recently and was much impressed with the unmistakable benefit derived. One was a new-born child with severe convulsions, the mother having a mild type of eclampsia. The child seemed moribund when 5 c.c. of spinal fluid was withdrawn and an equal amount of serum from the blood of a pregnant woman was injected into the spinal canal. The general improvement was striking; the cyanosis ceased almost completely and there were only a few rudimentary convulsions thereafter. The child died later of heart weakness and the woman with severe eclampsia also died. Her liver was found extremely pathologic. In these cases the serotherapy evidently came too late, but all were impressed by the prompt improvement from the injection.

152. **Serology of Eclampsia.**—Stange has applied Abderhalden's dialysis serologic test and found that the reaction was peculiarly intense with the eclampsia placenta. His findings parallel Doi's on the blood picture in eclampsia and pregnancy kidney, and he agrees with Doi that the changes in the blood in eclampsia are analogous to those of a normal pregnancy, only they occur in such intensity as to be injurious.

153. **Cause and Treatment of Eclampsia.**—Jarzew presents evidence to sustain the assumption that eclampsia is a disease caused by accumulation of albuminoids in the blood (globulins). This accumulation is the result of defective functioning of the placenta with an incompetent liver. The excess of globulins in the blood increases its viscosity and thus the arterial system becomes engorged as the passage through the capillaries is rendered more difficult. Hyperemia in the brain follows and the cerebrospinal fluid accumulates, increasing the intracranial pressure and thus bringing on the convulsions. Superposed on these physical-mechanical disturbances, signs of toxemia soon follow from the overloading of the blood with the products of the incomplete oxidation of the albuminoids. Treatment should combat the cause with sedatives, delivery to remove the placenta, and venesection with or without saline infusion.

Uthmöller reports eight cases of eclampsia in which he withdrew large amounts of blood, up to 1,250 c.c., and all the patients promptly recovered with one exception, the eclampsia in this case having been complicated with a heart defect. The immediate benefit was striking in every case. He does not advocate this venesection before delivery but aims to deliver the woman as promptly as possible, following then with morphin and chloral according to Stroganoff's technic.

### Zentralblatt für innere Medizin, Leipsic

*March 1, XXXIV, No. 9, pp. 209-240*

155 *Frequency of Septicemia in Infectious Diseases. (Septikämie als häufiger Gast in der Familie der übrigen Infektionskrankheiten.) N. T. Golubow.

155. **Septicemia.**—Golubow states that he has encountered twenty cases of sepsis in the last ten years with a fatal termination in seven. He believes that septicemia is more frequent than is generally recognized and that it often escapes recognition. He urges general practitioners to make a special study of the mild cases of non-surgical sepsis, believing that this would throw light on many obscure morbid conditions. It is possible that Hodgkin's disease and other purpura affections, muscular rheumatism, etc., are often connected with some septic process. In seven of his twenty cases an infectious sore throat was evidently the cause of the sepsis. Differentiation is based on bacteriologic and other tests and exclusion of other possible causes. He was able to trace the sepsis to the primary process in all but two of his twenty cases. Influenza, malaria or typhoid had generally been diagnosed. One patient, a woman of 50, had had febrile temperature recurring several times during the day for a period of six weeks. Examination showed nothing suggesting influenza, malaria or a local infectious process, but Golubow insisted that there must be some septic infection somewhere in the body. The patient was kept under observation and after two or three days an extremely severe streptococcus sore throat developed, with signs of progressive sepsis and a hemorrhagic vesicular exanthem and the patient soon died. This case confirms the possibility of a protracted intermittent streptococcus infection. In another case a man of 55 developed the clinical picture of pernicious anemia which proved fatal eight months after the first symptoms which had been those of sepsis from mixed infection of the upper air passages; pneumococci and streptococci and influenza bacilli were found constantly in the sputum and the catarrhal affection became later accompanied by mild nephritis. Golubow is convinced that in many cases pernicious anemia is the consequence of some mild cryptogenetic chronic sepsis. He insists that there is reason to assume that the still unknown hemolytic toxin causing pernicious anemia is of bacterial origin.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*February 20, XXXIV, No. 22, pp. 225-232*

156 Infiltration Anesthesia. (Studio dell'anestesia locale da infiltrazione.) P. Pozzato.

*February 25, No. 24, pp. 249-256*

157 *Experiences with Spinal Anesthesia. (Considerazioni sopra 924 casi di rachistovainizzazione.) P. Bedeschi.

157. **Spinal Anesthesia.**—Bedeschi has used stovain for spinal anesthesia in 924 cases and reports two cases of serious collapse. One of these patients was a youth who had been operated on for fistula of the anus; the other was a woman of 45 requiring fixation of the uterus. Under an hour or more of artificial respiration, saline infusion and rubbing the heart region with ice the patients were revived but the boy had an intermittent pulse and bradycardia for eight days afterward. There was postoperative retention of urine in 10 per cent. of the cases and anal incontinence in 30 per cent. of all the patients, stools passing sometimes while still on the table, in other cases as the patients were being replaced in bed or their position was otherwise changed. There was severe paralysis in two cases, the paralysis affecting the legs, the anus and bladder sphincter. The paralysis of the sphincters subsided after ten days in one case and thirty-five in the other. In the latter case there was cystitis and severe decubitus burrowing down to the sacral vertebrae. Four months after the spinal anesthesia these patients were able to stand and walk but complained of great weakness in the legs and sensory disturbances were still evident. Bedeschi states in conclusion that the by-effects observed have discouraged the further use of stovain in the clinic at Ravenna where he is assistant surgeon. It has been discontinued except possibly for operations requiring only a very small amount of an anesthetic.

### Policlinico, Rome

*February 23, XX, No. 8, pp. 261-296*

158 Injury of the Heart from Sudden Physical Effort. F. Santori.

*February, Surgical Section No. 2, pp. 49-96*

159 Resection of Three-Fourths of Jaw and Mode of Repair. (Resezione di tre quarti della mandibola per via orale e nuovo metodo di prostesi mandibolare definitiva.) R. Alessandri and A. Chiavaro.

160 Hernia of the Bladder. (Contributo allo studio dell'ernia della vescica.) F. Putzu.

161 *Primary Sarcomas of Muscles. (Sarcoma muscolare primitivo e miomectomia.) M. Fasano.

161. **Primary Sarcomas in Muscles.**—Fasano reviews the history of primary sarcoma in muscle tissue and adds a case from his own practice to the few on record. Excision far into sound tissue has given a number of long survivals, amounting practically to a cure although, he remarks, it is almost impossible to expect a permanent and absolute cure from malignant disease of this nature. His patient was a boy of 10 and the tumor was in the thigh. The boy was recently reexamined after an interval of two years and found in the best of health. He had noticed the small tumor first six or seven months before the operation and during the last two months it had grown somewhat and become slightly painful at intervals.

### Semana Medica, Buenos Aires

*January 30, XX, No. 5, pp. 253-304*

162 Biology of the Soul. (Biologia del alma.) J. Ingegnieros.

163 Prophylaxis of Tuberculosis. (El concepto actual de las tuberculosis.) J. M. Quevedo.

164 Organic Basis of the Mind. (La estructura fisica de la intelligencia y el desarrollo de su mecanismo organico.) H. Maudsley (London).

165 Linear Electrolysis for Urethral Stricture. (El valor de la electrolisis lineal en el tratamiento de las estrecheces de la uretra.) A. De Garay.

166 *Sudden Death. (La muerte repentina y su profilaxis.) R. de Castro Ruiz.

167 Treatment of Digestive Disturbances. G. Granes.

168 Adulteration of Liquors. (Contribucion a la investigacion del alcohol metilico impuro en los liquidos espirituosos.) J. G. Obregon.

169 *Effects of Salvarsan on the Internal Ear. (Sobre los efectos del Salvarsan en el oido interno.) E. Botella.

166. **Prophylaxis of Sudden Death.**—Ruiz agrees with Seneca that "men do not die; they kill themselves," and he argues that it is possible so to live that the principal causes of sudden death, namely, shock, cerebral hemorrhage, syncope, coma and collapse can be warded off. The secret, he declares, is "lots of philosophy and lots of hygiene," in other words, one must know how to live and how to die. Bacchus, Venus and sluggish vital processes are responsible for sudden death in a large proportion of cases, and all of these are to a certain extent under our control.

169. **Salvarsan and the Ear.**—Botella compares five cases from his own experience with eight in the literature in which the use of salvarsan was followed by disturbances in the internal ear. He also summarizes eighty-one cases in which he examined the ears before and after salvarsan treatment. It is evident, he thinks, that the ear symptoms observed after the use of salvarsan are due to different causes in various groups of patients. In some they are evidently a Herxheimer reaction; in others aggravation of a preexisting lesion; in others there is nothing to explain them but the assumption of a direct toxic action from the salvarsan. It is evident, he states, that the drug should be given prudently and that we should seek to disabuse patients of the idea that a single dose is going to cure syphilis at one stroke. Specialist examination of the ear should never be omitted before giving salvarsan, and all patients with a recent lesion of the auditory nerve at any point should be systematically excluded from this method of treatment. In the eighty-one candidates he examined, in forty-three the ears seemed to be entirely sound and yet eight of these developed trouble in the apparatus of hearing after the salvarsan; in five the syphilis was of recent date. In four instances the disturbances were quite serious. Twenty-four other patients had a history of old trouble in the ear previous to their syphilis, but no influence from the drug was apparent either way in this group. A third group of twelve patients had developed ear disturbances after infection with syphilis, before the salvarsan had been given. His record is thus a total of nineteen cases of disturbances in the ear after injection of salvarsan. In only four were the disturbances briefly transient; in the others they were more or less serious.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX. NO. 15 CHICAGO, ILLINOIS APRIL 12, 1913


## LIGATURE AND SUTURE MATERIAL

### THE EMPLOYMENT OF FINE SILK IN PREFERENCE TO CATGUT AND THE ADVANTAGES OF TRANSFIXION OF TISSUES AND VESSELS IN CONTROL OF HEMORRHAGE

### ALSO AN ACCOUNT OF THE INTRODUCTION OF GLOVES, GUTTA-PERCHA TISSUE AND SILVER FOIL


WILLIAM STEWART HALSTED, M.D.

BALTIMORE


For a number of years I have had it in mind to call attention to the particular method of employing silk ligatures and sutures which has been practiced in the surgical clinic of the Johns Hopkins University since the opening of the Johns Hopkins Hospital in 1889, but have hesitated and also been eager to do so for the same reason, namely, that our school seems to be almost alone in its advocacy of the use of this material.

Theodor Kocher, however, has for many years employed silk quite to the exclusion of catgut and our position is greatly strengthened by the support of such eminent authority.

Surgeons, old and young, those who have been active and masterful in the marvelous period of development of antiseptic surgery, and the medical student who takes for granted the healing of wounds *per primam* and the achievements of modern surgery as he does the ability to speak his own tongue, will be interested to read the words of Kocher[1] spoken in 1888. "'Away with the spray!' cried Bruns[2] some years ago — Bruns who achieved so much and who died, alas, so early — and gladly did one cast off this burden. 'Away with protective!' exclaimed Starcke[3] in an admirable essay on the treatment of wounds. But with the elimination of spray and proteetive there are still many of the seemingly essential features of the antiseptic technic to be discarded before the physician in general practice can be placed in that happy state of mind which pertains to the consciousness of his ability to avoid making the famous seven errors of Nussbaum. The 'away' must resound still further, and we say, therefore, primarily, away with the catgut! and also: away with all the prepared gauzes, from the Lister gauze to the newest productions of the manufacturers of supplies for dressings.

"To what misfortunes catgut can give rise more than one communication in the medical journals of years ago has testified. In the first place von Zweifel called attention to the decomposition which took place when catgut was kept in phenolized oil as recommended by Lister. Other surgeons have confirmed the observations that one may infect wounds directly with catgut preserved in the manner mentioned and we also have at one time published the case of a woman whose death after the excision of a struma sarcomatosa was attributable to the employment of catgut which had decomposed in the phenolized oil."

Kocher proceeds to relate the disastrous experience he had with catgut from May to July, 1887. Of thirty-one operations performed in a period of seven weeks, serious infection of the wound occurred in twenty-nine.

In one of the two non-infected cases silk was employed. Hence in this particular "catgut period" only one operative wound, a small one in which were very few ligatures, healed *per primam*. Catgut being totally discarded and silk reinstated, the infections ceased. From that time until the present, except possibly for brief periods of experimentation with catgut, Professor Kocher has, I believe, employed silk. I have not heard him state his reasons for preferring silk in these days when catgut may be perfectly sterilized, but that they are sound we may be sure. I can testify to the admirable healing of his wounds.

Our method of employing silk differs quite essentially from Professor Kocher's. The silk which we use is much finer than his and we rely on transfixion to prevent the ligature from slipping.

I am unable to say precisely when it was that I definitely substituted silk for catgut. It must have been earlier than 1883, for in that year or in 1882 Warmbrum Quilitz & Co. of Berlin made for me, in glass, bobbins of my designing, to be held in the left hand of the operator during the act of ligating blood-vessels. A description and illustration of these spools is given in the Johns Hopkins Hospital Reports.[4] I have employed them continuously from the time of their introduction to the present. When the operator desires to tie a vessel without tissue-transfixion he is handed a spool—not a thread cut to the length desired for a ligature. With the right hand the silk is unwound, as required, from the spool held loosely in the left. Only two or three yards are wound on each spool, but enough for the tying off of many arteries; and for each operation the silk employed is sterilized only onee. The armed glass spools are steamed in heavy glass test-tubes (Fig. 1).

In the winter of 1886 and 1887, experimenting on the subject of intestinal suture[5] with Dr. Franklin B. Mall, I employed ordinary, fine black spool-silk as material for ligature and stitches. Black silk was selected in preference to white because it was easier to see it on the glass bobbins and in the fresh wound, and it was also

1. Kocher: Eine einfache Method zur Erzielung sicherer Asepsis, Corr.-Bl. f. schweiz. Aerzte, 1888, xviii.
2. Berl. klin. Wchnschr., 1880, No. 43.
3. Vortrag in der Berl. militärärztl. Gesellsch.
4. Johns Hopkins Hosp. Rep., March, 1891, ii, 306.
5. These experiments were conducted in the Pathological Laboratory of the Johns Hopkins Hospital. Am. Jour. Med. Sci., October, 1887, p. 436.

more readily identified in the healed wounds. The little black loops of the mattress or Lembert stitches made a striking picture after a time, lying more or less free under the peritoneum along the line of the intestinal suture.

The following winters 1887-1889, in my experiments on the thyroid gland, I employed exclusively the black silk, just as we do to-day and have done ever since the opening of the Johns Hopkins Hospital twenty-four years ago.

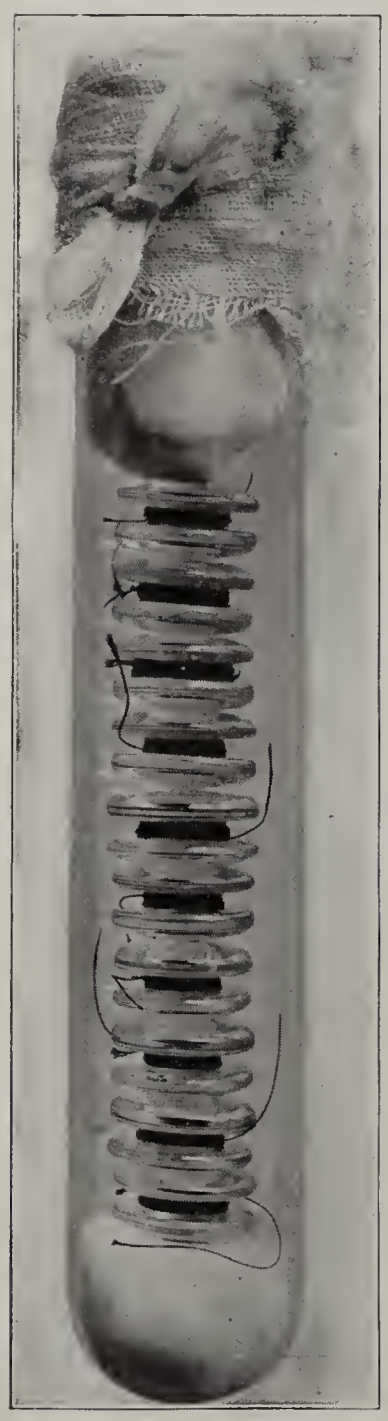


Fig. 1.—Ligature-spools of glass. A spool is held in the left hand while the right unwinds only so much of the thread as may be required for the ligation of one vessel.

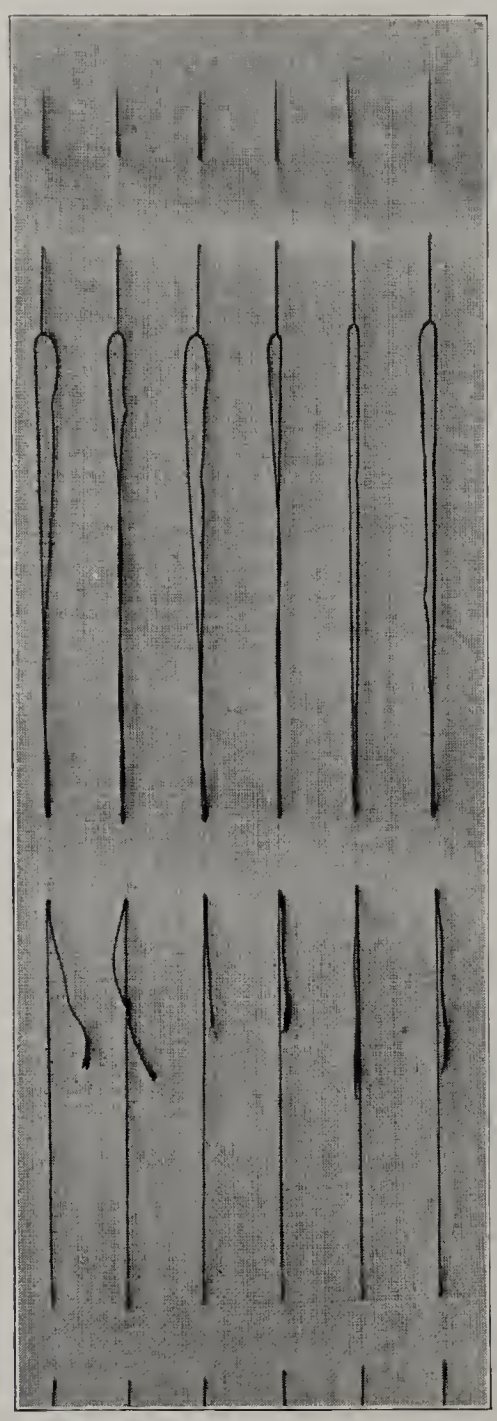


Fig. 2.—Reduced 3/5. To show method of basting the threaded needles. Silk No. C. Needle No. 7. We usually employ silk two sizes finer than this.

The relatively high cost of catgut, its bulkiness, the inconveniences attending its use and sterilization, its inadequacy, the uncertainty as to the time required for its absorption, and the reaction which it excites in a wound, induced me to discard it completely for clean wounds in the surgery both of the human subject and of animals. From year to year and for various periods of time I have given the catgut, sterilized by the best known American purveyors of this material, a trial, but invariably with the results which we interpreted as being less perfect than with silk. Infection from pathogenic organisms can, of course, only rarely be ascribed, nowadays, directly to the catgut sterilized by our most reliable firms. With the fine silk in our wounds, which for twenty-three years have, as a rule, been closed without drainage, suppuration almost never occurs.[6] But catgut, even that which we have no cause to believe is not sterile, irritates the wound for some reason, perhaps because it serves as culture medium for saprophytic organisms which are carried into it from the deep epithelium and follicles of the skin.[7]

We have frequently observed this irritation and have occasionally had the opportunity to compare the reaction caused by catgut with that of fine silk in wounds symmetrically situated in the same patient and made at the same time.

Let the surgeon interested in making the comparison, when he has occasion to amputate both breasts for non-malignant disease, take a running subcuticular stitch on the one side with catgut, on the other with fine silk (No. A or AA) and observe the healing wounds from day to day; or when operating on two goiters on the same day, employ catgut for the platysma suture in the one case and very fine silk in the other. There is not only greater local reaction in the cases sewed with catgut but in them the wounds will occasionally open at one or more points to discharge a few drops of clear or cloudy fluid.

Wedded to the use of catgut, the operator develops, undoubtedly, a special technic which enables him to avoid procedures which would be likely to cause trouble or inconvenience, but on the other hand, he is deprived of very useful devices which become indispensable and a delight to the surgeon who has acquainted himself with the possibilities of silk threaded in the ordinary fine straight needle of commerce.

Straight needles of various sizes and lengths are threaded in great number with the silk corresponding in size, and are coarsely basted in rows into strips of thin muslin or gauze (Fig. 2). The loaded strips are folded and stored for subsequent use. The necessity for threading needles in the course of the operation is thus obviated in great measure. Occasionally more than one hundred of these needles are employed at one operation, since our ligations, for the most part, are made by transfixion of the tissues about the vessel or by piercing the vessel itself when it is large or sufficiently important, or by a combination (Fig. 5) of these methods. Figure 3 illustrates the usual method of controlling hemorrhage from the larger vessels which have been isolated. For the control of bleeding points when the vessels have not been isolated, the needle is passed first under or between the vessel or vessels to be ligated, and then a second transfixion is made, more superficially, close to the point of the clamp and in front of it; the clamp is now tilted in the opposite direction while the operator ties the knot behind it (Fig. 4). Piercing the tissues a second time in this manner eliminates the trouble of seeing to it that the ligature, in the act of tying, is carried over the tip of the artery clamp. This method enables one also to use to the best advantage the clamps with fine points which in my opinion have much to recommend them and which in our clinic are employed almost exclusively.

6. Johns Hopkins Hospital Reports, 1891, ii, No. 5.

7. The reader is referred to the admirable work and unusually convincing articles of Dr. Y. Noguchi, Arch. f. klin. Chir., xcvi, 394, and xcix, 948.

With the finest silk and needles one can perform feats in hemostasis which would be very difficult or impossible with catgut; for example, the control of small bleeding points over the trachea, of the pia mater, of the periosteum, and the suture of wounds of vessels.

In general terms ligatures taken in this way are drawn only with firmness sufficient to control completely the bleeding, and not so tight as to crush the tissues or interfere unnecessarily with their nutrition. The same tissues tied without transfixion would have to be crushed or strangulated by the ligature and thus, at best, be reduced to the condition of a graft with diminished chances of restitution and with increased danger of wound infection. Furthermore, ligation without transfixion necessitates the use of stronger silk for the reason that a transfixing ligature cannot slip.

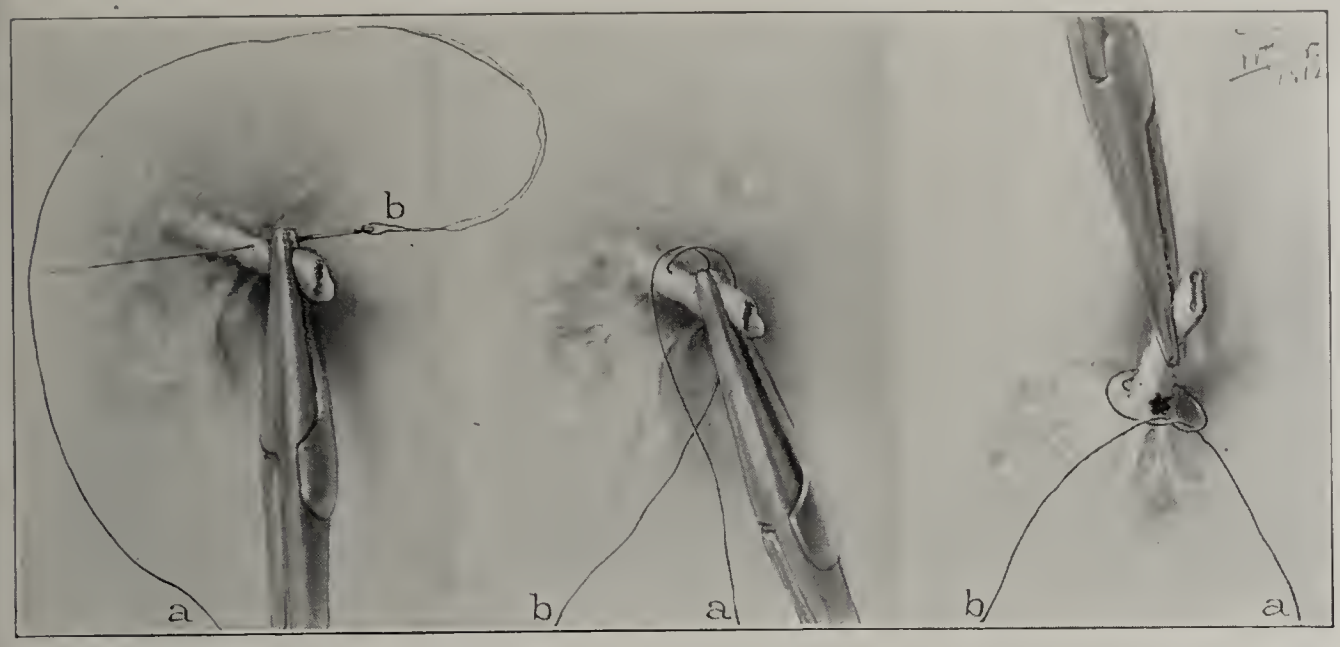



Fig. 3.—The ligation of an isolated vein or artery by transfixion. The vessel has been twisted to prevent bleeding from the needle-prick.

The surgeon who has not tested the method will be surprised to find how large a vessel may be safely entrusted to a transfixion-ligature of the very finest silk. I have seen a ligature of coarse silk, tied with crushing force, blown off, as it were, from the aorta of a dog—a ligature which had been applied 12 mm. from the proximal end of the divided vessel. This same artery was then safely obturated by a ligature of silk, No. A, which pierced it.



Fig. 4.—The usual method of controlling hemorrhage from one or more vessels by transfixion.

Repeatedly, he who uses catgut finds himself tying with a strand which is coarser than the vessel to be ligated.

Even for long abdominal wounds we rarely use a coarser silk than No. C (Fig. 2). Occasionally we reinforce with one or two sutures of silver wire which include skin and the anterior and posterior layers of the sheath of the rectus; otherwise fine silk (Nos. AA, A and C), is used throughout for sutures as well as ligatures. We seldom tie *en masse* in the ordinary sense of this term, and in clean wounds, I may say, never.

In the control of hemorrhage, parenchymatous or otherwise, we see to it that the thread is always well buried in the living tissue. It should not bridge over a dead space as a chord subtends an arc. In ligating the vessels of the superior pole of a thyroid lobe in the course of a lobectomy a fine, short, curved or straight needle, carrying one strand of fine silk is passed behind or between the vessels, and then through the twisted artery or vein, or both, and the thread is tied on both sides of the clamp. The ligation of the superior thyroid vessels is usually deferred until the end of the operation, these vessels being divided and entrusted to a reliable, fine-pointed clamp in the early stage of the operation.

The difficulty, the cost and the infeasibility of keeping on hand a large supply of needles threaded with catgut, as well as the size of the gut, almost precludes the extensive use of this material for the control of hemorrhage by transfixion.

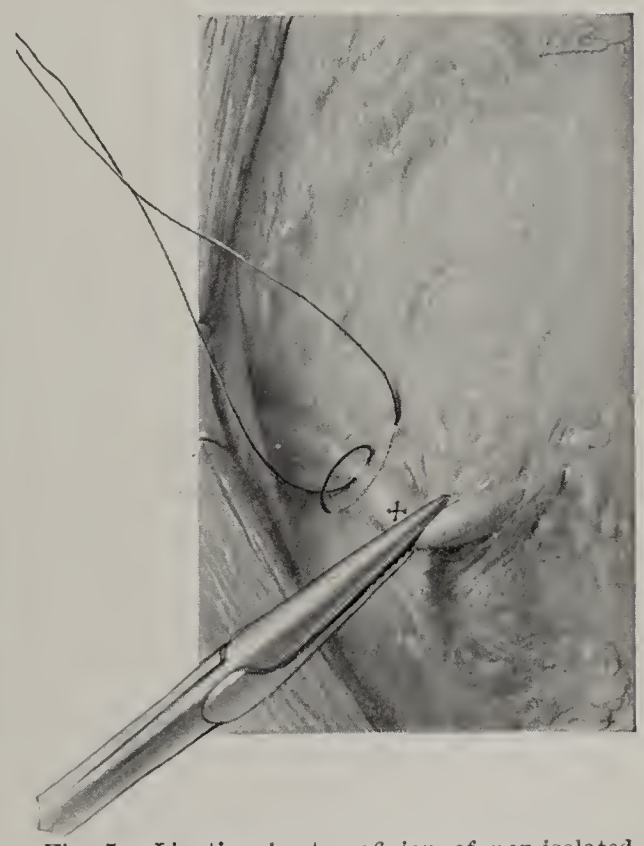


Fig. 5.—Ligation by transfixion of non-isolated vein, to be divided at X. The clamp is on the tumor-side of the vessel.

That surgeons obtained excellent results with silk even when gloves were not worn one may convince himself by the papers of Kocher,[1] Heidenhain[8] and Hägler.[9] Now that rubber gloves are invariably worn, the results with silk, properly employed, are so perfect that I believe its adoption will ultimately become general.

8. Heidenhain: Centralbl. f. Chir., 1899, No. 26, p. 225.
9. Hägler: Ibid., 1899, No. 5, p. 132.

A few days ago, seeing a surgeon of great eminence and unusual fairness of mind burying sutures of catgut I inquired, "Why do you still employ catgut?"

"Because I cannot free myself of the prejudice against a non-absorbable suture. I believe," said he, "that it is foolish to use catgut; and every now and then when my wounds break down too frequently I discard it."

The catgut with which he was sewing was No. 2 chromicized; it was guaranteed by America's most reliable firm "not to absorb" for twenty-six days, but not guaranteed "to absorb" within as many weeks.

It should be borne in mind that during the greater part of the period of its disintegration the catgut suture is not only not serving its purpose but is playing the rôle of necrotic tissue, of a culture medium. I trust that I shall not be considered flippant in suggesting that the ideal absorbable suture-material might be a thread which would serve its purpose for, say, ten days and be absorbed in three.

Conceded that infection is less likely to occur with silk than with catgut, it would still be objected, and quite pertinently, that, in case it should occur, the buried silk might give endless trouble and have to be removed.

It is well within reason to expect that the technic may be at least so perfect when silk is employed that the wound will become infected not once in a hundred cases. If fine silk were used and the infection slight, probably none of the buried threads would be extruded, nor would healing be delayed demonstrably on account of their presence. When heavy silk has been used for any of the sutures and the suppuration is considerable, one or more or, perhaps, all of the threads would have to be removed. Even in such a case it is very unlikely that the ligatures and fine sutures would give trouble.

### THE CLAMP TWIST IN THE CONTROL OF THE HEMORRHAGE

A vessel or bleeding point inaccurately caught by the artery clamps and requiring immediate ligation for any reasons may, as is undoubtedly well known, often be controlled by a half-twist or slight rotation of the clamp. The precise situation of the vessel may then be determined by cautiously untwisting the instrument to the degree necessary to permit the escape of a fraction of a drop of blood and then retwisting. Now, instead of removing the clamp and trying again to catch the vessel in a field which, in such case, might be more or less obscured by hemorrhage, one transfixes once or twice in a dry field at the proper place and ties on one or both sides of the forceps; or if there is indication and room for two clamps, a second may be applied when the exact situation of the bleeding point has been revealed by the untwisting of the first.

The surgeon can transfix accurately with one hand while he holds the clamp in the other, and, by pulling on the twice transfixing thread, check the hemorrhage before tying. The bleeding being arrested, both hands are freed for making the knot.

### THE INTERRUPTED STITCH

We find ourselves using the interrupted variety of suture even more frequently than formerly. It is more accurate, reliable and convenient than the running stitch, and, with the long straight needles armed and conveniently arranged as I have described, can be taken about as quickly as the latter. The head nurse of the operating-room hands the threaded needles to the surgeon, presenting them to him pointward. The operator can take a stitch in the time required by the nurse to withdraw the next needle and thread from the cloth in which they have been basted. The knots are tied after all the stitches have been taken. With the aid of a good assistant very little time is consumed in the tying. A granny knot is adequate when fine silk is used. In some instances the granny is better than the reef knot, for in the tying of the former in the presence of tension the traction on the first turn of the knot can easily be maintained, and should the first turn loosen, in the taking of the second the slack can usually be taken up in the drawing home of the latter.

### UNDRAINED WOUNDS

Fine silk frequently enables one to close a wound which would have to be drained if catgut were employed. Bleeding points so fine as to be awkwardly or not at all ligable with catgut may be readily and quickly controlled by a transfixing suture of the finest silk tied sometimes with merely a half knot. When the ends of such a knot are cut very short the silk is barely visible.

I am taking for granted it will be conceded that unless the hemostasis is quite perfect and the likelihood of bleeding after closure of the wound negligible, drainage should usually be resorted to. Unfortunately catgut as material for ligature does not afford the security from hemorrhage that silk does, partly because its knots are not so dependable and partly because, as I have said, the former cannot so conveniently or so universally be resorted to for transfixion as the latter.

### FAULTY TECHNIC

The surgeon who desires to use silk and who, after giving it a fair trial, finds that his results are not so good as with catgut may, I think, quite surely attribute his failure to himself—to faulty technic. By faulty technic I do not mean merely breaks in asepsis.

One should not of course use silk for ligating or suturing in the presence of infection. Nor should one bring parts together under such degree of tension as to cause necrosis or interfere greatly with the blood-supply, for nothing is gained by so doing and decided harm may result. Healing is menaced when the circulation of the tissues to be united is impaired.[10]

In operations made through healing tissues catgut may occasionally be used in preference to silk.

The silk employed should never be coarser than necessary and it is useless to employ a thread for suture which is stronger than the tissue itself. A greater number of fine stitches is better, as a rule, than a few coarse ones.

*Avoid, if possible, the combined use of silk and catgut in a wound.*

For sewing up an abdominal wound, when it is necessary here and there to take heavy deep stitches perforating skin and muscles, silver wire serves admirably. When the skin can be approximated without tension we usually employ interrupted perforating stitches of very fine silk. If the skin-edges have to be brought together under considerable tension we recommend a subcuticular stitch of silver wire taken with the Hagedorn or Schnötter[11] needle.

10. In operations for the oblique as well as the direct form of inguinal hernia we sometimes split vertically the sheath of the rectus muscle for the relief of strain on the stitches holding together the internal oblique muscle or conjoined tendon and Poupart's ligament.

11. It is known only to a few surgeons that the late Dr. Schnötter, surgeon to the German Hospital, New York, devised and used the needle curved on the edge some years before Hagedorn described it.

I have presented this matter in such detail because so many have tried with indifferent or worse than indifferent success to substitute silk for catgut, and because I am told, as I have said, that the operators and pupils of the surgical clinic of the Johns Hopkins University are quite the only ones in this country who systematically employ the former.

I believe that the tendency will always be in the direction of exercising greater care and refinement in operating, and that the surgeon will develop increasingly a respect for tissues, a sense which recoils from inflicting unnecessary insult to structures concerned in the process of repair.

### THE EPITHELIAL STITCH

In the toilet of wounds in animals we meet conditions different in some respects from those which obtain in the human subject. The long hair, the deep follicles of the skin of dogs and the inconveniences incident to subsequent dressings make it desirable to modify the technic of closing the wounds in these animals.

Stitching of the platysma muscle does not hold together sufficiently well the edges of the skin, and the subcuticular stitch taken close to the incised border is not so safe in the dog as in the human subject because the follicles are relatively deeper and more numerous in the former. Hence, in the dog, after suturing the platysma we place a running subcuticular suture a little further than usual from the free edge of the skin. Should now the approximation of the skin not be sufficiently perfect we add the "epithelial stitch." This is made with silk about 00 fine and with a needle to correspond. Hardly more than the epithelium is pierced by the needle, and the suture when completed describes almost a straight line (Fig. 6). The epithelial stitch produces no irritation and does not require subsequent attention, for it rubs off in the ordinary process of attrition, or it may be pulled off at any time like a plaster. Inasmuch as, in dogs, stitches which pierce the skin should be removed in two or three days lest the infection which they cause give rise to suppuration, and as it is undesirable and troublesome in the case of animals to remove stitches or to expose the wound so soon after operation, stitching in some such way as above described has decided advantages.

### CELLOIDIN-BATISTE

In many of our operations, and always when it seems particularly indicated, we paste to the skin over a wide field a fine batiste (sometimes gauze, or silk) dipped in celloidin.

In amputations at or near the hip-joint, the actual field of operation may or may not be covered with the cambric. A liberal flounce-like sheet pasted along the side of the genitals from pubes to sacrum, along Poupart's ligament and from the anterior superior spine of the ilium along the outer side of the thigh to the tuberosity of the ischium, in other words a truncated hollow cone which encircles the thigh just above the line of amputation, suffices. This flounce should extend well up on to the abdomen and back and side, and down on the inside of the opposite thigh.

### GLOVES

Rubber gloves must, of course, be worn by all concerned in the operation.

In a letter of a few weeks ago the director of a famous German clinic asked me to give him references to articles that I might have written on the subject of rubber gloves. As response to his request and believing that a brief account concerning the introduction of gloves may eventually be of interest I will, in as few words as possible, relate the story.

In the winter of 1889 and 1890—I cannot recall the month—the nurse in charge of my operating-room complained that the solutions of mercuric chlorid produced a dermatitis of her arms and hands. As she was an unusually efficient woman, I gave the matter my consideration and one day in New York requested the Goodyear Rubber Company to make as an experiment two pair of thin rubber gloves with gauntlets. On trial these proved to be so satisfactory that additional gloves were ordered. In the autumn, on my return to town, the assistant who passed the instruments and threaded the needles was also provided with rubber gloves to wear at the operations. At first the operator wore them only

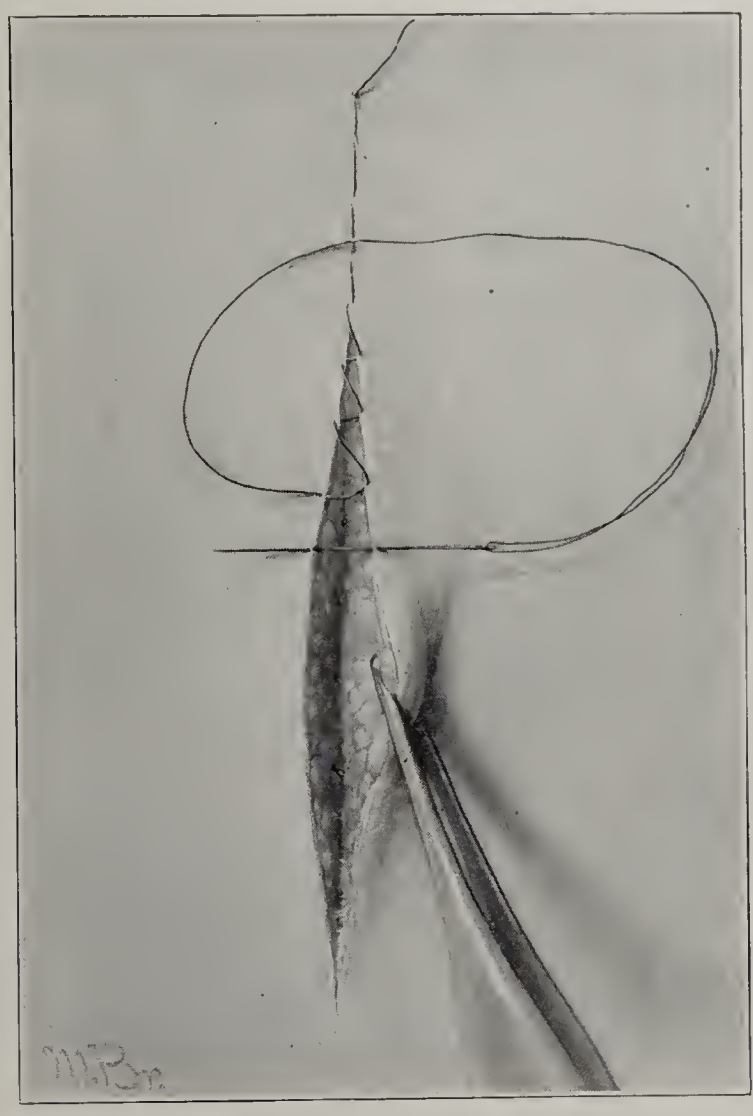


Fig. 6.—The epithelial stitch. The thread, needle and bite of skin should be much finer than the drawing indicates.

when exploratory incisions into joints were made. After a time the assistants became so accustomed to working in gloves that they also wore them as operators and would remark that they seemed to be less expert with the bare hand than with the gloved hands.

I think it was Dr. Bloodgood, my house surgeon, who first made this comment and that he was the first to wear them, invariably, when operating.

In the report[12] which I made of the first year's work at the hospital, written in November and December, 1890, and published in March, 1891, I stated that the assistant who passed the instruments wore rubber gloves. This assistant was given the gloves to protect his hands from the solution of phenol (carbolic acid) in which the instruments were submerged rather than to eliminate him as a source of infection. I do not recall having

12. Johns Hopkins Hosp. Rep., iv, No. 6, plate xii.

referred again, in my publications, to the employment of rubber gloves. Dr. Hunter Robb in 1894, in his book on aseptic technic[13] recommended that the operator wear rubber gloves. Dr. Robb was, at that time, resident gynecologist of the Johns Hopkins Hospital and had frequent opportunities to observe the technic of the surgical clinic.

This incidental reference by Robb in 1894 to the wearing of rubber gloves, and the fact that a photograph of an operation for breast cancer taken late in the year 1893 shows that gloves were not being regularly worn by us at that time, serve to establish approximately the date of their definite introduction.

Dr. Joseph C. Bloodgood, in his elaborate report[15] on Hernia makes the following statements with reference to the wearing of gloves:

> The writer was the first as operator to wear gloves as a routine practice in practically all clean operations. He began to wear gloves invariably in December, 1896; before this date he had operated in twenty cases of hernia with four suppurations, all late infections; wounds were closed with silver wire. Since wearing gloves he has operated in 100 cases of inguinal hernia. In one case (recent) the wound suppurated.
>
> Rubber gloves were introduced by Professor Halsted soon after the hospital opened in 1889. They were invariably worn by the assistant who handed instruments and by the assistant at the wound, usually the nurse in charge of the operating-room. The operator himself rarely wore gloves (*at that time*)[16] except when clean joints were opened.

Thus the operating in gloves was an evolution rather than an inspiration or happy thought, and it is remarkable that during the four or five years when as operator I wore then only occasionally, we could have been so blind as not to have perceived the necessity for wearing them invariably at the operating-table.

It is also noteworthy that none of the many surgeons, foreign and American, who visited our clinic in those years should have recognized the desirability of eliminating the hands as a source of infection, by the wearing of gloves.

We did not realize how slightly the sense of touch is obtunded by the rubber covering,[17] or how unessential it is in most operations that the greatest delicacy of finger perception be preserved. Furthermore we were delighted with the results in healing already obtainable, so vivid were the memories of infections in the recent past.

### SILVER FOIL

Since 1894[18] we have covered our fresh wounds with silver foil and are quite convinced that this dressing has appreciable chemical as well as physical values.

That various metals inhibit the growth of certain organisms has been proved by Miller,[19] Nägeli,[20] Behring,[21] Uffelman,[22] Meade Bolton[23] and others.

Bolton's work interested me particularly because very kindly, in our behalf, he tested thoroughly the effect of silver on the growth of the common pyogenic microorganisms. For his experiments he used silver in various forms but particularly the silver foil with which we were at the time covering our wounds.

I had previously employed foils of copper, brass, gold and aluminum and had found that copper and brass irritated the skin. The silver foil had given, clinically, the most satisfactory results and I was pleased to find that its use had the support of Bolton's carefully conducted experiments. The admirable behavior of wire in wounds which has been commented on for centuries may, therefore, be attributed to its antiseptic properties.

Under the foil the stitches which perforate the skin may, it seems to me, be left undisturbed for a greater number of days than under the ordinary dressings. Thiersch grafts implanted on clean fresh surfaces and covered with silver foil need not be investigated for ten days or more. The foil, while it seals the dry wound hermetically, readily permits the escape of fluids.

We may, possibly, overestimate the value of silver foil as a dressing, but we are wedded to its use, and I know of nothing which could quite take its place, nor have I known any one to abandon it who had thoroughly familiarized himself with the technic of its employment. Moistening the skin and the applied foil with alcohol facilitates its application, but alcohol should not be employed in the laying on of the foil over skin-grafts.

Three or four layers of foil are usually placed on the closed incision, and over these is laid the thin paper between the leaves of which the foil is packed. We have occasionally covered the foil with strips of very thin, bibulous, Japanese paper. Foil without paper and covered with crêpe lisse and celloidin makes a particularly neat dressing for wounds of the face and scalp.

### GUTTA-PERCHA TISSUE

Dr. Jacob Frank,[24] in an interesting account of the discovery of gutta-percha and the uses of gutta-percha tissue in surgery stated that perhaps the first mention of this tissue is to be found appended to a report on gutta-percha submitted to the Académie de médecine, July 30, 1850, by a commission composed of Messrs. Chevalier, Poiseuille and Robert. It was called *tissu électro-magnétique,* approved by the National Academy of Medicine, tested in the various hospitals in Paris, and recommended as a sovereign remedy for gout, rheumatism, sciatica, migraines, neuralgias and gastralgias, for the resolution of varices, for the dressing of wounds, burns, etc.; also for pneumonia in its early stages. The tissue was relatively thick; it could be washed and used indefinitely, and was represented as being greatly superior to the medicated oiled papers which were not only inert but soiled the body and the linen and were altogether disagreeable in use. "To convince oneself of its magnetic properties, one had merely to rub it lightly on a piece of cloth and hold it above sawdust. Instantly particles of the sawdust would spring up and attach themselves to the tissue."

In the light of our experience with the gutta-percha tissue of the present day we can well believe that the *tissu électro-magnétique* was really serviceable at times in the treatment of the affections enumerated. Its disuse may have been due in part to its pseudonym.

13. Robb, Hunter: Aseptic Surgical Technic.
15. Johns Hopkins Hosp. Rep., 1899, vii. Operations on 459 cases of hernia in the Johns Hopkins Hospital from June, 1889, to January, 1899.
16. Italicized words mine.
17. For example, in the early days of rubber gloves I removed the glove from one hand, not infrequently, to palpate the common bile-duct in search for stone.
18. Halsted: Am. Jour. Med. Sc., July, 1895.
19. Miller: Demonstration einer Methode zur Bestimmung der antiseptischen Eigenschaften von Zahnfüllungsmitteln, Verhandl. d. deutsch. odont. Gesellsch., 1889, i, 34.
20. Nägeli, C. von: Ueber oligodynamische Erscheinungen in lebenden Zellen. Denkschr. d. schweiz. naturforsch. Gesellsch., 1893, xxxiii, 1. See also review in Bot. Centralbl., lv, 93.
21. Behring: Ztschr. f. Hyg., 1890, ix, 482.
22. Uffelman: Beiträge zur Biologie des Cholerabacillus, Berl. klin. Wchnschr., 1892, No. 48, p. 1212.
23. Tr. Assn. Am. Phys., 1894, p. 174.
24. Frank, Jacob: Gutta-Percha Tissue in Surgery, THE JOURNAL A. M. A., March 19, 1910, p. 942.

Dr. Manoury,[25] six years later, recommended medicated plaques[26] of gutta-percha.

To apply a plaque one dips it in warm water, 40 degrees, in order that it may conform by its flexibility to the protuberances and anfractuosities of the ulcer; when it has been applied one covers it with a cloth wet with cold water, with view to preventing the adhesions of this cloth to the external surface of the plaque.

A. Cousin[27] in 1872 wrote as follows:

Gutta-percha, on account of its numerous and valuable properties, has for a long time attracted the attention of practitioners of medicine and surgery, and on consulting the instructive collection of the *Bulletin de thérapeutique* one finds not less than twenty-three papers devoted to the consideration of the diverse uses of this substance.

It has been employed, in the solid state, in the fabrication of apparatus for fractures, of caustic pastes, of sounds and bougies, of prothesis, of various utensils; dissolved in chloroform it was at one time much vaunted in the topical treatment of certain skin affections as substitute for collodion.

Every one knows to-day the excellent results obtained by the occlusive method in the treatment of a great number of medical and surgical affections (occlusive dressings, compressing or contracting, of collodion, swathing in impermeable cloths, pneumatic occlusion, wadded splints, etc.). It would take too long to study, comparatively, the indications for the various dressings or the advantages and defects that they present; I wish simply to make known to the readers of the *Bulletin* a method which I believe to be new and which is assuredly a simple and easy one for making occlusion.

I employ for this purpose leaves of gutta-percha reduced by rolling to the thinness of waxed taffeta, and I take advantage of its extreme solubility in chloroform to give to this material adhesive qualities of considerable degree.

I proceed in the following manner: Given a surface of skin to be covered, I cut a piece of flattened gutta-percha to dimensions two or three times as large as this area; I trace along the border of this variety of plaster, for an extent of 1 or 2 cm., a brush dipped in chloroform and apply it immediately to the skin; adhesion takes place with great energy at all the points touched by the chloroform, and so perfectly that the slightest irregularities of the skin are reproduced with remarkable fidelity in the impermeable material.

I have quoted at such length from the article of Dr. Cousin in order to make clear what were the uses which had been made of gutta-percha tissue to the year 1872, and because it may be interesting to others to read the original description of a clever and useful procedure—the pasting of the edges of a leaf of gutta-percha to the skin by means of chloroform.

Occasionally we paste with chloroform in this way a small scrap of gutta-percha tissue to a piece of old linen when the skin surrounding the granulating surface which is to be covered with gutta-percha tissue is likely to become irritated by the discharges from the ulcer. In such case the protective is cut to the precise size of sore, the skin about which being covered with an ointment of zinc oxid; the discharges are promptly absorbed by the linen and overlaid dressings. It is well, under these conditions, to cut a tiny hole through both protective and linen to permit the prompt escape of the secretions of the wound into the dressing.

Dr. Frank gave two references[25, 27] to the early employment by physicians of plaques or "sheets" of gutta-percha, but was unable to make any statement relative to its introduction in its present form and for its present purposes, and leaves unfilled a gap of perhaps a quarter of a century.

As I know of no one except myself who can tell the story I may be pardoned for a moment's indulgence in reminiscence.

As intern of Bellevue Hospital, New York, from 1876 to 1878 I had frequent opportunities to observe the pain and bleeding incident to the tearing out of gauze from large involucral cavities after sequestrotomy—gauze which had been stuffed into these cavities to arrest bleeding and into which the granulations had grown, often for a considerable distance. Wounds of the soft parts would also be packed with gauze, which from its adhesion to the skin would cause pain, sometimes very distressing, and the first removal of the gauze was an event anticipated with apprehension by the patients, who were quite sure to be advised by their ward-neighbors of its terrors.

During the two years of my study abroad the desirability of obviating this rather barbarous practice was repeatedly enforced on me by what I saw in the foreign clinics, and on my return to America in 1880 I promptly cast about for some sort of protective, non-adhering dressing. Oiled silk and the green protective of Lister were not sufficiently pliable. Finally a salesman in one of the surgical supply stores showed me a bed-sheet of gutta-percha as heavy as blotting-paper, remarking that it could be rolled out to any degree of thinness. I requested him to procure the thinnest tissue possible, and in the course of a few weeks he provided me with samples, none of which was sufficiently thin. After a month or two tissue of the desired thinness was obtained and from that day until the present, a period of nearly thirty-three years, gutta-percha tissue, usually referred to as rubber tissue or protective, has been one of the most prized and indispensable articles of my surgical armamentarium.[29]

Accounts of the first employment of gutta-percha tissue to protect granulations from insult and to prevent them from growing into or adhering to drains, gauze packs and dressings and to promote healing under a moist scab can probably be found in the records of the Roosevelt Hospital Dispensary, New York, from 1881 to 1886, the term of my incumbency as director of this dispensary; and some of my assistants and students of those years will doubtless recall having employed it there as a dressing for wounds.

I have not searched for references to the use of gutta-percha tissue in its present form and for its present purposes subsequent to the time of its introduction in 1881, but I am quite sure that no mention of it will be found prior to 1884 or 1885, and that should there be any such it will have been made by surgeons of New York who might have learned of it from my students or seen it employed at one of the various hospitals with which, as attending surgeon, I was connected.

Its employment as drainage material for the abdominal cavity came about as follows:

At first we tucked it about the gauze drains at the surface only, in order to prevent adhesions to the skin. Then the protective was carried deeper and deeper into the wounds until finally the entire gauze drain or gauze pack, except at the very bottom, was enveloped in the gutta-percha tissue.

The experiments of Dr. Yates of my staff, made to determine the amount of time required for the formation about the protective of intestinal adhesions, were

25. Manoury, A.: Des plaques de gutta-percha médicamenteuses et leur applications, Bull. gén. de therap. méd. et chir., 1856, vol. l.

26. *a*. Plaques de gutta-percha et de limaille de fer porphyriseé. *b*. Plaques vésicantes composés de gutta-percha et de cantharides. *c*. Caustique fluidifiant (gutta-percha and potassium). *d*. Caustique coagulant (gutta-percha and chlorid of zinc).

27. Cousin, A.: Sur l'emploi de la gutta-percha laminée comme agent d'occlusion, Bull. gén. de therap. méd. et chir., 1872, lxxxii.

29. Brief reference to the use of gutta-percha tissue is made in Johns Hopkins Hosp. Rep., ii, No. 5, p. 306.

especially important and had their influence in emboldening the surgeon at times to dispense altogether with the gauze, placing his reliance on the gutta-percha.

Not very often do we venture to drain an abdominal wound with nothing but protective. Usually the cigarette form of drain is employed—gauze enveloped in protective—when we wish to know that a drain is precisely and promptly fixed in the desired position, as it is by the little tuft of gauze at the bottom of the cigarette.

For certain cases in which it seems desirable that adhesions should form more rapidly and firmly about the abdominal drain we make it as follows: Two squares, one of gauze (single sheet) and one of protective, are rolled together, the gauze outside, until a drain of the desired thickness is obtained. Granulations cannot pierce this drain deeper than the single layer of gauze, because they at once encounter the underlying protective. Such a drain is removed quite as easily as the cigarette drain and offers a little more security than the latter.

A moist scab, so-called, is better than a dry one. The surgeon has many opportunities to convince himself of this. When he has occasion to extract a toe-nail let him cover one-third of the raw surface with protective and allow the remainder to heal under the dry scab. The patient may have pain in the digit soon after the dry scab is well formed, and the surgeon will perhaps observe that the soft parts about the nail-bed on the side of the dry scab are inflamed. On covering the entire surface of the granulating wound with gutta-percha tissue the pain will promptly be relieved and the inflammation subside.

The dry scab imprisons secretion which in turn gives rise to tension, and the tension impairs the vitality of the tissues under and at the border of the dry scab to an extent sufficient to place them at a disadvantage in their combat with the microorganisms, and to compel absorption of the toxins.

Even pimples and trivial wounds of, for example, the fingers behave best under the moist scab. For the healing of wounds under the moist blood-clot, particularly when the skin cannot be made to cover the cavity to be filled with blood, gutta-percha tissue is invaluable. It would be found useful in every household and should be included in the supplies provided for first aid to the injured. The value of the moist scab should be common knowledge for the layman, and gutta-percha tissue should replace for him the sticking-plaster as a covering for wounds.

A few months ago in reading one of Lister's[30] first papers on the use of phenol in wounds I noted that he mentions having covered a wound with a tissue of gutta-percha. This interested me so much that I wrote at once to Sir William Watson Cheyne, being confident that no one could give me the desired information so well as he. From his kind reply I quote as follows:

> So far as I understand the matter, Lister tried various materials to cover the wound after an operation, so as to prevent the phenol in the dressing from penetrating in any quantity to the wound. Among other things he tried gutta-percha tissue, but he abandoned that because the phenol easily passed through it so that it did not protect the wound from the irritation of the antiseptic, and the material he ultimately hit on was oiled silk, covered with a layer of dextrin, so as to allow it to be wet. The oiled silk itself did not prevent the phenol vapor from passing through it, but the combination of oiled silk and shellac, according to Lister's experiments, did. As regards any question of priority in using it, so far as any claim can be advanced on Lister's behalf, it would not hold, because he tried it and abandoned it as being unsuitable for his particular purpose.

From 1879 to 1889 I made frequent visits to England and the continent and was in close touch with the work of the surgical clinics of England, France and Germany, and not once in that period did I see gutta-percha tissue employed in Europe.

It is gratifying to me to observe the place in surgery which gutta-percha tissue has gradually won for itself. For the American surgeon it has become an indispensable appurtenance of his equipment.

1201 Eutaw Place.

30. Lancet, London, March 16, 1867, p. 328.

---

## THE CONSERVATIVE TREATMENT OF DIABETIC GANGRENE OF THE LOWER EXTREMITY

DE WITT STETTEN, M.D.

Assistant Visiting Surgeon to the German Hospital; Instructor in Clinical Surgery in Columbia University

NEW YORK

When I began my practical surgical work some eleven years ago, I was appalled by the tremendously high mortality following operative interference in cases of diabetic gangrene. The usual treatment at that time was early amputation in the thigh under chloroform or ether anesthesia. The death-rate must have reached nearly 100 per cent., for I distinctly recall my agreeable surprise and astonishment when I witnessed the first recovery after seeing patient after patient, inside of a period of about two years, die in coma within from a few days to a couple of weeks after high amputation. It has always been my conviction that there was something radically wrong with our therapy, and that, if we adopted more rational methods, our results would be improved. By a gradual evolution we have finally developed a system of therapeutics that holds out some hope for these cases, which at one time gave such an utterly hopeless prognosis. It has been my good fortune to test this system in a series of cases which have come under my observation in the past two and a half years, and though the series is small, the difference in the



Foot of Patient 4. Note the division of the nail into two segments. The formation of the healthy, new segment began with the hyperemic treatment.

results has been so striking that I feel that a publication of my experiences is warranted at present.

In dealing with diabetic gangrene we must first appreciate the essential factors in the pathology of the condition. The primary feature of this type of gangrene is identical with that of every other form of necrosis, namely defective nutrition. In diabetic gangrene, this is invariably due to an obliterating endarteritis of the main arterial vessels of the limb. Added to this, however, we have a greatly increased susceptibility to local death, owing to the generally diminished resistance of the body from the exhausting effects of the perverted metabolism of the disease on the one hand, and to the extreme predisposition of the parts to bacterial invasion on account of the excellence of the cultural properties of the glucose-soaked blood and tissues on the other. Further, we must always bear in mind that systemic complications of the disease must be reckoned with. Of course, of these the all-important one is the so-called acidosis, resulting frequently in the almost invariably fatal diabetic coma of Kussmaul. The tendency to pneumonia, sepsis and decubitus is also not to be ignored.

The most obvious result of the former method of treatment by early high amputation was the more or less rapid development of diabetic coma following operation. This was apparently due to the shock of the operative interference *per se*, or to the effects of the ether or chloroform anesthesia. When nitrous oxid anesthesia was substituted and the operation more expeditiously performed, the results were somewhat improved. Usually, however, the stump became gangrenous from the actual trauma to the poorly nourished and susceptible tissues at the site of operation. Gangrene of the flaps, sloughing of the deeper structures, retention, necrosis of the bone, often necessitated reamputation and if the patient escaped a coma after the first operation, the shock of repeated major operations and anesthesias was usually sufficient to cause the development of coma after the second or third operative attempt. Simplification of the technical details of the operation, the avoidance of osteoplastic methods, the use of circular flaps and the leaving of the flaps wide open without any sutures whatever, still further improved the results and diminished the frequency of the necessity for reamputation, if the patient survived the first operation.

Still the results were anything but brilliant and it became apparent that these radical measures were not correct. Three questions naturally presented themselves: First, why was a radical amputation advisable at all in the vast majority of cases? Second, what was the urgency for radical measures? Third, if amputation was necessary, was high amputation always indicated? A careful consideration of these three questions in conjunction with our clinical observations convinced me that in answer to the first proposition we could definitely state that in most of the cases a radical amputation was not advisable. In answer to the second question, we could say that although amputation might become necessary owing to the extension of the gangrene or phlegmon, it was almost never imperative at the inception of the gangrene. In answer to the third question, we could say that if amputation became necessary, high amputation was by no means always indicated, the choice of the site of amputation depending on various factors.

From these premises a method of conservative therapy has been gradually evolved based on the following three cardinal principles:

1. Systemic treatment of the diabetes and prophylaxis against the development of dangerous complications, especially coma.

2. An attempt to improve the circulation in the extremity.

3. The treatment of the local infection on rational general surgical and aseptic principles.

Inasmuch as individualism is the watchword in the application of these three principles, I shall first present the clinical data of the series of cases which in the past two and a half years I have had the opportunity of treating according to this plan.

### CASE REPORTS

CASE 1.—June 21, 1910: A. B., woman, aged 51. Diabetes, eleven years; local trouble, four weeks. Examination: Phlegmon of the dorsum of the left foot, with a necrosis of the extensor tendon of the second toe and beginning gangrene of the surrounding tissues. Phlegmon extended up the leg. General condition fair. Temperature 100.6 F.

Sugar, 1.5 to 5 per cent. Acetone +. Diacetic acid +. Radials soft. Popliteal pulse felt. No posterior tibial nor dorsalis pedis pulse felt.

Routine conservative treatment. Operative procedures: Phlegmon incised four times, June 21 and 27, July 18 and Aug. 13, 1910. Final incision extended up leg, nearly to tibial tubercle and gangrenous tendon of tibialis anticus was removed at the time. Duration of treatment, three months. Result, cured.

Patient was last seen Feb. 21, 1912. She had gained twenty-one pounds. She has had a small ulcer in the scar for a few days. Otherwise, she is very well.

CASE 2.—Oct. 14, 1910: J. K., man, aged 57. Diabetes, three and a half years; local trouble, three weeks. Examination: Beginning gangrene of the second toe, left foot, with necrosis of the proximal phalangeal joint. General condition good.

Sugar, 3.5 per cent. Acetone +. No diacetic acid. Radials thickened. Dorsalis pedis pulse felt.

Routine conservative treatment. Operative procedures: Curettage of sinus, Nov. 6, 1910. Marked local reaction after curettage rapidly relieved by baking. Duration of treatment, two months. Result, cured.

Patient was last seen Jan. 25, 1913. For about a year and a half he has had plantar ulcers on both feet. Third toe, left foot removed July 31, 1911. See Case 13.

CASE 3.—Oct. 14, 1910: C. T., man, aged 56, patient of Dr. F. Kammerer. Duration of diabetes unknown. Local trouble two weeks. Examination: Dry gangrene of the fifth toe, left foot. General condition good.

Sugar, 1.8 per cent. Acetone, trace. No diacetic acid. Radials thickened. No popliteal, posterior tibial, or dorsalis pedis pulse felt.

Routine conservative treatment, except baking. Operative procedures: Gangrenous toe removed at phalangeal metatarsal joint after demarcation, Nov. 8, 1910. Duration of treatment, three months. Result, cured.

Patient last seen, Dec. 19, 1912. He has had no further trouble with his left foot. See Case 17.

CASE 4.—Nov. 28, 1910: D. S., man, aged 58. Duration of diabetes unknown; local trouble, six months. Examination: Moist gangrenous area at the phalangeal joint of the great toe, left foot, and necrosis of the joint. Amputation of the leg had been advised by a very competent surgeon. General condition good. Excruciating pains present in the leg.

Sugar, 1.2 per cent. No acetone or diacetic acid. Radials thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Disarticulation of great toe at phalangeal metatarsal joint, Nov. 29, 1910. Curettage of sinus and resection of head of metatarsal with removal of sesamoid bone in flexor tendon, Feb. 15, 1911. Counter-incision on plantar surface over distal extremity of metatarsal, March 10, 1911. Most decided effect from the

baking and bathing. Pains were relieved; vascularity of the parts definitely increased as was noted at the second operation and the toe-nails changed in character (See Illustration). Duration of treatment, six months. Result, cure.

Patient last seen, Jan. 28, 1912. No further trouble with left foot. See Case 9.

CASE 5.—Dec. 19, 1910: P. G., male, aged 64. Diabetes, two years; local trouble, two weeks. Examination: Dry gangrene of the second toe, left foot, encroaching on the great and third toes and without definite line of demarcation. Marked redness and swelling of the dorsum of the foot. Gangrene continued to extend to the great toe and upward on the plantar and dorsal surfaces of the foot. General condition good. With the extension of the gangrene, septic rises of temperature to 102.5 F. Plantar ulcer on the right foot.

Sugar, 1.8 per cent. No acetone or diacetic acid. Radials slightly thickened. No popliteal, posterior tibial, or dorsalis pedis pulse felt.

Routine conservative treatment. Operative procedures: Disarticulation of second toe at phalangeal metatarsal joint after demarcation with plantar counter-incision, Dec. 30, 1910. Extension of counter-incision, Jan. 10 and Jan. 13, 1911. Circular amputation of leg at junction of upper and middle thirds, Jan. 17, 1911. Some sloughing of the skin and fascia, in spite of the fact that the flaps bled freely. Slight transient delirium and acetonuria after amputation. Duration of treatment, four months. Result, cured.

The plantar ulcer on the right foot healed under the routine conservative treatment. It has reopened occasionally since, but always heals with rest, baking and bathing. Patient has an artificial limb, walks well and attends to business. He has had no further trouble with left leg.

Patient was last seen Jan. 19, 1913. The stump was in excellent condition. The plantar ulcer on the right foot was healed. For two weeks he has had a small ulcer over the distal phalangeal joint, second toe, right foot. This was evidently caused by pressure from an ill-fitting shoe and has been steadily improving under rest, baking and bathing.

CASE 6.—April 5, 1911: A. R., woman, aged 53. Duration of diabetes unknown; local trouble, six weeks. Examination: Moist gangrene of the third, fourth and fifth toes and dorsum of the right foot as far as the ankle. Marked redness and swelling beyond the gangrenous area. Gangrene continued to extend without tendency to demarcation. General condition very poor. Temperature 102 F. Pulse from 102 to 120 per minute.

Sugar, 2.5 to 5.5 per cent. Acetone ++. Diacetic acid ++. Radials were thickened. No popliteal pulse felt. Blood-pressure 160 mm. Hg.

Routine conservative treatment. Operative procedures: Amputation in thigh at junction of middle and lower thirds, April 12, 1911. There was marked atheroma of the femoral artery and extensive sloughing of the flaps followed amputation. Subcutaneous abscesses developed after a hypodermoclysis of 5 per cent. sodium bicarbonate solution. An intravenous infusion of 2.5 per cent. sodium bicarbonate solution was followed by an alarming, but temporary collapse. The patient suffered from extreme polyuria, excreting as much as 7,000 c.c. daily. She finally developed an extensive decubitus and her mind became clouded.

Duration of treatment, two and a quarter months. Result death, June 14, 1911. Direct causes of death right lobar pneumonia, diabetic coma.

CASE 7.—June 22, 1911: J. W., patient of Dr. J. F. Erdmann, woman, aged 64. Diabetes fourteen years; local trouble, six months. Examination: Large moist gangrenous area on the inner surface of the left foot starting from the heel and involving the flexor tendon of the great toe and plantar region. Numerous discharging sinuses on the plantar surface of the metatarsal region of the great toe. Gangrene extended upward along the tibialis posticus tendon. General condition very poor. High temperatures with the extension of the phlegmon upward.

Sugar, 3 to 5 per cent. Acetone ++. Diacetic acid +. Radials slightly thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Repeated incisions in plantar region and along tibialis posticus tendon.

At first there seemed to be some improvement in the local condition. The sloughs separated and the granulations assumed a healthy appearance. Baking was discontinued because it was too exhausting. The general condition was too bad to warrant amputation.

Duration of treatment, one month. Result death, July 23, 1911. Direct cause of death, diabetic coma.

CASE 8.—July 31, 1911: E. G., patient of Dr. F. Kammerer. Diabetes ten years; local trouble, two weeks. Examination: Extensive moist gangrene of the fifth toe with a phlegmon of the plantar and dorsal surfaces of right foot. General condition very poor. Temperature 103 F. Pulse 96 per minute. Occasional delirium.

Sugar, 3 per cent. Acetone ++. Diacetic acid ++. Radials thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Extensive incisions of dorsal and plantar phlegmons, July 31, 1911. Removal of gangrenous toe after demarcation, Aug. 22, 1911. New counter-incision in plantar region connected with dorsal incision, Aug. 30, 1911.

Baking was discontinued because it was too exhausting.

At first there seemed little prospect of saving the leg or even the life of the patient, but there was a prompt and remarkable result from the conservative therapy.

Duration of treatment two and a half months. Result, cure.

Patient was last seen Aug. 29, 1912. She has been quite well, except for a small pressure ulcer on the fourth toe, right foot, which she has had for a few days. A written communication dated Jan. 14, 1913, states that she is very well.

CASE 9.—Nov. 30, 1911: D. S. (same patient as Patient 4), man, aged 59. Diabetes, at least one year; local trouble, one day. Examination: Moist gangrenous ulcer at second phalangeal joint, fifth toe, right foot. Necrosis of the joint and no well-defined demarcation. Gangrene threatened to extend. General condition good.

Sugar, 1 per cent. No acetone or diacetic acid. Radials thickened. No popliteal pulse felt.

Routine conservative treatment. Operative procedures: Amputation of toe at phalangeal metatarsal joint with resection of head of metatarsal, Jan. 24, 1912.

There was a sudden rise of temperature to 104.5 F. with a pulse of 120 per minute twenty-four hours after operation. The flaps became gangrenous and there was a lymphangitis running up the leg. The patient became comatose and higher amputation was out of the question on account of the general condition.

Duration of treatment, two months. Result death, Jan. 28, 1912. Direct cause of death sepsis.

CASE 10.—March 25, 1912: A. P., woman, aged 64. Diabetes eight years; local trouble five weeks. Examination: Moist gangrenous area, 1.5 cm. in diameter, on the outer side of the fifth toe, left foot, at the phalangeal metatarsal joint. General condition good. Severe pains in the leg.

Sugar, 0.7 to 1.5 per cent. No acetone or diacetic acid. Radials slightly thickened. Dorsalis pedis pulse felt.

Routine conservative treatment. Duration of treatment, two months. Result, cure.

Patient was last seen April 5, 1912. She has a small, clean granulating wound, which is rapidly healing, and her pains are relieved.

CASE 11.—April 10, 1912: M. D., woman, aged 54. Duration of diabetes unknown; local trouble, four weeks. Examination: Moist gangrene of the distal phalanx of the great toe, right foot. Extensive phlegmon of the dorsum of the foot along the extensor tendon of the great toe. No well-defined demarcation. General condition poor. Temperature 100.8 F. Pulse 120 per minute.

Sugar, 2.2 to 3.8 per cent. Acetone ++. Diacetic acid +. Radials soft. Popliteal pulse felt. No posterior tibial or dorsalis pedis pulse felt. Blood-pressure, 133 mm. Hg.

Routine conservative treatment. Operative procedures: Demarcated sloughs with distal phalanx and extensor tendon

removed. Removal of end of proximal phalanx to permit skin flaps to cover toe. June 15, 1912.

There was a most remarkable result from the conservative treatment. Though the loss of the limb was threatened, the gangrenous tissue quickly separated and the wound cleaned up promptly.

Duration of treatment three and a half months. Result, cure.

Patient was last seen, July 29, 1912. A communication from the patient, dated Dec. 28, 1912, states that about four and a half months previously, the second toe on the right foot showed an open wound which healed in three weeks. She has been quite well since.

CASE 12.—May 25, 1912: E. A., man, aged 40. Duration of diabetes unknown; local trouble, one month. Examination: Moist gangrene of the fifth toe, right foot, with extension along the flexor tendon and sinus formation on the plantar surface of the foot. Severe phlegmon with lymphangitis of the dorsum of the foot extending half way up the leg. Inguinal glands swollen and tender. General condition very poor. Marked evidences of sepsis. Temperature 104 F. Pulse 110 per minute.

Sugar, 0.25 per cent. No acetone or diacetic acid. Radials soft. Popliteal, posterior tibial, and dorsalis pedis pulse felt. Blood-pressure, 145 mm. Hg.

Routine conservative treatment. Operative procedures: Removal of gangrenous distal phalanx of fifth toe after demarcation, June 29, 1912. Sinus openings on plantar surfaces connected and tendon slough were removed, July 2, 1912.

There was a most remarkable result of conservative therapy. At first there seemed little prospect of saving the patient's life with anything less than a thigh amputation. After a few days of baking and bathing, the phlegmon, lymphangitis, and adenitis subsided, the temperature dropped to normal and remained so, and there was a rapid demarcation of the gangrene.

Duration of treatment, two months. Result, cure. Patient last seen, July 31, 1912. Wound entirely healed.

CASE 13.—June 8, 1912: J. K. (same patient at Patient 2), man, aged 59. Diabetes five years; local trouble, one day. Examination: Beginning gangrene of the fifth toe, right foot, with cellulitis of the dorsum of the foot and necrosis of the proximal phalangeal joint. General condition fair.

Sugar, 3 per cent. Acetone +. No diacetic acid. Radials rigid. Dorsalis pedis pulse felt. Blood-pressure, 210 mm. Hg.

Routine conservative treatment, except baking. Operative procedures: Removal of necrotic bone from phalangeal joint, June 15, 1912. Gangrenous process promptly arrested by rest and bathing. Duration of treatment, one month. Result, cure.

Patient last seen, Jan. 25, 1913. For about a year and a half he has had plantar ulcers on both feet. The patient is a waiter and, owing to the condition of his personal affairs, is compelled to work most of the time. The more or less continuous standing on his feet prevents the ulcers from healing.[1]

CASE 14.—June 12, 1912: E. R., man, aged 59. Diabetes two years; local trouble, six months. Examination: Extensive gangrenous ulcer on the outer side of the right foot. Fifth toe and its metatarsal already removed. Marked edema of the foot and ankle. General condition fair. Occasional rises of temperature as high as 102.5 F.

Sugar, 1 to 2 per cent. Acetone, trace. No diacetic acid. Radials slightly thickened. Popliteal pulse felt. No posterior tibial or dorsalis pedis pulse felt. Blood-pressure, 150 mm. Hg.

Routine conservative treatment. Operative procedures: Curettage of slough, Aug. 22, 1912.

At first there was some improvement under the conservative treatment. The sloughs separated partially and the granulations became cleaner. There was, however, no tendency toward healing and amputation below the knee was advised, but consent was refused.

Duration of treatment, two and a half months. No improvement.

Patient was last seen, Sept. 1, 1912. There was little change in the condition of the wound.

CASE 15.—June 28, 1912: C. S., woman, aged 77. Duration of diabetes unknown; local trouble, six months. Examination: Moist gangrene of the great toe, left foot. Gangrene well demarcated. Edema of the dorsum of the foot. General condition very poor. Advanced stage of senility present; also myocarditis and marked emphysema. Temperature 100.8 F. Severe pain in the foot. After two weeks development of septic symptoms with rises of temperature to 102 F.

Sugar, 1 per cent. No acetone or diacetic acid. Radials thickened. Popliteal and posterior tibial pulse felt. No dorsalis pedis pulse felt. Blood-pressure, 140 mm. Hg.

Routine conservative treatment. No local improvement; amputation out of the question on account of the patient's general condition. Patient so weak that it was necessary to discontinue the baking. Gradual decline of strength. Duration of treatment, one month. Result, death, July 28, 1912. Direct causes of death, senility, bronchopneumonia, pulmonary edema.

CASE 16.—July 6, 1912: J. K., aged 63. Duration of diabetes unknown; local trouble, six weeks. Examination: On the right foot a beginning gangrene of the great and second toe and a moist gangrene of the third toe. Gangrenous phlegmon, which had been incised, extending to the dorsum of the foot. Foul, purulent discharge from the wound. On the left foot a gangrenous ulcer on the outer side of the fifth toe. Moist gangrene of the inner side of the great toe. Foot edematous; another gangrenous ulcer over the internal malleolus. General condition poor. Patient very feeble. Temperature 102 F. Pulse 96 per minute.

Sugar, 0.3 to 0.6 per cent. No acetone or diacetic acid. Radials not thickened. Popliteal, posterior tibial, and dorsalis pedis pulse felt. Blood-pressure, 141 mm. Hg.

Routine conservative treatment. Operative procedures: Amputation of third toe, right foot, after demarcation; incision of dorsal phlegmon, right foot, and plantar phlegmon, left foot, July 22, 1912. No tendency toward healing. Amputation of one or both legs out of the question on account of the patient's general condition. Development of marked septic symptoms with chill and rise of temperature to 103 F. Duration of treatment, one month. Result death, Aug. 10, 1912. Direct causes of death, sepsis, diabetic coma.

CASE 17.—Oct. 5, 1912: C. T. (same patient as Patient 3), man, aged 58. Diabetes at least two years; local trouble, one week. Examination: Moist gangrene of the great toe, right foot, with involvement later of the second, third and fourth toes and an advancing phlegmon of the dorsal and plantar regions. General condition fair. Temperature 104 F. Pulse 106 per minute.

Sugar, 0.3 to 0.9 per cent. Acetone, trace. Diacetic acid, trace. Radials thickened. No popliteal, posterior tibial, or dorsalis pedis pulse felt. Blood-pressure, 200 mm. Hg.

Routine conservative treatment. Operative procedures: Circular amputation of leg at junction of upper and middle thirds, Oct. 22, 1912.

At the beginning of the conservative treatment the temperature dropped to normal and remained so for one week. The gangrene and phlegmon then advanced and there were evening rises of temperature as high as 102 F. At the amputation it was found that the vessels were calcareous, but they bled freely. There was some sloughing of the flaps, but the demarcation was prompt and healing was rapid.

Duration of the treatment two and a half months. Result, cure.

1. Since this paper was put in type this patient has again come under observation. On Feb. 10, 1913, he suddenly developed a gangrenous ulcer on the outer side of the plantar surface of the right foot. Within twenty-four hours there was a marked phlegmon of the ankle with a lymphangitis running up the leg. His temperature was 103.6 F. He was at once put to bed and the routine conservative treatment given. For a few days it seemed as if the limb were lost. On February 13 and on February 15 incisions were made into the infected cellular tissue at the ankle. The process gradually subsided and to-day (March 17) the patient is practically cured. The gangrenous ulcer is entirely healed, and the wounds at the ankle are small, superficial, and covered with healthy granulations. Incidentally the chronic perforating ulcers on both feet, which had been open for a year and a half as long as the patient was working, closed completely after one month's rest in bed.

Patient was last seen Dec. 12, 1912. There is a small, clean granulating wound in the center of the stump which is rapidly healing. The patient has already been measured for an artificial leg.

Reviewing the material to which I have applied the conservative method of treatment, it will be seen that in the seventeen cases, in three of which (Cases 9, 13, 17) the second foot of the same patient was affected, five patients died, a mortality of only about 29 per cent. One patient was not improved, but the remaining eleven were cured.

Four of the fatal cases (Cases 6, 7, 15, 16) were more or less hopeless from the beginning. In the only case (Case 6) in which a thigh amputation seemed indicated and was performed, the patient died two months after operation. Patients 7, 15 and 16 were in such a grave condition when they came under observation that any form of radical operation would have been out of the question and the fatal outcome would surely have been hastened by amputation of the thigh, or even of the leg.

In Case 9 I feel that an error in judgment was made. I relied on the fact that the same patient (Case 4) had made an excellent recovery after amputation of the great toe of the other foot and I believed that his general resistance and local condition were quite as good as they had been when that foot was treated over a year previously. The result proved that I was too optimistic and, if I had continued with ultraconservative methods and waited for further demarcation before amputating the fifth toe, I feel that I might have been able to record another recovery. The case was of the sluggish, chronic, non-progressive type, and only became acute after the operative interference. Aside from suffering severe pain and not sleeping the patient was in good condition and there would have been nothing lost by waiting, except the discomfort to the patient and the time I hoped to save. I think that the failure in this case merely serves to emphasize the importance of the fact that one cannot be too conservative and that much more harm can be done by doing too much than by doing too little.

The causes of death in the five fatal cases were pneumonia, sepsis and diabetic coma. Death was produced either by one of these conditions alone or by coma following one of the first two.

Of the eleven patients who recovered, nine (Cases 1, 2, 3, 4, 8, 10, 11, 12, 13) were cured with either no operative procedure at all or with more or less minor operations such as the incision of a phlegmon or the removal of a gangrenous toe. These patients were all finally restored to health with no more mutilation of the extremity than the loss of a toe or a portion of one. Three of these cases (Cases 8, 11, 12) showed most astonishing results from treatment. They were all very acute cases with high temperature and advancing gangrene with phlegmon. In Cases 8 and 11 there was a high percentage of sugar with large quantities of acetone and diacetic acid. In each instance it seemed as if there was not a chance in the world of saving the limb, while in one (Case 8) the patient's life was in imminent peril. I am certain that a few years ago we would have promptly performed a thigh amputation in these three cases and would have lost not only the limb, but probably the patient as well in each instance. After a short period of routine treatment the temperature dropped, the cellulitis subsided, the gangrene demarcated and the cases went on to uneventful recovery without radical operative interference.

Case 4 is worthy of special mention. This was a gangrene of the chronic type that had resisted treatment for six months. A very competent and conscientious surgeon finally advised radical amputation to which the patient refused to give his consent. I finally removed the gangrenous toe, instituted the regular treatment and the case went on to uneventful recovery. I shall refer later to the subsidence of the excruciating pains from which the patient suffered.

In two cases that ended in cure (Cases 5, 17) I was forced, on account of rapidly advancing gangrene with cellulitis and septic symptoms, to amputate the leg at the junction of the upper and middle thirds. Each of these patients has a useful stump and a movable knee.

The average duration of treatment was two and three quarters months.

As a rule, though by no means invariably, when the acute symptoms subsided the sugar percentage dropped considerably and the acetone and diacetic acid disappeared from the urine, if these had been present.

It must be admitted that there is a decided tendency to recurrence of the trouble with the extremities after the patient is cured, even when careful prophylaxis is observed. Still, this may manifest itself only in the shape of an occasional ulceration, which is not very malignant and which, if the foot is placed at rest and properly attended to, will heal more or less promptly. At any rate the first case has been comparatively well for over two years and not one of the cured patients has as yet had further serious trouble with that extremity.

One patient (Case 14) left the hospital against advice, unimproved. He had originally come in for an amputation, but was persuaded to submit to conservative therapy. At first there was some improvement, but after two and a half months it became evident that the gangrenous ulcer would not heal and amputation below the knee was advised. The patient, however, now withheld his consent. Judging from previous experience, I am convinced that, had this operation been performed, the patient would undoubtedly have recovered and I might have been able to add another cure to my report.

Unfortunately the series to which I have applied these ultraconservative measures has been limited to seventeen cases. I confess that the number is not sufficient from which to draw any broad general conclusions or to lay down any definite laws. Still no attempt at selection of the cases was made and the results as compared with those that are the rule when radical therapy has been resorted to must strike forcibly any one who has had any experience with these cases. It might be argued that amputation is required only in the really serious acute cases and that these cases are the ones which give unfavorable prognosis. Yet in former years, amputation was apparently indicated in almost every case and from my experience then, all cases gave an unsatisfactory outlook. Further a good percentage of my cases were very severe and in these even a goodly proportion of patients recovered. Though it is possible that I have been unusually fortunate in encountering a series in which there were a number of comparatively benign cases, I confidently believe that if this conservatism in the treatment of diabetic gangrene is adopted, there will be a decided difference in our results.

Returning to the three cardinal principles enumerated above, permit me on the basis of the clinical data presented, to go more into detail in their individual application.

### TREATMENT OF DIABETES AND PROPHYLAXIS AGAINST COMPLICATIONS

In regard to the systemic treatment of the diabetes and the prophylaxis against the development of dangerous complications, especially coma, I have little new to offer. This subject belongs more to the province of the internist and the specialist in metabolic diseases than to that of the surgeon. The best we can do is to adopt the rules laid down by von Noorden and others, the essential feature being the antidiabetic dietary regimen. Still there are certain practical points that are of special surgical interest.

The twenty-four-hour urine should be examined daily. It is especially important that specimens of the full twenty-four-hour urine be used, as the result of the examination of individual voidings may be very misleading.

If there is any evidence of an impending coma, such as mental sluggishness or delirium, or if the urine shows the presence of acetone bodies, the strict antidiabetic diet must be relaxed. The amount of sugar in the urine can be disregarded entirely. I give a cupful of oatmeal gruel twice a day to these patients, allow them a little bread and, to vary the monotony, a baked potato or some boiled rice occasionally.

As far as medication is concerned, I have no great faith in any of the various drugs recommended. When there is pain, I administer codein or morphin liberally. As to the use of alkalies, I regularly administer sodium bicarbonate in large doses. It must not be given in such large quantities that gastric disturbances result. A few teaspoonfuls in Vichy every two hours is about the limit of toleration. If given by rectum it is usually not retained. If given by hypodermoclysis, even weak solutions are irritating, and I have seen ugly phlegmons result (Case 6). By intravenous infusion large quantities could be given, but it should not be used in this manner in stronger solutions than 1 to 2 per cent. I have seen an alarming collapse after the use of a 2.5 per cent. solution (Case 6). The sodium bicarbonate should be added to a filtered and freshly prepared Locke's solution made from recently distilled water and pure chemicals. I am by no means convinced that this alkaline therapy is of much value. At times, I have felt that a coma was avoided by the use of sodium bicarbonate (Case 5 after an amputation), though I have never seen any direct changes in the urine as a result. I have never seen the drug benefit the patient in the slightest degree after coma has once been established.

I believe that chloroform should never and ether only very rarely be used in operations for diabetic gangrene. Nitrous oxid or nitrous oxid-oxygen anesthesia should certainly be the method of choice. This form of anesthesia answers the purposes in almost every case. Should it fail in exceptional instances, a small quantity of ether might be used. A water-bed, if necessary, bathing the back with alcohol, heel-cushions, etc., should be resorted to, to prevent bed-sores. Deep breathing should be encouraged, or better still a set of James' bottles should be used to ward off a pneumonia.

### IMPROVEMENT OF CIRCULATION

An attempt to improve the circulation in the extremity narrows itself down to the production of an active hyperemia by Bier's method. There are two means at our disposal, namely, hot baths and dry hot air. For the hot bathing sterile physiologic saline solution at a temperature of about 110 F. is used for a half hour, generally twice daily. If possible the entire limb should be immersed.

For the application of hot air we have been using the Tyrnauer electric oven at the German Hospital. The extremity must be very carefully wrapped and the entire limb should be inserted into a suitable oven. The oven should be warm when the treatment begins so that the patient is not put to the unnecessary strain of waiting in an uncomfortable position till sufficient heat is generated. It is advisable to accustom the patient gradually to the treatment by brief applications at a lower temperature. As a rule the maximum duration of the treatment should be half an hour and the highest temperature from 180 to 200 F. I must caution against too high a degree of heat. This is of no value and exposes the susceptible limb to burns, which necessarily should be avoided.

Though the expensive electric ovens may be rented in large cities, in private practice, I have found the Holzborn gas apparatus very satisfactory. It is inexpensive and answers the purpose admirably. If the patients stand the treatment I give a baking followed by a bathing twice a day. For some patients this is too much of an exertion and must be reduced. Some patients cannot stand the baking at all. In these cases we must be content with the less strenuous bathing.

That this hyperemic treatment does actually improve the circulation I am convinced. I have had very definite evidence of this in several cases. The most marked example is in Case 4. In the first place, at the first operation, before I began the hyperemic treatment, when I amputated the great toe, the flaps were absolutely bloodless. It was as if I were using an Esmarch bandage. At the second operation after eleven weeks of hyperemia, the parts were not only not anemic, but they bled very freely. An examination of the illustration will show a distinct division into two parts of the remaining toenails in this case. This change in the character of the nails dates to the beginning of the effects of the hyperemia. The nails, which had been brown, dry and brittle, became pink and pliable, showing that there had been a definite change for the better in their nutrition. Then the coldness of the extremity was no longer so apparent. With this direct objective evidence in the improvement of the circulation there was also a marked subjective change. The patient said that the foot felt warm. Most striking, however, was the gradual and eventually total cessation of the excruciating pains in the foot and leg due to the ischemia.

In Cases 5 and 17, in which I was finally forced to perform an amputation at the junction of the upper and middle thirds of the leg, the patients had had hyperemic treatment for four and two and a half weeks, respectively, before the amputation and the operations were very bloody. They were performed without the use of an Esmarch bandage. I firmly believe that the previous treatment with active hyperemia in these cases, while it did not save the feet, nevertheless helped to assure the success of the low amputation and hastened the healing process.

In most of the other cases, the formation of distinct lines of demarcation was noted soon after the beginning of the hyperemic treatment, the gangrenous or phlegmonous processes were promptly arrested, sloughing of the necrotic tissue was hastened and the granulations in the unaffected area showed an increased vitality. These granulations lost their pale, flabby character and showed a more marked tendency to bleed when touched. Just how this hyperemia does improve the circulation

I am not prepared to say at the present time. I believe that the most generally accepted theory is that this is due to the repeated dilatation of the superficial capillaries as a result of the application of the heat, and a corresponding reduction of the peripheral resistance to the circulation. I believe that the actual destructive and inhibiting effect of the heat on the bacteria is also no unimportant factor in limiting the infections process.

A word of warning against the production of passive hyperemia by the application of the elastic bandage! Some men have used the Bier treatment in these cases in this form. Just as much as the active hyperemia is indicated here, just so much is the passive form contraindicated. Its use is not only illogical, but dangerous, for it adds to the anemic limb a venous congestion and increases the difficulties with which the arterial circulation has to contend.

On general principles, I administer sodium or potassium iodid on account of their absorbent qualities, and nitroglycerin as an arterial dilator.

### TREATMENT OF LOCAL INFECTION

The greatest individualizing must necessarily be practiced in the treatment of the local infection on rational general surgical and aseptic principles. I shall attempt to outline in a general way how a typical case should be handled. The patients should be kept at absolute rest and the strictest asepsis should be observed in the treatment of the affected parts. They should be constantly dressed with compresses saturated with a sterile physiologic salt solution. Antiseptics should be avoided because of their devitalizing properties. The dressings should be kept moistened; this also tends to produce a hyperemia, but I prefer not to use an impervious rubber tissue covering on account of the maceration that this produces. Tight bandaging should be avoided. The dressings should be changed at least twice a day. As a routine measure, I would recommend baking the extremity with the dressings on, allowing the dressings to soak off in the bath and then reapplying fresh dressings twice daily. All traumatism should be carefully avoided. The use of hydrogen peroxid is to be discouraged under ordinary circumstances, as it tends to dissect into unaffected parts. No attempt should be made to remove the sloughs forcibly. One should wait until the gangrenous tissue is well loosened and can be easily pulled off with a forceps. The whole method of treatment should be as expectant as possible. Wait, wherever possible, for a complete demarcation. The less active and energetic measures one uses, the less liability will there be to an extension of the phlegmon or gangrene.

As is well known, the tendency of the gangrenous and phelgmonous process is to extend first along the tendons and then along the muscle and fascial planes. Although inactivity is to be recommended, retention must not be permitted to occur, and if a pocket forms, or if there is an undermining with deep sloughing, these must be widely opened. On general principles, I object to local anesthesia, as the infiltration of the tissues tends to impair their nutrition, and I never use an Esmarch bandage.

When a definite line of demarcation has formed, the affected tissues may readily be loosened and removed with a few snips of a curved scissors. Usually no anesthesia is required. One should avoid cutting through non-affected tissue near the gangrene. If bony sequestra have loosened, they should be picked out with the forceps, but the sharp curet should not be utilized. Should the gangrene show progress and no line of demarcation form and should the phlegmon threaten to render the patient septic, notwithstanding extensive and repeated incisions, a more radical amputation obviously becomes imperative. When this is the case, I feel that an amputation just as far beyond the affected area as will insure operation in healthy tissue and at the same time give us a suitable amputation site—and no further—will answer the purposes quite as satisfactorily as the indiscriminate high thigh amputation.

Of course under these circumstances, reamputation may become necessary, and the latter type of amputation might eventually be required, but it appears to me that there is no urgency in taking this step—that the results will be just as good, as when this is done primarily, if not better and certainly no worse, and many a knee-joint will be saved that might have been unnecessarily sacrificed.

That the stump in an amputation above the knee is as useful functionally as one below the knee is an idea unsupported by a comparison of the two types fitted with artificial limbs and by the opinions of experts in the manufacture of these protheses. A point that is of vital importance is that the nearer one approaches the heart, the more of a shock to the system is the operation itself, and it behooves us to try first the least damaging and mutilating procedure. I think that the presence or absence of the popliteal pulse is not a matter of great significance. Deep-seated, rigid and calcareous vessels, though their lumens are not entirely obstructed, will give no pulsation. In Cases 5 and 17, there was absolutely no popliteal pulsation and yet the anterior and posterior tibial vessels bled freely. Even if the popliteal and anterior and posterior tibial vessels are entirely obstructed and the flaps practically bloodless, healing may take place without further gangrene. I have seen this phenomenon in a recent case of presenile gangrene and I believe that the same can occur in the diabetic type. As far as the Moszkowicz test to determine the site of amputation is concerned, my experience has taught me that one can place as little reliance on this as on the question of popliteal pulsation. In this test the lower limit of the secondary hyperemia occurring after the removal of an Esmarch bandage, which has been tightly applied to the thigh for a few minutes, is taken as the proper site for amputation.

The reason for the failure of this test in many cases will be clearly seen when it is understood, as I shall point out, that the elastic bandage will often not compress the atheromatous femoral artery and produce the primary anemia of the limb, so that there will be secondary hyperemia, although the flow of blood through the vessel may be quite considerable.

The presence of the acetone bodies in the urine has occasionally been regarded as an indication for amputation. A study of my cases shows that this factor may be disregarded entirely in this connection.

A word or two in regard to the technic of amputation. As emphasized above, it should be performed under nitrous oxid or nitrous oxid-oxygen anesthesia. The Esmarch bandage should not be utilized. Not only does the bandage produce unnecessary traumatism and further interference, if only temporary, with the circulation of an already poorly nourished limb, but it is usually an utterly useless step. The bandage will often have absolutely no effect as far as compressing the rigid artery and controlling the hemorrhage is concerned. One might just as well try to stop a leak in an iron waterpipe by tying a rubber band around the pipe above the

leak, as to control the bleeding with an Esmarch bandage in the majority of amputations for diabetic gangrene. On the contrary, the bleeding is often intensified because a venous stasis is produced without an arterial obstruction. These are no mere theoretical inferences. I have repeatedly seen practical confirmation of these statements.

The amputation should be done as rapidly and as simply as possible and with a minimum amount of traumatism to the tissues. Ordinary circular flaps should always be used as they insure the best possible nutrition. One should avoid osteoplastic operations and above all the flaps should be left wide open and the wound lightly tamponed with gauze. If this last step is observed the flaps are not subjected to the tension of sutures or adhesive strips and the possibility of septic retention following the sloughing of the skin and fascia, which occurs in almost every case, is eliminated. Finally, the dressing should be loosely applied.

Dr. Garbat has suggested to me that autogenous vaccination might hasten the separation of the sloughs and healing. Although I regularly use the autogenous vaccine in diabetic carbuncle I have had no personal experience with it in the infections resulting from gangrene of the extremity. I believe that the suggestion of Dr. Garbat is worthy of trial and I shall make use of it at the next opportunity. Judging from my experience in diabetic carbuncle, one should be careful in vaccinating the diabetic patient and not use too high a dosage. The diabetic is very susceptible and I have seen very severe local reactions follow the injection of moderately high doses. I have even had a suppuration at the site of injection after the inoculation of 400,000,000 staphylococci.

It might be in place here to emphasize the fact that prophylactic measures are of the utmost importance. The same rules apply to all cases of diabetes with the slightest tendency to circulatory disturbances of the lower extremity before the development of any real lesion, as apply to those patients who really have a gangrene or an infection resulting therefrom. Above all the chiropodist should be shunned. Many patients date the origin of their active disturbance to the clumsy and septic manipulations of a pedicure. Garters and stiff, tight shoes should not be worn and all pressure must be avoided. The feet must be kept scrupulously clean. They should be bathed and powdered religiously. Extreme care should be exercised in not injuring them and in not permitting them to become frost-bitten. An insignificant scratch, a slight abrasion should receive competent surgical attention. Ulcers, corns, ingrown toe-nails, bunions, etc., should be treated by the surgeon.

The methods of producing active hyperemia detailed above should be begun before the gangrene sets in and continued after the patient is cured so as to prevent a recurrence.

I wish to say one word in conclusion relative to the effect of this method of treatment in other types of gangrene. I have applied it to cases of presenile, senile and embolic gangrene, but the results are by no means as satisfactory. Although occasionally demarcation is stimulated and the patient escapes without radical operation, these cases, as a rule, come to amputation, at least of the leg. I presume that the reason for the relative failure of the conservative treatment in cases that are not diabetic is due to the fact that the lesion is solely a circulatory one and that the circulatory disturbances are too extreme to be influenced. In diabetic gangrene, while the circulatory lesion is an important one, it is usually not of such a complete nature and the systemic disease is at least partially responsible for the local trouble. Hence there is a chance of controlling the process in diabetes by improving the general condition, increasing the circulation in the extremity, and treating the wound itself according to the principles of aseptic surgery.

115 West Eighty-Seventh Street.

---

# ADVICE TO PATIENTS ON LEAVING THE HOSPITAL AFTER SURGICAL OPERATIONS*

LEONARD FREEMAN, M.D.
DENVER

Comparatively little seems to have been written on this subject, in spite of its importance. The character of the advice will of course depend largely on the nature of the operation and of the condition for which it was done; but there are certain general considerations which will apply to the majority of cases unless some special contra-indication exists.

It was formerly customary to keep surgical patients in the hospital, and even in bed, for what is now known to be an unnecessarily long time, thus adding to their expenditures, decreasing their incomes, and consuming time which could otherwise be more profitably employed. The sum total of the loss to the community from this source was enormous. Gradually we have learned to reduce this loss of time, to the advantage of the patients and to the general advancement of surgery.

Surgical patients on leaving the hospital generally pass from under the observation of the operator, especially those living at a distance. Unless the surgeon takes the trouble to advise them, their future mental and physical welfare will depend on their own ideas and on the advice of those around them, including perhaps their family physician. Most patients have a very hazy conception regarding their conduct, their actions often being largely governed by groundless fears and traditions and by the advice of ignorant or oversolicitous friends. Even the family physician, if consulted, is not always a reliable guide, because of unfamiliarity with surgical questions or of lack of knowledge of the individual case. These things are unfortunate, and militate against the prompt and smooth mental and physical recovery which should be the aim of every well-conducted surgical procedure.

To the surgeon all seems simple enough. With his superior knowledge it is difficult for him to realize the fears and uncertainties of the patient suddenly thrown on his own ignorant resources; and hence his instructions, if he gives any, are too often hasty, meager and but imperfectly understood. I am convinced that the whole subject deserves more attention than has hitherto been accorded it.

The following outline represents my own idea of the situation, which may not accord with those of others, but which will at least serve as a basis for consideration and discussion:

The surgeon should take time to talk over with each patient, before he leaves the hospital, his present condition, his prospects and his future course of action, explaining also, within the bounds of reason and expediency, the exact nature of the operation performed. As abdominal operations are the most frequent, I shall con-

* Read before the Denver City and County Medical Society, Feb. 18, 1913.

sider the advice to be given in connection with these; most of this advice applies to other surgical procedures also.

The patient should be told, when this can conscientiously be done, that the operation was successful and that everything necessary was accomplished. It should also be explained, when true, that the abdomen was explored wherever there was likelihood of anything being wrong and that everything was in perfect condition. This is an important point for the patient's future peace of mind, and hence, according to the most modern principles of surgery, such exploration should be done when practicable. It is well to make this explanation as emphatic as circumstances will permit, no matter what exception it may be wise to make to relatives and friends. For instance, one is usually justified in saying:

"Everything is all right; not only in the region operated on, but in the rest of the abdomen you are in just as good condition as any one else. I know this to be true, because I have examined everything carefully. Even if you feel more or less pain and soreness in the future, you must not think that they mean anything more than the natural consequences of a surgical operation.

"You must bear in mind that an operation is a severe injury, just as much as if you had fallen from a horse or had been run over by an automobile. The skin with its many small nerves has been cut, and the muscles separated and more or less strained and bruised, which is certain to produce soreness and stiffness that may persist for a long time, but which mean little and should be disregarded as far as possible. A similar soreness and stiffness would result from severe and unaccustomed physical exertion, such as climbing a mountain, but it would cause no anxiety and you would be sure of its speedy disappearance. The division of nerves in the skin may give rise to various uncomfortable sensations, such as numbness, oversensitiveness and even actual pain in the scar; but these manifestations mean nothing, should be given but little attention, and will surely vanish in the course of time.

"All of these disagreeable symptoms are apt to be more pronounced at night, while you lie quietly in bed, with nothing else to occupy your attention. This is largely owing to the accumulation of gas within the bowels, which presses on the sore places from the inside much as if you pressed on them with your hand from the outside. If you do not bear this in mind you are apt to imagine that some dire calamity is fomenting within you."

In addition to some such talk as the above, it may be stated that the soreness following an operation is likely to occur in periods, brought on perhaps by overexertion, indigestion, barometric changes, etc., but that these spells signify little and should cause no mental uneasiness; that if they are regarded too seriously and with the idea that something is wrong inside, they may increase to such a degree that the patient becomes a nervous, hysterical semi-invalid — a nuisance to herself, to her physician, and to all those who are so unfortunate as to be associated with her. I say *her* because such cases usually occur in women.

The effects of this sort of introspection may advantageously be illustrated by referring to the fact that many medical students develop symptoms of the various diseases which they read of and hear about in their lectures. The patient will also get a better understanding of the situation if she will sit quietly down by herself, hold up her little finger in front of her and look fixedly at it for fifteen minutes, concentrating her whole attention on it. Before the time has expired it is likely that the finger will be the seat of some very peculiar sensations, and there will be a strong tendency to give it a good rubbing. If this is true of a normal finger, how much more must it apply to the seat of an operation, with all the mysterious fears and uncertainties which surround it!

In order further to avoid the evils of introspection, the patient should be cautioned against describing the operation and the hospital experiences to curious friends. In fact the whole matter should be regarded as a more or less disagreeable episode, to be made little of and forgotten as soon as possible. In this connection the Germans have an excellent saying, *Schwamm darüber*—"sponge it out."

Emphasis should be laid on the fact that according to the mental attitude it is possible either quickly to overcome the effects of most operations or to nurse them along indefinitely, and develop a condition of semi-invalidism, by continuously "looking for trouble" and "making mountains out of mole-hills." Assure the patient emphatically that in your opinion she does not belong to this latter class of weak and nervous individuals, who are much to be pitied; but that you feel certain from your observation of her that she will conduct herself with sense and discretion and not allow herself to become hysterical and neurotic. It is often well to add that any nervous symptoms which may have bothered her in the past evidently had a good foundation, but that from now on there can be nothing to prevent her from rapidly regaining her normal equilibrium, and that you can easily see that she is one of those who are always cheerful, energetic and happy if only they have a fair chance.

Patients must be warned against trying to interpret their own symptoms; for even doctors, with their superior knowledge, cannot trust themselves to tell what is going on within their own bodies. Above all, allowance must be made for the advice and statements of friends. There is nearly always some woman who, without appreciating that she is doing harm, will fill the patient's mind with forebodings of disaster, such as the development of a hernia or the return of gall-stones or of a malignant growth. Especially is this true of the woman who opposed the operation and who consequently desires to be able to say "I told you so." Explain that these objectionable pessimists can know but little about the subject, and at best must base their predictions on very few observations; while your own opinion, as the surgeon in the case, is supported by the knowledge gained in operating, as well as by the dictum of the entire medical profession, grounded on years of experience and investigation.

### ABDOMINAL SUPPORTERS

Patients are always anxious regarding the character of abdominal supporters and the length of time during which they should be worn. The laity, as well as many physicians, regard them as of so much importance that the surgeon is compelled to give them an undue amount of attention. It should, I think, be explained that these "belts" are really of little service, except as they may confer a sense of security and comfort, or when ptosis exists. If there is a tendency toward rupture it will occur in spite of the belt, a fact that is quite generally recognized among surgeons. There is, however, such a strong prejudice in favor of belts that it would be unwise to advise against their use, for if any trouble should

occur the surgeon would undoubtedly be blamed. Moreover most women are in the habit of wearing corsets and would feel uncomfortable without a support of some kind.

Fortunately a proper corset is just as good as a belt, or better. It should be of the long, "straight-front" variety and should be so laced as to push the whole abdomen upward. This may be done by employing two strings, the lower one being laced snugly and tied perhaps half-way up, while the upper one is fastened more loosely. It is neither necessary nor desirable to wear belts or corsets very tight. They should be used for purposes of support only and not for constriction and should never cause discomfort. No pads, bands or stays should ever rest directly on the incision; not only is such pressure useless, but also in recent wounds it may give rise to inflammation and pain, while in older cases it favors atrophy and weakening of the scar. I have often seen much distress caused by the pressure of a reinforcing band or a corset-stay. It should also be made clear that it is unnecessary to wear a supporter of any kind while lying down at night.

### DRESSINGS

When patients leave the hospital they are generally still wearing some sort of dressing held in place by a many-tailed bandage. They should be told that this is merely for the purpose of protecting the delicate scar, no virtue being attached to the cotton and gauze, and that the whole thing may soon be removed. Until then it is unnecessary to wear an abdominal supporter, its place being filled by the bandage. When the gauze and cotton are discarded they may be replaced by a folded handkerchief, if the cicatrix is still tender.

It should also be stated that all danger of infection ceases as soon as the wound is healed. If this is not done, those who have had this danger constantly paraded before them while in the hospital may remain uneasy for many weeks, as I have often seen.

### CONSTIPATION

Immediately following an operation it is usually necessary to employ cathartics freely, which naturally leads to constipation. If nothing is done to overcome this it may cause permanent impairment of the natural activity of the bowels, requiring a more or less constant use of drugs; hence it is well carefully to advise patients in this regard. There are doubtless many good ways of doing this, but I have found the following method efficient:

1. On awakening in the morning, before getting out of bed, knead the bowels deeply and thoroughly, following the colon, from the cecum to the sigmoid.

2. On arising drink a glass of cold water and take such calisthenics as are permissible under the circumstances, increasing these exercises as convalescence progresses.

3. Eat for breakfast such things as experience has taught are most likely to assist peristalsis—such as fruit and oatmeal.

4. Go to the water-closet as nearly as possible exactly at a stated time, the reason for this being that the bowels are "creatures of habit" and "slaves of suggestion." To those of regular habits the "suggestion" accompanying a certain time and place is sufficient to procure a movement; but if the time is allowed to pass on a few successive occasions, constipation results. Nothing should be allowed to interfere with this regularity, and all mental and physical exertion should, as far as practicable, be postponed until after the visit to the water-closet.

5. Stay in the water-closet for fifteen minutes, by the watch, without straining—just waiting.

6. If the attempt fails, as it often does at first, it will then be necessary to give the bowels some assistance, not with cathartics, because the more cathartics one takes the more one requires, but by the injection of a few ounces of cold water from a fountain syringe, or possibly by the use of a glycerin suppository.

Most cases of ordinary constipation will yield to this régime in a week or two, although some are stubborn enough to require more elaborate methods. Occasionally hormonal, agar, vibratory massage, or even dilatation of the sphincter may be necessary.

### DIET

The great majority of patients on leaving the hospital are in condition to resume their ordinary diet, but they are often afraid to do so unless informed of the fact, because they are convinced that some specific diet should follow every operation. The fact is, however, that convalescence if often retarded by a departure from customary habits of eating and drinking, which have become in a measure physiologic necessities.

There are, of course, certain cases requiring special systems of diet, which are often better prescribed by the physician than by the surgeon. For instance, in stomach cases the patient should be given a carefully prepared diet list and cautioned against overeating, while in genito-urinary cases the patients should be advised to drink water freely and avoid alcohol, etc., etc

### SOCIAL DUTIES, VISITORS, ETC.

Every operation means more or less nervous and physical strain, not only from the operation itself, but also from the apprehension and sleeplessness which precede and accompany it. The result is a decided loss of energy and resisting-power. Even prolonged rest in bed, without other cause, is productive of considerable weakness. Under these circumstances nothing is more exhausting to a convalescent than a too rapid resumption of social duties. Hence warning should be given against dinners, parties, receptions and theaters, and especially against receiving too many visitors and indulging in prolonged conversations.

As soon as one who has been operated on returns from the hospital, every acquaintance is curious to see the result and hear all about the operation, and the defenseless patient must again and again rehearse the whole experience in all its harrowing details. This is not only exhausting, both nervously and physically (no one knows how exhausting who has not been through it), but it also prevents the mind from getting into other and less morbid and introspective channels. In this connection it may be mentioned that one of the worst things a patient can do on leaving the hospital is to go to the home of a friend. This is nearly always a strain, because it entails certain social exactions which cannot be avoided and which interfere with that relaxation of body, ease of mind and freedom from obligations which are necessary to recuperation.

For all these reasons it is often desirable, when possible, for patients to go away and complete their convalescence in some interesting locality among strangers, surrounded by new scenes and free from the well-meant persecutions of their friends.

### REST AND SLEEP

Too much stress cannot be placed on the procuring of sufficient sleep; but unfortunately this is often difficult to get, owing to nervous irritability and social activity. Patients should be instructed to retire early and also to lie down for a short time at least once during the day. They must also be warned against the excessive use of hypnotics, which should never be taken except under the direction of their family physician, because the drug habit is easily acquired under such circumstances and its effects are disastrous.

### GOING UP AND DOWN STAIRS, RIDING, ETC.

Most people, for some reason, have an idea that it is harmful for those who have recently been operated on to go up and down stairs. In reality there is no danger in this except the danger of falling, which may, however, be considerable while the patient is still in a weakened condition.

Riding in almost any sort of a conveyance is nearly always permissible, providing the driver is reasonably cautious and the excursion is not too long. Street cars, railroad trains and sea-going vessels are seldom objectionable, although the question of seasickness must be considered. Horseback riding and bicycling must be approached with caution and should not be indulged in for at least a number of weeks, especially in cases of movable kidney or other forms of ptosis.

### EXERCISE

This is of much importance and should be encouraged, although it should of course be appropriate and judicious in amount. The patient must be made to understand that no one ever gets strong by resting too much, and that exercise and fresh air within reason are quite necessary to a rapid and satisfactory convalescence. It is especially desirable that the abdominal muscles, weakened and injured by the operation, should be strengthened by carefully graduated calisthenics, beginning with the lightest work, which is cautiously increased until the normal tone is regained. It is better for the patient to do this slowly and carefully than to permit the muscles to remain weak and atrophied until some sudden and unavoidable strain results in serious damage. Massage is often serviceable and should be recommended more often than it is when the means of the patient permit.

### RETURNING TO WORK

Most patients desire to know on leaving the hospital how soon they can safely return to their regular occupations. This is difficult to answer because it depends so much on the nature of the work. The tendency has always been to keep people idle too long, which is detrimental to them, physically, mentally and financially, and a loss to the community also. The idea should be to get them back to their avocations as soon as this can be done. It is often better, for instance, to permit a woman to resume within proper limits many of her household duties, rather than to insist that she sit around for weeks or months in enervating and useless inactivity.

In this connection it can be said that most abdominal wounds are as strong at the end of a month or six weeks as they will ever be; and other things being equal, the majority of patients can return even to quite heavy work at that time. If there is a tendency to the formation of a rupture it will come anyhow in spite of any reasonable care, so there is but little object in waiting longer. In appendix operations done with the gridiron incision the time of probation may still further be curtailed, even to so short a period as three weeks in some instances. In cases of movable kidney the wait must be longer—say six to eight weeks—while hernia occupies an intermediate position.

Women should not be in too much of a hurry to resume the care of small children, although this is exactly what the average mother of such children is anxious to do. It is wise to try to convince her that it is good for the children and develops their character and independence to be with others for a time, and that she, the mother, can do them greater justice in the end by properly recuperating before she returns to them.

### VARIOUS POSTOPERATIVE CONDITIONS

*Adhesions.*—The surgeon should not neglect to explain about adhesions, because if he does not mention the subject some one else will, and entirely wrong and disturbing notions may be the result. It should be explained that adhesions follow almost every abdominal operation, and that this is natural and proper. Nature has provided the omentum for this very purpose—to fasten together and protect internal wounds, just as we use adhesive plaster and dressings for similar purposes externally. It should be clearly understood that these adhesions are harmless, although they may pull uncomfortably for a time until they become stretched and adjusted to their surroundings. Also, it should be explained that, like the external dressings, they are usually temporary and that they tend to dissolve and disappear in the course of time.

*The Eyes.*—It is often desirable to direct attention to the eyes. If there is anything wrong with the accommodation of these organs, although the compensation may previously have been perfect, difficulty is apt to arise from muscular strain, following the weakening effects of a serious operation, which results in headache, dizziness and perhaps nausea. If these symptoms appear and persist, an oculist should be consulted.

*Bathing.*—Many patients are worried by an uncertainty as to when they may begin to take baths. It should be explained that "when a wound is well it is well," and that, other things being equal, they may begin bathing as soon as the wound is thoroughly healed and "dry"—usually in from two to three weeks after the operation.

*Menstruation.*—Unless something is said on this subject much uneasiness will result. It must be explained that irregularities of the menses often follow surgical operations; they may come too soon or too late, be too profuse or too scant, or even not appear at all for several months. Whatever occurs is of little importance and the function will adjust itself in the course of time without causing harm of any kind.

### CONCLUSION

The preceding imperfect consideration of an important subject is of course merely suggestive; there are many points which have not even been touched on. Operations other than abdominal require individual instructions according to the nature of the case and the characteristics of the patient. For instance, where the skull and brain are concerned, it should be understood that mental exertion and excitement must be avoided for an appropriate length of time; in genito-urinary cases much water and other liquids should be consumed with the exclusion of anything containing alcohol or other irritating substances; in amputations, massage of the

stump should be recommended and attention should be directed to the occurrence and persistence of reflex pains and peculiar sensations referred to the absent foot or hand, which are often disturbing, especially if not correctly understood. Patients who have had rectal trouble, those, for instance, who have been operated on for piles, must be told to avoid for at least two weeks the passage of hardened feces, making use, for this purpose, of proper cathartics and of warm saline enemas before movements of the bowels, when this seems to be necessary.

---

# THE PURITY OF COMMERCIAL SODIUM SALICYLATE*

W. S. HILPERT, PH.D.
CHICAGO

While certain manufacturers lay great stress on the superiority of sodium salicylate made from oil of wintergreen or oil of birch, examination of the various pharmacopeias discloses the fact that in laying down the requirements for sodium salicylate no stipulation or reference is made as to its origin.

Inasmuch as a considerable number of physicians have endorsed these claims the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association undertook an investigation of the subject. Thus far two reports have been published: (1) the critical review of the literature by Eggleston,[1] which showed that in spite of the claims and intimations of some manufacturers the evidence in favor of salicylates made from natural oils is actually very slight and that the evidence against artificial salicylate is even less; and (2) the pharmacologic study by Waddell[2] which showed that there is no difference in the physiologic action of thhe synthetic and "natural" sodium salicylates. As a further contribution to this research the results of a chemical investigation are now presented.†

Salicylic acid was first obtained by Piria[3] (1839) from salicyl aldehyd by treatment with alkali, and shortly after (1843) Cohours[4] and, almost simultaneously, Procter[5] found that it could be prepared from the essential oil of wintergreen (*Gaultheria procumbens*). Following these discoveries it was found that salicylic acid could be obtained from many other plants and chemical compounds. Although some physiologic experimentation was carried out with it, salicylic acid continued to be merely a laboratory compound and was introduced into medicine only after Kolbe's[6] discovery of synthesizing salicylic acid from phenol came into use.

Kolbe (1860) prepared sodium phenolate from phenol and sodium hydroxid and, after drying the product, subjected it at 100 C. to the action of carbon dioxid. Then the temperature was gradually raised to 180 and sometimes to 220, near the end of the operation. In this method during the heating, about one-half the phenol distilled unchanged, leaving in the retort a residue of basic sodium salicylate. The aqueous solution of this residue was treated with hydrochloric acid, yielding a precipitate of impure salicylic acid. The first portions of the precipitate were rejected as they contain resinous and coloring-matter; the subsequent portions were washed and distilled with superheated steam, resulting in a pure white product.

Kolbe's method was improved on by R. Schmitt[7] (1885), who, by saturating sodium phenolate with carbon dioxid at a low temperature and then heating the resulting product to from 120 to 130 C. in a closed vessel, obtained by molecular rearrangement sodium salicylate without formation of phenol as a side product.

These last two methods of producing salicylic acid and salicylates caused the wider study and use of these compounds, and soon salicylic acid made from natural oil of wintergreen and that made synthetically from phenol were used in medicine.

The earliest available published statement regarding the presence of an impurity in salicylic acid was that of Almên[8] (1877) who reported the presence of phenol in salicylic acid made synthetically from phenol. Shortly after this report Williams [9] (1878) isolated from 15 to 20 per cent. of a foreign organic substance which possessed properties similar to salicylic acid and which Williams called "cresyl-salicylic acid." This product of Williams was later more thoroughly examined and identified as cresotic acid. Squibb[10] (1883) stated that at that time even the better grades of salicylic acid contained from 4 to 5 per cent. of some impurity. Ewell and Prescott[11] (1888) devised a method for determining quantitatively homologous acids such as hydroxy-toluic and hydroxy-xylenic acids in salicylic acid. Fischer[12] (1889) stated that the chief impurities met with in commercial salicylic acid were cresotic, parahydroxy-benzoic and hydroxy-isophthalic acids and that the melting-point of salicylic acid was appreciably lowered by the presence of small quantities of cresotic acid; he further described a test for the presence of cresotic acids in salicylic acid. Charteris and Maclennan[13] (1889), as a result of animal experimentation, reported that salicylic acid made from natural oils was less toxic than that made synthetically. In the course of their paper they reported chemical work by Henderson, who was able to purify synthetic salicylic acid so that it possessed the same melting-point as that prepared from natural oil of wintergreen or birch. Although this product was apparently pure, its crystalline form was stated to differ from that of the natural acid. In the purifying process Henderson[14] isolated some impurity which he considered responsible for the toxic effects reported by Charteris.

In 1890 Dunstan and Bloch[15] took up the chemical examination of the product isolated by Williams and found both ortho- and meta-cresotic acids and in another specimen para-cresotic acid was found.

Using the method of Ewell and Prescott, Hesse[16] (1891) reported salicylic acid containing from 30 to 40 per cent. of foreign acids. In 1907 Carletti[17] published

*Contribution from the Chemical Laboratory of the American Medical Association. This investigation was undertaken at the request of the Committee on Therapeutic Research, Council on Pharmacy and Chemistry American Medical Association.

1. Eggleston: The Relative Value of the "Natural" and the Synthetic Salicylates, THE JOURNAL A. M. A., Dec. 7, 1912, p. 2057.
2. Waddell: Comparative Investigation of the Effects and Toxicity of Sodium Salicylates of Natural and Synthetic Origin, Arch. Int. Med., December, 1911, p. 748.

†This paper with full analytical details will be reprinted in the annual report of the Chemical Laboratory.

3. Piria: Ann. d. Chem., xxx, 165.
4. Cohours: Ann. d. Chem., xlviii, 60.
5. Procter: Am. Jour. Pharm., xiv, 211.
6. Kolbe: Ann. d. Chem., cxv, 251.
7. Schmitt: Jour. Prakt. Chem., 1884, series 2, xxxi, 407.
8. Almên: Am. Jour. Pharm., 1887, p. 292.
9. Williams: Pharm. Jour., 1878, series 3, p. 785.
10. Squibb. Ephemeris, i, 412.
11. Ewell and Prescott: Proc. Am. Pharm. Assn., 1888, p. 78.
12. Fischer: Ztschr. f. anal. Chem., Nov. 4, 1889, xxiv.
13. Charteris and Maclennan: Experimental Research as to the General Comparative Action of the Natural and Artificial Salicylic Acids, and Their Salts. Brit. Med. Jour., 1889, ii, 1208.
14. Henderson: Jour. Soc. Chem. Indust., 1890, ix, 591
15. Dunstan and Bloch Pharm. Jour., 1890, p. 428.
16. Hesse: Pharm. Jour., 1891, p. 174.
17. Carletti: Boll. Chim. Farm. Fasc., xi, 421.

a method of testing salicylic acid which showed the presence of phenol and the same year a report from France stated that specimens of salicylic acid were found to contain phenol. Pancoast and Pearson[18] (1908) and Engelhardt and Jones[19] (1908) published methods for distinguishing natural from synthetic oil of wintergreen, natural from synthetic salicylates and for detecting the presence of cresotic acid.

If the preceding reports are to be trusted, salicylic acid and salicylates at one time were highly impure and contained such impurities as cresotic acids, phenol, parahydroxy-benzoic acid and hydroxy-isophthalic acid.

In view of the quality of salicylic acid in the past, it was decided to determine whether or not any of the above-mentioned impurities existed in sodium salicylate as found on the market to-day. In these tests it was thought desirable to use both the methods employed by the authors quoted above and those prescribed in the United States Pharmacopeia, eighth revision. Accordingly eleven brands of sodium salicylate, including those used by Waddell in his pharmacologic work, ranging from the cheapest commercial bulk sodium salicylate at $0.45 per pound to the highest-priced "Sodium Salicylate from True Natural Oil of Wintergreen" listed at $14 per pound, were purchased and examined.

While the recommended tests for phenol, parahydroxy-benzoic acid and hydroxy-isophthalic acid are practical, those recommended for cresotic acid were found to be unsatisfactory. Beyond the tests quoted above the literature contained no available methods for the detection of small quantities of cresotic acid in salicylic acid.

In attempting to follow the methods employed by the earlier investigators it was found that the given details of the methods were insufficient or the methods were applicable only where large quantities of impurities were present. Thus Williams, who reported that he separated cresotic from salicylic acid by the difference in solubilities of the calcium salts of these acids, merely outlines his procedure, omitting details which are essential in trying to repeat his work. In the same way the method of Ewell and Prescott for the determination of cresotic acid in salicylic acid is of use only where a large percentage of cresotic acid is present.

The method consists in titrating the acid suspected of being a mixture of cresotic and salicylic acids, with a standardized alkali solution and as the molecular weight of cresotic acid is greater than that of salicylic acid, a mixture of cresotic and salicylic acids would require less alkali for neutralization than the same weight of salicylic acid alone. But as there is a difference of only 0.67 c.c. tenth-normal alkali in the titration of 1 gm. of cresotic acid and the same amount of salicylic acid, the method is applicable only where the percentage of cresotic acid is very large.

Henderson, in working with Charteris and Maclennan, used Williams' method of detecting and separating cresotic acids, but no details are given and so this investigator could not be followed. Dunstan and Bloch separated cresotic acid from salicylic acid by fractional precipitation with lead salts, but this method is also of value only where a large percentage of cresotic acid is present. Fischer gave a detailed procedure for isolating small quantities of cresotic acid from salicylic acid but as it is practically impossible to carry out the method as described and still have enough material to apply the final test, the procedure was modified slightly in this investigation.

Carrying out the test in modified form, the results were varying and unsatisfactory, possibly the consequence of deviating from the described details, but under the circumstances the test proved of no value. Carletti's test for phenol was found to be a reliable test and when applied to the specimens of sodium salicylate under investigation showed the absence of this impurity in all cases. Working on known mixtures of cresotic and salicylic acids, the published results of Engelhardt and Jones, who used the Carletti phenol test for the detection of cresotic acid in salicylic acid, could not be duplicated.

Dr. Atherton Seidell, of the Hygienic Laboratory, Division of Pharmacology of the U. S. Public Health Service, and Dr. Robert M. Chapin, of the Bureau of Animal Industry of the Department of Agriculture, kindly consented to repeat the tests as published by Engelhardt and Jones with materials used in this laboratory. These chemists both reported that the tests as described gave no reaction with cresotic acids, confirming the results of this laboratory. In Pancoast and Pearson's paper the test of Cone[20] is recommended for detecting the difference between synthetic oil of wintergreen and the "natural" oil. This test was applied to sodium salicylate with the hope that it might show the difference between synthetic and "natural" salicylate, but the results varied, and often, when applied to sodium salicylate whose origin from natural oils there was no reason to doubt, were the opposite to those found by Pancoast and Pearson. Muter's[21] test for phenol in salicylic acid is based on the use of reagents which it was found gave the described test in the absence of phenol, and hence this test was not applied. Neither parahydroxy-benzoic acid nor hydroxy-isophthalic acid was found in any of the specimens of sodium salicylate examined.

The tests of the United States Pharmacopeia, eighth revision, were applied to all the specimens of sodium salicylate and showed that the quality of the product was good. On the whole the cheapest grades of synthetic sodium salicylate complied as well with the pharmacopeial requirements as did the salt of the "natural" acid. One of the requirements of the Pharmacopeia, namely, that the salicylic acid liberated from sodium salicylate on acidulating should melt at 156-157 C., showed, by the general compliance of the specimens, that no appreciable amount of cresotic acid could be present. A considerable amount of work was done with the view of devising a method whereby a small amount of cresotic acid could be detected, but so far, without success. Since May[22] and Stockman[23] have shown, however, that cresotinates have the same qualitative effects as salicylates, the presence of small quantities of cresotinates in salicylates could have no great quantitative effect.

The results of this investigation indicate that, except for some differences in the color of aqueous solutions, all the brands of sodium salicylate examined were essentially alike in properties and composition. As regards color of aqueous solutions, a variation exists from the colorless solution of the synthetic Merck's Highest Purity Crystalline to the decidedly brownish-colored solution of "natural" products of Lloyd and of Merrell.

18. Pancoast and Pearson: Am. Jour. Pharm., 1908, p. 409.
19. Engelhardt and Jones: Proc. Am. Pharm. Assn., 1908, p. 866.
20. Cone: Am. Jour. Pharm., 1903, p. 406.
21. Muter: Allen's Organic Analysis, 1907, ii, part 3, p. 77.
22. May: Brit. Med. Jour., Sept. 18, 1909.
23. Stockman: Jour. Pharmacol. and Exper. Therap., November, 1912, p. 97.

Among the other brands of synthetic salicylates the solutions were slightly pink in the case of Squibb's, Pfizer's and Fuller & Fuller's and slightly yellow or light brown in the case of R. Stevenson & Sons, Merck's, Mallinckrodt and Powers-Weightman-Rosengarten.

Thus this investigation would seem to warrant the conclusion that the cheapest commercial synthetic sodium salicylate is the equal of the higher-priced brands of the synthetic kind or the costly "natural" product.

In closing I wish to express my thanks and appreciation for the helpful and valuable suggestions and painstaking supervision of this work by Prof. W. A. Puckner, director of the laboratory of the American Medical Association.

535 Dearborn Avenue.

---

# THE WASSERMANN REACTION IN DIABETES MELLITUS WITH SPECIAL REFERENCE TO ITS RELATION TO ACIDOSIS*

JOHN H. RICHARDS, M.D.

NEW YORK

## INTRODUCTION

On account of the non-specific antigen employed, the question is ever present whether conditions other than syphilis will give positive Wassermann reactions. Such conditions have been reported from time to time.

As early as 1908 Eichelberg[1] reported positive reactions in a series of scarlet fever cases. Marchildon[2] reported positive results in one case of appendicitis, one case of cancer and two cases of typhoid. Weil and Braun[3] reported positive results in cases of sepsis, cancer, typhoid, phthisis, typhus and diabetes. Wechselmann and Meier[4] and many others have reported positive results in leprosy. Boehm[5] and Reinhard[5] reported cases of malaria and beriberi with positive Wassermann reactions. Halberstaedter, Mueller and Reiche[6] have reported positive results in measles (nine cases), in varicella (five cases) and in pertussis (14 cases). Treuber[7] has reported one case of lymphosarcomatosis in which was found a positive Wassermann reaction. Semon[8] wrote that in eclampsia the Wassermann reaction is positive for two or three weeks following the convulsion and later the reaction is negative. Boas and Peterson[9] reported that with three out of sixty patients narcotized with chloroform positive reactions were obtained. Schmitter[10] and Dreyer[10] have found positive reactions in cases with lead-poisoning. Craig and Nichols[11] have found that cases which under normal conditions of diet and drink give positive Wassermann reactions will, following ingestion of alcohol (700 c.c. of beer, 240 c.c. of whisky during seven hours), give negative reactions for a period sometimes as long as three days. Later Craig[12] found that sterile serums giving negative reactions would give positive reactions when subjected to the growth of streptococci or of staphylococci. Rarely in other diseases, in non-specific cases, have Wassermann reactions been found positive. The only reference to a positive Wassermann reaction in non-specific diabetes mellitus is that of Weil and Braun.[3]

## STUDY AND CASE REPORTS

In the laboratory of clinical pathology of Cornell University Medical College cases of diabetes mellitus have been studied with reference to the relation of the acidosis to the Wassermann reaction. By the term "acidosis" is understood that condition of the patient in which there is present in the urine of the patient beta-oxybutyric acid and diacetic acid. We do not include cases of simple acetonuria under this term although it implies acidosis generally.

The first case was studied because the patient had been told that syphilis was the cause of diabetes, and, although he gave no history of venereal disease, he was very desirous of receiving antisyphilitic treatment. The Wassermann test was suggested to him, and the result was positive. Repetition of the test gave the same result, and antisyphilitic treatment was then instituted.

The result of the study of this case was the direct cause of the study in the other cases.

It is interesting to note that Erben[13] has found that lecithin and cholesterin are sometimes increased in the blood of diabetics and decreased in the red blood-cells of the same class of patients. Further study along this line is necessary to determine whether diabetes without acidosis differs in this respect from diabetes with acidosis, and whether such changes in the blood-serum account for the findings in this study.

## CASE HISTORIES

CASE 1.—*Patient.*—White man, aged 32. Father dead—cause unknown. Mother alive and well. One brother and one sister alive and well. No history of syphilis or of disease common to family. As a child the patient was always healthy; he had a much more robust adolescence than the average youth, and was a superb athlete in college. He was mentally and physically most proficient. He gave no history of syphilis or of other venereal disease.

*Present Trouble.*—In 1904 patient applied for life-insurance, and was refused on account of glycosuria. Patient then consulted his family physician, who put him on a strict carbohydrate-free diet. As time went on his disease passed from a mild to a severe type of diabetes. In 1909 at the time of taking this history his urine showed a persistent glycosuria on a carbohydrate-free diet, and an acidosis on a full carbohydrate diet. The results of several analyses are given in Table 1. At one time there were 50 gm. of beta-oxybutyric acid in the twenty-four-hour urine. The Wassermann reaction was markedly positive with four different antigens (guinea-pig heart extract, beef heart extract, acetone fraction from beef heart, acetone fraction from liver of syphilitic fetus). In spite of this it was not thought that the patient had syphilis, but it was felt that the positive Wassermann reaction and the patient's wishes justified the administration of mercury as a therapeutic test. Mercury was then given by inunction to the limit of toleration. There was no change whatever in the diabetes, as can be seen from Table 1. The Wassermann reaction remained positive during the treatment and subsequent to it.

---

* From the Laboratory of Clinical Pathology, Cornell University Medical College.

1. Eichelberg: München. med. Wchnschr., 1908, lv, 1206.
2. Marchildon, John W.: A Comparison of Alcoholic and Watery Extracts in the Serum in Diagnosis of Syphilis, THE JOURNAL A. M. A., Dec. 19, 1908, p. 2149.
3. Weil and Braun: Wien. klin. Wchnschr., 1908, xxi, 624, 650, 938.
4. Wechselmann and Meier: Deutsch. med. Wchnschr., 1908, xxxiv, 1340. Bruck and Gessner: Berl. klin. Wchnschr., 1909, xlvi, 589.
5. Boehm: Folia Serologica, 1909, iii, 108. Reinhard: München. med. Wchnschr., 1909, lvi, 2197.
6. Halberstaedter, Mueller and Reiche: Berl. klin. Wchnschr., 1908, xlv, 1917.
7. Treuber: Arch. f. klin. Med., 1910, ci, 20.
8. Semon: Ztschr. f. Geburtsh. u. Gynäk., 1910, lxvii, 773.
9. Boas and Peterson: Folia Serologica, 1911, vii, 643.
10. Dreyer: Deutsch. med. Wchnschr., 1911, xxxvii, 786. Schmitter: Deutsch. med. Wchnschr., 1911, xxxvii, 1030.
11. Craig and Nichols: The Effect of the Ingestion of Alcohol on the Result of the Complement-Fixation Test in Syphilis, THE JOURNAL A. M. A., Aug. 5, 1911, p. 474.
12. Craig: Jour. Exper. Med., 1911, xiii, 526.
13. Erben: Wien. med. Wchnschr., 1907, lvii, 2554.

TABLE 1.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS, CASE 1*

| Date | Glucose gm. | Acetone and Diacetic Acid, gm. | Beta-Oxybutyric Acid, gm. | Wassermann | Mercury | Salvarsan |
|---|---|---|---|---|---|---|
| 9/ 9/09 | 322 | 0.024 | 1.244 | .. | ..... | ... |
| 9/12/09 | 112 | 0.199 | 11.765 | .. | ..... | ... |
| 10/19/09 | 223 | 0.107 | 9.133 | + | ..... | .. |
| 10/30/09 | 90 | 0.204 | 14.443 | + | inunction | ... |
| 11/ 5/09 | 123 | 0.184 | 12.743 | + | inunction | ... |
| 11/12/09 | 111 | 0.124 | 10.267 | + | inunction | ... |
| 11/18/09 | 248 | 0.089 | 8.136 | + | inunction | ... |
| 11/30/09 | 277 | 0.114 | 9.754 | + | inunction | ... |
| 12/15/09 | 245 | 0.107 | 11.978 | + | inunction | ... |
| 12/30/09 | 198 | 0.104 | 12.112 | + | inunction | ... |
| 1/30/10 | 344 | 0.076 | 5.187 | + | none | ... |

*The methods employed in the above determinations (and in all subsequent determinations noted in this paper) were as follows:
Glucose: Benedict titration method controlled by fermentation and polariscope.
Acetone bodies: Schaffer distillation method.
Wassermann reaction: The original technic with the above-mentioned antigens.

CASE 2.—*Patient.*—White woman, aged 20. Father and mother alive and well. No history of syphilis or of disease common to family. Patient was healthy and robust as a child. She had a very severe pertussis when 10 years old.

*Present Trouble.*—In August of 1911 urine was examined on account of polyuria and thirst. About 300 gm. of sugar were found in the twenty-four-hour urine. The von Noorden method of treatment was followed. The patient rapidly grew worse, and within a few months had a most severe case of diabetes. The Wassermann reaction was strongly positive. Mercury was given by inunction and later by mouth. The Wassermann remained positive. Two intravenous injections of salvarsan were then given. The Wassermann was still positive. Table 2 gives the record of results.

TABLE 2.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 2

| Date | Glucose gm. | Acetone and Diacetic Acid, gm. | Beta-Oxybutyric Acid, gm. | Wassermann | Mercury | Salvarsan gm. |
|---|---|---|---|---|---|---|
| 8/28/11 | 300 | 0 | ..... | .. | ..... | ... |
| 9/15/11 | 288 | 0.029 | 0.112 | .. | ..... | ... |
| 9/28/11 | 296 | 0.134 | 1.113 | + | ..... | ... |
| 10/30/11 | 456 | 0.463 | 9.789 | + | inunction | .. |
| 11/15/11 | 423 | 0.532 | 18.233 | + | inunction | .. |
| 11/29/11 | 542 | 0.478 | 13.456 | + | mouth | ... |
| 12/14/11 | 428 | 0.674 | 15.987 | + | mouth | ... |
| 1/ 5/12 | 248 | 0.968 | 19.145 | + | mouth | 0.4 |
| 1/17/12 | 679 | ..... | ..... | + | mouth | ... |
| 1/24/12 | 543 | 0.879 | 18.198 | + | mouth | 0.4 |
| 1/30/12 | 657 | ... | ..... | + | .... | ... |
| 2/29/12 | ... | .. | ..... | + | ..... | .. |

Mercury was given continuously to the limit of toleration from October 30 to January 24 of the following year. The salvarsan was given intravenously on January 5 and January 24 in doses of 0.4 gm. In spite of this treatment there was no change in the Wassermann reaction, and the diabetes became progressively worse

CASE 3.—*Patient.*—White woman, aged 39. Father dead—cause pneumonia. Mother alive and well. No history of syphilis or of disease common to family. Childhood uneventful with no serious illness. Patient when 16 years old had pneumonia followed by a slow convalescence. No history of syphilis.

*Present Trouble.*—Three years ago the patient began to lose weight. Her attending physician diagnosed diabetes. She was treated by a strict diet with very little carbohydrate. Later the patient attempted to manage her own case. She ate largely of prepared "health foods." She came under observation eight months ago. At this time she had diabetes of a very severe type. The Wassermann was positive. Mercury administration was instituted and a full intravenous injection of salvarsan was given. The Wassermann remained positive. The diabetes was unimproved. Table 3 gives record of results.

TABLE 3.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 3

| Date | Glucose gm. | Acetone and Diacetic Acid, gm. | Beta-Oxybutyric Acid, gm. | Wassermann | Mercury | Salvarsan gm. |
|---|---|---|---|---|---|---|
| 9/21/11 | 456 | 0.089 | 1.987 | + | ..... | ... |
| 9/26/11 | 409 | ..... | ..... | + | mouth | 0.6 |
| 9/30/11 | ... | ..... | ..... | + | mouth | ... |
| 10/15/11 | 562 | 0.097 | 2.520 | + | mouth | ... |
| 10/30/11 | ... | ..... | ..... | + | mouth | ... |
| 11/30/11 | ... | ..... | ..... | + | month | ... |

Mercury was given continuously from September 26 to Nov. 30, 1911, to the limit of toleration.

CASE 4.—*Patient.*—White man, aged 36. Father and mother alive and well. Three brothers alive and well. No history of syphilis or of disease common to family. Patient always healthy. No serious illness except pneumonia when 22 years old. No history of syphilis.

*Present Trouble.*—In January, 1911, patient was rejected for life-insurance on account of glycosuria. In February, 1912, he had a marked acidosis on a full carbohydrate diet, and a glycosuria on a carbohydrate-free diet. The Wassermann reaction was found positive. As in the preceding case, mercury and salvarsan were given. The symptoms of diabetes were unchanged. The record of examinations and treatment is given in Table 4.

TABLE 4.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 4

| Date | Glucose gm. | Acetone and Diacetic Acid, gm. | Beta-Oxybutyric Acid, gm. | Wassermann | Mercury | Salvarsan gm. |
|---|---|---|---|---|---|---|
| 2/16/12 | 98 | 0.046 | 4.113 | + | ..... | ... |
| 2/20/12 | 477 | 0.025 | 2.234 | + | mouth | 0.6 |
| 3/ 9/12 | 243 | 0.052 | 3.879 | + | mouth | ... |
| 3/30/12 | ... | ..... | ..... | + | mouth | ... |
| 4/28/12 | ... | ..... | .... | + | mouth | ... |

The mercury was given continuously from February 20 to April 28 to the limit of toleration. There was no change in the diabetes or in the Wassermann reaction.

CASE 5.—*Patient.*—White man, aged 28. Father and mother alive and well. No history of syphilis or of disease common to family. Childhood uneventful with no serious illness.

*Present Trouble.*—Patient well up to 1908, when he began to lose weight. He consulted a physician, who diagnosed diabetes. In December, 1911, he came under observation. At this time his urine showed a severe glycosuria, but an absence of acetone bodies. His Wassermann was negative. On strict carbohydrate-free diet acetone in small amounts appeared in the urine, but at no time was diacetic acid or beta-oxybutyric acid present. His Wassermann remained constantly negative. The details are given in Table 5.

TABLE 5.—THE WASSERMANN REACTION AND ACIDOSIS IN DIABETES MELLITUS CASE 5

| Date | Glucose gm. | Acetone Bodies | Wassermann | Diet |
|---|---|---|---|---|
| 12/ 2/11 | 362 | none | — | regular |
| 12/15/11 | 40 | acetone trace | — | strict |
| 12/29/11 | none | acetone 0.029 gm. | — | strict |
| 1/17/12 | 113 | none | — | liberal |

CASE 6.—*Patient.*—White man, aged 56. Father and mother both died of typhoid in middle life. Patient had no brothers or sisters. There is no history of syphilis or of disease common to family. Patient says that he has never been sick. He denies syphilis.

*Present Trouble.*—Patient has had diabetes for the past fifteen years. He has had no treatment except at intervals.

He has never been willing to diet as a mode of treatment. During the four years following 1907 his urine was examined repeatedly and at no time was there less than 100 gm. of sugar present in the twenty-four-hour urine. The Wassermann reaction was tested on Jan. 4, 1912; Jan. 19, 1912; Feb. 7, 1912; March 1, 1912. In every test the result was negative.

CASE 7.—*Patient.*—White, female, aged 35. Family history negative. Past history negative. Had a myomectomy in September, 1911. No history of syphilis or of disease common to family. Present history: About May 7, 1912, on account of placenta praevia an *accouchement forcé* was done. There had been bleeding for two months previous to this operation. On April 29, 1912, the urine showed marked trace of acetone, but an absence of diacetic acid and of beta-oxybutyric acid. A Wassermann made at this time was negative.

## SUMMARY

This study reveals the following facts:

1. Four cases of diabetes with marked acidosis. All four cases give positive Wassermann reactions which are unaffected by antisyphilitic treatment.

2. Two cases of diabetes in which urine shows no acetone bodies in one, and only a slight amount of acetone in the other. Both show negative Wassermann reactions.

3. One case of non-diabetic acetonuria with an absence of diacetic acid and of beta-oxybutyric acid. Wassermann reaction is negative.

A study of the relation of the acidosis to the Wassermann reaction in cases of non-diabetic acidosis in which is found diacetic and beta-oxybutyric acids in the urine is very desirable for the completion of this report, but such a case has not been available for our use since the beginning of this study.

It is evident that syphilis was not an etiologic factor in any of the cases studied. It is also evident from a study of the cases of the first group that a positive Wassermann reaction is not indicative of syphilis in cases of diabetic acidosis. Cases in the second group (Cases 5 and 6) demonstrate that diabetic glycosuria in an absence of acidosis does not in these cases at least cause a non-specific positive Wassermann reaction. The case in the third group (Case 7) indicates that non-diabetic acetonuria with an absence of diacetic and beta-oxybutyric acids does not result in a positive Wassermann reaction in non-specific cases. The question is still open: Will non-specific cases in which is found marked acidosis of non-diabetic origin show positive Wassermann reactions, and what proportion of diabetic acidosis will show positive reactions?

34 West Eighty-Third Street.

---

# INDUCED VARIATIONS IN THE AGGLUTINABILITY OF BACILLUS TYPHOSUS*

FREDERICK P. GAY, M.D.
AND
EDITH J. CLAYPOLE, M.D.
BERKELEY, CAL.

It is well recognized that strains of the typhoid bacillus vary in the readiness with which they are clumped by a typhoid patient's serum, or even by a typhoid immune serum. These variations in agglutinability are so marked in freshly isolated strains of the microorganism that not infrequently it is impossible to identify them as true typhoid bacilli even by the use of potent immune serums until they have been grown for several generations on culture mediums. This failure in immediate identification at best delays diagnosis and has at times led to error.[1] The following observations made in connection with an extended study on the comparative immunizing value of various preparations of the typhoid bacillus offer some explanation of the inagglutinability of freshly isolated cultures, and suggest a possible means of avoiding it.

As a means of testing the efficacy of various methods of immunization, we have made use of the presence or absence of the "typhoid carrier" state in rabbits which may follow intravenous injection of a living culture, as was first noted by Blackstein and by Welch. Such carrier animals frequently retain the organisms in the gall-bladder with periodic invasions of the circulating blood for long periods of time. Apart from testing anti-typhoid vaccination on anthropoid apes (Metchnikoff and Besredka) the cost of which is prohibitive, we regard this condition in rabbits as presenting the experimental condition most analogous to human typhoid.

In identifying the organism, isolated from the blood of suspected carrier rabbits, it was found that on first cultures they failed to be agglutinated by a strong anti-typhoid serum (Titer 1:20,000 macroscopic method) obtained by immunizing rabbits with agar cultures of the organism. A further investigation of this phenomenon developed a set of conditions almost entirely analogous to that demonstrated by Bordet and Sleeswijk[2] in connection with the whooping-cough bacillus. A readily agglutinable culture of *Bacillus typhosus* after passage through a rabbit regularly fails to be agglutinated by the ordinary antityphoid serum (anti-agar-typhoid serum). Simple subculture of the agar cultivated organism on rabbit-blood agar or on bile bouillon for two or three generations leads to the same inagglutinability (negative in a dilution of 1:100, while the original agar strain agglutinates in dilutions of 1:20,000). The blood and bile cultures, however, are as readily agglutinable as agar strains by the serum of rabbits immunized against blood cultures. Three subcultures of the blood organism on agar restore the agglutinability by anti-agar-typhoid serum.

Absorption experiments show that, although the blood cultures fail to flocculate out with anti-agar-typhoid serum, they do absorb the agglutinin, as is shown by the failure of agar cultures to clump with such treated serum. In this respect, our results differ from those of Bordet and Sleeswijk. The reverse is likewise true, that is to say, agar cultures remove the agglutinins for both blood and agar cultures from anti-blood-typhoid serum.

A practical application of these experiments immediately suggests itself. It seems likely that freshly isolated, inagglutinable cultures of *B. typhosus* would be agglutinated if tested with an antiserum obtained by immunizing animals with cultures grown on rabbit (or possibly only on human) blood agar. After waiting in vain for some time to encounter such a freshly isolated inagglutinable strain of *B. typhosus,* we offer this suggested method in order that others with more fresh material at their disposal may determine its value.

2347 Prospect Street—2826 Garber Street.

* From the Hearst Laboratory of Pathology and Bacteriology, University of California.

1. See Paltauf: Die Agglutination, Handbuch der pathogenen Microorganismen, Kolle & Wassermann, Edition 2, 1912, ii, 505.

2. Bordet and Sleeswijk: Ann. de l'Inst. Pasteur, 1910, xxiv, 476.

# SPOROTRICHUM SCHENCKII*

KENNETH TAYLOR, M.A.
MINNEAPOLIS

Some of the results of work on the morphology and cultural characteristics of *Sporotrichum schenckii,* and the lesions produced by that organism are reported in this paper.

Any one watching the publication of new research work during the last two years must have been impressed by the growing interest in sporotrichosis. Since the first observations on the organism recovered by Schenck in 1898 from the human lesion, the number of yearly contributions to the subject has progressively increased. Within the past year an immense amount of work has been published from all parts of the world. Among the men who have been foremost in this line are Widal;[1] DeBeurmann and Gougerot;[2, 3] Page, Frothingham and Paige;[4] Greco;[5] Walker and Ritchie;[6] Lutz and Splendore;[7] Kren and Schramek.[8] Reports of human cases have come in from all sides until more than a hundred are on record.

It is interesting to note the wide-spread opinion that many of the refractory cutaneous lesions diagnosed as syphilitic and tuberculous are due to infection with the sporothrix. From the reports of human cases of pharyngitis due to this organism and the involvement of nearly every organ in some of the experimental animals comes the suspicion that its work may not be confined to the superficial abscess usually caused in the human subject. DeBeurmann, who, with his associates, has probably done more systematic work on the subject than any other man, states that he believes sporotrichosis deserves an important place in human pathology. Moure found that 11 per cent. of a series of surgical abseesses coming under his observation were due to sporothrix infection. The reports of spontaneous cases in rats, horses and mules and one case in a dog, together with experiments showing the saprophytic growth of the organism on vegetables and fruits and the successful infection of young animals by mouth, are suggestive of the wide distribution of the organism and of the ready opportunities for contracting the disease.

The organism can usually be recovered by curettement and cultivated on artificial mediums, but is demonstrated with difficulty in the direct preparations in which only the spores have been seen.

## MORPHOLOGY

The morphology of the sporothrix was first described in 1898 by B. R. Schenck,[9] who isolated it from an abscess on the arm of a man suffering from the infection. He describes a delicately segmented, branched mycelium of 1.5 to 2.0 microns in diameter, and spherical or slightly ovoid spores, 3 to 5 microns long, showing small, unstained areas.

In 1906 DeBeurmann and Gougerot began to publish the results of systematic work with the organism, which they have continued up to the present time. Within the past few months DeBeurmann has published a review of his work to date, one of the most comprehensive summaries of the work on this disease.[10] To Schenck's description he adds that the myeelia are curved, undulating, and usually parallel in arrangement, and that they produce few or no lateral spores. He also states that the spores are scarce or often absent.

DeBeurmann has described what he believes is a new species of sporotrichum, which has been given the specifie name *beurmanni.* Matruchot, Pinoy and Vuillemin[10] have agreed with his conclusions. Together they base the establishment of the species *beurmanni* on the following main points in which it is said to differ from *Sporotrichum schenckii*: (*a*) the presence of sac-like enlargements of the mycelium eontaining spherical bodies which stain with difficulty and appear to be spores (these enlargements DeBeurmann terms "chlamydospores"); (*b*) the greater number and pedunculate nature of the spores borne on the mycelium; (*c*) the infrequent branching of the mycelium; (*d*) the lack of parallel arrangement of the myeelial threads described as characteristic of *Sporotrichum schenckii*; (*e*) the fermentation of saccharose.

The literature shows that some confusion has been caused by the creation of this new species, which is regarded by most American investigators as insufficiently established, and many of the supposedly differential points have been found in my own studies to be inconstant or altogether lacking.

Contrary to the experience of most other observers, Hektoen and Perkins[11] described a strain whieh showed the spores attached to the mycelium by short pedicles. They gave an account of the development of the organism with the elongation of the spore, and the formation of lateral and terminal buds which develop into mycelia and, in turn bear both lateral and apical spores.

Garin[12] has described interesting involution forms in addition to the typical morphology.

Ripal and Dalous[13] have described the manner of mycelial development and the pedunculate nature of the spores and have noted the vacuoles and moving granules in segments of the living mycelium.

Gougerot[2] has given an exeellent technic for the cultivation of the organism (*Sporotrichum beurmanni*), and also for the diagnosis of the disease by bacteriologic examination, supplemented by serum reactions of agglutination and complement fixation.

Widal and Abrami[1] have described positive results with agglutinating serums and the group reactions with serums from cases of actinomycosis.

Arndt[14] has eontributed a description of the clinical manifestations of sporotrichosis and a classification of the forms of the disease.

The following description of the form of the organism is based on my study of a strain isolated by Dr. John M. Armstrong of St. Paul, Minn., from a case of human infection,[15] and a second equine strain received from the University of Pennsylvania. While the form of the bacterium varies greatly on different mediums, the unstained organism grown on dextrose glycerin agar has been selected as typical.

The mycelium is enveloped by a thin membrane within which are clear, cylindrical vacuoles placed usually in

* From the Department of Pathology and Bacteriology, University of Minnesota.

1. Widal and Abrami: Ann. de l'Inst. Pasteur, 1910, No. 24, 1.
2. Gougerot, H.: Folia Clinica et Microscopica, 1908-9, i, 263.
3. De Beurmann and Gougerot: Les Sporotrichoses, Paris, 1912.
4. Page, Frothingham and Paige: Jour. Med. Research, 1910, No. 18.
5. Greco: Argentina Med., 1907.
6. Walker and Ritchie: Brit. Med. Jour., 1911, No. 2635, p. 1.
7. Lutz and Splendore: Ann. d'ig. sper., 1907, xvii, 581.
8. Kren and Schramek: Wien. klin. Wchnschr., 1909, p. 1519.
9. Schenck, B. R.: Bull. Johns Hopkins Hosp., 1898, ix, 286.
10. De Beurmann and Gougerot: Arch. f. Dermat. u. Syph., 1911, cx, 25.
11. Hektoen and Perkins: Jour. Exper. Med., 1900, v, 77.
12. Garin, Charles: Provence méd., 1911, No. 18, p. 194.
13. Ripal and Dalous: Ann. de dermat. et de syph., 1910, li, 372.
14. Arndt, G.: Dermat. Ztschr., 1910, xvii, 24. 173.
15. Armstrong, John M.: St. Paul Med. Jour., xiv, No. 4.

close apposition, end to end, and occupying most of the mycelial thread. At each end of these bodies is usually located a small refractile granule. In the old threads this detail becomes obscured. The segments become more distinct and the granules increase in number and vary greatly in size, showing a marked dancing motion. These dancing granules traverse the length of the segment, suspended in its fluid contents. The growing thread has either rounded ends or a constricted bulb-like process, like the cone of growth of a rhizoid. In old cultures segments of the mycelium, especially the terminal segments, are often greatly expanded and show within a thickened membrane clear, spherical bodies resembling those in the mycelium, which remain unstained by any of the methods employed. These sac-like enlargements of the mycelium are evidently the bodies termed "chlamydospores" by DeBeurmann, who holds them to be characteristic of *Sporotrichum beurmanni* and absent in *Sporotrichum schenckii.* The spores are produced laterally on the mycelium on short, delicate pedicles, or in clumps at the ends of the short branches. Free spores are numerous in the older cultures, often forming long chains without mycelial attachment. They are ovoid at first but become nearly spherical after breaking away from the thread. When stained, they present a coarsely granular body enclosed within a well-defined membrane, which, at times, strongly resembles a capsule. This membrane can be readily demonstrated by suitable stains. It is persistent on most artificial mediums, and is usually to be seen in preparations made from animal tissues and pus.

Considerable variation in form and number of spores occurs in different mediums. The most marked deviation is in blood-serum, where the organism shows little mycelial growth with the production of long, oval, spindle-shaped spores, having clear, unstained terminal areas (Fig. 1). The spores seen in sections of tissue lesions are very similar.

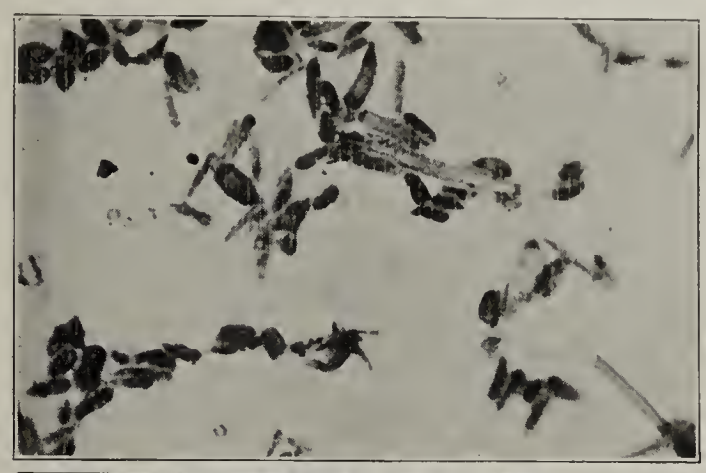
### MORPHOLOGY IN TISSUES

In the tissue the organisms are difficult to see after the ordinary tissue stains, but they can be demonstrated clearly at the periphery of the areas of necrosis by a modification of the Gram stain. This modification consists in steaming for one minute with the aniline methyl violet and counter-staining lightly with alcoholic eosin, instead of aqueous fuchsin. The organisms are decolorized by alcohol unless heat is applied. By this method the spores can be more easily demonstrated than by the Gram stain used for this purpose by Hektoen and Perkins.[11]

The organisms in the tissue are typically cigar-shaped, although there is found to be great variation. They are larger than on artificial mediums, often reaching 6 to 8 microns in length. They often show transverse dark bands, or large granules with lighter areas between, and usually capsule-like membranes. Clear areas can usually be seen at one or both ends.

It was found to be impossible to demonstrate the mycelium in paraffin sections, although in one case it was clearly shown in direct preparations from a large abscess in the abdominal muscles and from the testicle of a rat. This animal was inoculated with a large subcutaneous injection of a broth culture of the organism beneath the skin of the back. After twenty-five days large abscesses had formed in the abdominal muscles and in the testicles, with extensive necrosis and the formation of large pus cavities, from which the mycelial forms of the organisms were recovered. Although a filtered culture was not used for the inoculation, yet the site of the lesions and the length of time between the inoculation and the examination seemed to justify the conclusion that the mycelial threads developed *in situ* and were not of extraneous origin. Hitherto the demonstration of the mycelium in direct preparations from lesions does not appear to have been mentioned in the literature. Contrary to the general experience, direct preparations which I made were usually found to contain numerous spores of the form described above, which were often Gram-negative.

The organism grows by the elongation of the spore, which usually divides into two. Buds push out from one or both of these new spores and grow rapidly, forming the mycelium which radiates from the center (Fig. 2). Lateral branches form by the growth of some of the spores borne on the mycelium. Their pedicles lengthen and thicken and the branches push out at right angles to the parent thread. No evidence of the parallel manner of growth described by DeBeurmann could be seen.



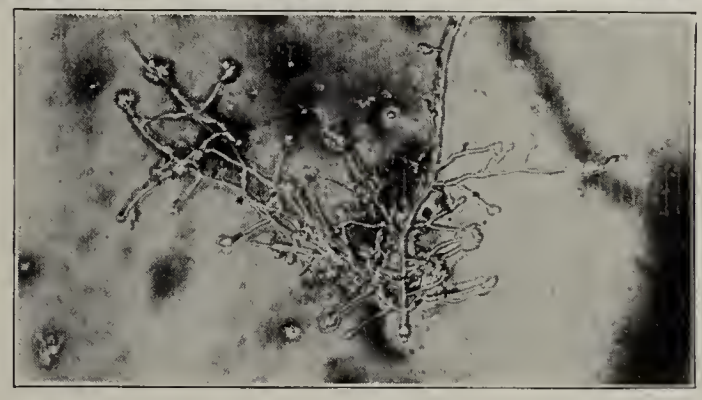


Fig. 1.—Six-day culture from blood-serum (stained with methyl thionin), showing numerous elongated spores and isolated segments of the mycelium (from photograph).

Fig. 2.—Growing organism (India ink and hanging agar block method, described in a previous article for which see Footnote 16) showing individual plants and method of branching (from photograph).

For photographing the living organism and demonstrating its modes and stages of growth a combination of the hanging agar block and India ink methods has been devised and described by me in a previous paper.[16]

### STAINING CHARACTERISTICS

The spores and young mycelia from artificial mediums are Gram-positive and acid-fast in many cases. The mycelia stain irregularly, and occasionally the deeply staining, spherical bodies mentioned by Page, Frothingham and Paige can be noted at intervals. The capsule-like membranes are not shown by this method. Azure, Loeffler's methylene-blue and Giemsa's stains give good results, but also fail to differentiate the membranes. Methyl thionin in saturated solution and Wright's stain

16. Taylor, K.: THE JOURNAL A. M. A., Aug. 10, 1912, p. 441.

are especially suitable for this organism. Of these two the former is the more satisfactory. Very good results are obtained by staining for one minute in this stain. The membranes are clearly shown, stained faintly blue. The spores stain a deep blue, the young mycelia a paler tint, while the old mycelia and the so-called chlamydospores take on a rich brown. Wright's stain gives a similar polychromatic result, but much slighter in degree. India ink smears or His' stain also demonstrate the capsule-like membrane.

### CULTURAL CHARACTERISTICS

The organism was grown on thirty different mediums. In general the growth on routine mediums corresponds with the descriptions given by DeBeurmann and others. A few points may be emphasized or added. The observations, with few exceptions, were made on five-day cultures.

On plain agar the growth is white, beaded and filiform, coriaceous, but with a viscid surface.

On glycerin agar the growth is more rapid and beautifully echinulate. In the broths growth is slow with the formation of rings, or glistening, flocculent masses, like snow crystals. The fluid remains clear. In glycerin broth a white, mold-like, coherent mass is formed.

On blood-serum the growth is slow, beaded and closely adherent to the surface of the medium.

Milk is coagulated with slight acid after fourteen days.

Dextrose is fermented after fourteen days.

Maltose, lactose, saccharose and mannite are not fermented within fourteen days.

No indol is formed in fourteen days' growth in peptone solution.

The organism fails to liquefy gelatin within fourteen days.

No growth occurs on Endo's agar or Conradi-Drigalski, or malachite green medium.

Slow growth takes place on neutral-red agar and broth, with no change in the reaction of either medium.

The addition of 1 per cent. acetic or citric acid to the amount of one drop per cubic centimeter of medium, or the addition of dextrose to the medium, stimulates growth.

Alkalinity of the medium retards growth. Sodium chlorid in considerable amounts fails to produce appreciable effect.

### PATHOGENESIS

Schenck[9] succeeded in infecting dogs and white mice with his strain of sporothrix. In four dogs he produced small local abscesses at the site of inoculation, from some of which he recovered the organism. White mice he found more susceptible. In several of these he produced small areas of focal necrosis in the liver and lungs by intraperitoneal inoculation, and found fragments of the spores in the lymph-nodes. Rabbits and guinea-pigs proved resistant.

Page, Frothingham and Paige[4] infected mice and white rats with a strain of *Sporotrichum schenckii* recovered from horses suffering from lymphangitis epizootica, a disease generally believed to be caused by this bacterium. They recovered sporothrix from the lesions. They also reported that fragments of the spores could be seen in paraffin sections of the tissues. Rabbits and guinea-pigs proved resistant.

Widal and Abrami,[1] with another strain, were able to show definitely the presence of the spores in the tissue. Rabbits and guinea-pigs were the animals used in their experiments.

Kren and Schramek,[8] in experiments on rats and dogs, found that nearly all the organs in the body might be affected, but they failed to find the spores in smears from the tissues and rarely in paraffin sections of the tissues themselves.

Hektoen and Perkins,[11] Bonnet,[17] Pinoy and Magrou[18] and others have inoculated animals and described the reactions following. Considerable variation has been found in the susceptibility of the various laboratory animals.

DeBeurmann has described the form of the sporothrix in the tissues and the tissue reactions. The form he described as an oval spore-like body, but believed it to be a modification of the mycelium, and not the true spore. The tissue reaction he gave in detail. Briefly, he found the lesions to show three zones: first, a central small abscess containing the bacteria and a mass of pus cells and necrotic material; next, a zone of epithelioid and giant cells; and third, a peripheral fibrocellular zone with infiltration of polymorphonuclear cells and connective tissue proliferation. In addition he has succeeded in growing the organism as a saprophyte on vegetables, fruits and insects.

The strain isolated by Dr. Armstrong produced the disease in three of our guinea-pigs and twelve rats. From two of the guinea-pigs and six of the rats the bacterium was later recovered, grown in artificial mediums and identified. The other six rats showed the gross lesions, but the organism was not recovered nor seen in the direct preparations from the lesions of the three which were killed. The other three recovered. In none of the animals was the disease fatal, although nearly all showed gross lesions and marked cachexia. Subcutaneous, intraperitoneal and intratesticular inoculations were used. The latter proved most reliable.

Three rats which failed to develop symptoms after the first subcutaneous inoculation, consisting of 2 c.c. of a six-day broth culture, which was effective in most cases, were reinoculated three weeks later in the peritoneum with three times that amount of a similar culture. All three animals failed to develop signs of sporotrichal infection, nor could any internal lesions be found when the animals were killed, after four weeks. Another rat, which had been inoculated and had developed subcutaneous abscesses, was reinoculated three months after all the lesions had healed with a large amount of a six-day broth culture of the organism. This animal also failed to show any signs of reinfection.

### PATHOLOGY

In nearly all of the animals abscesses discharging externally appeared within twenty-one days; in some, numerous small abscesses of the peritoneum, and in one, a large abscess in the abdominal muscles. The testicles, in these experiments, usually showed marked swelling, inflammatory adhesions to the tunica, and abscesses which ultimately discharged through the skin. On section, a thick, yellow pus was evident. The microscopic picture showed extensive edema and necrosis involving sometimes the whole organ. The epididymis was affected by a process similar to that in the testicle. The bladder was usually distended with a purulent fluid. The spleen and lymph-nodes were enlarged and sometimes showed focal necroses, with increased eosinophil and polymorphonuclear cells.

The muscular abscesses showed great necrosis and extensive edema and degeneration of the surrounding

17. Bonnet, L. M.: Rev. de méd., 1911, p. 99.
18. Pinoy and Magrou: Compt. rend. Soc de biol., 1911, lxxi, 387.

muscle. The cellular infiltration was similar to that in other locations, small mononuclear cells predominating.

Abscesses of the peritoneum and especially in the mesentery were of common occurrence after intraperitoneal inoculation.

In general, the lesions may be described as granulomatous. There is usually a central area of necrosis, surrounded by a zone of dense cellular infiltration, the preponderating cells being polymorphonuclear in type. About this zone is an extensive area showing congestion, hemorrhage, infiltration of large cells with eccentric vesicular nuclei and homogeneous eosinophilic cytoplasm. There is also infiltration of large numbers of small mononuclear cells and eosinophils. Marked proliferation of connective tissue is shown in this region, and giant cells are of frequent occurrence. The spores of the organism are demonstrated in nearly every case by the modified Gram stain described above. The spores prove to be distributed throughout the lesions, but are usually most numerous and most easily found at the periphery of the necrotic area. They are usually intercellular. The mycelium could not be conclusively demonstrated in paraffin sections.

## SUMMARY

The following observations made in connection with the present study may be briefly formulated again, as follows:

1. The spores of the organism were attached to the mycelia by short pedicles.

2. So-called chlamydospores were of frequent occurrence.

3. Spores, similar in form to those grown on blood-serum, could usually be demonstrated in paraffin sections of the tissue lesions, and shown in most cases in direct preparations from the abscesses.

4. In one case it appeared that mycelial growth took place in the necrotic tissue at the center of a large abscess caused by the organism.

5. Methyl thionin proved best for staining the organism grown on artificial mediums, and a modification of Gram's stain most satisfactory for its demonstration in the tissues.

6. The organism failed to liquefy gelatin after six weeks' growth at room temperature.

7. Milk was coagulated after two weeks' growth at room temperature.

8. Some hint of the possibility of producing an immunity in animals by previous injection of small doses of pure culture may perhaps be based on these observations. There is however insufficient basis for any definite statement.

I wish in conclusion to express my thanks to Dr. W. P. Larson of the University of Minnesota for his valuable criticism of this paper.

## BIBLIOGRAPHY

In addition to the authorities cited in the paper, the following may be found of interest:

LABORATORY WORK

Adamson, H. G.: Brit. Jour. Dermat., 1908, No. 20, p. 296.
De Beurmann and Gougerot: Ann. de Dermat. et Syph., 1906, pp. 837, 914, 993; Bull. Soc. Méd. d. hôp., 1907, pp. 268, 302, 308, 380, 585, 1055, 1060; 1908, Nos. 24 and 25; Compt. rend Soc. de biol., 1909; Les nouvelles mycoses, Paris, 1911.
Dor: Presse méd., April 14, 1906, p. 234.
Pearsom, L.: Penn. Livestock Bull., 1907, No. 8.
Pinoy, E.: Compt. rend. Acad. Sc., 1911, clii, 286.
Rothe, L.: Deutsch. med. Wchnschr., 1910, No. 1.
Rendiger, G. F.: Jour. Minnesota State Med. Assn., November, 1911.
Stelwagon: Diseases of the Skin, Ed. 6, p. 1119.
Tokishiga, H.: Centralbl. f. Bakteriol., 1. Abt., 1896, xix, 105.
Troisier and Berthelot: Compt. rend. Soc. de biol., 1911, lxxi, 264.

CLINICAL WORK

Archard et Ramond: Bull. Soc. med. de hôp., 1909, p. 738.
Arndt, G.: Berl. klin. Wchnschr., 1909, No. 44.
Balzer et Vaudet-Neveux: Bull. Soc. franç. de dermat. et de syph., July, 1910, No. 7.
Balzer et Marie: Ibid., March, 1910.
Beam, Albert: THE JOURNAL A. M. A., June 10, 1911, p. 1719.
Block, Bruno: Beihefte zur Med. Klin., 1909, v, Nos. 8 and 9.
Bonnet: Lyon méd., 1911, No. 3, p. 115; Bull. Soc. franç. de dermat. et syph., December, 1910.
Burlew, J. M.: South. California Pract., 1909, xxiv, 1.
Capart: Centralbl. f. Path. u. Bact., 1911, No. 2, p. 85.
Costa, S.: Compt. rend. Soc. de biol., 1911, lxx, No. 24, pp. 35-37.
Danlos et Flandin: Bull. Soc. franç. de dermat. et syph., No. 7, July, 1909.
De Beurmann and Gougerot: Rev. de méd. et d'hyg. trop. T. 7, 1910, N. 3, p. 185; Bull. Soc. med. de hôp., 1909, S. 739; 1909, No. 17.
De Beurmann, Gougerot et Laroche: Bull. Soc. med. d. hôp., 1909, No. 15.
Gross, G., et Heully, L.: Rev. méd. de l'est, 1911, p. 65.
Hodara, Menahem et Fuad Bey: Arch. f. Dermat. u. Syph., cx, 1911, H. 3, p. 387.
Harker, H. J.: THE JOURNAL A. M. A., May 6, 1911, p. 1312.
Hügel, G.: Arch. f. Dermat. u. Syph., 1910, cii, 95.
Jeanselme, J., et Chevalier, P.: Bull. Soc. franç. de dermat. et syph., p. 190.
Jocas, R.: La Clin. Ophth., 1911, p. 62.
Josset-Moure: Bull. Soc. med. de hôp., 1908, No. 37; 1909, No. 11.
Legry, Sourdel et Velter: Bull. et mém. Soc med. d. hôp. Paris, 1911, No. 25.
Letulle, M., et Débré: Bull. Soc. méd., 1908, p. 379.
Ofenheim, V.: Lancet, London, 1911, i, 10.
Pantrier et Lutembacher: Bull. Soc. franç. de dermat. et syph., No. 7, July, 1909.
Steward, W. B.: THE JOURNAL A. M. A., Aug. 5, 1911, p. 482.
Sutton, J. M.: Ibid., May 6, 1911, p. 1309.
Sutton, L. R.: Boston Med. and Surg. Jour., 1911, No. 6, p. 179.
Thibierge, G., et Weissenbach, R. J.: Bull. Soc. franç. de dermat. et syph., 1910, xxi, 186.
Thibierge et Gastinet: Bull. Soc. méd. de hôp., 1909, No. 11.
Trimble, W. K.: Jour. Kansas Med. Soc., 1909, ix, p. 305.
Widal, F., et Weill, A.: Bull. Soc. méd. de hôp., 1908, No. 22.

# PYELOTOMY FOR THE REMOVAL OF RENAL CALCULI*

DANIEL N. EISENDRATH, M.D.
CHICAGO

In the removal of calculi from the kidney we aim to do as little damage as possible to the secreting structure. The first to suggest removal of calculi through an incision along the convex (outer) border of the kidney was Henry Morris, in 1880. For many years this was the only method in general use and the term "nephrotomy" was applied to it, no matter whether the incision was only large enough to introduce the index-finger or whether the incision bisected the kidney in the same manner as we open it at autopsy. With the development of radiographic technic, a new era began and the ability to determine accurately the location, form, size and number of calculi in the kidney made it unnecessary to remove every calculus, no matter what its size or location might be, through a nephrotomy incision. The demand for some other method, especially for smaller calculi located in the renal pelvis, became especially urgent when reports of postoperative bleeding and other sequelae of nephrotomy began to accumulate.

Strange to say, the removal of calculi through an incision into the renal pelvis, technically termed a pyelotomy, was suggested by Czerny in the same year that Morris first performed nephrotomy. The operation of pyelotomy was employed rarely, however, until within recent years. French surgeons have been the most enthusiastic advocates of the method, and thus pyelotomy has gradually again attained the important position which, in my opinion, it deserves as the method of choice in the removal of renal calculi. Of late, reports

* Read at the meeting of the Western Surgical Association, Dec. 20, 1912.

equally favorable to those of the French surgeons have come from the German clinics. In this country many surgeons still cling to the older operation of nephrotomy, and it is with the object of calling attention to the many advantages of pyelotomy over nephrotomy that this paper has been written. In order more fully to understand some of the points to be referred to in the description of the operation, a brief review of some anatomic facts is necessary.



Fig. 1.—Relation of arteries and veins to anterior surface of renal pelvis (Albarran).

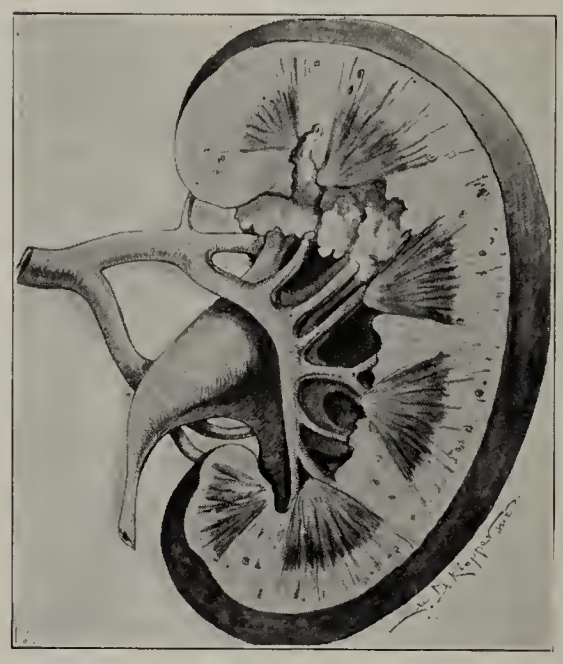


Fig. 2.—Distribution of retropelvic artery (Albarran).

## ANATOMY OF THE KIDNEY

The renal vessels, both artery and vein, begin to divide just before reaching the inner or mesial border of the renal pelvis, so that the entire anterior surface of the pelvis is covered by the primary branches of the main artery and vein. These relations are well shown in Figure 1. For this reason an incision into the anterior aspect of the pelvis is impracticable, on account of the intimate relations of so many arterial and venous trunks to this surface. The chief or primary arterial branch supplying the upper pole gives off a fair-sized vessel just before entering the substance of the kidney. This artery winds around the upper border of the pelvis as a retropelvic artery, and, after arching across the posterior surface of the renal pelvis, gives off branches to supply the posterior half of the kidney. This retropelvic artery is quite constant, but fortunately it is so well within the hilum and so far away from the incision usually made through the posterior surface as to be practically a negligible factor. It is well, however, to watch for anomalies of this artery and to make the incision not too near the parenchyma of the kidney, i. e., a fair distance away from the junction of the intrarenal and extrarenal portions of the pelvis. Both the anterior and posterior surfaces of the renal pelvis are covered with a finely lobulated layer of fat. Some small veins are often found in this peripelvic fat layer. When these veins are severed, bleeding is easily controlled by a fine catgut transfixion ligature. Aside from these small vessels and the above-described retropelvic artery, the posterior aspect of the pelvis is by far the least vascular portion.

*Types of Pelvis.*—In the early history of pelvotomy but little attention was paid to the fact that not all kidneys possessed the same type of pelvis. In order to become proficient in the operation of pyelotomy, an operator must know that a number of different types of renal pelves exist. Although there are eight or nine different forms, it is necessary to bear in mind only the principal two, the ampullary (Figs. 2, 4 and 5) and the bifid types (Figs. 3 and 6). In the ampullary the ureter ends in a renal pelvis which has only a single cavity of fair size, from which short primary calices arise, which receive the papillae of the parenchyma. A calculus lodged in such a single sac-like pelvis is comparatively easy to extract unless it be tightly wedged in one of the short primary calices (Fig. 4).

Conditions are quite different, however, in the bifid (Figs. 5 and 6) or the still more complex trifid type of pelvis. In the bifid form, the renal pelvis proper is small and divides almost immediately into two relatively narrow primary calices which again subdivide in order to receive the papillae (Fig. 6). The frequency with which the various types of pelves occur has never been studied, so far as I am able to learn. In my own experience about 70 per cent. of renal pelves have been of the ampullary or single type, and about 20 per cent. of the bifid or double type, the remainder being made up of the other varieties. The relations of the renal vessels to the various types of the renal pelvis remain the same.

*Relations of Peripelvic Veins to Primary and Secondary Calices.*—A recent experience, referred to later under the technic, has stimulated a study of the relation of the calices into which the renal pelvis divides, to the chief branches of the renal vein. The latter, like the first divisions of the renal artery, lie in close relation to the anterior aspect of the pelvis, both within and without the kidney. Each papilla, moreover (Fig. 7), is surrounded by a network of veins which collect the blood returning from the renal parenchyma. For this reason a stone lodged in a narrow secondary calix or branch of the renal pelvis must of necessity

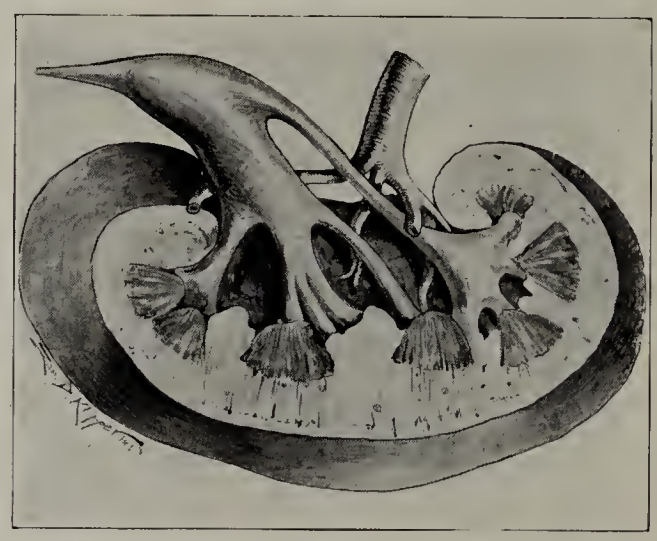


Fig. 3.—Relation of renal vessels to bifid type of pelvis (Albarran).



Fig. 4.—Typical ampullary type of renal pelvis (Albarran).

lie in close relation to some of these peripelvic veins. One can readily see how pressure atrophy of the only tissue, namely, the pelvic mucous membrane, separating the peripelvic vein from the stone, could occur, and the removal of the calculus be followed by a severe hemorrhage. It cannot be denied that the same accident might occur when the calculus is pulled out through a nephrotomy incision, as when it is loosened and pulled down, be it ever so gently through the pyelotomy incision.



Fig. 5.—Various types of renal pelvis (Albarran).



Fig. 6.—Typical bifid type of renal pelvis. Note small size of extrarenal portion (Albarran).

The relation of the branches of the renal arteries to the outer wall of the pelvis is not less intimate than that of the veins. No case has yet been reported of an arterial hemorrhage following pyelotomy similar to the decubital venous one which I report later in this paper. I mention these vessel relations to the outer aspect of the intrarenal portion of the pelvis because the operation of pyelotomy was at first limited to calculi lying loose in the renal pelvis or moderately tightly impacted in the point of junction of the ureter and renal pelvis. Of late, the sphere of usefulness of pyelotomy has been extended, especially by French surgeons, to the removal of calculi much larger than those for which the operation was originally suggested. In some of my own cases we have been able to remove calculi by this route which were lying in primary calices, i. e., in the first division of the ampullary type of renal pelvis. With one finger inserted through the pyelotomy incision and the fingers of the other hand palpating the outer surface of the kidney, one is astounded at the ease with which every portion of the renal pelvis, and even the calices and papillae emptying into them, can be felt and calculi localized. Such a bimanual palpation of the interior of the kidney has of course as its first requirement that the kidney can be brought well out into the parietal incision. My chief reason for emphasizing the intimate relations between the pelvic wall and the peripelvic vessels is to warn against any rough manipulations within the renal pelvis.

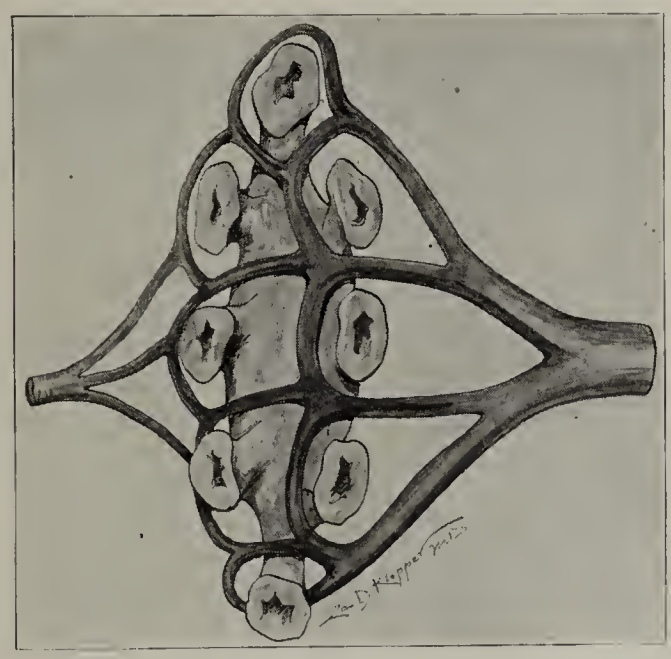


Fig. 7.—Relation of peripelvic veins to papillae (Albarran).

*Rôle Played by X-Ray.*—Granted that the patient has been thoroughly prepared and the plates are examined by one accustomed to interpret them, the present development of $x$-ray technic enables one to determine with more than a fair degree of accuracy the position of shadows with reference to whether they are in the renal pelvis or parenchyma. A shadow located on a level with and close to the transverse process of either the first or second lumbar vertebra (Fig. 8) is due, as a rule, to a calculus located at the junction of the ureter with the renal pelvis (ureteropelvic junction). Such a shadow may be triangular, round, or show a projection in a downward and inward direction. Zuckerkandl has recently directed attention to the characteristic nipple-like appearance of shadows at the ureteropelvic junction (Fig. 9). When a shadow of this shape and location is present, one can usually say in advance that the calculus can be removed by pyelotomy. No one will attempt to say, however, that every shadow located at the position just described is at the ureteropelvic junction. If the kidney lies lower than normal, the shadow may be due to a calculus in the upper half of the renal pelvis, or in the renal parenchyma, close to the inner or mesial border of a low-lying kidney (Fig. 10). On the other hand, the shadow may be due to a calculus in the lower half of the renal pelvis of a high-lying kidney (Fig. 11). Further experience will, of course, show more exceptions, but the interpretation of shadows located as just described (Fig. 8) will serve for the present as a working basis.

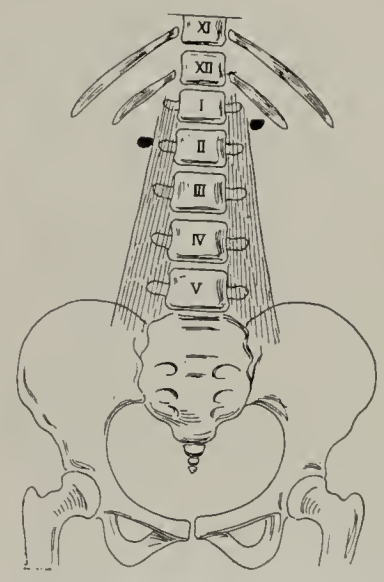



Fig. 8.—Typical location of stones located at junction of ureter and renal pelvis (ureteropelvic junction). Note exceptions in text.

In the absence of other complications, pyelotomy can be considered as the ideal method for calculi at the ureteropelvic junction. A peculiar shadow may be the result of calculi located partly in the primary division of a bifid pelvis and extending into the ureter (Fig. 12), or when the calculus extends in a pipe-like manner for some distance into the ureter.

*Shadows Not at Ureteropelvic Junction.*—When the shadow is further away, i. e., outward, from a vertical line drawn through the outer ends of the transverse processes of the first or second lumbar vertebra, the calculus usually lies in a dilated calix or in the renal

parenchyma. If the shadows are multiple and are close together, the stones are probably in the renal pelvis (Fig. 12) or in a dilated calix, readily reached through the pyelotomy incision. When the shadow is single and a little farther out than where the ureteropelvic junction calculi are seen, the calculus is usually free in the renal pelvis or is lodged in a primary or secondary calix, and also easily reached through the pyelotomy incision. When the shadow is large and triangular, or coral-like (Fig. 13), or there are a number of shadows distributed over a wide area (Fig. 14), one of two conditions is usually found at operation: (*a*) either the renal pelvis is greatly dilated and filled by a large calculus, or (*b*) multiple shadows signify considerable destruction of the renal parenchyma. With such *x*-ray findings pyelotomy scarcely can be considered, although many of the French and German surgeons have become quite radical in combining incisions into the renal pelvis with those of the parenchyma in the removal of relatively large calculi located in the dilated pelvis.

It is beyond the province of the present paper to discuss the question of nephrotomy or nephrectomy when large or multiple calculi are present with extensive destruction of the kidney.

### TECHNIC OF PYELOTOMY

The method of exposure and of bringing the kidney into the wound does not differ in any manner from that employed for nephrotomy. In order to perform a pyelotomy, one must be able either to lay the kidney completely on its anterior surface, on the skin edges of the incision (Fig. 15), or at least to gain access to the posterior aspect of the renal pelvis without much tension on the renal vessels. If the pedicle is short or there is much fixation of the kidney by adhesions, pyelotomy is out of the question, and too much traction under such conditions will surely result in disaster.

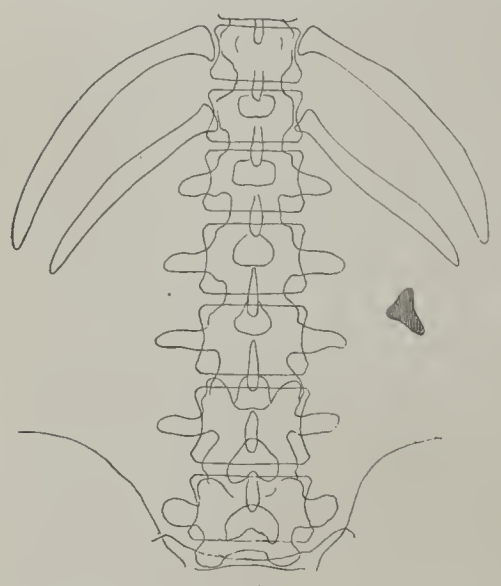


Fig. 9.—Tracing of skiagram of typical nipple-like calculus located at ureteropelvic junction (Dr. C. E. Kahlke's case).

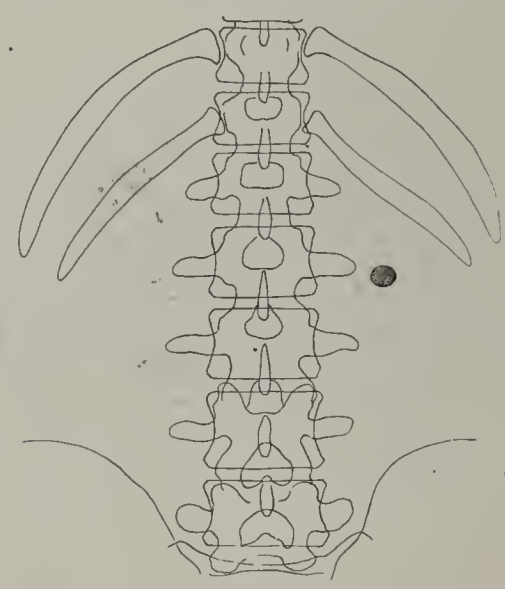


Fig. 10.—Tracing of skiagram of calculus located in upper pole of low-lying kidney. Illustrates exception to statement that shadows at this location are always due to stones at the ureteropelvic junction (Dr. G. Kolischer's case).

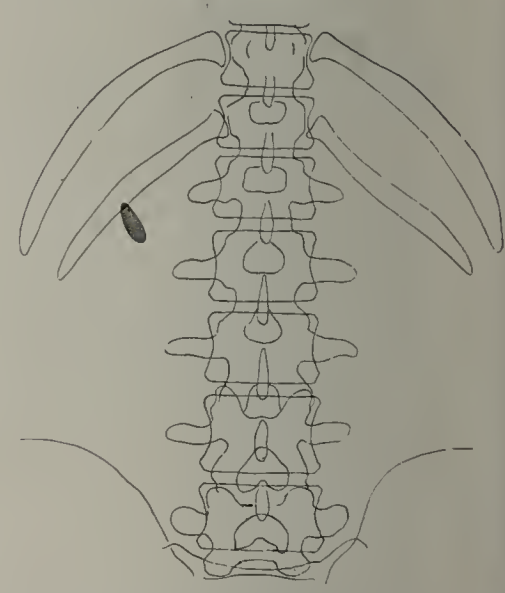


Fig. 11.—Tracing of skiagram of almond-like calculus located in lower pole of high-lying kidney. To illustrate exception to statement that shadows so located are due to calculi at ureteropelvic junction (author's case).

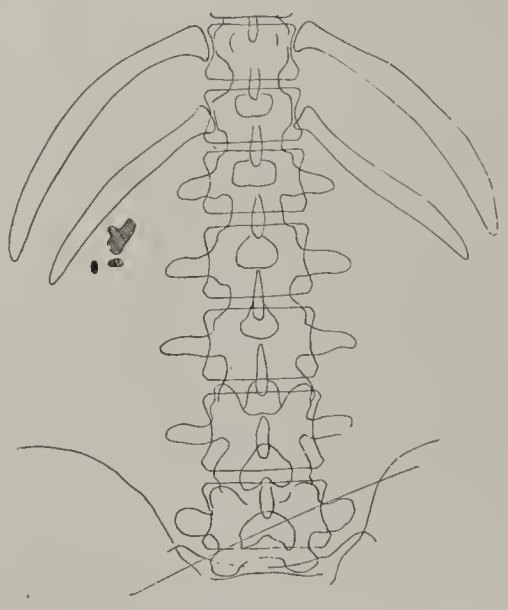


Fig. 12.—Tracing of skiagram of calculi located in lower primary calix of bifid type of pelvis. Recovered by pyelotomy (author's case).

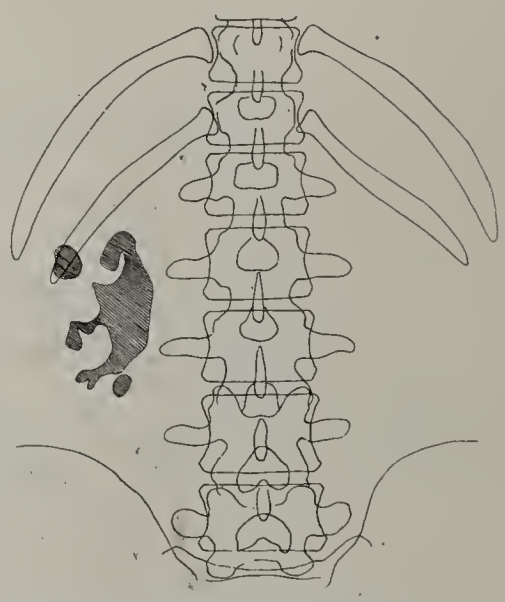


Fig. 13.—Tracing of skiagram of coral-like calculus occupying almost entire kidney (author's case).

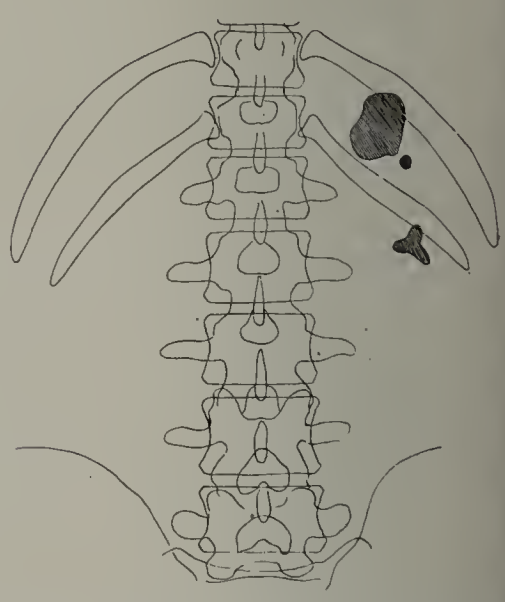


Fig. 14.—Multiple widely separated shadows lying in dilated calices of pyonephrotic kidney.

In the majority of cases, however, pyelotomy is possible if the incision is not too small and the wound edges are well retracted.

The method which I employ is to insert two fine traction sutures through the wall of the renal pelvis on each side of the proposed incision. The wall is then incised and the opening enlarged in an upward and downward direction with fine scissors. The edges of the incision are now held apart by the traction sutures which have been previously inserted as shown in the diagram, Figure 16. This procedure causes no bleeding, as a rule.

Occasionally a small vein in the fatty layer surrounding the pelvis may require transfixion. Every effort should be made to conserve the fatty tissues immediately adjacent to the renal pelvis. Calculi lying at the ureteropelvic junction can usually be felt when the kidney is turned on its face (Fig. 15), and the incision through the pelvic wall can be made directly over the calculus. Through the pyelotomy incision one can introduce the index finger and palpate the entire interior of the pelvis. The extraction of calculi lying loose in an ampullary or one of the main divisions of a bifid pelvis is very simple.

That accidents can occur when a calculus is firmly impacted in a calix is shown by a recent case of mine. The calculus was firmly held in a calix of the lower portion of an ampullary type of pelvis; it was separated by the most gentle manipulation and extracted with a blunt instrument, without any immediate bleeding. Several minutes later a steady, quite profuse amount of venous blood began to escape from the pyelotomy incision. All efforts to check the bleeding, such as tamponade and transfixion ligation of the lower portion of the renal pelvis, were of no avail and it was necessary to perform a nephrectomy. Examination of the specimen revealed that the bleeding had its origin in a small vein, just outside of the renal pelvis, and in close contact with the calculus. The latter had probably caused a thinning of the wall of the vein and after the calculus was removed the pressure within the vein caused the weak intervening tissue to yield with resultant bleeding into the renal pelvis.

I have referred above to the close relation between the peripelvic veins and the pelvic mucosa. The occurrence of such severe bleeding even after the most gentle manipulation shows the necessity of bearing in mind these vessel relations.

After removal of the calculus or calculi, the incision in the renal pelvis is closed with 00 chromic gut sutures, which do not pass through the mucous membrane. If the urine is clear or contains only a small amount of pus, one can safely close the incision completely, insert a cigaret drain or small rubber tube down to the suture line, and replace the kidney. The danger of fistula formation is practically nil, provided that the ureteral lumen is not obstructed between the renal pelvis and bladder. It is advisable to pass a ureteral catheter down to the bladder before closing the pyelotomy incision. When the urine contains considerable pus and nephrectomy is contra-indicated, a soft rubber drain is sutured into the pyelotomy incision and brought out through the posterior end of the abdominal wound.



Fig. 15.—Posterior aspect of renal pelvis exposed in incision as first step of pyelotomy. Note avascular condition of the posterior aspect of renal pelvis.

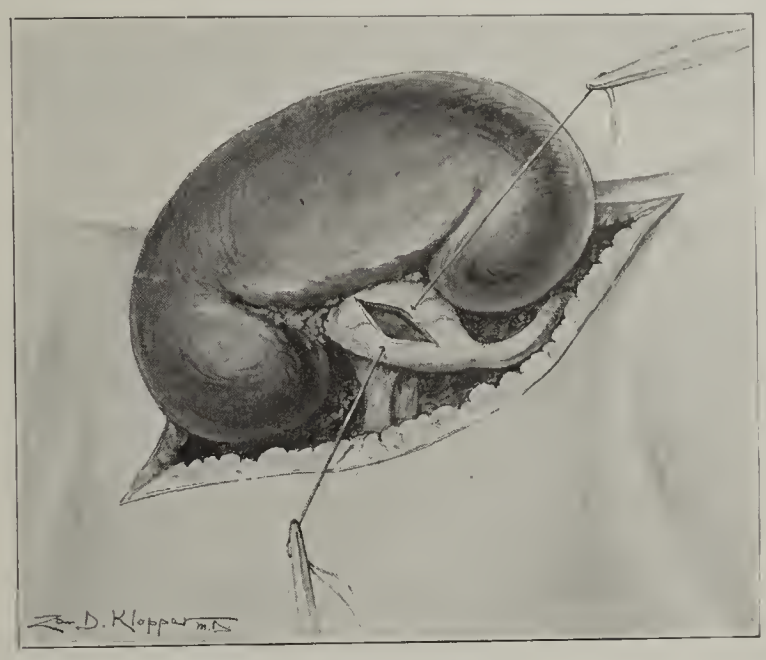



Fig. 16.—Renal pelvis opened by longitudinal incision and edges held apart by two traction sutures of catgut.

### COMPARISON OF NEPHROTOMY AND PYELOTOMY

*Advantages of Nephrotomy.*—1. Nephrotomy is preferable in cases in which there is a large branched calculus filling the renal pelvis, or in which there are many small calculi lying scattered throughout the kidney in closed cavities. In many of these cases, especially if the condition is a bilateral one, a finger inserted into the renal pelvis through a pyelotomy incision will aid in locating the calculi and they can be delivered through multiple small incisions through the convex surface of the kidney.

2. Nephrotomy is to be chosen in infected cases in which there is more or less destruction of the parenchyma. Here the question of whether nephrotomy or nephrectomy should be performed is to be considered, rather than any other operation. I cannot urge too strongly the necessity of ureteral catheterization of each kidney as a routine method before any operation for the removal of renal calculi. One never knows absolutely before operation whether the kidney must be removed; hence the obligation on the part of the operator of knowing the functional capacity of the opposite organ. In infected cases, when it is not necessary to remove the kidney, drainage is far better through a nephrotomy incision than through that of a pyelotomy.

3. Nephrotomy is the safer operation when the renal pedicle is short, or when there are extensive perinephritic changes which render delivery of the kidney into the wound very difficult.

4. The condition of the parenchyma can be determined much better through a nephrotomy incision. Much information as to the extent of destructive changes should have been secured, however, before operation, from the study of the clinical history, palpation, *x*-ray findings, functional tests and examination of the urine from each kidney.

*Disadvantages of Nephrotomy.*—1. The bleeding during the operation is far greater than in pyelotomy, even though the renal pedicle be well compressed. If the

nephrotomy incision be made just large enough to admit the index-finger, while the renal vessels are compressed at the hilus, the amount of blood lost, it is true, is usually slight. If the incision be more extensive, even though it be made behind the middle of the convexity, as Zondek has shown, the bleeding may be quite alarming, especially during the removal of a large branched calculus. The employment of bisection of the kidney has fortunately become greatly restricted through the greater accuracy of our radiographic technic.

2. The danger of hemorrhage following nephrotomy is by far the greatest objection, and has been one of the chief reasons for the rapidly growing popularity of pyelotomy. In addition to arteriosclerosis, hemophilia and imperfect suture of the nephrotomy incision, the most frequent causes of such postoperative bleeding are (*a*) the detachment of thrombi; (*b*) the septic erosion of vessels exposed in the line of incision, and (*c*) the bursting open of the nephrotomy wound when the ureter becomes obstructed by a blood-clot. Makkas[1] collected reports of nineteen cases, and Neuhauser[2] reports sixteen of Israel's cases. In ten of the latter, two patients died after the kidney incision had been tamponed, and in six it was necessary to remove the kidney, with three deaths, in spite of the secondary nephrectomy. Neuhauser speaks of the fact that a severe hematuria may occur after a pyelotomy, and my case, quoted above, confirms this. The danger of hemorrhage either during or after nephrotomy is much greater, however, as Haberer and others have shown, than after pyelotomy.

3. The danger of overlooking calculi, even with a good skiagram, is greater with nephrotomy than in pyelotomy. In the latter, one can palpate every portion of the pelvis and parenchyma bimanually, as previously described.

4. The danger of necrosis of the parenchyma following nephrotomy has no doubt been greatly exaggerated, but it is by no means a negligible factor in determining the method of operation.

*Advantages of Pyelotomy.*—1. Pyelotomy is the simplest and least serious method for the removal of calculi lodged at the junction of the ureter and renal pelvis, or for small or moderately large calculi, either free in the ampullary type of pelvis or in a primary calix of a bifid or trifid type of pelvis. Pyelotomy is also rapidly becoming the method of choice for small calculi lodged in the calices of the ampullary type of pelvis. Some operators combine transverse or vertical incisions into the parenchyma with pyelotomy for the removal of larger calculi.

2. It is the best method for calculi in one or both pelves of a horseshoe kidney, as well as in bilateral cases, especially in those complicated by anuria.

3. Hemorrhage is far less likely to occur either during or after pyelotomy than in nephrotomy.

4. Bimanual palpation of the pelvis and parenchyma lessens the chance of overlooking a calculus.

5. Pyelotomy can be done much more rapidly, and the period of convalescence is much shorter than in nephrotomy. It is seldom more than ten to fourteen days, in my experience.

*Disadvantages of Pyelotomy.*—1. Pyelotomy is contraindicated when the kidney is fixed by adhesions or the pedicle is short, or if extensive infection is present.

2. A fistula may persist after operation. The danger of such a condition is very slight, unless one has overlooked some obstruction of the ureteral lumen distal to the pyelotomy incision. A ureteral catheter should always be passed down into the bladder before suturing a pyelotomy incision.

3. The danger of bleeding either during or after operation, from the peripelvic vessels, although slight, must always be borne in mind.

In conclusion, let me add that I believe that pyelotomy is destined to become an active competitor with nephrotomy in the majority of cases. Many of the most prominent European surgeons are enthusiastic in speaking of the many advantages of pyelotomy, and the chief object of this paper is to call the attention of American surgeons to the many merits of the operation.

31 North State Street.

1. Makkas: Deutsch. Ztschr. f. Chir., ciii.
2. Neuhauser: Folia Urol., iv.

---

## A CASE OF PULMONARY INSUFFICIENCY *

ROBERT ABRAHAMS, M.D.
Adjunct Professor of Medicine, in the New York Post-Graduate Medical School and Hospital
NEW YORK

Writers and clinicians consider pulmonary insufficiency the rarest valvular lesion of the heart. Of 24,000 admissions to the Johns Hopkins Hospital only three such cases were found, and of this number the diagnosis in only one was made during life.[1]

In my clinic at the New York Post-Graduate Medical School and Hospital, in which nearly 800 heart cases are studied every year, the following is the first one of its kind which has come to my notice in eleven years:

Mrs. J. S., aged 26, born in Hungary, no children, one miscarriage three years ago, had measles at the age of 2, and never any other infectious disease. Six years ago she was troubled with a cough which lasted six months and then abruptly disappeared. The patient tells of mild pain in the joints, but it never amounted to much. There is no such pain at present. July 1, 1912, the woman presented herself for treatment in the Medical Clinic of the Post-Graduate Medical School and Hospital. At this time the symptoms were as follows: moderate dyspnea on exertion, slight cough attended with scanty mucous expectoration; some cyanosis of lips and finger-tips; otherwise the patient appeared fairly well nourished.

Examination of the organs of the chest disclosed the following conditions: The lungs were normal. *Inspection* of the precordium showed a very slight displacement of the apex to the left of its normal position and a strong pulsation at the third left interspace, about ½ inch from the sternum. *Palpation* gave a very marked diastolic thrill over the third left interspace close to the sternum. *Percussion* indicated 1 inch enlargement of the right heart. There was little, if any, enlargement of the left heart. *Auscultation* revealed normal first and second sounds over the apex and the aortic area. The pulmonic first was quite accentuated; the second pulmonic was replaced by a loud blowing, diastolic murmur. The point of maximum intensity of the murmur was over the third left interspace. The course of the murmur extended from the second to the fourth left interspace along the left edge of the sternum, where it abruptly stopped. The pulse was full, regular and 80 to the minute. The pulse remained the same with the arm in the upright as in the horizontal position.

On these physical signs the diagnosis of pulmonary insufficiency was made. This diagnosis has been strengthened by the same findings on repeated examinations.

* Patient presented before the Clinical Society of the New York Post-Graduate Medical School, October, 1912.

1. Hirschfelder, A. D.: Diseases of the Heart and Aorta, Second Edition.

Besides the direct signs pointing unmistakably to pulmonary regurgitation, the diagnosis could be made with certainty by the process of exclusion.

Aortic insufficiency simulates pulmonary insufficiency in so far as it is characterized by a diastolic murmur which is heard at times over the pulmonic area and almost always over the fourth left interspace close to the sternum. But the aortic diastolic murmur is frequently heard over the aortic space as well as at the ensiform cartilage. No such transmission of the murmur existed or exists in this case.

Aortic insufficiency shows hypertrophy of the left heart; in this patient the right heart showed enlargement, scarcely any in the left.

Aortic insufficiency is associated with a jerking and collapsing pulse; here the pulse is normal. Aortic insufficiency produces throbbing of the carotid arteries and capillary pulsation; these are conspicuously absent in this case.

lesions of the heart, but under such circumstances the aortic and mitral valves are the target.

Ulcerative endocarditis is given as a cause for pulmonary insufficiency, but a history of that affection is lacking here.

Finally the regurgitation may be of congenital origin. If that were the case, however, one might reasonably expect another, associated, congenital lesion also; but even though we disregard that occurrence, the dyspnea, cough and cyanosis, which troubled the patient when she came for treatment, came rather late in the life of the lesion.

Further data concerning the case:

Blood-pressure: Systolic 110, diastolic 70; Wassermann negative (Post-Graduate Laboratory No. 1642); examination of blood (Post-Graduate Laboratory No. B-1633); erythrocytes 4,500,000 per c.mm.; hemoglobin 90 per cent. (Tallqvist instrument used); differential count (number of cells counted, 100): polynuclears 72; lymphocytes 21; mast-cells 1.

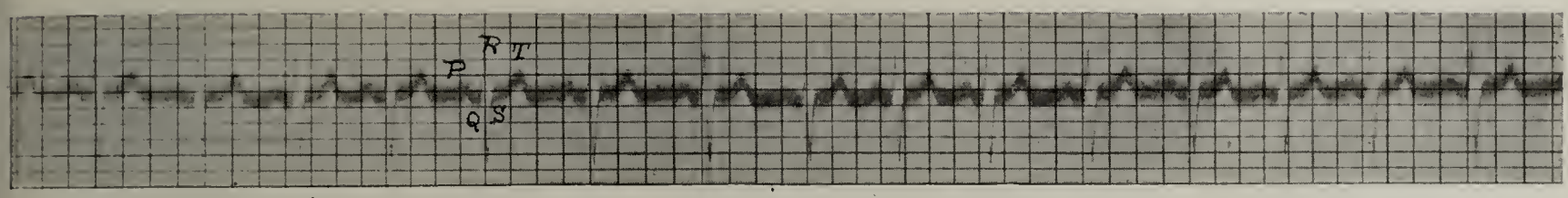



Fig. 1.—The electrodes are applied to the right and left arm and this arrangement is called Lead 1. (In all the records the space between the perpendicular lines equals one-fifth of a second in time, the space between the horizontal lines represents 2 mm. and a deflection of 10 mm. requires one millivolt of current.) The QRS complex is downward or negative.

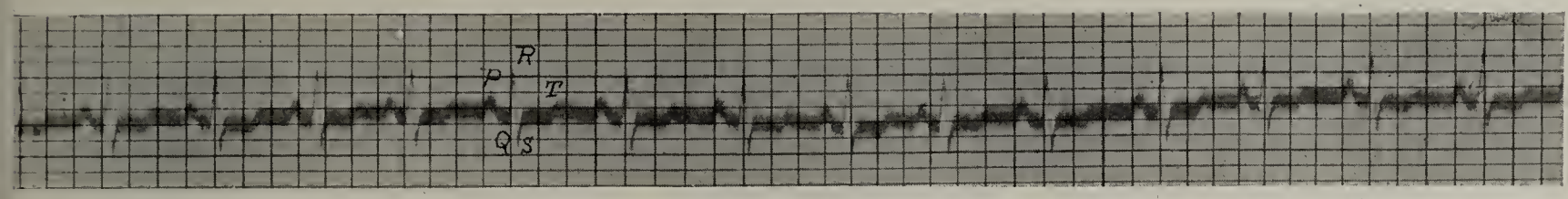



Fig. 2.—The electrodes are applied to the right arm and the left leg. The QRS complex is upward or positive.

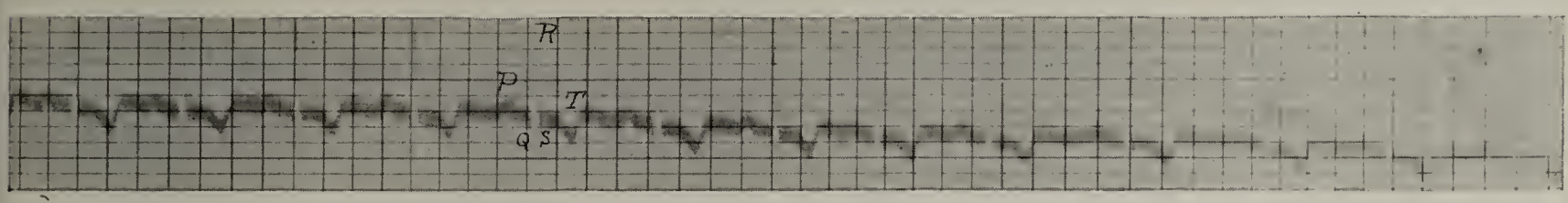



Fig. 3.—The electrodes are applied to the left arm and the left leg. The QRS complex is upward or positive.

The next condition to exclude is a functional disturbance of the heart or deterioration of the blood, each giving rise to a functional or hemic murmur over the pulmonic area.

The presence of a diastolic thrill argues conclusively against such an assumption. Besides, except in rare instances of great loss of blood, a functional or hemic murmur is invariably systolic in time, and its line of transmission is upward instead of downward. The blood-count, as stated later, practically disproves the theory of anemia.

The cause of the pulmonary insufficiency in this patient is unknown and unaccountable. There is no history or evidence of venereal infection. The Wassermann test proved negative. Besides, luetic infection produces by preference deformity in the aortic valves. Neither is there a history of any other infection like typhoid, scarlatina, diphtheria or influenza. The only evidence of rheumatic infection is the occasional mild pain in the joints coming and going. Such pain, in my experience, is frequently associated with serious

A roentgenogram showed the enlargement of the right heart. The amount of enlargement tallied exactly with that found by percussion and my method of auscultation.[2]

Abdominal viscera and pelvic organs were in a state of perfect health. The tracings were made by Dr. Robert H. Halsey of the New York Post-Graduate Medical School and Hospital, to whom I desire to express my sincere thanks. Dr. Halsey's interpretation of the electrocardiograms is as follows:

"Two electrocardiograms were taken from patient Mrs. J. S. at intervals; they were identical. The interpretation of the curve depends on the identification of the deflections P, Q, R, S and T in the three leads. It is most important to identify R, whether it is to be considered a positive (upward) deflection or a negative (downward). The general rule established by Einthoven is: $R_2 - R_1 = R_3$. Applying this we find $R_3$ to be greater than $R_2$; hence $R_1$ is to be a negative deflection. A reversed or downward deflection of $R_1$, when the heart is in the normal position with some enlargement to the right, is to be regarded as due to hypertrophy of the right ventricle."

257 West Eighty-Eighth Street.

2. Abrahams, Robert: The Delimitation of the Heart by a New Method, Arch. Diag., April, 1912, p. 130.

# THE "NEW HEEL"

## WITH A PATHOGNOMONIC SIGN FOR DETECTING INFLAMMATORY LESIONS IN THE ANTERIOR ARCH OF THE FOOT

MAX STRUNSKY, M.D.
NEW YORK

The most frequent of all causes for painful feet is inflammation in the anterior arches. Of the sufferers who come for relief for foot conditions, the women patients especially—shall we say 100 per cent. of them?—have strained or broken-down anterior arches. It is, of course, true that in a great number of these cases the longitudinal arches are flattened also, so that there is pain in the foot due to stretching of ligaments and spasm of muscles; but still the inflammatory lesion, which is the main cause of the distressing symptoms, is situated usually in the anterior arch of the foot. I have seen a great number of cases in which the patients have worn all kinds of plates for years for their foot troubles, although their longitudinal arches were even normal—that is, as normal as they can be in shoe-wearing persons—and of course their plates ended where the real trouble commenced, so that while the longitudinal arches were supported and treated for years, the anterior arches, in which lay the site of the lesion, were left to themselves, unrecognized and untreated.



Fig. 1.—The "new heel." The most common deformity.



Fig. 2.—Position of patient and examiner in pathognomonic test for anterior arch lesions.

### ETIOLOGY OF THE "NEW HEEL"

The heel is the strongest part of the foot, and is constituted to carry the main bodily weight. The high-heeled shoes which women wear, however, practically compel them to walk on the heads of the metatarsals. Thus every time they take a step they jam the metatarsal heads on the ground. This carries with it an element of traumatism which, when cumulative, often results in an inflammation in the metatarsophalangeal joints of which the anterior arches are mainly composed. Not only does this inflammation affect the soft parts of these joints, but also, as often proved by skiagrams and operations on the foot, the periosteum and the cancellous portion of the bones are involved.

High-heeled shoes compel the anterior arches to assume the function of weight-carriers, which modifies them into weight-carrying structures or heels. Metatarsal walking increases the size and strength of the anterior arches and changes their flexibility and elasticity, which is essential to a normal gait, to rigidity which is essential to a weight-carrying structure. The anterior arches also become prominent and bulge on the plantar surface and are covered with callosities. In short, not only do the anterior arches perform, under pressure of the additional burden, the function of heels, but they acquire all the characteristics and every semblance of heels (Fig. 1).

### DIAGNOSIS

The diagnosis is self-evident when the new heel is developed. In this, however, as in all other forms of flat-foot, the amount of deformity is not always in proportion to the amount of pain. In fact, the painful stage usually comes before the appearance of deformity. Since the patient's symptoms may be very severe in this stage, while his arches look normal, there is danger of overlooking the trouble. Pain in flat-foot is due to a great many causes: the stretching of ligaments, spasm of muscles, inflammation of joints, the grinding together of small bones as they form new facets, and the accompanying periostitis. The reflex pains so often distressing in flat-foot are due to the inflammation involving the peripheral nerve-endings and also to pinching of nerves by the grinding bones. Naturally, also, the patient spares the inflamed portion of the foot, so that he strains certain groups of muscles; this, too, is a cause of pain.

These processes are most active in the early stages. In the chronic stage, hyperstretching destroys the elasticity of the ligaments, ankylosis cures the inflamed joints, the bones form new facets and are comfortable in their new position. Consequently, pain ceases in the chronic stage though deformity and impaired function has reached its maximum. A sign of anterior arch trouble, which after a great number of tests I am convinced is pathognomonic, is elicited in the following way:

The examiner grasps the toes of the patient and flexes them suddenly (Fig. 2). Sudden flexion is painless in the normal foot, but is extremely painful if there is inflammation in the anterior arch. The patient need not be asked if the act gave him pain, for a spasm of suffering sweeps over his face when it is done. Also the severity of pain is in direct proportion to the severity of the inflammation. The explanation for this test is that in disease of the anterior arch the patient unconsciously holds the toes extended. This position gives to the metatarsophalangeal joints the maximum space to accommodate the inflammatory product which is present when there is trouble with these joints. When the toes are flexed, however, the spaces in these joints are suddenly lessened, which causes an increase of intra-articular pressure with distention of the capsules, etc., which of course is very painful. This sign is especially valuable, as it is present in the early stage of anterior arch inflammation long before the appearance of the deformity. The sign is absent only in very old and chronic cases. In these, manipulations are painless because, as was explained above, the trouble has progressed beyond the point of pain.

It should also be remembered that the metatarsophalangeal joints are subject to a great many diseases. Because of the traumatism which high-heeled shoes

inflict on these joints, their vitality is inevitably lessened, and they form a favorable soil for the deposits of various infections or toxins that may lodge in the system. Thus a primary joint lesion of either syphilis, gonorrhea or any of the countless forms of osteo-arthritis may appear in these joints. An example of this is shown in the accompanying skiagram (Fig. 3).

### TREATMENT

In the acute stage of anterior-arch inflammation the patient must be off his feet entirely. When this is impossible the anterior arches can be supported by felt. The benefit derived from this is due not only to the fact that the fallen arch is restored to its normal position, but also to the removal of some of the bodily weight from the affected parts because the felt raises the front part of the foot. When the inflammation is confined to one or two joints, relief sometimes is obtained by cutting a central opening in the felt and supporting the region around the affected part. Heat relieves pain temporarily, at least, and produces hyperemia, and is given either in the form of hot foot-baths (best effervescent) or baking.

In the chronic stage an anterior arch-support can be built into the shoe, or if there is a concomitant flattening of the longitudinal arches, a plate can be made having a metatarsal support as well. Often, however, the best results are obtained by simply lowering the heels of shoes. Foot gymnastics are also of value in the chronic stage, especially extreme flexion of the toes. This movement relaxes the toe flexors, which in this disease are stretched permanently, and stretches the toe-extensors, which are contracted. It also elevates the fallen anterior arches to their natural position, and has a tendency to increase the elasticity of these often rigid and ankylosed joints, besides strengthening the weakened muscles.

The first step naturally in the treatment of these cases is a change in shoes. Shoes are prescribed which have wider toes, broader bases, lower heels, etc.; but the patient often feels more uncomfortable in these more sensible shoes than in the conventional type. I used to explain this anomaly as due to the force of habit, as something akin to the discomfort that the old-time galley-slave felt when he missed the sense of tightness and weight when his chains were removed. The discomfort caused by the change in shoes, however, does not easily wear off, as is usually the case with discomfort caused by a mere change of habit, and there are physical reasons underlying it. The explanation of this discomfort is as follows: The longitudinal arch descends when the weight is on the foot, and immediately springs back when the foot is lifted from the ground. The prominent arches of the conventional shoes permanently support and practically immobilize the arches of the foot and prevent their upward and downward excursions. In the orthopedic type of shoe, on the contrary, the arch-supporter is not prominent, with the result that the arches of the foot, if the patient changes to that type of shoe, suddenly lack their accustomed support. The arches, weakened from their long disuse, lack the power to spring back by themselves, and having plenty of room, they fall; hence the stretching, discomfort and pain.

Also the low heel in this shoe throws a greater weight on the heel of the foot, which, weakened in high-heeled toe-walkers on account of partial disuse, cannot stand the additional burden without pain. Further, there is discomfort due to the hallux valgus, bunions, corns, etc., which are never-absent companions of the "new heel," for they rub against the inner wall of the more spacious toe in this sensible shoe, while they fit like a glove in the conventional shoe which was their original mold.

All this has a practical bearing on the treatment. The best way of strengthening arches and heels is to compel them to function. But if a radical change of shoe is made, functioning of the tissues is compelled to begin abruptly, and results in stretching and injury to the tissues. If, however, shoes are changed gradually, functioning begins gradually, which is physiologic in strengthening weakened tissues. The change, therefore, should be made gradual instead of radical.

Experience has taught that the stumbling-block in the treatment of this trouble is the difficulty that accompanied the change of shoes. Either because of the discomfort that orthopedic shoes give at the beginning or because they are "ugly," a great many patients refuse to submit to them, choosing rather to endure life-long suffering.

The Wolff law which says that acquired bone facets disappear and the original facets come back, without

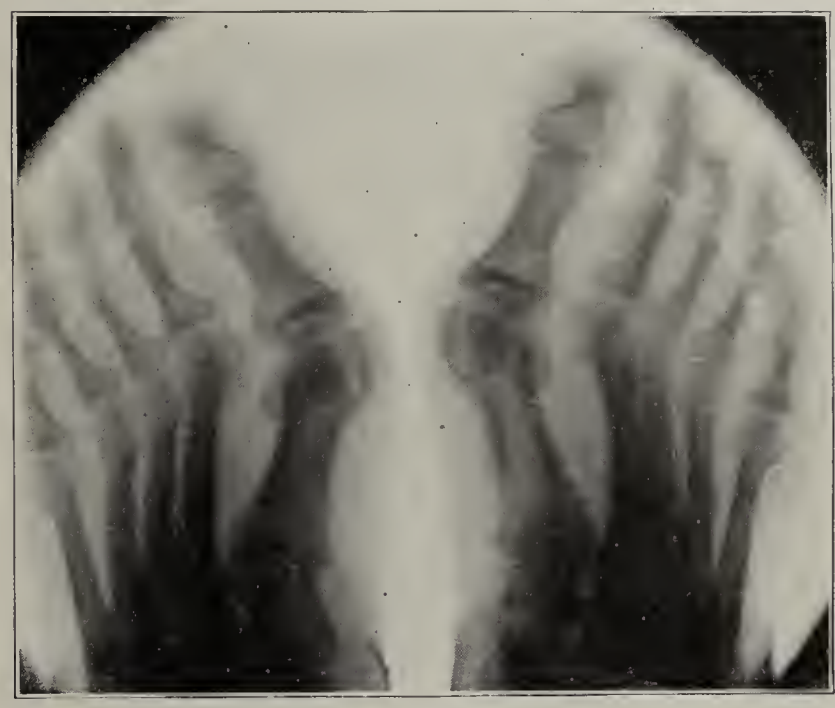


**Fig. 3.—Arthritis deformans. The patient has for years suffered from broken-down anterior arches. As far as it can be ascertained he is free of this lesion in any other part of his skeleton.**

which process the successful treatment of those cases in which bone changes have taken place is an impossibility, formulates a phenomenon which can be attained only slowly. Notwithstanding the plasticity of the human foot it has taken the greater part of a patient's lifetime for shoes to convert the fronts of the feet into heels—and only step by step, with perseverance and intelligent cooperation, is it possible to reconvert troublesome heels into functioning front feet.

24 West Forty-Fifth Street.

---

**Graded Milk in New York.**—According to the January *Bulletin* of the New York City Board of Health, the fundamental object of the grading system applied to milk in New York City is to extend the scope of pasteurization, which is said to be absolutely necessary in a great city drawing its milk-supply from many distant points. The graded system has resulted in the extension of pasteurization so that about 100 pasteurization plants are now in actual operation, including those in the city and country, and from one-third to one-half of the milk-supply is pasteurized.

## A NEW OPERATION FOR HEMORRHOIDS

ROBERT A. BACHMANN, M.D., NEWPORT, R. I.
Surgeon, U. S. Navy, U. S. S. Delaware

This operation resembles the Whitehead inasmuch as in each operation a pile-bearing ring of mucous membrane is removed, but the method employed is so radically different from the Whitehead or any of its modifications that I have preferred not to call it by that name.

Eight pairs of curved hemostats and the same number of straight hemostats are required. The rectum is well dilated. Eight deep mattress sutures are placed well beyond the hemorrhoidal mass into sound mucous membrane at points corresponding to 12, 3, 6 and 9 o'clock and half-way between each of these—eight in all. Chromic gut is used. Straight hemostats are attached to ends of sutures left long.

Well out on the mucocutaneous junction place corresponding mattress sutures—eight in all—and attach curved hemostats to ends of sutures left long. Hemorrhoids are now between rows of sutures. Cut mucous membrane circularly around the internal row of sutures, avoiding the cutting of sutures. Next cut the mucous membrane circularly near skin sutures taking the same precaution. The entire pile-bearing area is now outlined and limited by two circular incisions. With blunt curved scissors dissect and cut free this napkin-ring of hemorrhoidal mucous membrane. A stream of hot saline solution facilitates all this cutting and reduces hemorrhage. Tie 12 o'clock suture in mucous membrane, held by straight hemostat to 12 o'clock suture in skin, held by curved hemostat; 6 o'clock mucous membrane to 6 o'clock skin, etc. Dress with tube.

The advantages of this operation are: (1) very little hemorrhage; (2) accurate and secure line of sutures; (3) scar well out near skin (a little contraction is beneficial if anything); and (4) in my experience no complaints of severe pain.

This procedure has been carried out in a number of cases.

## HEMORRHAGIC DISEASE OF THE NEW-BORN INFANT TREATED BY HORSE-SERUM

WALTER B. JENNINGS, PH.B., M.D., NEW YORK

I wish to add a case to those of hemorrhagic disease of the new-born infant in the treatment of which blood-serum was used, as reported by Reichard, Perkins, Barringer and Claybrook.[1]

### CASE REPORT

*History.*—Feb. 4, 1913, a female infant 4 days old came under my care. The child was well formed, weighed 8 pounds and was the sixth child. The mother died, three hours post partum, following normal labor. She was attended by another physician, who reported that she had suffered from pernicious anemia and valvular disease of the heart. The child was apparently well until the fourth day when, at 4 p. m., it vomited blood, which was bright red in color. The napkin used was markedly colored and the amount of blood lost appeared to be about 6 or 8 drams.

Feb. 5, 1913, at 5 a. m. the baby spat a teaspoonful of bright-red blood; at 8 a. m. bright-red blood was passed from the rectum, the amount of which was said to be about 1 ounce.

*Treatment and Course.*—At 8:30 a. m. an injection of 7 c.c. of normal horse-serum was given subcutaneously. At this time the rectal temperature was 100.2 F., pulse regular but so rapid that it could not be counted. After a quiet day, during which the baby had vomited its food but no more blood, at 5 p. m. another injection of 8 c.c. normal horse-serum was given. The rectal temperature at this time was 97.4 F. The child was given nourishment in the form of modified milk.

Feb. 6, 1913: The baby had a good night, sleeping well and taking its food without disturbance. The bowel movement was like tar, and the urine was stained with blood. The rectal temperature was 96.6 F. An urticarial rash appeared on the face, feet, legs and arms. At 8 p. m. the rectal temperature was 97 F. There had been no vomiting of blood.

Feb. 7, 1913: The baby had a good night and took its food well; the urine was not blood-stained; the bowels had not moved; the rash was fading; the cord was almost separated but no bleeding had occurred.

Feb. 8, 1913: The cord was completely separated, the surface being clean and normal, without hemorrhage. No bleeding had occurred for three days. The rectal temperature was 97.2 F. Feb. 19, 1913, the child was perfectly well.

On March 23, 1913, the frenum of tongue was cut to relieve the tongue-tie and no more than normal bleeding occurred.

The subnormal temperature together with the urticarial rash is worthy of mention in this case. The normal horse-serum was furnished by the Research Laboratory of the New York Board of Health.

140 Wadsworth Avenue.

1. The following articles appeared in THE JOURNAL, Oct. 26, 1912: Reichard, V. M.: Spontaneous Hemorrhage of the New-Born with Recovery, p. 1536; Perkins, M. J.: Diphtheritic Serum Used to Control Bleeding in a Hemophiliac, p. 1539; Claybrook, E. B.: A Case of Hemophilia, p. 1540, Barringer, D. S.: Unilateral Kidney Hemorrhage Controlled by Injections of Human Blood-Serum, p. 1538.

# Therapeutics

## MUSHROOM POISONING

Poisoning by this fungus is not at all infrequent, and consequently the treatment of this condition is worthy of careful consideration. In this country edible mushrooms found growing wild are gathered much more frequently than they used to be, both because of the example set by our foreign-born residents, and because of the greater demand for them as a delicacy in hotels and restaurants. Mushrooms are also cultivated, and a certain variety brings a good price. It is perhaps rare for the poisonous varieties of mushroom to be dispensed by a hotel or restaurant, the greatest care being exercised in deciding that the product offered is edible, that is, non-poisonous; but children sometimes obtain and eat the poisonous mushroom, and private families occasionally cook and serve it.

The mushroom is rich in nitrogen, but it is uncertain how much of this nitrogen can be utilized as a food; it is said to be absorbed only in small part, and is likely, during its digestion, to cause some gastro-intestinal irritation in many persons. As a nutrient the mushroom is of little value, since a large proportion of it is water.

Over two thousand varieties of mushrooms have been described, some of which are harmless, and others exceedingly poisonous. Gibson[1] considers that the usual methods of distinguishing between edible and poisonous varieties are unreliable, and suggests the following considerations in the determination as to their value: "1. Avoid every mushroom having a cup, or suggestion of such, at its base; the distinctly fatal poisons are thus excluded. 2. Exclude those having an unpleasant odor, a peppery, bitter or other unpalatable flavor, or tough consistency." The *Amanita muscaria* and the *Amanita phalloides* are regarded as among the most poisonous, and contain the active principle muscarin or amanitin. The *Amanita muscaria* is "distinguished by its bright-orange or red pileus [cap] covered with soft, fugacious, whitish warts, its white, rarely yellowish lamellae [gills], and its white floccose stipes [stem], bulbous at the base and bearing, at its upper attenuated extremity, a white ring."[2] The common edible mushroom is the *Agaricus*

1. Gibson, W. Hamilton: Our Edible Toadstools and Mushrooms, Harper & Brothers, 1903, p. 33.
2. Foster, Frank P.: Medical Dictionary, under Agaricus, i, 108.

*campestris,* belonging to the subvariety of *Psalliota,* "distinguished by the silky floccose or finely scaly pileus, the somewhat reddish tint of the flesh, and the pinkish lamellae changing to a dark brown. There are many varieties, some of which are cultivated on a large scale, especially in France." [2]

All fungi after being picked are prone to rapid decomposition. Some of the poisonous constituents in edible mushrooms due to decomposition, and some of the poisonous constituents of non-edible fungi may be destroyed or dispersed by heat, especially if thoroughly cooked. Many of the products of decomposition, however, and the poisons in poisonous mushrooms are irritant to the gastro-intestinal tract and poisonous to the nervous system. Some persons are more or less seriously poisoned even by edible mushrooms that are not fresh, and there are persons who have an idiosyncrasy for all mushrooms or for certain varieties.

The alkaloidal poison of the *Amanita muscaria,* termed muscarin, closely simulates in its molecular constitution cholin, which is a constituent of some animal tissues, and under certain conditions is set loose in the intestine and acts as a nervous irritant. This alkaloid muscarin, which is the constituent of non-edible mushrooms that causes poisoning, resembles in its physiologic action pilocarpin, although it is a very much more active poison.

After one or more poisonous mushrooms have been eaten, rarely will there be nausea and vomiting within a short time. Generally the absorption of the toxin does not take place until after the mushrooms have entered the intestine. Symptoms of poisoning do not occur for several hours after the mushrooms have been eaten; then pain, cramps, reflex vomiting and watery purging are likely to occur. If much of the poison has been absorbed before this local irritation takes place, symptoms of central poisoning occur, as noted by quickened pulse, rapid respiration, dizziness, muscular tremblings, and perhaps signs of intoxication bordering on confusion and delirium. The pupils are contracted. If the poisoning is more serious, the respiration and heart fail and the patient may die in collapse, consciousness generally not being lost. As in pilocarpin poisoning, there is a more or less profuse perspiration, and a free flow of saliva and bronchial mucus. This profuse perspiration and the watery stools cause great thirst and prostration.

If for any reason an insufficient amount of the poisonous mushroom has been ingested to cause gastro-intestinal irritation, before purging begins a sufficient amount of the toxin may have been absorbed to cause the nervous symptoms to be the most important and prominent. This kind of poisoning does not occur until eight or ten hours after the ingestion of the mushrooms. In this form of poisoning the most troublesome symptoms are vertigo, disturbed vision, irregular and weak pulse, and muscle twitchings or actual rigidity. The extremities become cold and the face becomes pale or bluish; there may be collapse, and later semiparalysis. In these instances of late poisoning there may be drowsiness and stupor as well as intense dyspnea. A greatly impaired circulation may be the cause of this cerebral condition, as coma is probably not a part of true muscarin poisoning. When the symptoms of poisoning appear late, as just described, showing that a large amount of the toxin has been absorbed before vomiting or purging has protected the system, the prognosis is much more serious.

The treatment of mushroom poisoning depends somewhat on the time when the symptoms occur. If they occur soon after the ingestion of the mushroom, a brisk emetic is the first treatment; the choice of an emetic, whether zinc sulphate, ipecac or mustard water, is a matter of unimportance, provided that the stomach is emptied. As soon as the stomach is emptied by the emetic, or by vomiting without the aid of an emetic, large draughts of hot water or flaxseed tea, slippery-elm tea or starch water should be given to wash off and sooth the mucous membrane. As soon as the stomach is quiet and the vomiting has ceased, a cathartic should be given; none is better than castor oil, as it is stated that an oil does not dissolve the toxic principle or promote its absorption. An ordinary dose of castor oil would be 30 c.c. (an ounce), given in the manner the least disagreeable to the patient. If the oil is not retained long enough to have passed into the intestine, a saline, as magnesium sulphate or sodium sulphate, may be given.

Alcohol in any form should probably not be given, as it may promote the absorption of the toxin. Strong coffee, however, is indicated. Hot, dry applications to the body, friction of the extremities and a hot-water bag at the feet tend to prevent shock and depression from this nerve poison.

The physiologic antidote to muscarin is atropin, which should be administered immediately, hypodermatically; 1/100 grain should be given, perhaps combined with 1/30 grain of strychnin, both of which drugs act also as circulatory stimulants. If the collapse is prolonged, the strychnin may be repeated within three or four hours. The atropin may be repeated in five or six hours, and to offset a prolonged collapse, some form of digitalis may be given, either by the mouth or hypodermatically. It should be remembered that digitalis acts slowly, and will be of little value for from six to ten hours. The value of camphor, given subcutaneously, as a cerebral and circulatory stimulant should be remembered. The contents of an ampule containing a saturated solution of camphor in sterile oil should be administered subcutaneously every hour for several doses, if needed. The coffee, or caffein, should also be repeated.

Death may occur after two or three days from mushroom poisoning; therefore, even with apparent improvement, the patient should be kept at rest and all care be taken that sudden collapse does not occur.

If the vomiting persists, or the diarrhea becomes too profuse and continuous, the sedative and soothing action of bismuth subcarbonate should be utilized, and soothing, mucilaginous warm drinks should be given. A bland, warm cereal should be the first food given. As previously stated, the patient is likely to be thirsty and crave cold liquids, but it is better that he receive warm liquids.

If the vomiting becomes serious, or the purging is not tractable, and especially if there is severe pain, a hypodermatic injection of a small dose of morphin should be given. The liquids taken, either on account of thirst or for sedative purposes or as foods, soon promote elimination by the kidneys, especially if the blood-pressure has been improved and collapse is not in evidence.

The prognosis is usually good in mushroom poisoning, though the patients are very ill for a few hours or days.

---

**Medical Advertising.**—Taken altogether, medical advertising, whether done openly or behind a screen, is dangerous. The fact that physicians and surgeons deal with the naked truths of life and are the guardians of their patients' innermost secrets is one of the greatest reasons against advertising of any kind. Most of our patients give us their full confidence because they are aware of our ability to keep it to ourselves.—B. Joseph in *Vermont Med. Monthly.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, APRIL 12, 1913

## SCIENCE AND THE AGRICULTURAL EXPERIMENT STATIONS

It is only about twenty-five years since Congress passed the Hatch act founding the system of agricultural experiment stations in this country. This act, supplemented by subsequent legislation, has brought the annual federal grant to each state up to $30,000, a nucleus to which the states themselves have in many cases added contributions in a liberal way. Those less familiar with the work which is actually accomplished by means of these great research foundations often think of it solely as an attempt to further the interests of the practical farmer. Indeed, the institutions were founded "to promote scientific investigation and experiment respecting the principles and applications of agricultural science"; but the trusts have been broadly administered, and the scope of the work extends far beyond the boundaries of the farm into the most diverse phases of human activity and concern. In more than one way have the researches bordered on the field of human health and given answers, suggestion or impetus to medical problems.

The lessons of this imposing movement in agricultural research and education are manifold. The American experiment stations have demonstrated the solidarity of the different sciences. Their successes have taught the important lesson that no one can foretell what beneficial results may develop from highly specialized researches, and they have fostered a spirit of popular interest in the progress of science quite beyond anything that could have been expected two decades ago, when empiricism still reigned supreme and distrust of the utility of scientific investigation was wide-spread. The organization of the stations is teaching a further lesson which sometimes needs to be brought home in the domain of medical research: it is the necessity of translating into practice the work of the laboratory, of trying out the principles and hypotheses of the investigator in the crucible of experience.

We are led by the perusal of a recent report of the work of the Wisconsin institution[1] to refer to the intimate relations, both direct and indirect, which our experiment stations bear to the conservation of health and the problems of human nutrition. Out of the forty or more problems recently made the subject for study, several have a distinct interest to the medical profession either because of their direct bearing or because they suggest the way to meet some of our difficulties. Foremost, perhaps, are the interesting investigations to which we have already referred[2] on the effects of rations restricted to single plant sources. Animals were fed balanced rations from the corn, the oat and the wheat plant. As they reached physiologic maturity it became evident that the ration from the wheat was strikingly deficient, the wheat-fed mothers producing either dead or weak, undersized offspring. In following up the cause of the disastrous effects of the wheat ration it was found that the deficiency of the wheat plant is not due to toxicity of any part of the plant, but rather to the acid conditions imposed on the animal, caused by an insufficient supply of lime and other alkaline substances in the roughage. The deficiency was overcome by the addition of alfalfa hay, which is especially rich in these base-yielding constituents. The bearing of this on the dangers which may lurk in so-called one-sided dietaries in man when the range of the food materials is limited in variety, at once becomes apparent.

Other Wisconsin researches relate to the mineral requirements of farm animals, particularly the need of calcium and phosphorus. The assertion has often been made that feeding to pregnant animals a ration high in mineral matter, especially lime, will cause undue development of the skeleton of the fetus, with subsequent difficulty at birth. The problem was thoroughly studied by feeding brood sows rations rich in calcium. The results show that no such thing occurs, but that the size and lime-content of the fetus skeleton is kept very constant when widely different amounts of lime are consumed in the food. Incidentally it was observed that a large consumption of food, such as is customary in an animal on which the demands of lactation, etc., are considerable, leads to the loss of a large amount of lime from the body in the feces, with the correspondingly large fecal residue. The desirability of liberal supplies of lime in the ration under such conditions is thereby emphasized. Other studies by Professor McCollum, who has been responsible for many of these valuable contributions, indicate clearly that not only must sufficient amounts of the necessary mineral elements be supplied, but also there must be a proper balance between them, a fact hitherto not sufficiently recognized. And when to these inquiries into the laws of nutrition are added the Wisconsin trials regarding the rôle of the plane of protein feeding on the efficiency of rations for growth, it will be seen how closely these studies approach the fields of interest to the student of human nutrition. Indeed, we are always dependent on animal experimen-

1. Report of the Director, 1911-1912, University of Wisconsin Agr. Expt. Sta., Bull. 228, January, 1913.

2. Unappreciated Factors in Diet, editorial, THE JOURNAL A. M. A., March 2, 1912, p. 637.

tation for the preliminary investigation of certain far-reaching human problems. The inclusion of the farm animals in the plan of experimentation thus doubly serves a beneficent end.

Reference may also appropriately be included here to numerous other lines of research in progress at Madison. The problems of the bacterial and chemical factors in the ripening of cheese are of great economic and dietary importance; and the work represents a step in the direction of discovering the secrets of the empiric methods which have been sanctioned by the experience of generations. Precisely as the improvement in the quality of market milk has been accompanied by a greater uniformity of the product and a dependability on some of its important properties, so it is now hoped to establish uniform methods of cheese manufacture in which pasteurized milk and pure culture starters have their place.

Animal diseases, never without concern to mankind, are also being investigated. Avian tuberculosis has been found quite widely spread throughout Wisconsin. Unlike the mammalian form of the disease, it is primarily an affection of the liver and spleen. The experiments indicate that the disease is contracted mainly through feeding, that it can be transmitted from fowls to such mammals as swine, and that the close contact of healthy and diseased birds will transmit the infection. The main danger, therefore, as with the disease in cattle, is in introducing diseased stock into the flock. Unfortunately, the owner cannot safeguard the condition of his flock by applying the tuberculin test to his purchases, as he can with cattle.

The state of Wisconsin is to be congratulated on having enlisted into its service a group of efficient investigators who are fulfilling in their local sphere the expectations of the great national research foundation. In other states this story can be found repeated. By their quiet, modest labors and persistent patience in the field and the laboratory these untiring workers are doing quite as much for the highest welfare of their state as are those who shine conspicuously in the halls of legislation.

---

## RURAL ORIGIN OF CITY TYPHOID

We are coming to the season of the year usually marked in our cities by the annual spring rise in the curve of typhoid frequency, attributed to infectious materials carried by freshets into water-supplies. The whole question of the origin of typhoid fever becomes of special interest at this time, and as there has recently been a protest against what is called the rural origin of typhoid, the subject deserves particular consideration. Dr. Bolduan, assistant to the general medical officer of the Department of Health of the city of New York, who has for ten years been in charge of the investigation of the origin of all cases of typhoid fever occurring in New York City, read a paper before the American Public Health Association last fall on the rural origin of much of the typhoid fever in large cities and the need of reorganizing rural public health administration. It has just been republished as a separate pamphlet by the New York Health Department. Bolduan's conclusions merit serious attention.

While typhoid is usually considered to be mainly, if not almost entirely, a water-borne disease, and while there is no doubt that drinking-water has been responsible for the great majority of cases in large cities, the water seems to be slightly, if at all, responsible for typhoid in New York. The proportion of cases to the population of the five boroughs of Manhattan, the Bronx, Brooklyn, Queens and Richmond, is about the same, though each of the boroughs has a special water-supply with different conditions. The typhoid rate is about the same in districts supplied with artesian well-water as it is in those which have a surface water-supply. Evidently, other factors common to all the boroughs are the source of the typhoid infections, and the water-supply has probably but little to do in producing them.

The more carefully the sources of New York's typhoid infections have been studied, the more frequently has milk been discovered to be the chief vehicle of infection. In spite of great reforms in this matter in the last few years, this still remains true. Efforts at control have resulted in decided improvement, but the education of the dairyman is a slow process, and dairy farming is still largely in the hands of the ignorant. After milk the most common source of typhoid fever in New York is infection of the patient while out of town. According to the records, about one-quarter of all New York's typhoid infections are of this origin. Dr. Bolduan does not hesitate to say that while it is impossible to give any exact figures, he feels that, including milk, water, out-of-town residence, etc., over half of the typhoid infections are of rural origin. He adds, "Excepting those communities where the drinking-water is derived from an infected lake or river near the city, or whose sewage disposal is unsatisfactory so that fly-infection is prevalent, this probably applies to most other American cities." It has recently been denied that typhoid is a rural rather than an urban disease; and while the relation of deaths from typhoid fever to regional population, as shown in crude statistics, would seem to prove this, the falsity of the contention has been shown by tracing city typhoid fever cases to their sources, as Dr. Bolduan has done.

It is evident that any attempt on the part of New York further to reduce the incidence and the mortality of typhoid must take into consideration as a prime factor the question of securing the lessening of typhoid in the country places from which water, milk and food are drawn. During the past three years there have been an average of about 3,500 cases of the disease in the city, and about 550 deaths. This is too large a death-rate to be neglected further, and every effort must be made to lessen it. A commission appointed by the governor of

New York reported that the health of the larger cities as well as of the country places of the state would be greatly benefited by the introduction of a system of state control of health outside the cities. As it is, local health authorities in small towns and country places are usually inexpert and are paid so poorly that they have to devote themselves to other occupations for a living, and health matters are neglected. State control would bring experts into the service, and what has been accomplished in the Canal Zone by direct government control of sanitation, and in the quarantine of this country by the United States Public Health Service, shows how much the presence of experts with ample sanitary authority can accomplish for health.

The problem in New York is the same as that in other states, and the experience there may well be taken as a ground for similar developments in legislation throughout the country. As our knowledge of sanitation grows, we realize more and more that the health of the individual depends largely on the community in which he lives, and that the health of a community depends to a great extent on the health of other communities having commercial and other relations with it. We have applied this principle in quarantine regulations against foreign countries and cities liable to import infectious disease, but it would be impossible to quarantine properly against unhealthy communities of small size in the same state. It is, therefore, all-important to secure by general legislation such control over the health of smaller places as will assure large cities from being contaminated by them in the course of commercial relations. Properly directed, this will not inflict a burden on the smaller communities, but on the contrary by improving their health will prove of the greatest possible benefit to them. State control of details in health matters and national control of important health movements would soon do for the country as a whole what Colonel Gorgas, with sufficient authority, has been able to accomplish for the Canal Zone.

## ACETIC ACID AND ACIDOSIS

Before the intricacies of certain pathologic manifestations, such as are exemplified in acidosis and ketonuria, can be adequately explained, it will be necessary to broaden our knowledge of what is now commonly spoken of as intermediary metabolism. We shall need to know the story of each digestion fragment as it travels through the organism after leaving the alimentary tract. When the forerunners of the various abnormal products that now and then put in an appearance in the excretions of the body are accurately known, progress will be more rapid and satisfactory. The stages in the normal disintegration of the fats, carbohydrates and proteins must be learned so that faulty processes can be recognized by their products and referred to their real defects.

A new method of study has been drawn into service in recent years to render assistance in this difficult task. By perfusion of individual organs, such as the heart, lung, kidney or liver, it has been possible to restrict the enormous number of variables that enter into the problem of metabolism in any study of the organism as a whole. The blood driven through an isolated liver, for example, may be analyzed before and after the process. Various chemical compounds can be added to the perfusion fluid, and the fate of these on the one hand, as well as their effect on the tissues on the other, can be ascertained in an experimental way. The catalogue of results already ascertained in this way is no longer a small one.[1] The liver has been a favorite organ for study for reasons that are in part obvious. Its large size, its presumable superlative importance and its accessibility have encouraged the frequent use of this organ.

Recent observations carried out by this method of artificial perfusion in Embden's laboratory in the municipal hospital at Frankfort-on-the-Main throw some light on the possible rôle of acetic acid in some of the intermediary processes. That it may represent a stage in the transformation of fats has been rendered probable by earlier researches, and it is not at all unlikely that the amino-acids derived from proteins may lead in the same direction. For it is now settled beyond a probability that aceto-acetic acid can arise from both fats and proteins; and acetic acid appears to be an intermediary transformation product common to all the foodstuffs.

A. Loeb[2] has lately shown that the addition of acetic acid to fluids perfused through surviving liver greatly increases the production of aceto-acetic acid that can be initiated in this manner. This fact may be of more than incidental practical significance. It appears from available records that acetic acid is sometimes found in magnified quantities in the urine of diabetics. Rumpf[3] has reported the presence of as much as 5 gm. per day in one case. These combined facts, namely, the alleged elimination of acetic acid in cases of diabetes and the demonstrated augmentation of the formation of diacetic acid (aceto-acetic acid) in surviving livers in the presence of acetic acid indicate that the latter may have an unfavorable influence on the disease in promoting acidosis or ketonuria.

Loeb suggests that any procedure which will avert the formation or retention of acetic acid may have a beneficial effect in the direction of therapy. The precise method of accomplishing this is not yet apparent. In any event, it seems rational to warn diabetics in whom acidosis is evident against the undue ingestion of acetic acid.

1. Compare Dakin, H. D.: Oxidations and Reductions in the Animal Body, Longmans, Green & Co., New York, 1912.
2. Loeb, A.: Ueber das Verhalten der Essigsäure bei künstlicher Durchblutung der Leber, Biochem. Ztschr., 1912, xlvii, 118.
3. Rumpf: Berl. klin. Wchnschr., 1895, Nos. 31-32.

## THE URINARY EXCRETION OF FAT

Protein, carbohydrate and fat are all recognized as constituents of the urine under pathologic conditions, and their occurrence in this excretion has a distinct diagnostic significance. It is chiefly when the question of the appearance of these "proximate principles" in the urine in conditions of health is under discussion that any serious difference of opinion arises. Whether a "normal" urine may contain minute traces of protein or of sugar has been debated at various times. The quantities present, if there be any, are so small that extreme refinement of technic and accuracy of judgment are called for in detecting them with certainty. Nevertheless, in view of the decided importance which is attached to the finding of small amounts of protein or of sugar in a clinical way, it becomes the more important to know the quantitative features of the subject — to determine the limit between the elimination which may be termed normal and that which approaches the pathologic. Not infrequently, for this reason, one hears reactions for protein or sugar characterized as unsuitable clinical tests because they are "too delicate"; that is, they reveal amounts of these compounds which are in no sense pathognomonic.

To point out where lies the border-line between the supposed physiologic and the objectionable pathologic content of these two substances in the urine is not the object of this discussion. We call attention rather to the less familiar facts in regard to the occurrence of fats in the urine. In chyluria, as is well known, the content of fat thus excreted may be not inconsiderable. How about the urine in other abnormal conditions or even the urine of healthy man? Here again difficulties of an analytic nature confront the investigator. It will not answer to examine the urine by the conventional method of extraction with fat-solvents like ether; for other urinary constituents such as hippuric acid may interfere, owing to their solubility in these organic solvents. Special methods of examination are called for.

The occurrence of very small amounts of fat in normal human urine has been described by competent observers.[1] The very fact that the quantities thus reported are exceedingly small calls for careful critique and the exclusion of possible sources of error. The topic has been reinvestigated in Professor Kumagawa's laboratory in Tokyo.[2] The results obtained with healthy Japanese indicate not only individual variations in the subjects, but also inequalities from day to day. In any event the amount of fat excreted in the urine per day under ordinary conditions does not exceed 0.02 gm., or ⅓ grain. When the ingestion of fat was decidedly increased, so that the individual ate from 225 to 250 gm. (from 7 to 8 ounces) per day — a quantity not regarded as excessive in some dietaries — the maximum urinary output was 0.034 gm. (½ grain). The increase was unquestionable, yet in relation to the total intake it shrinks into insignificance.

An investigation of the urinary fat in diverse pathologic conditions has not disclosed anything of unusual interest or import. Formerly it was supposed that the fat found in cases of kidney disease was derived from epithelial cells that had undergone "fatty degeneration." This factor may presumably be excluded. The data actually obtained from nephritic patients are variable, and it is probable that the few added milligrams of fatty material found in the urine are determined by an altered permeability of the renal blood-vessels.

In other diseases — diabetes, phthisis, icterus and hepatic cirrhosis — for which a renal elimination of small amounts of fat has been conjectured or reported for various reasons, nothing unusual was found by Sakaguchi. This statement likewise applies to persons with fractures of the bone or in cases of resected bones, despite the published statements regarding the occurrence of fat emboli and the excretion of fat droplets in the urine in such conditions. In view of all these newer facts one is impressed with the adequacy of the kidneys in preventing any noteworthy losses of the valuable fat from the blood-stream, precisely as they are normally impermeable to the circulating sugar and proteins.

1. Mörner, K. A. H.: Skandin. Arch. f. Physiol., vi, 332. Hybinette, S.: Ibid., vii, 380. Kakiuchi, S.: Biochem. Ztschr., xxxii, 137.

2. Sakaguchi, K.: Ueber den Fettgehalt des normalen und pathologischen Harns, Biochem. Ztschr., 1913, xlviii, 1.

## PAVY AND DIABETES

The name of Frederick William Pavy, who died in September, 1911, is almost exclusively associated with his work on diabetes and carbohydrate metabolism. He was the first to describe cyclic or orthostatic albuminuria (1885), and is remembered by his substitution of ammonia for caustic alkali in Fehling's solution (Pavy's blue fluid), and by the rare arthritis in typhoid fever known as "Pavy's joint"; but from the date of his first paper on "Saccharine Matter" (1853) his whole life was practically devoted to an endeavor to confute Claude Bernard's hypothesis that the liver is the great storehouse of utilizable sugar in the form of glycogen.

Considerable light has recently been thrown on Pavy's attitude to this problem in the sympathetic studies recently published by his colleagues at Guy's Hospital, Drs. F. Gowland Hopkins[1] and Frederick Taylor.[2] While in Paris, in the early fifties, Pavy had met Claude Bernard and assisted him in his laboratory at the Collège de France. It will be remembered that Bernard's initial experiment consisted in examining the blood in the hepatic veins of a killed animal which had been extensively fed on carbohydrates. The blood was found to be loaded with sugar, not only in this case but also later in animals fed on meat alone.

On returning from Paris, Pavy tested these experiments by killing his animal with one brisk blow on the

1. Hopkins, F. Gowland: Science Progress, London, 1912, pp. 13-47.

2. Taylor, Frederick: Guy's Hosp. Rep., 1912, 3 s., li, 1.

head and immediately examining the blood, in which he found no sugar. From this he argued that the sugar found by Bernard was due to a post-mortem reaction in the liver, and he maintained that the amount of sugar in the portal blood is not greater than in the rest of the organism, that sugar is decomposed and converted into fats and proteins in the intestines, passing in these forms through the lymphatics and portal vessels, and not passing into the liver and becoming hepatic glycogen unless it is in excess. He showed that no change of glycogen into sugar takes place in the liver during life, that oxygen does not destroy sugar in the blood, and that glycogen itself exists in the blood.

This of course represents the net result of Pavy's final view on diabetes, for at the start he was diametrically opposed to the Bernard hypothesis at every point. Hopkins shows that, in his life-long dispute over the glycogenic theory, Pavy was gradually forced, not so much by the results of others, which he seldom read, as by his own experiments, to give up his original position bit by bit, until he had unconsciously made his own views conform to the final doctrine entertained by Bernard, that the liver is the main warehouse of glycogen. Indeed, Hopkins shows that in the last experiment which Pavy performed, with Godden[3] (1911), it was found that no less than 2 gm. of dextrose per kilogram of body-weight could be injected into the venous circulation in the course of fifty-five minutes without any noticeable trace of glycosuria, which would indicate that at least seven times the normal consumption of carbohydrates (*a fortiori* of hepatic sugar) might enter the circulation without appearing in the urine. "How far Pavy would have adjusted his teaching to meet this result," says Hopkins,[4] "we cannot tell; as all his writings show how great was the importance he attached to the argument which his very last experiments were to undermine, the circumstances are not without a degree of pathos." Yet all recent experiments on phlorizin diabetes, pancreatic diabetes and diabetes associated with insufficiency of the posterior lobe of the pituitary body go to show the correctness of Pavy's contention that the liver is not the only source of sugar.

What is most remarkable is the extraordinary pluck of the man in sticking to his guns in the face of almost evident defeat. He had perhaps the largest practice in London in diabetic cases, in the treatment of which he was particularly successful; yet, says Taylor,[5] "almost every afternoon about four or half past four o'clock" Pavy's well-known carriage "of snuff brown, picked out with red" and his fine pair of horses, which he always bought himself at Tattersall's, might be seen outside of the laboratories on the Victoria Embankment where metabolism experiments were conducted under his direction. "It may chill the heart of those who, at the beginning of their career, think of working at such problems," says Hopkins,[6] "to view what seems the small harvest of Pavy's fifty years of labor, but Pavy had no sense of failure." Though his scientific life may have been, in the poet's words, a "long war closing in defeat," yet it was, in the best sense, "defeat serenely borne."

Personally, Pavy was a strongly individualized character. According to Taylor, he liked to have the best kind of things, particularly in diet, in which he was naturally methodical, but he declined to be a follower of fashion. Although he lived to be 82, he still wore the wide-lapelled frock coat, the open double-breasted waistcoat and a cravat tied in the large bow which had been the vogue fifty years before. That he was nervous during his lectures, as Taylor states, is denied by Lucas,[7] who informs us that, on the contrary, he rather enjoyed the boisterous applause given by the students to such quaint mannerisms as referring to an animal's mouth as its "oral orifice," or stating that "our assistant will now proceed to agitate the liquid."

"What sin," said the satirical Sir William Gull, "has Pavy committed, or his fathers before him, that he should be condemned to spend his whole life seeking for the cure of an incurable disease?" This epigram loses much of its point when we reflect that Pavy based his views largely on the success of his treatment of diabetes at the bedside. His "Treatise on Food and Dietetics" (1874), which reached a second edition in the following year, is a well-known landmark of his reputation in this field; and his measurements of the food metabolism and urinary excretion in the case of the American athlete, E. F. Weston, who covered 500 and 1,000 miles in as many consecutive hours (1876), are still remembered. The true status of carbohydrate metabolism is still very much in the air, and we may agree with Dr. F. Gowland Hopkins that these problems "call continually for courage and patience—the courage and patience which characterized the subject of this memoir, F. W. Pavy."

3. Pavy, F. W., and Godden, W.: Jour. Physiol., 1911, xliii, 199.
4. Hopkins, F. Gowland: Science Progress, 1912, p. 20.
5. Taylor, Frederick: Guy's Hosp. Rep., 1912, 3 s., li, 16.
6. Hopkins, F. Gowland: Science Progress, 1912, p. 46.
7. Lucas, R. Clement: Guy's Hosp. Gaz., 1913, xxvii, 55.

## Current Comment

### MAN AND MONKEY

The question of the simian ancestry of man has long been the subject of jest. From the zoologic point of view it has been a matter of more serious concern as far as the position of man in any scheme of classification is involved. With the advent of certain of the modern methods of study applied to blood and the problems of immunity, data of a new sort have been furnished to bear on the real relationship of man to some of his animal competitors. The precipitin reaction has made it possible to bring to light features of this sort and to substantiate family resemblances in various species. Transfusion experiments and the untoward results which attend them when they are conducted between unrelated animals are contributions in the same direction. By the methods here indicated it has already

been shown that precipitins which are specifically developed for human serum are also applicable to the group of anthropoid apes which includes the chimpanzee, orang-outang and gorilla. They fail to react with the blood of the familiar cynomorphic monkeys. Similar are the findings in the way of relationship after blood transfusions, the two groups of the monkey tribe exhibiting different behavior in respect to the induction of hemolysis by the presence of human serum. The latter does not lake the corpuscles of the anthropoid apes, which endure the introduction of human blood into their circulation without notable distress. To this evidence of blood relationship have now been added fresh facts derived from the domain of metabolism. It is now familiarly recognized that whereas the end-product of the metabolism of purins in man is uric acid, which is excreted in the urine, in most of the higher animals, such as the dog, cat, rabbit, etc., allantoin represents the final stage in the degradation of the purin nucleus. Wiechowski of Prague has now demonstrated that the chimpanzee, an anthropoid ape, resembles man in respect to the presence of uric acid and the absence of allantoin in the urine.[1] In the common macacus monkey[2] and in the baboon the reverse appears to be the case, the individuals of this class falling in line with other familiar laboratory animals. The long-known contrast between man and the animals in respect to this feature of metabolism is thus made less striking by the discovery of these intermediate species exhibiting human characters in more than one way. The gap has been bridged by the studies on the anthropoid apes which have now furnished to science the reputable evidence for that relationship which the behavior of apes in vaudeville and elsewhere has strongly suggested.

---

## WHY SOME PEOPLE DISLIKE THE AMERICAN MEDICAL ASSOCIATION

A member of the advertising department of THE JOURNAL was talking recently with a man we may call Mr. X, who was the representative of an association which obtains and furnishes advertisements for religious papers. Mr. X volunteered the information that he was going to seek some other line of work and, when asked why, replied that the American Medical Association had, by its campaign against fraudulent "patent medicines" and quackery, greatly curtailed the advertising field of the religious press. The sheet-anchor of advertising in religious papers has always been the "patent-medicine" business. "The religious paper," said Mr. X in effect, "gets its subscribers largely through the efforts of the local pastors in smaller towns. Now, since your organization [the American Medical Assocation] has been showing up the fraudulent 'patent medicines,' the local doctor, who is usually a man of some influence in his community, protests to the pastor against this class of advertising in their church paper. The pastor writes to the publisher saying that it is impossible for him to recommend the paper unless such and such advertisements are dropped. And there you are!" Under the present economic system, it is impossible to fight organized evil without at the same time doing some financial damage to those who have, however indirectly, profited by the existence of that evil. Yet we feel no twinges of conscience in having been instrumental in causing a worthy man to give up what, until comparatively recently, has been a rather profitable occupation.

1. Wiechowski, W.: Ein Beitrag zur Kenntnis des Purinstoffwechsels der Affen, Prag. med. Wchnschr., 1912, xxxvii, No. 22.

2. Hunter, A., and Givens, M. H.: The Nitrogen Excretion of the Monkey, with Special Reference to the Metabolism of Purins, Jour. Biol. Chem., 1912, xi, 39.

---

## "THE MILLS OF THE GODS"

Harry M. Coudrey was found guilty in the federal courts, April 4, of using the mails to defraud in the promotion of what were known as the twin insurance companies—the Continental Assurance Company of America and the International Fire Assurance Company of America. Both concerns went into the hands of a receiver. Many of THE JOURNAL's readers may wonder what particular interest attaches to these facts; others will remember Harry M. Coudrey as the president of the Labordine Pharmacal Company — in fact Coudrey was, to all intents and purposes, the Labordine Pharmacal Company. Labordine was one of those fraudulent proprietary medicines advertised to physicians as a "vegetable antipyretic" under a formula that was both false and meaningless. It was claimed that "Labordine does not depress the heart," and physicians were urged to use it so as to "avoid acetanilid poisoning" which might follow the use of other remedies. Yet when the Council on Pharmacy and Chemistry had the stuff examined it was found to be essentially an acetanilid preparation, containing nearly 40 per cent. of this drug. Imposing advertisements in medical journals gave the impression that the Labordine Pharmacal Company of St. Louis was a large pharmaceutical concern. As a matter of fact, the "company's" headquarters consisted of one small room on the third floor of an old dilapidated building. The room contained an old roll-top desk, a kitchen table, a bare and dirty floor and one young person in charge who admitted that the stuff was made for Coudrey by the Mallinckrodt Chemical Works. Coudrey, at various stages of his career, has been an insurance agent, a promoter and a member of Congress from Missouri. While holding office at Washington, the papers reported that he had used congressional stationery on which to write letters pushing one of his financial schemes. To the credit of the voters of the twelfth congressional district, it should be said that Coudrey was defeated for reelection in 1910. Previous to his defeat, Coudrey got into the limelight by urging that the government should own and publish the Pharmacopeia. As THE JOURNAL said more than six years ago, in its article[1] on the Labordine Company, one of the humiliating phases of the proprietary medicine business is that, in many instances, these preparations are foisted on our profession by men who know nothing of medicine, pharmacy or chemistry, yet presume not only to concoct our medicines for us, but also to instruct us how to use them. Labordine is dead and its exploiter may have to spend four and one-half years in the federal penitentiary. But we believe it is no exaggeration to say that but for the publicity given to

1. Labordine, Pharmacology Department, THE JOURNAL A. M. A., March 30, 1907, p. 1121.

this fraud by the Council on Pharmacy and Chemistry of the American Medical Association, Labordine would still be found advertised in medical journals and would still be prescribed by many uncritical or unthinking physicians.

### MILITANT SUFFRAGETTES—A SUGGESTION

The difficulties encountered by British authorities in the management of militant suffragettes suggest a solution to the problem by declaring insane the rank offenders in the destruction of property and other outrages. If we define insanity as a condition in which the subject is so mentally out of harmony with the general environment as to be unable to control conduct and to become a public danger, and if we attribute it to some nervous or mental disease affecting the judgment, some of these suffragettes would seem to fall under that head. For a woman of cultivation and social standing the evidence would be much stronger than in the case of an ignorant working man. Confinement in a criminal asylum on such a charge would be far better than in a common jail with ordinary criminals. Asylum authorities are accustomed to treat the severest forms of sitophobia, and could manage a hunger strike far better than jail officers. The condition is apparently getting serious enough to make the suggestion of such a remedy a timely one, and we believe that it could be adopted with the evidence afforded without an undue strain even on the British laws. Woman suffrage may be a worthy cause; if so it will ultimately prevail, but the means now used in Great Britain are not helping it much.

### THE ACTION OF ULTRAVIOLET RAYS ON MILK

We have become familiar in the last few years with the use of ultraviolet rays for the sterilization of water, in which their application has been more or less successful under special conditions. Ayers and Johnson[1] have recently attempted to determine the possibility and practicability of sterilizing milk by ultraviolet rays. Their results are not especially encouraging for this method. Although a marked germicidal action was observed, complete sterilization was not effected. No assurance of the complete destruction of pathogenic organisms could be obtained by this method; moreover, the ultraviolet rays produced an abnormal, disagreeable flavor in the milk treated, which under practical conditions would render the milk unsalable.

### A PHYSICIANS' TELEPHONE EXCHANGE

In some respects Europe is a little ahead of us. We have referred to the agitation on the Continent for an arrangement by which a physician can have a week-end holiday, during which any special calls from his patients will be taken care of by one of his confrères, the arrangement rotating for the benefit of all. The latest suggestion — a physicians' central in the telephone office — comes from Vienna and Berlin, and, we understand, has been tried in this country. The arrangement is similar to the information department of the ordinary exchange. When a physician leaves his office without an attendant remaining to answer calls, he notifies the physicians' central and states where he may be reached at various times. Then any patient failing to receive an answer on calling the doctor's office calls for the physicians' central and ascertains where the doctor can be reached most quickly. In the case of a disaster or accident one can call the doctors' central and ask for the help of the first available two, five or ten physicians, as the case may be. In our cities and in the country, physicians usually have attendants at their offices, or members of their families at home, making such an arrangement unnecessary; but there may be places in which the idea could be put to use with profit.

1. Ayers and Johnson: Jour. Washington Acad. Sc., March 19, 1913.

## Medical News

### GEORGIA

**Personal.**—Dr. J. H. Redding, Waycross, is reported critically ill at his home.——Dr. Willis F. Westmoreland, Atlanta, is recovering from an operation for appendicitis.

**Hospital for Crippled Children.**—Physicians of Atlanta are advocating the establishment of a hospital in that city to be used solely for the treatment of crippled children.

**Painting Presented to College.**—At the last meeting of the faculty of the Medical Department of the University of Georgia, Dr. James L. Hull, on behalf of Mrs. J. B. Morgan, presented the college with an oil painting of the late Dr. James B. Morgan, for more than fifteen years a member of the faculty of the college.

**New Officers.**—Seventh District Medical Society at Marietta: president, Dr. Fred V. Turk, Stilesboro; vice-president, Dr. H. L. Erwin, Dalton. Cartersville was selected as the next place of meeting.——Atlanta Antituberculosis Association: directors, Drs. W. E. Quillian, J. E. Sommerfield, E. G. Ballenger and R. R. Daly; pathologist, Dr. Claude Smith, and orthopedist, Dr. Theodore Tocpel.

**Home for Medical Society.**—At a special meeting of the Georgia Medical Society, Savannah, March 28, more than $4,000 was subscribed toward the purchase of the permanent home for the society. About $10,000 is needed for this purpose and the society is said to have an option on a three-story brick house on Drayton Street. A committee in charge of the enterprise consists of Dr. A. J. Waring, Dr. J. Charlton and J. Lawton Hiers.

**State Society Meeting.**—The annual meeting of the Medical Association of Georgia will be held at Savannah, April 16-18. At this session it is said that the project of making all members of the State Association members of the American Medical Association without extra cost will come before the organization for action.——The annual meeting of the Association of State and Municipal Health Officers will be held in Savannah, the day preceding the meeting of the State Association.

### ILLINOIS

**Personal.**—Dr. C. C. Atherton, formerly a member of the staff of the Elgin State Hospital, has reported for duty at the Lincoln State School and Colony.——Dr. and Mrs. J. W. Dreyer, Aurora, sailed for the Mediterranean from Boston, April 5.

**Favor Epileptic Colony.**—A delegation from clubs and civic bodies in Chicago and other cities of Illinois went to Springfield this week to urge the passage of the O'Connor bill, establishing a state colony for epileptics to house about 1,500.

**Hospital Notes.**—An addition has been built to St. Francis Hospital, Macomb, which will double the capacity of the institution so that now one hundred patients can be accommodated. ——Tentative plans for the establishment of the Swedish-American Hospital, Rockford, have been passed on by the board of directors. An additional sum of $20,000 is required before the building desired can be erected.——Dr. and Mrs. C. J. Higinbotham, Streator, have established a private sanatorium at 702 North Shabbona Street.——By a vote of 2,422 to 1,868, the citizens of Belleville have decided to convert the city hospital into a tuberculosis sanatorium which is to be maintained by a mill tax.

## Chicago

**Kosher Hospital Dedication.**—The dedicatory exercises of the new Maimonides Hospital at California and Ogden Avenues commenced April 5, to continue until April 13. The hospital has been erected by orthodox Jews and will be conducted and maintained by the Federated Orthodox Jewish Charities of Chicago. The building, ground and equipment represent an investment of more than $200,000.

**Personal.**—Dr. George Leininger has been appointed superintendent of the Dunning State Hospital.——Dr. and Mrs. William L. Noble and family and Dr. and Mrs. Stephen Wise and family have sailed for Europe.——Dr. John D. McGregor has been appointed city physician, vice Dr. George J. Spencer, resigned.—— Dr. J. P. Buck was thrown through a plate-glass window while cranking his automobile, March 31, and suffered severe bruises and cuts which necessitated hospital care.

**Tuberculosis Exhibit Installed.**—A traveling tuberculosis exhibit with models and tables was installed, April 3, by the Chicago Tuberculosis Institute at 19 W. Jackson Boulevard. Dr. Theodore B. Sachs, president of the institute, made a plea for the advanced consumptives at the meeting, April 4. On April 5, Dr. Robert H. Babcock spoke on "The Methods of Dealing with Tuberculosis," and in the evening a meeting for nurses was held at which Dr. Edward C. Rosenow and Miss Adelaide L. Walsh, president of the Illinois Association of Graduate Nurses, delivered addresses.

## IOWA

**Clinic to be Established.**—Steps toward the establishment of a hospital and medical dispensary for the poor of Des Moines were taken by the city council at a conference between a committee of that body and Polk County Board of Supervisors and the Polk County Medical Society.

**Drake Building for Research.**—Physicians of Des Moines are considering the advisability of organizing an academy of physicians and using the present Drake Medical and Dispensary building for scientific research work. The proposition will be submitted to physicians of the state at the state society meeting in May.

**Hospital News.**—A site on which a general sanatorium is to be erected has been purchased in West Cedar Rapids for $20,000. Dr. S. W. Staads, Sioux City, is president of the company and Dr. F. C. Seemann, Sioux City, secretary.——The Keota Hospital opened to receive patients March 27.——The contract for the building of the new Memorial Hospital, Cedar Falls, was awarded March 28.

## KANSAS

**Dispensary Clinic at Bartlesville.**—Washington County Medical Society has established a free clinic at Bartlesville which is open three days in the week.

**New Hospital.**—At the annual Methodist Episcopal Conference of Southwest Kansas, held in Wichita, recently, it was decided to purchase a five-acre tract of land in Wichita, on which the Wesleyan Hospital is to be erected at a cost of $200,000.

**Personal.**—Dr. H. L. Steele, Pittsburg, who has been seriously ill with cholelithiasis, was operated on in Mount Carmel Hospital, March 27, with satisfactory results.——Dr. J. E. Foltz, physician at the State Reformatory, Hutchinson, has resigned.——Dr. Jessie Thomas Orr, Olathe, has been appointed a member of the Kansas State Medical Board.

## LOUISIANA

**New Officers.**—Saint James Parish Medical Society at Convent: president, Dr. J. L. Des Lattes, Paulina; secretary-treasurer, Dr. L. A. Gaudin, Convent.——Calcasieu Parish Medical Society at Lake Charles: president, Dr. S. G. Kreeger; secretary-treasurer, Dr. J. D. Tuten, both of Lake Charles.

**Personal.**—Dr. T. E. Wright, for several years a member of the State Board of Health, who has been doing very effective work for the hookworm commission in northern Louisiana, has resigned and will enter general practice in Monroe.—— Dr. Benjamin A. Ledbetter, New Orleans, president of the State Medical Society, who was charged with writing unlawful letters and was on trial in the United States district court, was vindicated when the case came to trial, March 28, the jury rendering a verdict of acquittal without leaving their seats.

## MARYLAND

**Personal.**—Dr. Eric Pearce Gould, London, England, who is making a round of inspection of American hospitals, visited Baltimore last week.——Dr. William Gary Morgan gave a dinner in honor of Dr. John C. Hemmeter, March 29, at which Dr. Hemmeter made an address on "The Mental Characteristics of Great Medical Thinkers."

**Psychiatric Clinic to Open.**—The opening exercises of the Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital, Baltimore, will take place April 16-17-18. On the first afternoon, the session will be held at the clinic building. Dr. William H. Welch delivering the introductory address. Dr. Stewart Paton, Princeton, N. J., will speak on "The Clinic and the Community;" Henry H. Harlan, president of the board of trustees of Johns Hopkins Hospital will give "A Word of Appreciation," and Sir William Osler will deliver an address on "Specialism in General Hospitals," after which the building will be inspected and tea will be served. The morning session of the second day will be held in the recreation-room of the clinic at which Prof. W. F. McDougall will speak on "The Sources and Direction of Psycho-Physical Energy"; Prof. E. Bleuler on "Autistic Thinking"; Prof. A. Hoch on "Personality and Psychosis," and Dr. L. F. Wells on "The Personal Factor in Association Reactions." In the afternoon a visit will be paid to the Sheppard and Enoch Pratt Hospital where tea will be served. In the evening there will be a meeting at Osler Hall, Medical and Chirurgical Faculty Building, at which Dr. F. W. Mott will speak on "A Study of the Neuropathic Inheritance in Relation to Insanity;" Prof. O. Rossi on "Pellagra," and Prof. H. Cushing on "Psychic Derangement Associated with Ductless Gland Disorders." The exercises of the third day begin with a session at 10 o'clock in the recreation-room of the clinic at which papers will be read by Dr. Stewart Paton, Princeton, N. J., on "Primitive Mechanisms of Individual Adjustment;" by Prof. Heilbronner on "Demenz Probleme," by Dr. E. Jones on "Interrelation of the Biogenetic Psychoses," and by Dr. G. H. Kirby, New York City, on "Prognostic Significance of the Biogenetic Psychoses." At 1 o'clock, luncheon will be served at the Johns Hopkins Hospital and the session will be resumed at 2:30 in the recreation-room of the clinic, where an address will be given by Dr. Achucarro; Dr. C. B. Dunlap, New York City, will discuss "The Anatomical Borderline Between the So-Called Syphilitic and Metasyphilitic Disorders," Prof. A. M. Barrett will consider the "Disorders Connected with Anemia," and Prof. A. Meyer will deliver the closing address.

## MASSACHUSETTS

**Cutter Lectures.**—The Cutter lectures at Harvard Medical School on preventive medicine and hygiene were delivered by Prof. George C. Whipple of Harvard University, March 31, and April 2 to 5. The subject was "The Use of Vital Statistics with Truth, with Imagination and with Power."

**Money Needed for Tuberculosis Hospital.**—The Boston Association for the Relief and Control of Tuberculosis is urging the passage of an ordinance appropriating $125,000 for a hospital pavilion and two cottage wards at the Boston Consumptives Hospital. At present, all four of the state hospitals are full and there is a waiting list of at least 200 who need sanatorium care.

## MICHIGAN

**New Officers.**—Saginaw County Medical Society at Saginaw, March 16: president, Dr. Robert MacGregor; secretary-treasurer, Dr. A. R. McKinney, both of Saginaw.

**Asks Increased Appropriation for Hospital.**—Alderman Barnett of Detroit introduced a resolution in the common council March 29, directing the poor commission to submit a supplementary estimate increasing the appropriation of $600,000 for municipal hospital units to $2,000,000.

**New Hospitals.**—A society has been organized in Marshall to plan for the building of the city hospital in accordance with the will of the late Charles Pratt who left $65,000 for that purpose.——The first sod was broken, March 10, for the $25,000 tuberculosis hospital which is to be built for the Daughters of the Empire on the shore of Lake Erie, near Union.

## MISSOURI

**New Officers.**—Grand River Eleventh District Medical Association at Chillicothe: president, Dr. B. F. Reynolds, Brookfield; secretary, Dr. J. C. Shelton, Chillicothe. Chillicothe was selected as the place for the next annual meeting.

**New Staff for State Hospitals.**—The new staff of State Hospital No. 3, Nevada, took charge of affairs, March 17. Dr. W. P. Bradley, Windsor, is superintendent and Drs. Charles B. Simcoe, Jefferson City; William R. Summers, Conway, Laclede County, and Dawson, El Dorado Springs, are assistants.——The following medical staff has been named for State Hospital No. 1,

Fulton: superintendent. Dr. M. O. Biggs, Bowling Green; assistants, Drs. Herman S. Major, Hardin; E. E. Evans, Columbia, and Z. T. Knight, Monticello. They will assume office in June.

### St. Louis

**Talks on Cancer.**—At the meeting of the St. Louis Society of Pedagogy, April 5, Dr. Leo Loeb, director of the laboratories at the Barnard Free Skin and Cancer Hospital, spoke on "The Results of Animal Experimentation on Cancer," and Dr. Frederick J. Taussig delivered an illustrated lecture on "The Importance of Early Recognition of Cancer."

**Free Aid for Consumptives.**—The St. Louis Society for the Prevention and Care of Tuberculosis inaugurated a new plan, April 1, which, it is believed, will result in every tuberculosis patient in the city having the services of a skilled physician. For this work, 116 physicians from all parts of the city have volunteered their services and it will be under the supervision of Surgeon Paul M. Carrington, U. S. P. H. S., medical director of the society. At present the society cares for 519 patients and has a staff of thirty-five physicians and five nurses.

**Hospital Items.**—An isolation hospital has been authorized on Arsenal Street, just west of the City Sanatorium.——A tuberculosis day and night camp has been opened at 9500 South Broadway under the charge of the St. Louis Society for the Relief and Prevention of Tuberculosis. Twenty patients entered on the first day.——Dr. R. B. H. Gradwohl has opened a Pasteur institute to be operated in connection with the New York institution. Temporary headquarters are in the Victoria Building, but a laboratory and hospital in the West End is planned.

## MONTANA

**New Officers.**—Gallatin County Medical Society at Bozeman, March 25: president, Dr. C. S. Smith; secretary-treasurer, Dr. H. H. Judd, both of Bozeman.

**Personal.**—Dr. J. M. Scanland has resigned as superintendent of the State Insane Hospital, Warm Springs, and has been succeeded by Dr. A. C. Knight.

## NEBRASKA

**New Officers.**—Boyd County Medical Association at Spencer, March 11: president, Dr. Frank E. Keep, Spencer; secretary, Dr. C. L. Hooper, Butte.

**Personal.**—Dr. C. P. Fall, Beatrice, celebrated the twenty-fifth anniversary of his entrance into practice of medicine, April 1. In the afternoon the Gage County Medical Society held a special session in which out-of-town guests participated, and in the evening Dr. Fall gave a banquet to about forty medical men of Beatrice and vicinity.——Dr. Calvin Starr, Beatrice, celebrated his ninety-first birthday anniversary, April 2.——Dr. and Mrs. William R. C. Neumarker, Columbus, sailed for Europe, March 20.

## NEW YORK

**New Officers.**—Utica Medical Club: president, Dr. Raymond A. Kempf; secretary-treasurer, Dr. F. S. DeLong.

**Personal.**—Dr. Myron Lipes, Cobleskill, has returned to the Albany Hospital on account of a recurrence of septicemia.——Dr. W. Louis Hartman, Syracuse, who is about to leave for Detroit, was the guest of honor at a dinner given by railway officials of the New York Central Lines, March 25. For twelve years Dr. Hartman had been local surgeon for the roads entering Syracuse.

**Hospital Notes.**—The Lestershire Hospital is overcrowded and there is urgent need of an increase in its capacity.——It is proposed to purchase Riverview Academy, Poughkeepsie, and remodel it as a general hospital to be known as St. Barnabas Hospital. For this purpose the St. Barnabas Fund, which now amounts to $35,000, will be available.——The plans for the proposed mixed-infection pavilion at the Syracuse City Hospital have been approved. It is to be a pressed brick and sandstone structure and will cost about $20,000.

**Work of the New York Milk Committee.**—The sixth annual report of the New York Milk Committee has just been made public. The report puts special emphasis on the need of practical eugenics and the instruction of mothers, giving the details of experiments that it has recently made in this line of work and calling special attention to the fact that from one in every ten to one in every six babies dies during the first year of life, and that nearly one in every three of these deaths occurs during the first month of life and is due to congenital causes. Deaths of infants from every other cause decreased during 1912, but those from congenital causes increased. Certain tenement districts were selected and instruction given the mothers who came to the milk stations. The committee gave this special instruction to 1,375 mothers, caring for them for a month after the birth of their babies, and as a result deaths among the children of these mothers were nearly one-third less in proportion than among those born in Manhattan as a whole. Another portion of the report dealt with the Babies' Welfare Association, which, it was stated, now embraced eighty different organizations. The report also related the achievements of the committee in securing better milk for restaurants and lunch counters. The committee has also been instrumental in securing the establishment of a national standard of pure milk.

**Health Finance Investigation.**—A committee appointed by the governor to inquire into the financial conduct of various state departments has reported to the legislature. This committee considered the request of $2,000,000 for new buildings on Hoffman and Swinburne Islands but did not think it wise to expend the money for this purpose at present. They believed that the State Health Department should be run on $46,000 less than was used last year. In regard to the appropriation of $17,000,000 requested for maintenance of state hospitals and charities, the committee stated that the state had practically no control over the expenditure of this money and urged that the policy of state institutions should be directly under its supervision. The latter statements were the occasion of a special meeting of the State Charities Aid Association which protested that no expenditures were made that were not passed on by the fiscal supervisor of the State Hospital Commission. They expressed the opinion that the conclusions of the investigating committee were hasty and inadequate, as the state institutions were too numerous and the administration too complicated to be passed on in such a cursory investigation. Resolutions were passed for presentation to the governor urging the continuance of appropriations for new buildings and showed that it would be most unfortunate if the progress of the state institutions was hindered even for one year. Two more institutions for the insane were urged as necessary, but the plan of using the Creedmoor rifle range as a site was opposed.

**Gift for Social Laboratories.**—Mrs. Elizabeth Milbank, Anderson, has given $650,000 for social welfare laboratories to be conducted by the New York Association for Improving the Condition of the Poor. This will be known as the "Milbank Memorial Gift" and makes possible the establishment of the department of social welfare to conduct experimental laboratories for demonstration of the practicability of preventive and constructive measures. The donor expects the enterprise to be conducted under the supervision of the department, to deal with public health and hygiene, the welfare of school children and food-supply. The first of these subdepartments will make a searching and thoroughly scientific inquiry into the subject of ventilation of school and other public buildings and for this purpose a committee of experts will be organized for independent research and experimental work. The subcommittee on school children will enable the school-lunch committee to extend and broaden its admirable work of serving hot lunches approximately at cost to school children; will take up the problem of extending and improving the system of medical inspection of school children and increasing the clinical facilities for treatment of physical defects of school children, especially of the teeth. The subcommittee on food-supply will make investigations concerning the scientific production of various articles of food, its purchase in larger quantities, its scientific storage, its efficient and honest handling and the latest facts as to relative food values with the object of ascertaining how the cost of food to the consumer can be reduced and its nourishing qualities increased.

### New York City

**Personal.**—Dr. and Mrs. Richard Derby sailed for the Mediterranean, April 5.——Dr. Frank H. Clark, Brooklyn, is suffering from septicemia due to an operation wound.

**Hospital for Prisoners.**—A building adjoining the Tombs has been renovated, fitted up and opened as a hospital for prisoners. Dr. LeRoy Hamilton has been appointed resident physician.

**Tribute to Bristow.**—At the dinner of the Brooklyn Medical Society, March 27, Justice Isaac Franklin Russell paid eloquent tribute to the late Dr. Algernon T. Bristow, stating that his unerring accuracy of hand, knowledge and wisdom saved many lives, making it only right that this tribute should be paid him.

**For Charity.**—In response to the expressed wish of Pope Pius X, and with the active cooperation of Cardinal Farley, a

twelve-day campaign will be begun on April 5 for the purpose of raising $100,000 or more for the erection of a new building for Columbus Hospital, the principal refuge in sickness for a population of more than 700,000 Italians in this city.

**Public Warned Against Soda-Fountain.**—Dr. Lederle of the Department of Health states that a preparation of soapbark known as saponin is extensively used in this country in making soft drinks. This substance is a powerful poison and unless wholesome substances can be used for producing the foam, it should be shunned. Dr. Lederle states that the shortage of inspectors makes it impossible for the Department of Health to guarantee the purity of soda water drinks and advises the public to avoid them.

**Pellagra Work to Continue.**—The Pellagra Commission, whose headquarters are at the Postgraduate Medical School and Hospital, and which went to Spartanburg last summer for the purpose of making investigations into the cause and remedy of pellagra will again go south to carry on its work during the summer months. The work is supported by Col. Robert M. Thompson and John H. McFadden. The personnel of the commission is the same as last year: Capt. Joseph F. Siler, U. S. A.; P. A. Surgeon Philip E. Garrison, U. S. N.; Dr. Ward J. MacNeal, assistant director department of laboratories of the New York Postgraduate Hospital, and Allan H. Jennings and M. V. King, entomologists of the Bureau of Entomology of the Department of Agriculture.

## OHIO

### Cincinnati

**In Memory of Lazear.**—On April 11 the Blue Hydra Society of the University of Cincinnati held open house and tree day in memory of Dr. Jesse W. Lazear, who gave his life in the investigation of yellow fever in Cuba. Dr. Paul G. Woolley, dean of the Medical College, who was Lazear's classmate, delivered the address of the afternoon and letters were read from President Wilson, ex-President Taft and others.

**Personal.**—The Safety director has appointed the following as members of the junior staff of the Cincinnati Hospital, on the recommendation of the senior staff: Dr. C. J. Broeman, junior dermatologist; Dr. Edward A. Wagner, junior pediatrist; Dr. C. H. Weintz, junior laryngologist.——Dr. F. J. Boyd has resigned as assistant superintendent of the Antituberculosis Hospital.——Drs. Ray Sattler and Theodore Wenning, who were both taking medical courses in Berlin, have left that city for Belgrade, Servia, for service in the military hospitals.

## PENNSYLVANIA

**Hospitals Combine.**—The managers of the Todd Hospital, Carlisle, have agreed to merge with the proposed Carlisle Hospital, provided that one of the buildings of the new group shall be designated "Todd Hospital."

**Personal.**—Dr. J. S. Donaldson, Bellevue, was operated on for appendicitis in the Suburban General Hospital, Bellevue, March 26.——Dr. A. Trapold, Wilkes-Barre, has been elected superintendent of the Nanticoke City Hospital.——Dr. F. A. Rhoads, chairman of the Morals Efficiency Commission of Pittsburgh, is reported to be seriously ill in Lakeside Hospital, Cleveland, following an abdominal operation.——Dr. J. MacFarland, Philadelphia, has returned from abroad.

### Philadelphia

**Permit for Surgical Ward.**—A permit has been issued for a $200,000 six-story surgical ward at the southwest corner of Thirty-Fourth and Spruce Streets for the University of Pennsylvania.

**City Must Care for Idiotic Children.**—According to a decision by Judge Staake, handed down in Quarter Sessions Court on April 1, the city of Philadelphia is legally bound to support feeble-minded children who have no parents or relatives.

**Rush Lecture.**—The fourth Rush lecture was given at the University of Pennsylvania (New Medical Laboratories, Lecture Room B), April 2, by Prof. W. B. Cannon of Harvard University, on "Some Studies on the Bodily Effects of Fear and Rage."

**Steinbach Memorial Meeting.**—Members of the medical profession and the Philadelphia County Medical Society attended a memorial meeting for the late Dr. Lewis W. Steinbach, which was held at Rodeph Shalom Temple, March 30, under the auspices of forty local and national Jewish organizations.

**Special City School for Cripples.**—In September, the Horace Binney School at Sixth and Spruce Streets, will be opened to crippled children. Omnibuses will call for them and the schoolrooms will be furnished for their comfort. The decision to open this school was reached by the Board of Education, following an investigation conducted by Miss Blanche Jones of the Public Education Association.

**Tuberculosis Workers' Conference.**—The third annual Pennsylvania Conference of Tuberculosis Workers was held at the Bellevue-Stratford Hotel, April 4. There were sessions morning and afternoon, followed by a dinner at the Sketch Club on South Camac Street. The futility of large institutions for the care of tuberculosis patients, the necessity of adopting the unit plan or segregation of different races and classes of patients, and the general localization of the fight against the disease by the establishment of county sanatoria, were the principal suggestions advanced by the speakers. At the afternoon session the following officers were elected: president, Asa W. Wing; secretary, Dr. Ward Brinton.

## GENERAL

**Prevention of Infant Mortality.**—An English-speaking conference on the prevention of infant mortality will be held in Caxton Hall, Westminster, London, August 4-5, under the auspices of the National Association for the Prevention of Infant Mortality and the Welfare of Infancy. The conference will convene immediately before the opening of the International Medical Congress. The subjects treated will be the responsibility of central and local authorities in infant and child hygiene; the administrative control of the milk-supply; the necessity for special education in infant hygiene; medical problems in infant nutrition and antenatal hygiene. Dr. Henry L. Coit, Newark, N. J., is chairman and Dr. Philip Van Ingen, 125 East Seventy-First Street, New York City, secretary of the American committee.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

Federated Jewish Charities of New York, $10,000, by the will of Jerome Hilton Waterman.

St. Michael's Hospital, Newark, N. J., the entire estate of Charles Bloom.

Free Hospital for Incurables, New York City, $8,000; Hospital for the Ruptured and Crippled, $2,000, by the will of G. H. Morgan.

Adirondack Cottage Sanatorium, Association for Improving the Condition of the Poor, and the Labrador Mission, each $5,000, and Presbyterian Hospital, New York City, $7,500 by the will of Henrietta Penfold.

Harvard College, a contingent bequest of $50,000 to be added to the Ellen Osborn Proctor fund for the study of chronic diseases, by the will of Abel H. Proctor.

Mt. Sinai Hospital, New York City, $10,000 for the endowment of two beds in memory of the testator's mother and grandmother, by the will of Theodore B. Dale.

Perry (Ia.) Hospital, $17,639.40 by the efforts of the Kings Daughters.

Mt. Sinai and General Hospitals, New York City, each $2,500 by the will of Simon E. Bernheim.

**Eugenics Record Office.**—The Eugenics Record Office which was established at Cold Spring Harbor, Long Island, N. Y., in October, 1910, by Mrs. E. H. Harriman and has since been active in this field, has recently entered on a new stage of development. A board of scientific direction has been organized, consisting of Prof. Alexander Graham Bell, chairman; Dr. William H. Welch, Baltimore; Prof. Irving Fisher, New Haven, Conn.; Dr. Lewellys F. Barker, Baltimore; Dr. E. E. Southard, Boston, and C. P. Davenport, secretary of the board and resident director. The board met at Cold Spring Harbor, March 21, for organization. The aim of the office was defined to be first, to promote researches in eugenics that shall be of utility to the human race. This includes the study of America's most effective blood lines; the methods of securing the preponderance and relative increase of the best strains; the study of the origin of, and the best methods of restricting the strains that produce the defective and delinquent classes of the community; the study of the method of inheritance of particular traits; the study of the consequence of marriages of close kin; the study of miscegenation in the United States and the study in both this country and abroad of the family histories of permanent immigrants. The second aim is the publication of the results of these researches; the third, the provision of a fireproof building for the preservation of eugenic records, including genealogic works and town histories and the fourth aim, is the provision of an administrative office and a staff to carry out the work. The new home of the office is being rapidly pushed to completion. The board of scientific directors will meet each spring at Cold Spring Harbor to consider the projects most worthy of support during the next fiscal year and will meet again in November to receive a report of the work of the office for the preceding fiscal year. The resident director is placed in general charge of this plan and operations, and is authorized

in the name of the board to ask for and receive funds for carrying on the work of the office. The board also voted in favor of the organization of a eugenics research association, for which a meeting will be called early in June.

## LONDON LETTER

*(From Our Regular Correspondent)*

London, March 29, 1913.

### The Profession and Trade-Unionism

As stated in a previous letter to The Journal, during the struggle against the insurance act the proposal was brought forward to convert the British Medical Association into a trade-union, that it might enjoy the privileges and immunities conferred by law on trade-unions. Examples of these are the power to make a levy, and immunity from actions for libel or damages done to employers by combinations interfering with their business. Naturally the proposal, so contrary to the traditions of the profession, received a good deal of opposition. Many of the methods of trade-unions were considered discreditable. The point was raised at one of the representative meetings of the British Medical Association and was referred to its attorney, who declared that he did not think it was possible for the association as at present constituted to form itself into a trade-union. Since the defeat of the association's policy, the question of forming a trade-union has become a burning one, and is giving rise to an extensive correspondence in the *British Medical Journal*. It has been cogently pointed out that the profession is very individualistic, and therefore quite unsuited for trade-unionism. Thus free competition is dear to the majority of physicians, and "free choice of doctor" was one of the battle-cries of the recent struggle. The relation of the profession to the public, looked at from the commercial point of view, is rather that of shopkeepers than that of artisans working for a wage. The difficulty of forming any sort of union in the former class is obvious.

Nevertheless, the militant section of the profession and of the British Medical Association which adopted an uncompromising attitude to the insurance act to the last, has now formed an association called the National Medical Guild, which is practically a trade-union. The objects of the guild are: to regulate the relations between medical practitioners and their employers and between medical practitioners and physicians; to regulate the rates of payment; to regulate and control the conditions of contract practice and make provision for the creation of an organization or organizations to supply medical service; to establish a fund or funds; to promote legislation; to employ the funds of the guild for the political objects defined according to the trade-union act of 1912; to take active part in political propaganda in the interests of the medical profession; to further the interests of the profession in all legitimate ways and to employ the funds of the guild for such purposes; to give legal assistance to members and officers; to provide for the insurance of members, either directly or by arrangement with insurance companies, against death, illness, third-party liability and for damage caused to and by motor cars or other vehicles, and to publish books, papers and literature in furtherance of the ends of the guild. The annual subscription for members is $5, and in the event of a levy being decided on, each member shall contribute such sum as shall be determined; but in no case is the amount to exceed $25 in any one quarter of the year unless a special ballot be obtained for the purpose. Any member who is unwilling to contribute toward the "political objects" of the guild, if he so desires, shall be exempted from the payment of such proportion of the levies and contributions as are employed by the guild for the furtherance of such objects. By political objects are meant the payment of the expenses incurred by a candidate for Parliament or his support in other ways before or after election.

### The Physical Condition of Schoolchildren

Sir George Newman, medical officer of the Board of Education, has issued an important report on the physical condition of the schoolchildren throughout the country. There is an appalling amount of dental caries, even in country areas, where among pupils aged 5 years, only 7 or 8 per cent. have sound teeth, and among those aged 12 only 3 or 4 per cent. The average number of decayed teeth at the age of 5 is 6 in country boys and 5.8 in girls; in town boys and girls the figures are 7 and 6.5, respectively. In children suffering from adenoids sufficient to require medical treatment, there is an excessive amount of caries, which suggests a connection between the two conditions. Sir George Newman thinks that the most important factor in the production of caries in children is unsuitable diet from infancy upward. The immediate cause is the accumulation about the teeth of fermentable carbohydrate material, due to the form in which the carbohydrate food is taken, or to the absence of detergent forms of fibrous food taken at the same time or subsequently. Improvement can come only through education and change in the dietetic habits. The next line of defense is the maintenance of the teeth and mouth in proper condition, which can be secured in large degree by the use of the tooth-brush. The third line of defense is the treatment of dental caries at the onset. In several schools tooth-brush drill and tooth-brush clubs have been inaugurated. In most localities dental clinics have been established.

Increasing provision has been made for the education of defective children, for whom there are now 335 schools. One result of medical inspection has been to bring to light a number of children temporarily or permanently defective, for whom education in the ordinary school is unprofitable. Formerly the detection of such children was left to lay officers and teachers. Special schools are required for dull and backward children and for children who are definitely feeble-minded. Graded classes and residential schools are required for cases needing continuous care. Associated with these schools Sir George Newman recommends that there should be colonies for industrial training. In all cases there should be systematic after-care and supervision.

### The Profession from the Socialist Point of View

Dr. Alfred Salter, a socialist physician, has severely criticized the present medical arrangements at a congress of the labor party. He said that our health service had grown up without any prearranged plan, and chaos had come about in somewhat the same way as occurred in the growth of large towns. Working-class physicians, under the new conditions brought about by the insurance act, were overworked, while practitioners in other districts had not enough work to keep them going. The great bulk of the medical men in industrial districts were not looking forward to any holidays this year, because they knew that if they went away there would be no one to take their places.

## PARIS LETTER

*(From Our Regular Correspondent)*

Paris, March 21, 1913.

### Responsibility of the Physician

Much interest has been excited in the profession by a recent decision in the Paris Court of Appeals which contains a new interpretation of the doctrine of medical responsibility which, if its validity is admitted, will have serious consequences for physicians. Up to the present no action for damages has been allowed unless the plaintiff proves that the physician has committed a fault or negligence in his application of treatment.

In the suit in question, the plaintiff alleged against Dr. Delherm certain negligences in the application of roentgenotherapy. The court while recognizing that the plaintiff had not proved that Dr. Delherm had committed a fault or negligence in the application of the treatment, condemned the physician to pay damages on the ground that the physician is responsible for the consequences of the application of a treatment which presents so many dangers in itself, unless the health of the patient demands the employment of this treatment. In this case the Roentgen ray had been used to remove a hairy growth on the plaintiff's chin. After the application of the ray the patient had a dermatitis of the second degree.

The court believed that while the physician should not hesitate to use this treatment when demanded by the health of the patient, nothing justified the assumption of such a risk for so trifling a result as the removal of a mere physical imperfection. According to the judge, Dr. Delherm ought to have warned the patient of the dangers she might run and have refused to apply the treatment. The court, therefore, condemned Dr. Delherm to pay the plaintiff $1,000 (5,000 francs) as damages. The Syndicat médical de Paris protested energetically against the admission of such a principle. If the physician should be obliged to warn the patient of the possible danger of each medical procedure which he employs, the patient would certainly refuse to submit to the necessary treatment. The most matter-of-course medical procedure, such as a hypodermic injection, has dangers which, however, present themselves only in a very small proportion of cases. Patients thus unnecessarily frightened by the discussion of all possible hazards would many times refuse the necessary treatment, and human lives would be sacrificed.

### International Congress of Physical Education

March 17, under the presidency of M. Raymond Poincaré, President of the Republic, the inaugural session of the International Congress of Physical Education was held. The president of the Congress is Dr. Gilbert, professor of clinical medicine at the Faculté de médecine de Paris, and the secretary general is Dr. Weiss, professor of medical physics at the same school. The work of the congress is divided among several sections, two of which are of especial medical interest, namely, the section on physiology of physical exercise and the section on kinesitherapy. The latter section is concerned especially with medical gymnastics considered as a prelude to physical education of mentally backward children, and with various kinds of respiratory gymnastics, etc. There is an exposition connected with the congress including a scientific section where are found tracings, photographs, statistical tables and mensuration apparatus for the establishment of a physiologic basis of sports; an artistic section where contemporary works of art inspired by sports or open-air life are collected, and a historical section showing the history of various sports.

### The Value of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis

Apropos of the recent paper of Dr. Louis Renon on the same subject (THE JOURNAL, Feb. 15, 1913, p. 532), Dr. Achard, professor of general pathology and therapeutics at the Faculté de médecine de Paris, read at one of the last sessions of the Académie de médecine a paper emphasizing the fact that the treatment of pulmonary tuberculosis by Forlanini's method, not to speak of its limited indications, can be employed only in hospitals and sanatoriums where the patient can be given roentgenoscopy and roentgenography at each new insufflation. Moreover, the number of patients cured by this method is very small in comparison with the number of patients treated, and relapses have been observed. Finally, alterations from compression of the healthy parts of the pulmonary parenchyma are to be feared. Although the ultimate results of the method are still uncertain, the immediate results are of considerable practical value in certain cases, for they permit one to gain time.

### Rewards for Professional Courage

At the last meeting of the commission of the Carnegie Foundation, a silver medal and a sum of $400 (2,000 francs) were awarded to Dr. Carpentier, an intern of the hospital of Rouen, who, when scarcely recovered from scarlatina, was stricken, April 1, 1912, with a diphtheric angina in a most serious form, contracted in the repeated employment of intubation on a child with diphtheria. After a long and painful convalescence Dr. Carpentier remained afflicted with permanent claudication and atrophy of the right leg and hand.

A silver medal was awarded to Dr. Gallini, physician at Susa (Tunis), who died a victim of his devotion to duty. He had contracted typhus at the bedside of indigent patients whom he attended with unwearied devotion in the hospital and the prison. An annual and renewable grant of $200 (1,000 francs) was made to Mme. Gallini and an annual award of $40 (200 francs) to each of her three children up to the age of 16.

### Antityphoid Vaccination in the United States Army

On March 11 Professor Chantemesse reported to the Académie de médecine the excellent results obtained in the American Army by an antityphoid vaccine consisting of a pure monovalent culture of typhoid bacilli sterilized by heating, that is, to say, the vaccine of which Chantemesse claims to have established the efficacy experimentally for the first time a quarter of a century ago.

This paper elicited a very warm discussion in which *agrégé* Professor Netter and Professor Vincent took part. Netter remarked that the vaccine employed in the American Army is sterilized only to 53 C. (127.4 F.) It is therefore distinctly different from that which was formerly recommended by Chantemesse, which was sterilized to 120 C. (248 F.) In the latter temperature this vaccine has become completely inert and incapable of conferring any immunity. Netter insisted, moreover, on the importance of the researches of Pfeiffer and Kolle and gave these authors and Sir Almroth E. Wright the honor of having applied antityphoid vaccination to man. In the experiments of Chantemesse, one mouse out of four died, which was scarcely an encouragement for using this method on human patients. Vincent also believes that heating to from 100 to 120 C. (212 to 248 F.) destroys all the immunizing qualities of cultures of typhoid bacilli. The American vaccine is only a variant of that of Pfeiffer and Kolle. The good results of this vaccine are incontestable, but in order to appreciate them at their true value, it is necessary to take account of the epidemic index of the country in which one is operating. In America typhoid fever is comparatively limited in its ravages, for in 1907-1909 the typhoid-fever morbidity was only 3 per thousand, while in the Indies, where the vaccine of Wright and Leishman is used, this morbidity reaches 15 to 35 per thousand. Among heated vaccines Vincent gives the preference to those which are sterilized at the lowest temperature, especially to the vaccine of Leishmann, which is heated only to 53 C. (127.4 F.), a temperature which is the best to preserve its vaccinogenic power.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, March 21, 1913.

### Personal

At his own request, Professor von Olshausen has been retired on account of his age.

Professor Ficker, for many years assistant at the Berlin institute of hygiene, has been given leave of absence, so that he may take charge for one year of the bacteriologic institute at São Paulo, at the request of the Brazilian government.

At the international exposition for social hygiene at Rome, Professor Sommer received a cross of honor, and the clinic conducted by him was awarded a grand prize.

Professor Mönckeberg of Giessen has been called to succeed Professor Lubarsch as director of the institute of pathology at the Düsseldorf academy for practical medicine.

### Significance of the Bovine Tubercle Bacillus to Man

The Berliner medizinische Gesellschaft has continued through several meetings—following an address by Professor Orth—a discussion on the subject of the importance of bovine tuberculosis for infection of man. Orth maintained that the bovine bacillus is actually dangerous to man. While the bovine bacillus, either alone or together with the human type, has been found in pulmonary tuberculosis in adults in only a few cases, about 10 per cent. of all tuberculosis in children, according to his own observations, is caused by the bovine type. Similar findings have been made also by other investigators in different countries. The determination of the number of children who remain healthy in spite of drinking milk from tuberculous cows offers no solution of this problem; it is impossible to declare a living child free from tuberculosis, since the absence of tuberculous lymph-nodes can be determined only by necropsy.

The establishment of the disease depends not only on the bacteria but also on the local predisposition. The fact that a person may be injected with bovine tubercle bacilli and remain healthy proves nothing. Since we have learned of the mutation of bacteria we must also consider that one type may change into another. For this reason also the bovine bacillus should not be considered harmless. The immunity acquired during childhood does not prevent a reinfection. A slight degree of reinfection in adults may cause pulmonary tuberculosis. Hence, Orth concluded that a vigorous campaign should be carried on against the bovine tubercle bacillus on the part not only of veterinarians but also of physicians. Professor Westenhöfer took the same stand, in accordance with his experience in Chile. Professor Weber, the new municipal medical councilor of Berlin, declared that judging from the findings of the Imperial Bureau of Hygiene, the danger from the bovine type is small. In his opinion the reasons presented by Professor Orth are not so important. The theory of transformation of the two types is not sufficiently supported. According to Prof. F. Klemperer, even when the bovine bacillus is present in man its significance as a cause of disease has not been shown. As can be seen from the necropsy findings of Naegeli and others, even the true tubercle bacillus is not always infective. Kitasato proved in 1904 that the non-use of cow's milk for food in Japan has no influence on the variety and frequency of tuberculosis. Prof. Max Wolff reported a successful proof of the bovine origin of the bacillus in a case of primary, intestinal tuberculosis by its transmission to a calf.

Dr. Eckert, assistant at the Heubner clinic, reported that among 192 children who were examined for bovine tuberculosis and human tuberculosis with the von Pirquet reaction, ninety-two reacted positively, and of these seventy reacted both to bovine and to human tuberculin; of the remaining twenty-two twelve reacted for the bovine type and ten for the human bacillus.

In opposition to Professor Weber, Professor Orth laid stress in his conclusion on the fact that the bovine bacillus is of significance not only to the individual but also in the spread-

ing of tuberculosis as a nation-wide disease. According to Professor Bendix, 27,000 infants die in Germany annually of tuberculosis. As computed by a member of the Imperial Bureau of Hygiene, 10 per cent. of these deaths are due to the bovine bacillus, so that 2,700 infants die annually of bovine tuberculosis. For the purpose of judging how many there are altogether of those who suffer from bovine tuberculosis, we have at present only the von Pirquet reaction at our disposal. A school physician in Berlin has found it positive in schoolchildren by about 70 per cent. According to this we must assume that 400,000 children are infected annually with the bovine type, and this number is sufficient to justify speaking of it as a nation-wide disease (*Volkskrankheit*). Besides, about half of all lupus cases belong to the bovine type.

### Insurance for Disability in 1911

The income from dues of the thirty-one German insurance companies amounted in 1911 to $52,451,405 (209,805,623 marks). In closing the books for 1911 it was found that 141,532 pensions or indemnities were paid in 1911. To meet the demands of the imperial insurance law, $44,805,043 (179,220,174 marks) were expended.

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, March 25, 1913.

### Ophthalmologic Postgraduate Classes

An interesting experiment was made recently in the clinic of Professor Dimmer, where a number of ophthalmologists had been asked to listen to a series of lectures on the theory of opties for physicians. Two eminent collaborators of the optical institute of Zeiss explained the modern conception of the problems concerned, and showed also Gallsbrand's instruments. Twelve theoretical lectures and eight demonstrations were given, and the difficult subject was explained in a very satisfactory manner, so that a repetition is probable.

### The Jubilee Hospital of Vienna

A short while ago the Jubilee Hospital (founded three years ago on the eightieth birthday of our emperor) was opened. It adds another thousand beds to the hospital beds already existing in this city. We have now in Vienna 9,200 beds in public hospitals, or 44 per ten thousand inhabitants. In Berlin the figure is 49 per ten thousand. Therefore, the constant complaint of hospital scarcity which so frequently was heard of, will be hardly justified any longer. It is a fact that in the inclement time of the year (December till May) there was really frequently a lack of hospital accommodations for the poorer classes. This will be done away with for a number of years to come; for we are just now in a period of new hospitals. A large hospital for children is in course of erection, and what we require yet, a large increase in the number of beds for infectious diseases and for the housing of tuberculous persons, is also in stage of preparatory consideration.

The Jubilee Hospital contains one hundred beds for surgery patients of the first and second classes. This is an institution for the middle classes of the population who can afford to pay an adequate fee for operations and hospital treatment, and obtain a good deal of house comfort, which, of course, is out of the question in the wards with ten or twenty-five beds per room. The patients cannot, however, select their medical adviser or surgeon from outside the hospital-staff, and so far there is a difference from the sanatorium or private hospital or "nursery-house" method. Altogether, there are in Vienna about 250 beds already in existence which are governed by the above-mentioned rules. The patients pay from 8 to 12 kronen ($1.50 to $2.50) a day, while the ordinary hospital patient has to pay about 50 to 70 cents a day, or the state has to pay for him. The institution of "paying wards" finds much resistance among the Vienna practitioners, who believe it to be detrimental to their interests. For the ordinary patients the hospital contains twenty-four wards, each holding eighteen beds, and twelve wards for each twenty-six patients. These will accommodate about 750 patients, while about 150 beds are arranged in small rooms holding from two to eight beds each. There are are altogether two medical departments having 238 and 248 beds, one surgical department with 122 beds, one gynecologic department with 82 beds, one dermatologic-syphilitic department with 149 beds, one for 48 cases of diseases of the hropoietic system, 53 ophthalmologic beds and a department for nose, throat and ear cases with 60 beds. A special pavilion for suspicious and infectious cases is situated outside of the hospital, but otherwise the hospital is not built on the system of pavilions, since there are no more than three two-storied large buildings. The divisions between the various departments are given in a vertical, not horizontal, plane. Ample provisions are made for accessory spaces, kitchens, recreation spaces, baths, nurses' rooms and lavatories; there is also a large garden covering an area of 152,000 square meters (200,000 square yards). Of course, all the latest equipment for the outpatient departments, as well as the therapeutic equipment, have been provided for. It is interesting to note that physical therapeutic equipment (hydrotherapy, mechanotherapy, electrotherapy and phototherapy) are now established in all the general hospitals of this city. The hospital is intended, as the statutory regulations say, first, "for the benefit of the patients, and no ill person can be refused admission except when the hospital is filled." It is also a teaching hospital. Treatment must employ the recent achievements of science and practice when appropriate. This is a concession to a public sentiment, which for some time was much propagated by a certain political party, which said that the hospitals regard their inmates only as objects for experiments. This foolish idea was for some time strong enough to cause its consideration in the above-mentioned regulations. At the opening ceremony a few interesting figures were given by one of the speakers. Thus Austria contains now about 59,000 hospital beds; forty years ago it had only 30,000; eighty years ago only 7,000. The population, however, has doubled only within the last eighty years, so that sanitary development as expressed in the number of hospital beds was much faster than expected. At present we have eighteen beds (in Austria) for each ten thousand inhabitants, while Germany has thirty-seven. So there is plenty of work yet to do. But Vienna compares favorably with Berlin in this respect.

### Instruction in Medical Ethics and Economics

The Wirthschaftliche Organization, a young but energetic body for promoting the medical and economic interests of our profession, has instituted a novel measure in establishing regular instruction for students of medicine and young graduates of our hospitals in that special branch which has been taught nowhere until now, and which is so important in later life, medical ethics and economics. These instructions will be given in the shape of lectures delivered by experienced practitioners under the three headings, and will cover the relations of the practitioner (1) to the public, (2) the state and municipal authorities, (3) the sick clubs (Krankenkassen). These lectures will also give information regarding taxes and duties (a difficult problem in this country), and the clauses of the old and new penal code which have a bearing on the practice of medicine; they will also teach the young man the problem of fees and the relations between physician and consultant, and instruct him in the routine of keeping books and recording cases. It is thought that this idea of the organization will meet with appreciation on the part of the profession.

## *Miscellany*

**Occupational Diseases in Italy.**—Italy has long had an institute at Milan devoted exclusively to research on industrial affections and to their treatment, the first of the kind in the world. It publishes a semimonthly journal *Il Lavoro*, now in its sixth volume, which discusses questions connected with the hygiene of wage-workers and prophylaxis of occupational injury. It is edited by L. Devoto, incumbent of the chair of occupational affections, and L. Carozzi privat-docent in the same line. The last number of *Lavoro* reprints the circular which is given to wage-workers. The circular emphasizes the importance of learning the special dangers of each trade and the means to avoid them, and the necessity for a medical examination as the resisting powers differ so widely in different persons. Among other points mentioned are the necessity for scrupulous care of the mouth and teeth, and keeping the nails and hair short. Hot breakfasts are also advised, and the working man is told that he should not return to his usual work at once on recovering from an acute infectious disease. Mouth-breathing should be corrected. The working man who finds his health being impaired by his work owes it to himself, to his comrades and to the trade he is engaged in to place

himself in the hands of a competent physician so that his case can be studied as a type. He should also call the attention of a physician to a comrade who he sees is suffering from an occupational affection. The working men who have had a course of treatment at the Milan clinic are proving apostles of hygiene and watchful sentinels when they return to their work. The fourth national conference on occupational affections is to convene at Rome, June 8 to 13, 1913. The secretary is Dr. A. Ranelletti, Lungo Tevere Mellini 17, Rome. Among the subjects to be discussed are hookworm disease, occupational diseases of the blood, and the professional pathology of railroad employees.

**Fall River Milk Regulations.**—Fall River, Mass., is one of the cities that endeavor to follow the classification of milk and the regulations of the National Committee on Milk Standards, except perhaps as to bacterial requirements. Features of the administration of the milk regulations in Fall River consist of large posters containing the sections of the city ordinance relating to milk production and distribution, and the regulations of the health department concerning the same subjects. These are intended to be posted in dairies and milk depots for the guidance of those engaged in the milk trade, and should serve as a constant reminder of the requirements. In this connection the annual report of the milk and dairy inspection division of the health department contains some interesting comments on the use of whole milk and condensed milk in Fall River. It is shown that on an average, each inhabitant uses 7¼ ounces a day, or less than an ordinary drinking-glassful for all purposes, including that used for cooking in both homes and restaurants. It is stated that the per capita consumption of cow's milk is less and the percentage of infants' deaths is higher in Fall River than in any other city, and it is believed that the use of condensed milk has a very important bearing on the death-rate among the infant population. As the report says, condensed milk is in no sense a substitute for fresh cow's milk; it does not contain the elements of nutrition in proper proportion or relation, and it is too expensive. Attention is called to the fact that eighteen brands of condensed milk in common use when diluted according to directions on the label, using an average of 1 part milk and 3½ parts water, would have an average of 7.29 per cent. of solids and 1.85 per cent. fats, which represents a very inferior quality of milk. The minimum quality permitted by the statutes must contain 8.81 per cent. solids and 3.35 per cent. fats. The cost of condensed milk when diluted according to the above directions is 10.7 cents per quart. It is therefore said that the public is misled into the use of a very inferior article as a substitute for milk which is neither milk nor a safe substitute, and that they are paying nearly 36 per cent. more for it than for raw cow's milk.

**Value of Infant Consultation Stations.**—In the experience of The Essex County, N. J., Public Welfare Committee, in the city of Newark infant consultation stations are more efficient in lowering infant mortality than depots for the distribution of modified milk. The committee states as its opinion, as reported by Dr. Julius Levy in a paper read before the pediatric section of the Academy of Medicine of Northern New Jersey, and printed in the report of the committee, that ignorance on the part of the mothers is the greatest single cause of infant mortality, milk being secondary to this. It was found that though modified milk could be obtained at the milk-depots, few mothers could avail themselves of it and most of them were buying filthy store or bottled milk; the committee found that as a result of this the infant mortality from diarrheal diseases was actually higher at the end of the previous decade than at the beginning. It is the opinion of Levy that the milk-depot increases the number of artificially fed children, and that it does not reach the infants which require it most—those with the most ignorant or indifferent mothers, nor indeed when the mortality among infants is highest—during the first three months. The plan adopted in Newark was the establishment of infant consultation stations, with visiting nurses and physicians of the same nationality or speaking the language of the mothers and infants visited by them. The names of the infants were taken from the birth returns, and visits made usually within the first month after birth. It was the plan to induce all mothers, whenever possible, to nurse their infants. It was said that the failure to nurse in most instances is due wholly or largely to ignorance, inherent prejudice and superstitious beliefs that are fostered by anxious grandmothers, ignorant midwives, and also, unfortunately, indifferent physicians. In a less degree this is due to preventable social and economic conditions, overwork, under-nourishment, tuberculosis and other debilitating diseases. When the infants required additional milk, breast-nursing was not stopped, but modified milk was given. A simple plan of modification of milk was adopted and, with the exception of a very few cases, nothing but raw, diluted whole milk, cane-sugar, barley-water and salt were required, and the mothers were instructed how to make the modification of the milk with these materials. Emphasis is laid on the importance of simple milk-modifications, as only in this way, it is asserted, can rational and intelligent milk-modification come into general household and professional use. In the work of home modification emphasis is laid on clean milk, clean bottles and nipples, proper intervals of feeding and the avoidance of additional feeding. In Newark, by special arrangement, milk from tuberculin-tested cows was provided for the infants taken care of in these infant consultation stations. The result during the season of 1912, which this report covers, shows an infant mortality, among the infants taken care of, of 2.3 per cent., and excluding several cases which should properly be excluded, 1.9 per cent.

**Development of the House Fly.**—The eggs are deposited by the female, about one hundred and fifty in a batch, in manure or decaying organic matter. In a few hours, under favorable conditions, the eggs hatch and a small white grub emerges from each. Finding themselves in the midst of plenty, the larvae begin feeding and eat until the limit of their first skins is reached. Growth in this stage is extremely rapid, and in a few hours the skin is split and discarded, while the second skin, a size larger, supplants the function of the first. Feeding is then resumed and this process is repeated some four or five times. This is not only true of the house-fly but of the majority of the million kinds of insects. Four or five molts is the common number before the grub or caterpillar is full-grown and the next stage begun. In the case of the fly—unlike butterflies and moths—the last larval skin is not cast, but dries and forms the pupal case. I wish to emphasize the fact that the larval stage in insects is the season of growth, and is, moreover, the only period of growth and that after this stage is passed the insect never grows any more in bulk. Thus the next stage after the larva is known as the *pupa* or the chrysalis, and this is devoted entirely to development. In the house-fly development is very rapid, and is preceded by a process of dissolution, for if a pupa-case be broken open a short time after pupation, it will be found that there are no signs whatever of organs such as legs, wings, or even mouth-parts. A yellowish milky fluid will be found, and from this the complete adult fly is developed, under optimum conditions, in less than a week. Thus from the time the egg is laid until the emergence of the adult fly less than fifteen days may elapse.—C. K. Brain, *Monthly Bulletin*, Ohio State Board of Health.

**Louisiana and Child Labor.**—In Louisiana game has been the subject of protective legislation since 1857. It was not until nearly half a century afterward that Louisiana saw the need of a child-labor law. From August, 1910, to June, 1911, the Louisiana Board of Commissioners for the Protection of Game Birds and Fish spent in its work of conservation and culture approximately $129,081.86. During the same time only $900 was spent for factory inspection to serve the health, safety and comfort of upward of 76,165 wage-earners, a sum equivalent to twice as much as the Louisiana Oyster Commission spent for postage in one year.—E. F. Brown, member Nat. Child Labor Com.

# Association News

## ALUMNI TO MEET AT MINNEAPOLIS

### College Alumni and Other Reunions Provided for at the Minneapolis Session Next June

The Minneapolis Subcommittee on Alumni Meetings, of which Dr. E. K. Green, 1106 Donaldson Building, Minneapolis, is secretary, offers its services to alumni associations and similar bodies which wish to have reunions in connection with the next annual session of the American Medical Association in Minneapolis, June 17-20. The committee will be glad to assist in arranging meeting-places, advising about entertainment and making a complete list of the gatherings for publication. The committee particularly wants to know in each case whether or not the alumni association intends to provide any entertainment, and if so what sort. The time assigned for all these alumni events is Tuesday night. It is desired that all these events take place on that night, so as not to interfere with events planned for the other evenings.

### Hotel Reservations

Members of the Association who are planning to attend the Minneapolis session and who have not already reserved accommodations, can do so by writing either directly to the hotel of their choice (list in THE JOURNAL, March 8, 1913, p. 764) or to Dr. S. Marx White, 1106 Donaldson Building, Minneapolis, chairman of the Subcommittee on Hotels. Dr. White's committee will take pleasure in assisting members to find satisfactory lodgings. Requests for reservations addressed to this committee should state whether or not a private bath is desired; the number in the party; how many rooms and exactly the accommodations needed; the approximate rate, American or European plan, that the member plans to pay, and the scientific section in which he will register. It is not only a matter of great convenience to know one's local address before reaching Minneapolis, but, by making these arrangements now, the rush at the time of registration occasioned by the necessity of securing lodgings will be overcome, and the member will be ready to enjoy the scientific program immediately after registering.

### Health Boards to Meet

Among the organizations which meet just before the American Medical Association, the Conference of State and Provincial Boards of Health of North America is announced for June 13-14, meeting in St. Paul. Probably some of the meetings will be held on the campus of the University of Minnesota.

# Marriages

JAMES ALFRED B. ADCOCK, M.D., Jefferson City, Mo., to Mrs. Mary Sanborn Russell of Warrensburg, Mo., March 29.

ROBERT JAMES TALBOT, M.D., Niagara Falls, N. Y., to Miss Margaretta Mugele of Pittsburgh, Pa., April 2.

JAMES ALEXANDER WEST, M.D., Hancock, Md., to Miss Helen Venable Bridges of Charlotte, N. C., March 25.

ISAAC B. HIGH, M.D., Reading, Pa., to Miss Mary J. Miller of Linfield, Pa., at Philadelphia, March 24.

EARL STEVENS PORTER, M.D., to Miss Jaunita Blanche Palmer, both of Moore, Mont., March 26.

DELMAR FOSTER BICE, M.D., Toppenish, Wash., to Miss Edith Williamson of Tama, Ia., March 26.

VIRGIL W. MCCARTY, M.D., Rosedale, Kan., to Miss Bernice French of Lawrence, Kan., April 12.

JOSEPH ALBERT CHATARD, M.D., to Miss Alice Marie Wheelan, both of Baltimore, March 26.

HARRIS PAYTON MOSHER, M.D., to Mrs. Helen A. Clark, both of Boston, March 22.

DAVID F. MONASH, M.D., to Miss Edith Mayer, both of Chicago, April 8

# Deaths

**Jose Manuel Delgado, M.D.** Bellevue Hospital Medical College, 1879; acting assistant surgeon U. S. P. H. Service since 1896; a member of the Association of Military Surgeons of the United States; assistant to the chair of clinical and operative surgery in his alma mater from 1872 to 1876; a pioneer in the fight for Cuban independence; shot and macheted and left for dead in 1896; acting assistant surgeon U. S. Army during the Spanish-American War and in charge of charities and hospitals in Puerto Principe during the United States military occupation; for the last ten years on duty with the U. S. P. H. Service at the Ellis Island Immigration Bureau, New York Harbor and a resident of Brooklyn; died in St. Luke's Hospital, New York City, March 31, aged 62.

**George McClellan, M.D.** Jefferson Medical College, 1870; professor of applied anatomy in his alma mater; a member of the American Medical Association, American Association of Anatomists, Philadelphia Pathological Society and Philadelphia College of Physicians; consulting surgeon to the Howard Hospital, Philadelphia, and professor of anatomy in the Philadelphia Academy of Fine Arts; author of McClellan's "Regional Anatomy"; founder of the Pennsylvania School of Anatomy and Surgery and some-time president of the Philadelphia Medical Club; died at his home, March 29, from heart disease, aged 63.

**George Allen Staples, M.D.** Chicago Medical College, 1884; College of Physicians and Surgeons, New York City, 1885; a member of the American Medical Association; Mississippi Valley Medical Association, and Chicago Orthopedic Society; formerly a lecturer in the College of Physicians and Surgeons, Chicago; local surgeon in Dubuque for the Illinois Central and Chicago, Milwaukee and St. Paul railroads; surgeon to St. Joseph's, Mercy and Finley hospitals, Dubuque; died from cerebral hemorrhage, April 2, aged 53.

**James Clement French, M.D.** Pulte Medical College, Cincinnati, 1875; a member of the American Medical Association; until 1884 a practitioner and health officer of Greensburg, Ind.; thereafter a resident of Natchez, Miss.; health officer of the city until 1902, and from 1906 until his death; treasurer of several state Masonic organizations; a man esteemed and beloved by his fellow practitioners and the people at large; died at his home in Natchez, March 19, from nephritis, aged 57.

**Arnold Stedman, M.D.** Berkshire Medical College, Pittsfield, Mass.; a member of the American Medical Association; president of the general staff of St. Luke's Hospital, Denver, and consulting physician to Mercy Hospital, Denver; a veteran of the Civil War; for several years a member and president of the Denver School Board; one of the founders of the Colorado State Medical Society; while making a professional call, March 22, died suddenly from heart disease, aged 74.

**Marcellus B. Shupe, M.D.** University of Maryland, Baltimore, 1885; a member of the Medical Society of the State of Pennsylvania; local surgeon for the Baltimore and Ohio Railroad at Connellsville; a member of the Surgical Staff of the Cottage State Hospital; a member of the Board of Health; for three terms a member and once president of the local school board; died at his home, March 22, from the result of injuries received in a runaway accident a year before, aged 49.

**Richard M. Gano, M.D.** University of Louisville, Ky., 1850; a practitioner of Texas since 1857; a member of the legislature from Tarrant County in 1860 and 1861; brigadier general in the Confederate Army during the Civil War; a clergyman of the Christian Church since 1866; an officer and stockholder in many banks and large business enterprises; died at the home of his daughter in Dallas, March 27, from senile debility, aged 82.

**Hugh Angus Stewart, M.D.** University of Edinburgh, Scotland, 1904; M. R. C. P. Edinburgh, 1906; assistant professor of pathology in the College of Physicians and Surgeons, New York City; a member of the New York Pathological Society; who was engaged in important research work on the adrenal bodies; died in the Willard Parker Hospital, March 29, from scarlet fever, aged 30.

**John Samuel Shibley, M.D.** University of Nashville, Tenn., 1870; of Paris, Ark.; a member of the American Medical Association and president of the Logan County (Ark.) Medical Society; first superintendent of the State Sanatorium for Tuberculosis, Booneville; died in a hospital at Rochester, Minn., March 26, three weeks after a surgical operation, aged 69.

**William Greenshields, M.D.** Glasgow, 1859, L. & F. P. & S., Glasgow; a pioneer practitioner of Romeo, Mich.; formerly a member of the American Medical Association; died at his home, about March 29, aged 76.

**Richard Pearce Francis, M.D.** Harvard Medical School, 1888; a member of the American Medical Association; head of the Mountainside Hospital, Montclair, N. J., and for many years a member of the Montclair Board of Health; was injured in a collision between his automobile and another machine, March 29, and died a few hours later in Mountainside Hospital, aged 51.

**Ira Thompson Van Gieson, M.D.** College of Physicians and Surgeons, New York City, 1885; a bacteriologist in the research laboratory in the New York Department of Health; from 1896 to 1901 director in the State Pathologic Institute, Ward's Island; died in Bellevue Hospital, New York City, March 24, from myocarditis, aged 47.

**James W. Norris, M.D.** Starling Medical College, Columbus, O., 1896; formerly a member of the Ohio State Medical Association; for several years president of the Monroe County Medical Society; vice-president of the First National Bank of Woodsfield, O.; died at his home in that place, March 18, from tuberculosis, aged 43.

**Josiah Hasbrouck, M.D.** Albany (N. Y.) Medical College, 1885; since 1886 a practitioner of Port Ewen, N. Y.; sheriff of Ulster County from 1901 to 1903; formerly president of the Ulster County Medical Society; town supervisor in 1895; died in the Astor Sanitarium, New York City, March 25, from diabetes, aged 48.

**Joseph W. McBride, M.D.** Memphis Hospital Medical College, 1896; formerly a member of the American Medical Association; a member of the Tennessee State Medical Association and of the Board of Education of Covington; died in St. Joseph's Hospital, Memphis, March 26, after a surgical operation, aged 45.

**Harry Raymond Bennett, M.D.** Dartmouth Medical School, Hanover, N. H., 1897; of Bridgeport, Conn.; relief doctor at the Emergency Hospital, Bridgeport; for one term a member of the board of aldermen; died in St. Vincent's Hospital, Bridgeport, March 22, from pneumonia, aged 38.

**James Strong Cameron, M.D.** University of California, San Francisco, 1868; a member of the American Medical Association; a Confederate veteran and since the close of the Civil War a practitioner of Red Bluff, Cal.; died at his home, March 24, from heart disease, aged 70.

**Nannie May Latimer, M.D.** Western Pennsylvania Medical College, Pittsburgh, 1908; a member of the American Medical Association; formerly of Tarentum, Pa.; a missionary of the Presbyterian Board in Lien Chow, China; died in that place, March 15, aged 34.

**Benjamin Van Etten Dolph, M.D.** Syracuse (N. Y.) University, 1899; of Sodus, N. Y.; later a resident of Colorado on account of ill health, and electrician of the New York State Railway; died in Myers Hospital, Sodus, March 26, from nephritis, aged 38.

**Algernon S. Barnes, M.D.** University of Missouri, Columbia, 1855; formerly dean of the St. Louis College of Physicians and Surgeons and a member of the Missouri State Medical Association; died at his home in St. Louis, March 30, from arteriosclerosis, aged 82.

**Stradford Straus Dupee, M.D.** Howard University, Washington, D. C., 1898; a colored practitioner of Evansville, Ind.; died in the Crescent Sanitarium in that city, March 30, from embolism of the inferior mesenteric artery, complicated with appendicitis, aged 41.

**Richard Love Johnson, M.D.** Medical College of the State of South Carolina, Charleston, 1861; a member of the South Carolina State Medical Association; local surgeon of the Frisco system at Rolla, Mo.; died at his home, about March 11, aged 71.

**Warren F. Reed, M.D.** University of Michigan, Ann Arbor, 1866; a member of the Ohio State Medical Association; president of the bank of Ottawa; a pioneer practitioner of Putnam County; died at his home in Ottawa, March 29, from acute gastritis, aged 73.

**Williamson C. Pace, M.D.** Washington University, St. Louis, 1854; a surgeon during the Civil War and a practitioner of Ashley, Ill., for half a century; died at the home of T. H. Benton in that place, March 25, from cerebral hemorrhage, aged 82.

**Frank Hamilton Peltier, M.D.** New York University, New York City, 1887; at one time a member of the Medical Corps of the First Infantry, N. G., Conn.; was found dead in his apartment in Hartford, March 21, from heart disease, aged 48.

**Joseph L. Kitchen, M.D.** Northwestern University Medical School, Chicago, 1869; a veteran of the Civil War; formerly a practitioner of Wyanet, Ill., and Sentinel Butte, N. D.; died at his home in Harvey, Ill., March 20, from nephritis, aged 69.

**Chester E. Kleven, M.D.** Wisconsin College of Physicians and Surgeons, Milwaukee, 1912; a veteran of the Spanish-American war, with service in Cuba; died at his home in Lodi, Wis., March 21, from tuberculosis, aged 28.

**Lewis Hayward Hazeltine, M.D.** Medical College of Ohio, Cincinnati, 1865; assistant surgeon of the Eighth Ohio Volunteer Cavalry during the Civil War; died at his home in Clarksville, Mich., March 18, aged 75.

**Grant Stanley, M.D.** Cornell University, New York City, 1904; a member of the American Medical Association; of Sea Cliff, L. I.; died in the Seney Hospital, Brooklyn, March 25, from diphtheria, aged 38.

**Luther Jacob Saeger, M.D.** University of Pennsylvania, Philadelphia, 1899; a member of the American Medical Association; died at his home in Allentown, March 24, from disease of the lungs, aged 35.

**Samuel Richmond, M.D.** Medical College of Virginia, Richmond, 1912; an intern in the Atlantic City (N. J.) Hospital; died at the home of his father in Passaic, N. J., March 31, from heart disease, aged 24.

**John J. Brady, M.D.** Detroit (Mich.) College of Medicine, 1897; formerly city physician of Jackson, Mich., and for two years coroner of Jackson County; died in Marshall, Mich., March 22, aged 39.

**Thomas Henry McCarthy, M.D.** Rush Medical College, 1901; a member of the American Medical Association; died suddenly at his home in Madison, Wis., March 30, from cerebral hemorrhage, aged 37.

**Mayberry S. Reber, M.D.** University of Pennsylvania, Philadelphia, 1863; until 1897 a practitioner of Shoemakersville, Pa., and later a resident of Reading; died at his home, March 26, aged 75.

**Clarence Brock Goddard, M.D.** Denver and Gross College of Medicine, Denver, 1901; a member of the Kansas Medical Society; died at the home of his parents in Leavenworth, March 30, aged 32.

**Samuel John Power, M.D.** University of Michigan, Ann Arbor, 1882; at one time small-pox physician of Evansville, Ind.; died in the Lottie Hotel in that place, March 23, aged 52.

**Frederic A. Mickel, M.D.** University of Arkansas, Little Rock, 1893; of Van Buren; died in a hospital in Fort Smith, March 16, a few days after a surgical operation, aged 62.

**Jane Elizabeth Bigelow, M.D.** Johns Hopkins Medical School, Baltimore, 1912; of Terre Haute, Ind.; died in a hospital in New York City, March 11, from scarlet fever, aged 25.

**James Tucker Cutler, M.D.** Harvard Medical School, 1894; Boston University School of Medicine, 1894; died at his home in Roxbury, Boston, about March 28, from pneumonia.

**Charles E. Bennett, M.D.** Hospital Medical College, Eclectic, Atlanta, Ga., 1910; of Pensacola, Fla.; died at his old home in Owensboro, Ky., March 21, from nephritis, aged 44.

**Richard E. Martin, M.D.** Washington University, St. Louis, 1873; a member of the American Medical Association; died at his home in Bonham, Tex., March 21, aged 63.

**William H. Wise, M.D.** Toledo (O.) Medical College, 1885; a member of the State Medical Association of Texas; died at his home in Alvin, Tex., March 30, aged 59.

**Joshua Monroe Shaffer, M.D.** College of Physicians and Surgeons, Keokuk, Ia., 1857; died at his home in Keokuk, March 9, from cerebral hemorrhage, aged 82.

**Frank Warren Chamberlin, M.D.** College of Physicians and Surgeons, New York City, 1892; died at his home in New York, March 29, from heart disease, aged 52.

**Charles B. W. Cox** (license, Nebraska, 1891); one of the earliest settlers of Blaine County; died recently at his home in Brewster, aged 60.

**James A. Conaway** (license, Maryland), for many years a practitioner of Dorchester County; died at his home in Hoopersville, March 19.

**Jovite A. LaPointe** (license, Maine, act of 1895); for thirty-five years a practitioner of Biddeford; died at his home, March 23, aged 69.

**Jesse D. Burke** (license, Michigan, 13 years of practice, 1900); died at his home in Detroit, March 15, from pneumonia, aged 76.

**Francis X. Spranger, Jr., M.D.** Pulte Medical College, Cincinnati, 1890; of Detroit; died in Milan, Italy, February 17, aged 44.

**Edwin Folsom** (license, N. Dak., 1907); a veteran of the Civil War; died at his home in Fargo, March 21, aged 71.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## AGAIN, ANTIKAMNIA

In season and out of season, THE JOURNAL has exposed the Antikamnia fraud until it would seem that its readers would become weary of the very name. There is nothing new to say about this dangerous stuff, and yet the number of inquiries indicates that thousands of THE JOURNAL'S readers do not know of the previous exposures. More than fifteen years ago THE JOURNAL ceased carrying the Antikamnia advertisement; more than ten years ago it notified its readers that the nostrum was being advertised to the public by means of circular letters; more than six years ago it proved that, when the Food and Drugs Act went into effect, acetphenetidin had been substituted for acetanilid in Antikamnia evidently in order that the presence of the older drug, of whose dangers the public had been made aware might not have to be admitted; more than five years ago THE JOURNAL showed that the Antikamnia sold in the British Isles still contained acetanilid, and as late as last October it verified this statement although threatened with prosecution for libel by the Antikamnia Chemical Company.

Yet, in spite of all these exposures, not a week passes that we do not receive one or more letters calling attention to the Antikamnia fraud. Most of these letters deal with one, or more, of three points: first, the fact that the stuff is being advertised to the public by means of circular letters and that sample "vest-pocket boxes" of this dangerous drug are being sent through the mail to laymen; second, that Antikamnia is being advertised in newspapers, and, third, that in the booklets sent out by the Antikamnia Chemical Company both to the medical profession and to the public, a paragraph is

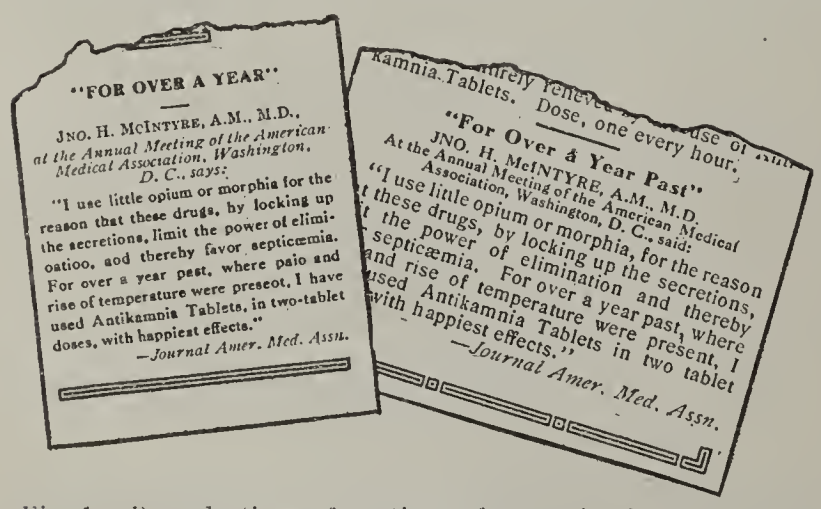



Fig. 1.—Reproductions of portions of pages in the booklets sent out by the Antikamnia Chemical Company to physicians (on the right), and laymen (on the left), respectively. Those who do not realize the character of the Antikamnia concern naturally imagine that the quotation here given from THE JOURNAL is a comparatively recent one. Notice that no dates are given. As a matter of fact, it is twenty-two years old. Dr. McIntyre, who wrote it, has been dead eleven years.

quoted from an article by Dr. John H. McIntyre that appeared in THE JOURNAL.

The first two points have already been discussed so frequently that it seems hardly worth while to take them up again in detail, though it might be said that the medical profession has at last become so familiar with this wide-spread humbug that the Antikamnia Chemical Company has finally gone over body and soul to the newspapers. So far as we can learn only three publications professing to be medical journals still carry the Antikamnia advertisement. These three are:

*Southern Practitioner*
*Therapeutic Record*
*Pacific Medical Journal*

As is usual in such cases, the British medical journals are not so particular, and we still find Antikamnia advertised in:

*Medical Press and Circular*
*Glasgow Medical Journal*
*Journal Tropical Medicine and Hygiene*
*Dublin Journal Medical Science*
*Lancet*
*Canada Lancet*
*Practitioner*

The reproduction of the McIntyre quotation is evidently adopted by the Antikamnia concern as a means of "playing even" with THE JOURNAL for the unpleasant things it has said about it. In quoting Dr. McIntyre, the Antikamnia Chemical Company carefully avoids giving the date on which the article appeared. As a matter of fact, the article was printed in THE JOURNAL over twenty years ago (July 4, 1891), and Dr.




Fig. 2.—Photographic reproductions of two typical Antikamnia advertisements now appearing in newspapers all over the country. These tablets are advertised in various newspapers as being "safe" and neither "depressant" nor "habit-forming"—three separate and distinct falsehoods.

McIntyre himself has been dead for eleven years. Presumably, however, the Antikamnia Chemical Company will continue to mislead, either directly or by inference, until the end of the chapter.

## SOME PRESUMABLY SAFE FLOURS AND FOODS FOR DIABETICS

The article on "Flours and Foods for Diabetics" that appeared in THE JOURNAL, March 22, has brought a large number of inquiries, requesting the names of products containing low percentages of carbohydrates. The chemical laboratory of the Association is at present examining several products of this kind, and as soon as the investigations are completed, the results will be published in THE JOURNAL. In the meantime the following list is given tentatively. The figures represent the claims made by the manufacturers for their products; THE JOURNAL cannot stand sponsor for these figures but we believe that the figures are substantially correct:

*Herman Barker, Somerville, Mass.*
Gluten Food, A.....2 per cent. carbohydrates
Gluten Food, B.....5 to 7 per cent. carbohydrates
Gluten Food, C.....9 to 12 per cent. carbohydrates

*Thomas Leeming & Co., 99 Chambers Street, New York.*
Casoid Flour, N. N. R. (an albuminous, not a gluten flour).... carbohydrate-free
Casoid Crackers No. 1.....2.88 per cent. carbohydrates
Casoid Crackers No. 2..... carbohydrate-free
Casoid Crackers No. 3.....4.22 per cent. carbohydrates

*Health Food Company, 25 Lexington Avenue, New York.*
Proto Puff No. 1.....6.71 per cent. carbohydrates
Almond Flour (meal).....7.85 per cent. carbohydrates

*Huntley & Palmer.*
Akoll Biscuit, said to contain "traces" of carbohydrates.

*Kellogg Food Company, Battle Creek, Mich.*
80 per cent. Gluten Flour....7 to 10 per cent. carbohydrates

As has been said, we cannot vouch at present for any of these figures except those of Casoid Flour. This product has already been subjected to analysis, passed on by the Council on Pharmacy and Chemistry and is now in New and Nonofficial Remedies. We hope, however, in the near future to be able to give the results of the examination of the Association's chemists.

# Correspondence

## Articles Published by Dr. F. F. Friedmann

*To the Editor:*—Although the medical profession of this country may not be favorably impressed to-day with the claims made by Friedmann, and although he has not definitely announced whether the substance he is now using is the same as the culture employed in his earlier experiments or derived from it, yet it is of interest to review briefly his original articles.

The first publications by Friedmann concerning this subject appeared in the year 1903 and were four in number, the earliest entitled "Spontaneous Pulmonary Tuberculosis with Large Cavity in a Turtle (Chelone Corticata)" (Spontane Lungentuberkulose mit grosser Kaverne bei einer Wasserschildkröte [Chelone corticata], *Deutsch. med. Wchnschr.*, Jan. 8, 1903). In this article Friedmann states that except for an occasional dubious report there had previously been no description of an authentic case of spontaneous tuberculosis of the lungs in a cold-blooded animal. The case he reports, which he asserts was the first of the kind to be reported, occurred in a turtle which died in the Berlin Aquarium and was examined post mortem. The lungs were later sent to Friedmann and showed many tubercles, caseous foci and cavity formation. Microscopic preparations stained in the usual way showed all stages of the tuberculous process and incredible masses of acid-fast bacilli which could in no way be distinguished from the mammalian type of organism.

The second article appeared shortly after, under much the same title (Spontane Lungentuberkulose bei Schildkröten und die Stellung des Tuberkelbazillus im System, *Ztschr. f. Tuberk.*, iv, No. 5.) Here the findings are more fully described, and the necropsy report of a second turtle with similar lesions is given. In addition there is a careful history of the study of tubercle bacilli in cold-blooded animals with a long list of references.

The third article (Der Schildkrötentuberkelbazillus, seine Züchtung, Biologie und Pathogenität, *Centralbl. f. Bakt.*, 1903, xxxiv), concerns Friedmann's studies of the organism obtained from the turtle and deals with the cultural characteristics and pathogenicity of the strain. Cultivation was readily performed and the optimal temperature was found to be 37 C. (98.6 F.). The results of about fifty animal inoculations are quoted; all the cold-blooded animals, except two, died, whereas none of the warm-blooded series was affected except the guinea-pigs, which were killed by enormous doses, but were unaffected by smaller amounts. As a result of these studies Friedmann concluded that the turtle bacillus was a much nearer relative of the human and bovine strains than any of the various other cold-blooded strains, or even the avian bacillus of Koch.

The title of the fourth article, "Immunization Against Tuberculosis" (Immunisierung gegen Tuberkulose, *Deutsch. med. Wchnschr.*, December, 1903, abstr. THE JOURNAL, Jan. 9, 1904, p. 136), shows the trend of Friedmann's investigations, and his succeeding articles all concern this subject. After a preface about immunity in general, he describes his discoveries and studies of the turtle bacillus, and asserts that it is especially suited for producing immunity. The culture is described as follows: 1. Optimal growth occurs at 37 C. 2. The culture is indistinguishable at that temperature from the human strain. 3. It produces in the guinea-pig a specific tuberculosis at the site of injection but localized and going on to healing. In a series of the smaller animals injected, none suffered any ill effects, and they reacted very differently from uninjected controls when injected later with lethal doses of human bacilli. The controls died in from four to six weeks from generalized tuberculosis, whereas the immunized animals showed at the site of the injection of the human bacilli an infiltration which, however, remained soft, later discharged a little caseous matter and healed up entirely. These animals sometimes showed a slight swelling of the regional lymph-nodes, but they lost no weight, suffered no impairment of general health, and at autopsy, three months later, showed no evidence of tuberculosis. On the basis of these results Friedmann held that the turtle bacillus was a harmless, immunity-conferring substance.

During the following year, 1904, Friedmann published three articles all on more or less the same lines. The first (Zur Frage der aktiven Immunisierung gegen Tuberkulose, *Deutsch. med. Wchnschr.*, January, 1904), is apparently in response to certain critics who had compared his attempts to produce immunity with those of experimenters working with strains of tubercle bacilli attenuated in virulence by residence in some cold-blooded animal, as that of Moeller which was injected into a blindworm and later recovered for use. Friedmann maintained that his theory and technic were more scientific, and his results more successful. The other two types of tubercle bacilli strains used in attempts to produce immunity had been, first, those strains which occur apparently as harmless saprophytes in many cold-blooded animals, such as the fish bacillus of Bataillon, Dubard and Terre; and second, the bacilli, variously modified, by passage through a cold-blooded animal, as Moeller's through the blindworm, and Bataillon, Lubarsch and Dieudonné's through the frog.

The next article (Ueber Immunisierung von Rindern gegen Tuberculose [Perlsucht] und über Tuberculose-Serumversuche, *Deutsch. med. Wchnschr.*, 1904, xxx), concerned the use of the culture for immunizing cattle; in this it is stated that the turtle-bacillus is completely harmless for young or old cattle, and that by the use of proper technic a very high grade of immunity can be produced through a single injection. The third article appearing in 1904 (Ueber Immunisierung gegen Tuberkulose, *Therap. Monatsch.*, 1904, xviii), takes up no new points and merely covers the same ground.

In 1905 Friedmann published one article (Zur Tuberculose-immunisierung mit Schildkrötentuberkelbazillen, *Deutsch. med. Wchnschr.*, Feb. 2, 1905), in response to a criticism by Libbertz and Ruppel in the same number of the same journal. These authors had investigated Friedmann's culture and had concluded (1) that it was not absolutely harmless to warm-blooded animals; (2) that intravenous injections of Friedmann's culture did not in warm-blooded animals prevent a later infection with tuberculosis, and (3) that tuberculous immune bodies were not produced by its injection. Friedmann accuses these authors of unfairness since they were familiar with his work and saw his manuscripts, but withheld all comment until after publication. He denies all their conclusions and reiterates his own results.

From 1905, for seven years Friedmann's name does not appear in the *Index Medicus*, and no reference to any publication by him is found until 1912, when his well-known article appeared in the *Berliner klinische Wochenschrift*. From the statements made in this article and from the figures quoted it seems probable that the culture formerly employed and only meagerly described in the articles which I have abstracted is the same as the one Friedmann is now injecting, or that it is at least the basis for the present preparations.

O. H. PERRY PEPPER, M.D., Philadelphia.

---

## Inoculability of Cancer—A Question of Priority

*To the Editor:*—An interesting editorial note (The Limitations of Specificity in the Transmission of Disease, THE JOURNAL, March 1, p. 675), on the inoculability of cancer in different species of animals, gives the impression that those observations and experiments are only recent in time. In the good name of American science, I refer you to the Proceedings of the Academy of Natural Science, Philadelphia, May and June, 1851, in which the late Joseph Leidy repeats the results of his experiments on the inoculability of cancer. The experiments were conducted at the Academy of Science, and from the results obtained by introducing portions of (human) cancerous tissue into frogs, Leidy observed after a full description and demonstration before the academy, that "the experiments not only proved the independent vitality of tissues, which was generally admitted, but rendered it exceedingly probable that cancer was

inoculable, for as, in the experiments the cancerous fragments continued to live when introduced into cold-blooded animals, they would probably not only continue to live when introduced into warm-blooded animals but would grow or increase in size." These experiments were undertaken in connection with a series of others on the transplantation of animal tissues.

JOSEPH LEIDY, M.D., Philadelphia.

### Prophylactic Measures Against Typhoid in Flood Area First Taken by the Red Cross

*To the Editor:*—In your editorial, "President Wilson Rises to an Emergency" (THE JOURNAL, April 5, 1913, p. 1079), you mention the fact that the federal authorities sent a quantity of antityphoid serum into the flooded districts in Ohio. While this is true, the first actual prophylactic measures against typhoid were taken at the request of the Cincinnati Chapter of the Red Cross, of which I was the temporary medical director.

The serum was made in the laboratories of the Cincinnati Hospital by Prof. W. H. Wherry and his assistants, and was first administered at Miamisburg by Dr. W. Lucas, and at Hamilton by Major F. Hendley of the Ohio National Guard Hospital Corps. In all about 1,600 doses were sent out by this organization, with the necessary instructions as to the proper use and after-treatment, and with orders to make the needed clinical notes for future use.

HERBERT A. BROWN, M.D., Cincinnati.

### A Misleading Advertisement

*To the Editor:*—In various newspapers in this country there is now being published an advertisement which to the careless reader makes it appear that I approve of a certain proprietary preparation. To those who know me it is needless to say that this is without my knowledge or consent. I have placed the matter in the hands of my lawyer, and will see what can be done to stop it.

V. C. VAUGHAN, M.D., Ann Arbor, Mich.

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### HOW TO GIVE CASTOR OIL—LAXOL NOT APPROVED

*To the Editor:*—Enclosed is a circular on Laxol. 1. Would you advise me to use it? 2. If not, kindly give a method by which castor oil can be made less distasteful to children.

C. ULYSSES MOORE, M.D., Carthage, S. D.

ANSWER.—1. No. You do not know the composition of Laxol, nor do we. We have no means of knowing whether or not the claims made for it are truthful. In general, short catchy titles for well-known remedies are objectionable. In the case of Laxol, confusion with the poisonous Lysol has caused death (THE JOURNAL, Nov. 23, 1912, p. 1895).

2. Methods by which unpalatable remedies can be given with the least discomfort should be known to every physician.

Castor oil is disagreeable to some persons largely because of its oily character, to others because of the disagreeable taste peculiar to it. When the stomach rejects castor oil it is often because of the taste left in the mouth, or because of the psychic impression which attends the taking of the dose. The simplest method of taking castor oil is to take some steps to prevent the oil from coating the mouth and then to swallow it quickly. Simple methods for this purpose are as follows:

Prepare two warmed cups, one about half full and one about one-quarter full of a hot liquid, such as milk or coffee, and place the dose of oil on the surface of the smaller portion. Wet the mouth with the liquid from the half cup and then quickly drink all the contents of the other cup, finally drinking more from the first cup. Heating the mouth in this way prevents the oil from clinging to it except very slightly, and that little is promptly washed off. Care should be taken, of course, by sampling in advance, to see that the fluid is about as hot as can be drunk quickly and yet not hot enough to burn.

A more simple method can be used if it will suffice. Heat the oil and administer the dose in a tablespoon heated by being dipped in hot water. Then rinse the mouth with hot water, hot milk or other liquid.

There are more complicated methods, including the giving of castor oil in effervescent drinks at soda fountains, the oil floating between the foam and the watery liquid, or it may be prescribed in the form of an emulsion. Such an emulsion is official in the National Formulary as "Emulsum Olei Ricini." The composition of this preparation is as follows:

| | gm. or c.c. | | |
|---|---|---|---|
| ℞ Castor oil | 30 | | ʒ i |
| Acacia in fine powder | 8 | | ʒ ii |
| Tincture of vanilla | 2 | 50 | ♏ xl |
| Syrup (U. S. P.) | 20 | | ʒ vi |
| Water, a sufficient quantity to make | 100 | | ʒ iiiss |

The other source of unpalatableness is the disagreeable taste peculiar to castor oil. This is overcome by the use of saccharin (benzosulphinidum, U. S. P.), vanillin, aromatic oils, etc. The following formulas may be used:

| | gm. or c.c. | | |
|---|---|---|---|
| ℞ Compound tincture of cardamom | 8 | | ʒ ii |
| Cinnamon water | 20 | | ʒ vi |
| Castor oil | 30 | | ʒ i |
| Brandy | 0 | 30 | ♏ v |

Mix the first two ingredients in a glass, carefully add the oil and drop the brandy on the surface of the oil. This mixture is for immediate use.

Other formulas are:

| | gm. or c.c. | | |
|---|---|---|---|
| ℞ Saccharin | 0 | 06 | gr. i |
| Oil of cinnamon | 0 | 15 | ♏ ii |
| Vanillin | 0 | 13 | gr. ii |
| Alcohol | 4 | | ʒ i |
| Castor oil | 90 | | ʒ iii |

Dissolve the oil of cinnamon, saccharin and vanillin in the alcohol, add the castor oil and mix thoroughly.

| | gm. or c.c. | | |
|---|---|---|---|
| ℞ Castor oil | 30 | | ʒ i |
| Glycerin | 30 | | ʒ i |
| Peppermint oil | 0 | 15 | ♏ ii |

### TREATMENT FOR WHIPWORM

*To the Editor:*—Examination of feces for uncinaria ova has developed the fact that my patients are, many of them, heavily infested with *Trichuris trichiura* (whipworm) which, from the literature available, I had thought a rather rare and from a clinical standpoint unimportant parasite. From personal observation I am inclined to reject the theory of its unimportance. Could you publish formulas for anthelmintics to be used against this worm, also references to literature on the subject of intestinal parasitology?

H. C. BEVINS, M.D., Thomas, Ky.

ANSWER.—Recent investigations have shown that the pathogenic rôle of *Trichocephalus dispar* (whipworm) is more extensive than is represented in most text-books. It has been shown to cause enteritis, diarrhea, anemia, etc.

The treatment is said to be unsatisfactory, as the ordinary anthelmintics seem to have no effect. Thymol and male-fern are recommended. An emulsion of benzin may be given by enema, benzin 4:1,000 or 1 fluidram to a quart of water. A strong infusion of quassia has also been recommended.

The subject of intestinal parasites is too extensive to permit us to give an exhaustive list of references here. The following are recent publications on trichocephalus:


Wade, B. N.: A Case of Enteritis from Trichocephalus Dispar, THE JOURNAL, March 11, 1911, p. 743.

Code, A. and Garin, C.: Six Cases of Trichocephalus Dispar Enteritis, *Arch. mal. l'app. digestif*, June, 1910; abstr. in THE JOURNAL, Aug. 13, 1910, p. 628.

Sticherbak, A.: The Rôle of the Trichocephalus in Pathology, *Rev. de méd.*, August, 1910; abstr. in THE JOURNAL, Oct. 8, 1910, p. 1328.

Cecil and Bulkley: Lesions Produced in the Appendix by Oxyuris Vermicularis and Trichocephalus Trichiura, *Jour. Exper. Med.*, March, 1912.

Carletti, M. V.: Occult Blood in Stools with Trichocephalus, *Gazz. d. osp.*, April 24, 1910.

Gage, J. G.: Amebic Enteritis with Uncinaria, Trichocephalus and Trichomonads: Result of Treatment After Four Years, *New York Med. Jour.*, December, 1909.

Musgrave, W. E.: Trichocephaliasis, *Philippine Jour. Sci.*, December, 1908.

Stiles and Garrison: A Statistical Study of the Prevalence of Intestinal Worms in Man, *Hygienic Laboratory Bulletin* No. 28, U. S. Public Health Service.

### ARTICLES ON THE METHOD FOR PREPARING IODIZED CATGUT

*To the Editor:*—Please inform me as to the following:
1. What is the technic for preparing iodized catgut?
2. Will the catgut deteriorate if kept in the iodin solution?
3. Does boiling of plain catgut injure its consistency and strength?
W. S. N.

ANSWER.—1. Following is a list of articles describing the method for preparing iodized catgut:

Johnson, F. W.: I. K. I. Method of Sterilizing Catgut, *Boston Med. and Surg. Jour.*, Feb. 9, 1905; abstr., THE JOURNAL, Feb. 25, 1905, p. 657.
Nancrede, C. B.: Waldron, F. R., and Tenney, C. F.: *Jour. Mich. State Med. Soc.*, November, 1905; abstr., THE JOURNAL, Dec. 16, 1905, p. 1906.
Bartlett, W.: A Simplified Heat Method of Sterilizing and Storing Catgut, THE JOURNAL, April 21, 1906, p. 1168.
Queries and Minor Notes Department, THE JOURNAL, Oct. 16, 1909, p. 1312, and Sept. 1, 1906, p. 703.
Riddell, J. S.: Iodin Spirit Catgut, *Brit. Med. Jour.*, April 6, 1907.
Steward, F. J.: Formalin-Iodin Catgut, *Brit. Med. Jour.*, Oct. 2, 1909; abstr., THE JOURNAL, Oct. 30, 1909, p. 1516.

2. It is stated that catgut keeps indefinitely in the iodin solution.
3. Yes.

### "MAYR'S WONDERFUL STOMACH REMEDY"

*To the Editor:*—Please let me know the contents of "Mayr's Wonderful Stomach Remedy" manufactured by George H. Mayr, 154 Whiting Street, Chicago. Some of my patients have asked me about it. Some say it causes gall-stones to pass, etc.
T. E. T., Texas.

ANSWER.—"Mayr's Wonderful Stomach Remedy" closely resembles "Fruitola" in its general composition and workings. Both consist of bland oil and cathartic salts. Our chemists found "Fruitola" to be essentially olive oil and the well-known Seidlitz powders. Mayr's "wonderful remedy" proved to be essentially olive oil and Rochelle salts. Large doses of bland oil followed by salts cause the passage of greenish soapy concretions which the credulous are led to believe to be gall-stones.

For detailed reports of these frauds, see THE JOURNAL, Sept. 24, 1910, p. 1128; Aug. 9, 1911, p. 671; March 29, 1913, p. 1016; "Nostrums and Quackery" (second edition), pages 479 and 482. This material is also reprinted as a pamphlet (price 4 cents), entitled "Fake Gall-stone Cures."

### ARTICLES ON TRICHINOSIS

*To the Editor:*—Please give me a list of publications that have appeared on the subject of trichinosis.
M. M.

ANSWER.—Following is a list of articles on trichinosis which have appeared within the past two years. For further references we would suggest that our correspondent consult the Index to Current Medical Literature, published by the American Medical Association.

Trichinosis, Therapeutics Department, THE JOURNAL, Feb. 4, 1911, p. 348.
Danger of Trichinosis from Pork, correspondence, THE JOURNAL, March 4, 1911, p. 687.
Morgan, W. A.: Trichinosis Developing During the Puerperium, Bulletin of Lying-In Hospital, New York City, March, 1911.
Lamb, A. R.: Embryos of Trichinella Spiralis in Blood of Patients Suffering from Trichiniasis, *Am. Jour. Med. Sc.*, September, 1911.
Runkel, G. H.: An Epidemic of Trichinosis, *California State Jour. Med.*, July, 1912.

### OCCURRENCE OF THE RUSSO REACTION

*To the Editor:*—Please tell me in what diseases and conditions a positive Russo reaction occurs.
C. K.

ANSWER.—The test is given in measles, small-pox, chronic and suppurative tuberculosis and in typhoid. It is also positive in a considerable number of normal cases. The Russo reaction was described in THE JOURNAL, Aug. 10, 1912, p. 465.

### INFORMATION ON THE INTERNATIONAL MEDICAL CONGRESS

*To the Editor:*—Where can I learn about the International Medical Congress and who the American secretary is? You have touched on the matter in THE JOURNAL, but I paid no attention to it, as I did not know until very recently that I would be able to get away to go abroad this summer.
S. C., Denver.

ANSWER.—The International Medical Congress will meet in London, Aug. 6-12, 1913. The secretary of the American committee is Dr. A. R. Allen, 2013 Spruce Street, Philadelphia. On request he will send information as to the program, the method of registration, etc. THE JOURNAL, Feb. 3, 1912, p. 356, contained a statement from our London correspondent concerning the congress, and in THE JOURNAL, July 27, 1912, p. 285, there is additional information.

A group of American physicians is planning, in connection with this congress, to take a trip through Europe, as announced in THE JOURNAL, Jan. 4, 1913, p. 66. Dr. J. M. Anders, 1605 Walnut Street, Philadelphia, chairman of the newly organized American Society for Physicians' Study Travels, desires to hear from any who wish to join this party.

### LITERATURE ON INFECTIONS OF THE HAND

*To the Editor:*—Please refer me to literature on infections of the hand.
A. T. DOWNING, M.D., Littleton, N. H.

ANSWER.—A good book on infections of the hand is by Kanavel. In addition, the following articles may be consulted:

Pelirs, W. H.: Hand Infection Apparently due to Bacillus Fusiformis, *Jour. Infect. Dis.*, June, 1911.
Garner, H. B.: Surgery of Soft Tissues of the Hand, *Detroit Med. Jour.*, September, 1911.
Moorhead, S. W.: Treatment of Infections of Hands and Fingers with Special Reference to Tenosynovitis, *St. Louis Med. Rev.*, October, 1911.
Corner, E. M.: Cellulitis of Hand, *Practitioner*, London, February, 1912.
Hughes, B.: Treatment of Cellulitis with Special Reference to Hand and Arm, *Practitioner*, London, July, 1912.
Cramp, W. C.: New Retractive Drain in Treatment of Small Infected Wounds About the Hand, *Surg., Gynec. and Obst.*, October, 1912.

### ANTACID PROPERTIES OF INSOLUBLE BISMUTH SALTS

*To the Editor:*—I have seen it stated that insoluble bismuth salts act as antacids. Has actual trial been made to determine whether this would occur under conditions similar to those of the alimentary canal?
S. T.

ANSWER.—To answer this query a 50 c.c. portion of approximately 0.2 per cent. hydrochloric acid solution was mixed with 1 gm. of bismuth subcarbonate, and another with bismuth subnitrate. Both were shaken occasionally for an hour. Titration at the end of this time showed that the subcarbonate had neutralized about half of the acid, and the subnitrate only about one-tenth. The subcarbonate may therefore be considered a fair, though slowly acting, antacid, but the subnitrate has practically no effect on acidity.

### POSTGRADUATE STUDY ABROAD

Many physicians are asking from week to week for information regarding graduate study in the various medical centers of Europe. We discussed this subject at length April 8, 1911, in an article which has been of service to an immense number of physicians. During the subsequent period we have occasionally added information on the subject, and we now gather all this material in a new article. The portions referring to the various cities abroad have been prepared by THE JOURNAL'S representatives in those cities. The length of this article has caused us to omit about half of it from THE JOURNAL. The omitted portions include details as to cost of courses and of living and references to various additional sources of information. We reprint it in full in pamphlet form, a copy of which will be sent to any one on receipt of 10 cents.

We caution our readers that the space here devoted to the subject does not indicate that the opportunities for study abroad are always or even generally superior to those in this country. In gynecology and general surgery, for instance, we believe that the advantages afforded by American clinics are far less expensive than those abroad and more valuable as well. That, however, is another story. The present article is to aid those who have decided to go abroad.

Although some foreign teachers speak English fluently and even conduct classes in that language, it is not, as a rule, well to go to Vienna, Berlin, Düsseldorf or any other German-speaking center without a serviceable knowledge of German, or to Paris without an equally good knowledge of French. It is likewise important that before setting out the physician should have a clear idea of what he wishes to obtain and where he should go for it. As we have remarked before, unless he seeks merely the prestige of having studied abroad, what he brings back from foreign study is in direct proportion to what he took abroad with him.

Information in regard to the opportunities for postgraduate study in various parts of the world may be obtained from the Medical Inquiry Office at the Kaiserin Friedrich-Haus, Berlin NW 6, Luisenplatz 2-4. Further information is easily

obtained after a physician arrives at his destination, as there are information bureaus in the different cities. A list of members of the Continental Anglo-American Medical Society may be obtained from the honorary secretary and treasurer, Dr. Robert Turner, 42 Rue de Villejust, Paris. This society was organized to serve as a bond of union between British and American practitioners established on the Continent and in Northern Africa, and will afford an opportunity to meet English-speaking confrères. A reference book and guide which physicians intending to go abroad, particularly to Germany, will find useful to consult is J. H. Honan's "Handbook to Medical Europe," published by P. Blakiston's Son & Co., price $1.50.

Some of the smaller university cities abroad offer excellent opportunities for laboratory work, but for clinical instruction, which is what the American physician going abroad for postgraduate work usually desires, the best opportunities are found in the larger medical centers, and Vienna, Munich, Berlin, Paris and London are the cities usually selected. Vienna in particular has long provided exceptionally well-arranged facilities for brief postgraduate courses, some in English, and many arranged with special reference to the needs of American visitors.

### London

Postgraduate teaching in London has one fundamental difficulty. The enormous wealth of clinical material is scattered and divided among a large number of independent medical schools and hospitals. There are twelve large general hospitals which are also medical schools with a complete staff of lecturers, at which the whole medical curriculum is provided for medical students. There are also about the same number of general hospitals which have not a medical school for students attached to them, and a great number of special hospitals—seven for diseases of the chest, eight for children, eight for women, five for diseases of the eye, five for diseases of the ear, nose and throat, two for diseases of the rectum, one orthopedic, three for nervous diseases, four for diseases of the skin and one for venereal diseases. To the system of maintenance by voluntary subscriptions is due the multiplication of institutions independently doing the same work. The centralization due to government control, which exists on the Continent, is wanting. Excepting the National Hospital for the Paralyzed and Epileptic, Queen Square, Bloomsbury, W. C., which may be described as the home of British neurology, and the Royal London Ophthalmic Hospital (formerly Moorfield's Eye Hospital), City Road, E. C., there are no institutions which stand out preeminently as the national center for the teaching of some particular subject; the honor is divided among a number.

Until recently all the systematic teaching provided in London was for medical undergraduate students. Physicians from home or abroad wishing to improve their knowledge simply attended the hospitals in an informal manner, perhaps bringing a letter of introduction to some distinguished teacher. In 1898 the London Post-Graduate Association was founded with the object of encouraging postgraduate study by organizing courses at some of the hospitals. Cards are issued to physicians (British, colonial and foreign) which admit them to clinical instruction in the wards and outpatient rooms and to attendance at operations and necropsies. They do not entitle the holders to attendance at certain tutorial classes or to certificates of attendance for the purpose of any examination.

The academic year is divided into three sessions of three months each: from January to March, May to July, and October to December. The cards are issued at the following rates: valid for three months, $50; for six months, $75; for any longer period at a further rate of $45 for each additional six months. Holders of cards may obtain extension of their original term by paying the difference at any time before the original term has expired. The cards are issued on personal application between the hours of 10:30 and 1 (except Saturday) at the office of the association, 20 Hanover Square, London, W. Evidence of qualification will be required.

A general time-table of the arrangements at the different hospitals and schools is furnished with the cards. A list of operations, clinical lectures and other arrangements can be had daily at the secretary's office. The arrangements offer the graduate student a large selection of teaching. On every one of the six days of the week he has the choice of a dozen clinics in medicine at Charing Cross, Guy's, King's College, St. George's, St. Mary's, St. Thomas', University College and the Westminster Hospital. In addition he has a selection from clinics devoted to such special subjects as tropical medicine, electricity, Roentgen rays, physical exercises and vaccine treatment. In surgery and also in diseases of women, of children, and of the eye he has a similar daily choice. In diseases of the ear, nose and throat and of the nervous system he has daily choice of three or four clinics. As some clinics begin in the morning and others in the afternoon two can be attended on one day. The ticket also admits to the Polyclinic. There are three clinics each week devoted to the genito-urinary system, and a number of clinical lectures and demonstrations. In connection with the course there are also special postgraduate classes on physiologic psychology, psychiatry, anatomy and physiology of the nervous system, clinical neurology, neuropathology, anesthetics, clinical examination and other subjects for which special fees are charged.

### Paris

Paris is said to excel in dermatologic, neurologic and genito-urinary work. For work in bacteriology it offers the unequaled facilities of the Institut Pasteur.

#### *Access to Hospitals and Clinics*

In Paris there is no special official organization for medical postgraduate instruction, but any physician, foreign as well as French, may, without the payment of any fee, follow any theoretical course given in the Faculté de médecine or any of the clinical courses held in the hospitals or clinics. Information in regard to courses at the Faculté de médecine is given in notices posted at the entrance; or one may apply at the office of the secretary, which is open daily from 12 till 3. The physician should first introduce himself at the offices of the Assistance Publique, 3 Avenue Victoria. He will receive gratuitously a *carte d'entrée des hôpitaux*, which carries a formal request to the various directors of hospitals, etc., to assist the visitor with information and facilities; it also contains a list of all the hospitals under the jurisdiction of the Assistance Publique. In order to be admitted to the clinical lectures, ward visits and examination of patients, the physician has only to present his card to the concierge of the hospital and to ask by name for the physician or surgeon whom he wishes to see.

#### *Various Centers of Instruction*

A physician who desires to take a practical course and to have the privilege of the library of the Faculté de médecine pays a matriculation fee of about $6 (30 francs), and in addition a fee for each practical course taken up, which is on the average about $10 (50 francs).

In various hospitals, clinics and laboratories there are *cours de perfectionnement* organized at various times of the year, especially during vacation. These are announced by placards posted in the buildings of the Faculté de médecine and the various hospitals and by notices in the medical journals. The fees are variable, but rarely exceed $10 or $20. Two complete courses in dermatology and venereal diseases of a hundred lessons each (two lessons each day) are given at the hôpital Saint-Louis, the first in May, June and July, the second in October, November and December. The fee is $30 (150 francs). These courses cover particularly diagnosis and treatment. At all demonstrations are presented patients, moulages from the hôpital Saint-Louis museum, and microbiologic and histologic specimens. Different therapeutic methods are applied in the presence of the students.

#### *Information Bureau, Etc.*

A free information bureau for physicians and others, officially known as the Bureau de Renseignements Scientifiques, is maintained at the Sorbonne. It is open all the year round from 10 to 12 and from 2 to 5, with attendants able to speak German, English, Russian and Spanish, and catalogued information of all subjects of interest to persons intending to pursue scientific study.

### Berlin

Medical courses at Berlin are divided into: (1) the regular university courses, which are intended for the undergraduate students; (2) vacation courses given by the university instructors during March and October, and (3) monthly courses by private instructors, which are given the year round. These are mostly policlinic or dispensary courses and correspond closely to the instruction given in graduate schools in the United States.

Regular student courses at the University of Berlin are often designed more for undergraduate than for postgraduate work. An occasional visit to these courses is welcomed without formality. To attend regularly one must sometimes matriculate. The university work is divided into a winter and a summer semester, the winter semester lasting from

October 15 to March 15 and the summer semester from April 15 to August 15. The time for matriculation is comprised in the two weeks preceding the opening of the semester and the first two weeks of the semester. The matriculation fee is 18 marks; diploma and passport must be shown. Vacation courses are given twice a year (March and October) during the university holidays. These courses are for graduates in medicine and can be highly recommended, but are sometimes overcrowded. Most of these courses begin on the first day or during the first week of the month and last for four weeks. Assistantships or so-called "voluntary" assistantships are often obtainable in outpatient departments and inside the hospitals. The requirements of such positions may best be obtained from the older men in the Anglo-American Medical Association or members of its orientation committee.

*Anglo-American Medical Association*

The Anglo-American Medical Association of Berlin was formed to promote the interests of British and American physicians studying in that city. The headquarters of the association are at the Hotel Atlas, Friedrichstrasse 105, where an information clerk is in attendance from 9 to 10 a. m. The membership fee is 10 marks (about $2.50) a year. The yearbook of the association will be sent by the secretary on receipt of 5 cents in foreign exchange stamp coupons. It contains courses most frequently attended by Americans, but does not pretend to be a complete list of all courses given in Berlin.

It is imperative that American citizens bring with them passports. They must register in the consulate when arriving in Berlin. If possible it is best to reach Berlin about the twentieth of the month. According to information furnished by the Anglo-American Medical Association, at least one week should be spent in personal examination of the opportunities for study and in getting settled before beginning work.

VIENNA

Vienna presents many advantages from the medical student's point of view, one of which is the great amount and variety of the clinical material, since patients come to Vienna from territory within a large radius. Another advantage is the centralization of facilities for instruction, which makes it possible for the student to economize his time.

*Hospitals and Clinics*

There are ten large public hospitals, the chief of which, the Allgemeines Krankenhaus, comprises three clinics each of surgery and medicine, two clinics each for gynecology, dermatology and syphilis, ophthalmology, mental and nervous diseases, and one each for otology, rhinolaryngology and pediatrics. The majority of the teachers not only speak English fluently but give lectures in English in special classes. Within the last few years a magnificent new hospital has been erected a few hundred feet away from the old Allgemeines Krankenhaus, which is to be pulled down. It contains only clinical wards for clinical teaching by ordinary professors. It is lavishly equipped in the most modern and scientific manner and will, when finished, contain 2,600 beds. At present the clinics for gynecology, obstetrics, rhinolaryngology, internal diseases and pediatrics are located there. Besides this general hospital there are the Wiedner Hospital, the Rudolph Hospital and the Poliklinik, connected with the medical department of the university, in which clinical lectures are given also by professors during the semesters, and some smaller hospitals in which specialist classes and practical work may be obtained. The winter semester lasts from October till March 31, the summer semester from May 15 to July 15. The fees for clinical semester lectures are low, about $6 being the maximum, while special lectures are more expensive. A good opportunity for anatomic and dissecting work is offered in the Anatomisches Institut, and for pathologic anatomy and bacteriology in the Pathologisch-Anatomisches Institut. In these official institutes the fees for working and material come to something like $10 to $15 per term of eight weeks. There is also a well-equipped institute for the study of physiology, and one for histology of the nerves. A modern institute for experimental pathology and therapeutic research was opened three years ago. All the institutions mentioned above are in the same quarter or district of Vienna, called Alsergrund, and are conveniently near each other.

Those who wish to spend considerable time in the wards do not find it difficult to obtain the position of *Hospitant* in the wards, where they have the same rights as ordinary hospital officers, but not their duties; they, of course, receive no pay.

Special mention must be made of the dietetic kitchen in the wards of von Noorden's clinic in the new hospital. This is one of the few places in the world where the special requirements of the diet for disturbances of metabolism, its preparing, its calorie value and its contra-indications can be learned by the students in the kitchen itself. Thirty beds are supplied from this kitchen with special kinds of food, as required by the individual cases. Foreign physicians are admitted to the clinic as soon as there is any vacant place.

Those men who desire to get more work in a specialty (eye, ear, nose, throat, urology) have the opportunity of obtaining "working places" in one of the numerous ambulatories of the Krankenkassen or sick clubs, or in the Mariahilfer Ambulatorium or Poliklinik. The "working-place" of Hajek's department (nose and throat) is well known, as are those also in the department of Znekerkandl (urology), and in Alexander's ear department. It is advisable to obtain information as to vacant places, for there are generally several applicants awaiting their turn. These places cost on an average about $20 a month.

*Centers of Information*

The American Medical Association of Vienna, Schlösselgasse 28, Vienna VIII, will be glad to assist any newcomer and to give information on study or other subjects. An orientation committee for such purposes is one of the features of the American Medical Association of Vienna.

A bureau of information for medical courses is maintained in the Allgemeines Krankenhaus, First Court, head offices (Direktion), first floor, room 14, where information can be obtained on personal or written application.

LITERATURE ON STUDY ABROAD AND AIDS ON FOREIGN LANGUAGE

Those who intend to study on the Continent will find it extremely valuable to have command of French or German, according as they mean to go to France or to Germany or Austria. While a working knowledge of a foreign language cannot be obtained without practice in speaking and hearing it, the following manuals may be recommended to those who wish to strengthen the medical side of their vocabularies: The "Medical Vademecum in English and German" by B. Lewis, 1910, sold by P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, for $5, is an ideal means of obtaining a working knowledge of German without the necessity for a dictionary: the postgraduate lectures and talks are given in English and in German on opposite pages. Special attention is given to the conversations needed in conducting the examination of a patient in various pathologic conditions. The sixty lectures are on various subjects and are authentic clinical lectures. "Self-Taught French" by F. Thimm, and similar pamphlets for German, Spanish and Italian, are published by Dick & Fitzgerald, 18 Ann Street, New York, price 25 cents, and are useful for general conversation. "Medical German," by Deutsch, price $1.75, contains conversations with patients in German and English. A volume of German-English medical dialogues, with dictionary and grammar, by Robert Lewin, is published by Dr. Werner Klinkhardt, Leipsic. P. Blaschke's English-German "Medizinisches Konversationsbuch," published by the Verlag von Walther Rothschild, Berlin, is sold in this country for $1.20. Another work of this kind, "Englisch für Mediziner," about the same price, is published by the Verlag von J. A. Barth, Leipsic. "Terminologia Medica Polyglotta," by Theodore Maxwell (London, J. and A. Churchill, price $3), gives synonyms in seven languages. Foster's Medical Dictionary, in eight volumes, published by D. Appleton & Co., New York, price $10, gives medical terms in English, French, German, Latin and Greek. The National Medical Dictionary, in two volumes, edited by Dr. J. S. Billings, published by Lea & Febiger, Philadelphia, 1890, price $14, includes English, French, German, Italian and Latin medical terms in a single alphabetical arrangement.

Following is a list of articles and letters which should prove of interest.

Hall, J. N.: Postgraduate Work in Vienna, THE JOURNAL, Dec. 7, 1907, p. 1932.
Osler, William: Vienna After Thirty-Four Years, THE JOURNAL, May 9, 1908, p. 1523; Impressions of Paris, THE JOURNAL, Feb. 27, 1909, p. 701; March 6, 1909, p. 771.
Davis, A. Edward: Postgraduate Medical Instruction in Vienna, *Jour. Ophth. and Oto-Laryngol.*, April, 1909, p. 127.
Mannheimer, G.: Postgraduate Study in Europe, *Med. Rec.*, May 8, 1909.
Dewey, Richard: Psychiatry in Munich, THE JOURNAL, Jan. 1, 1910, p. 65.
Macy, Mary S.: Postgraduate Medical Work for Women in Europe, *Woman's Med. Jour.*, March, 1910, p. 59.
Kast, L.: The International Committee for Postgraduate Medical Education, *Post-Graduate*, June, 1910, p. 632.
Slocum, George: The American Medical Student in Vienna, *Phys. and Surg.*, July, 1910, p. 262.
Richardson, F. H.: Postgraduate Study of Pediatrics in Vienna, THE JOURNAL, Oct. 8, 1910, p. 1303.

Kutner, R.: Postgraduate Medical Instruction, Its Present Status and Future Objects, *Post-Graduate*, March, 1910.
McMorrow, F.: Postgraduate Work for Americans at Budapest, THE JOURNAL, July 29, 1911, p. 407; Postgraduate Work in Vienna and Budapest, *New York Med. Jour.*, March 30, 1912.
Paling, Albert: A Long Vacation, *West Canada Med. Jour.*, November, 1911.
Leavitt, F.: Rambles Through Hospitals Abroad, *St. Paul Med. Jour.*, October, 1911.
Cole, G. L.: European Observations, *South California Pract.*, February, 1912.
Beck, Carl: Surgery of To-Day in Germany, Austria and France, *Surg., Gynec. and Obst.*, March, 1912.
Else, Earl: Vienna as a Clinical Center, *Northwest Med.*, February, 1913, p. 44.
Stillson, J. O.: Some of the Clinics of Europe, *Jour. Indiana State Med. Assn.*, February, 1913, p. 60. This article contains a calendar of clinics in London, and gives the prices for attendance at some of the courses.

# *Medical Economics*

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

## MEDICOLEGAL RELATIONS OF PHYSICIAN AND PATIENT

A physician cannot attend a patient and at the same time evade any legal responsibility thereby entailed. Taking this as his text, Dr. W. C. Woodward (*The Surgical Clinics of J. B. Murphy*, February, 1913), sets forth the medicolegal relations of physician and patient. He says that a physician may evade the responsibilities of general practice. He may decline to take a case of obstetrics or may limit his work to surgery and decline to take medical cases, but when he does attend a patient he cannot evade the legal responsibility incident to such attendance. The relations of physician and patient are not to any large extent determined by statutes, but by the common law as interpreted in a long line of court decisions. A physician may refuse to treat any person, and even though the person be injured by such refusal, he incurs no legal liability, although it may be morally and ethically his duty to attend such person. His only punishment would be public censure and the pangs of his own conscience.

An infant or lunatic, a prisoner, or men in the Army and Navy are served by officially appointed physicians with or without their consent, or a person who becomes unconscious in the street may be attended by a physician without his consent. Aside from these few instances, the relationship between patient and physician is a voluntary and contractual one. In the case of a dispensary patient or a person treated by a corporation doctor, the absence of any direct contractual relation would not absolve the physician from responsibility. The contract may be written or oral, expressed in words, or implied from circumstances. In regard to the latter the law as interpreted by the courts would decide whether or not there was a contract. The quack who gives a written contract that no money will be demanded if a cure is not made usually has some clause in the contract which serves as a loop hole through which he may escape liability. A physician can lawfully contract with his patient to cure him or make no charge, but this form of contract is subject to limitations. He cannot lawfully contract to do an unlawful act such as to commit a murder, do a criminal abortion or unduly influence a person making a will. Nor can he by express agreement relieve himself from liability for damages on account of lack of ordinary knowledge or skill.

A physician engaged to attend a patient continues as long as the patient needs attention. If he desires to quit, he must give the patient definite notice and must then continue until another physician can be obtained or until the attendance is terminated by request or permission of the patient. Death or recovery will, of course, terminate a physician's obligation in this respect. In cases in which recovery is impossible but the patient continues to live for a long time and the physician's services are of no particular medical value, the obligation of the patient to pay the physician for continued services must be fixed by an express agreement, but if continued attendance is desired the physician has a right to collect his fees. A contract between physician and patient implies mutual obligations. The patient must give the physician a fair history of the case. He must submit to any reasonable examination and must follow all necessary instructions, and he must pay a proper fee. The physician must treat the patient with due diligence and with ordinary knowledge and skill and use his best possible judgment in his conduct of the case. If the patient does not comply with a reasonable request for an examination, the patient alone is responsible for the consequences. This applies also to following the physician's instructions.

Ordinary knowledge and skill on the part of a physician are measured by the knowledge and skill of physicians at the same time in the same or similar localities. The physician need not, however, be as learned as the best physician in his community, but he cannot be as incompetent as the poorest. So long as he keeps at or above the average, he cannot be called on to respond in damages even though he may not cure the patient or may even do actual injury.

Examination requires consent on the part of the patient or of some one authorized to give consent for him. Such consent may be expressed or implied. If a patient does any act such as removing clothing at the request of the physician, consent to the examination is implied. The same is true of operations. In operations, however, the extent of the physician's rights must be understood more clearly. The physician can lawfully do only so much as has been agreed on, and full authority to use discretion as a surgeon should be obtained before the patient goes under the anesthetic. A physician employed to treat a patient for any injury or disease has no right to disclose any information to any corporation or to any party who is liable to be sued by the patient because of such injury or disease, unless the patient consents to such a disclosure. Whether a physician may be required to make such a disclosure in a court will be determined by the statutes and decisions in any particular jurisdiction. A physician, however, who is employed by a person or corporation liable to be sued, for the sole purpose of making an examination of the patient, may report to the person or corporation who employed him what the result of the examination was.

## THE FEE-SPLITTING EVIL

The step which the American Medical Association is now taking in investigating the fee-splitting evil in the medical profession has been undertaken none too soon. This practice is the great corrupting element in the profession to-day; those practicing it have in many instances become little better than the newspaper advertising fakers, with their brokers out in the field dragging up the business for them. As it now is, the physician in the rural district or small town, practicing this custom, uses the commercial method of shipping to the highest bidder. The surgeon who is a true man of Christian character and with the highest type of surgical skill, who does not divide a fee, is forced to compete with many an unscrupulous surgeon, who may possess but very ordinary ability; but because he pays a liberal commission he gets the work, and what is still worse is doing a mutilating operation on healthy tissues, which I believe is not such a rare occurrence, and also that the percentage of patients sent to a surgeon who does not split a fee is small. I regard the man who sends the patient to a surgeon and accepts a part of the fee as a commission as more dishonorable than the surgeon, since the latter feels almost forced to do so. I have been much amused by hearing men who do the fee-splitting attempt to defend their course by explaining to our state society or other medical societies, that they always have it understood with the patient that they gave a part of the fee to the local physician. The shrewd fee-splitter does not try to explain it, as he knows there is too little truth in the above to be believed.—C. W. R., in the *Journal of the Kansas Medical Society.*

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

FLORIDA: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

GEORGIA: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

ILLINOIS: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

LOUISIANA: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee.

NEW MEXICO: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.

WEST VIRGINIA: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

## Kansas October Report

Dr. H. A. Dykes, secretary of the Kansas State Board of Medical Registration and Examination, reports the written examination held at Topeka, Oct. 15, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 12, of whom 11 passed and 1 failed. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| University of Colorado | (1912) | 75 |
| Rush Medical College | (1912) | 78, 82 |
| College of Physicians and Surgeons, Chicago | (1912) | 78 |
| Northwestern University Medical School | (1905) | 76 |
| Kansas City Hahnemann Medical College | (1912) | 77 |
| University Medical College, Kansas City | (1912) | 76, 80, 86 |
| Jefferson Medical College | (1912) | 76 |
| Woman's Medical College of Pennsylvania | (1910) | 91.5 |
| FAILED | | |
| Ensworth Medical College, St. Joseph | (1909) | 51 |

## Ohio October Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meeting held Oct. 1, 1912, twenty-two candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| College of P. and S., Chicago | (1910) | Illinois |
| Rush Medical College | (1911, 2) | Illinois |
| University of Louisville (1884) Indiana; (1910) West Virginia; (1911) Kentucky. | | |
| University of Maryland | (1899) | W. Virginia |
| Univ. of Mich., Dept of Med. and Surg. | (1911) (1912, 3) | Michigan |
| University of Michigan, Homeopathic College | (1912) | Michigan |
| Michigan College of Medicine | (1883) | Michigan |
| Long Island College Hospital (1894) Vermont; (1910) | | New York |
| Cornell University Medical College | (1910) | New York |
| Eclectic Medical Institute, Cincinnati (1871) Indiana; (1912) Arkansas. | | |
| Medical College of Ohio | (1906) | Kentucky |
| Medico-Chirurgical College of Philadelphia | (1906) | New York |
| Western Pennsylvania Medical College | (1899) | Penn. |
| University College of Medicine, Richmond | (1899) | W. Virginia |

## New Mexico January Report

Dr. W. E. Kaser, secretary of the New Mexico Board of Health and Medical Examiners, reports that at the meeting held at Santa Fe, Jan. 13-14, 1913, eleven candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

| College. | Year of Graduation. | |
|---|---|---|
| University of Colorado | (1903) | (1912) |
| Chicago College of Medicine and Surgery | (1908) | |
| Kentucky School of Medicine | (1901) | |
| Baltimore Medical College | (1897) | (1898) |
| University Medical College, Kansas City | (1902) | |
| St. Louis University | (1905) | |
| Washington University, St. Louis | (1907) | |
| University of Pennsylvania | (1898) | |
| Vanderbilt University | (1901) | |

## Ohio January Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meeting held Jan. 7, 1913, twenty candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Northwestern University Medical School | (1911) | Illinois |
| Illinois Medical College | (1902) | W. Virginia |
| University of Louisville | (1908) | W. Virginia |
| University of Maryland | (1902) | Maryland |
| Baltimore Medical College | (1910) | Maryland |
| College of Physicians and Surgeons, Baltimore (1896) Pennsylvania; (1911) Maryland. | | |
| Detroit College of Medicine | (1908) | Michigan |
| Univ. of Mich., Dept. of Med. and Surg. | (1911) (1912) | Michigan |
| University of Michigan, Homeopathic College | (1911) | Michigan |
| St. Louis College of P. and S. | (1895) | Missouri |
| Jefferson Medical College (1874) Kansas; (1908) New York; (1910) West Virginia; (1906) (1911) Pennsylvania. | | |
| Western Pennsylvania Medical College | (1908) | Penn. |
| University of Pennsylvania | (1912) | Penn. |
| University of Pittsburgh | (1911) | Penn. |

# Book Notices

PSYCHANALYSIS. Its Theories and Practical Application. By A. A. Brill, Ph.B., M.D., Chief of the Neurological Department of the Bronx Hospital and Dispensary. Cloth. Price, $3 net. Pp. 337. Philadelphia: W. B. Saunders Company, 1912.

To be able to write a book on psychanalysis, one must not only have studied and understood Freud, but must also have had personal experience with the method. The author has complied with these requirements. He has read and comprehended Freud, or he would have been unable to furnish translations of Freud's books. In the preface Dr. Brill tells us many things about himself, from all of which we learn that he has also practiced psychanalysis. The entire subject is covered in twelve chapters on the following topics: the psychoneuroses, dreams, the actual neuroses, the compulsion neuroses (obsessions, doubts, phobias), psychanalysis and the psychoses, psychologic mechanisms of paranoia, psychopathology of everyday life, hysteric fancies and dreamy states, the Oedipus complex, the only or favorite child in adult life, anal eroticism and character, and Freud's theory of wit. The substance of several of these chapters has already appeared in neurologic journals, but found an appropriate place in this volume. In previous reviews of Freudian books, the English translations of which had been made too literal by Dr. Brill, we excused this on the ground of the pupil showing great deference to his master. Now that the author is writing in his own name, we are under the painful necessity of remonstrating with him for not always utilizing idiomatic English. Aside from this criticism, the book is a credit to its author. Not only has he given us a splendid summary of Freud's writings which are scattered in many volumes and journals, but he has also contributed important observations of his own. Of the chapters showing much originality in thought we may favorably mention especially those on the psychopathology of everyday life, and the only or favorite child in adult life, the latter of which may even be considered brilliant. A feature for which the author is to be especially commended is the addition of a short bibliography at the end of each chapter. In conclusion, we believe this book to be the best one-volume exposition of Freudian doctrine that has been written for the non-specialist.

THE CAREER OF DR. WEAVER. By Mrs. Henry Backus. Cloth. Price, $1.25 net. Pp. 379 with illustrations. Boston: L. C. Page & Co., 1913.

This is not a problem or love story; it is a real medical novel. Of course there is a love story running through it; there has to be. But the love story is incidental and subordinate. So also civic politics, graft and the reform movement are brought in. But primarily it is about medical men and medical affairs. The Dr. Weaver of the title-rôle—the villain of the story—is a popular and successful surgeon. His villany is not of the ordinary kind; it is the kind that results from an attempt on the

part of one who has gradually lost regard for the principles underlying medical ethics and practice to gratify personal and professional ambitions. Dr. Weaver has a free, public clinic which he uses to feed a private hospital. His practice (a specialty) is kept up by toadying to the rich, by fee-splitting, by advertising through sending to physicians reprints of medical articles his assistants have worked up, etc.

Dr. Jim, a younger brother, is the hero. He started practice in his native town, but against his better judgment was persuaded by his brother to come to the city and act as assistant. Dr. Jim does not like some of his brother's methods, does not hesitate to tell him so, and considers leaving. Nevertheless, he recognizes the awakening of his brother's conscience, and, when ruin threatens his brother, springs to the defense and skilfully averts disaster. It is the younger brother who represents the honorable, the ethical, the progressive physician. He is emphatic in his advocacy of the doctor going into politics, believing that the physician can do more good than any other individual in this way. Not the least pleasing part of the book is a chapter in which is given the reason why we should have a national Department of Health.

The book shows such a knowledge of medical affairs that the reader might suppose the author were a physician or a physician's wife, but she is not. The wife of a Cincinnati lawyer, the mother of three children, and a woman decidedly domestic in her tastes, she is the antithesis of a militant suffragette. She has literary ability also, for, while this is her first appearance as a novel-writer, there is little of the rawness so often found in the first venture.

Some physicians may think it unfortunate to have such a frank exposure of some of the evils which are afflicting the medical profession, but others will approve, feeling that the remedy for these evils can come only through publicity—not only to the profession but also to the public at large. On the whole, the book is fair, and physicians will read it with both pleasure and profit.

THE PROTEIN ELEMENT IN NUTRITION. By Major D. McCay, M.B., B.Ch., M.R.C.P., Professor of Physiology, Medical College, Calcutta. International Medical Monographs. Cloth. Price, $3 net. Pp. 216, with illustrations. New York: Longmans, Green & Co., 1912.

The author's object is to disprove Chittenden's contention that good health and efficiency can be maintained on a low protein diet. The evidence in disproof is derived from a careful study of diets in India and of the people there. The analyses of dietaries of various tribes and sects in India are given and discussed. The physical character of these people is also described and to some extent illustrated by pictures.

The first chapters make an excellent summary of the physiology of protein digestion, assimilation and elimination. Numerous and interesting original studies of protein assimilation and elimination of groups of natives of India are described in detail. The Bengali live constantly on a diet which is almost exactly that advocated by Chittenden. Most of the other inhabitants of India live on a more generous diet, especially one richer in protein. The author points out that the Bengali are physically a small, feeble race, lacking in muscular strength, nervous stamina and resistance to disease. In a word, physically they are inferior. McCay ascribes this to the lack of protein in their food, and minimizes the many other conditions which may help to produce these results. For instance, the Bengali begin to bear children in their teens. The average weight of the babies is a little over 5 pounds at birth. The mother's milk is small in quantity, and of inferior quality. When the infants are fed other things they are most injudiciously fed. These facts are brought out by the author, but little emphasis is placed on this bad start in life.

The old plea is made that, because 100 gm. or more of protein daily are demanded by all persons who can get it, this amount is necessary. Many new evidences of this and larger demands are pointed out by the author and the details of this information are most interesting. The author criticizes Chittenden's work for the inaccuracy of his methods, for suspected inaccuracy in collecting specimens from the men on whom he experimented, and dishonesty on the part of the men; that is, he suspected that they did not live on the prescribed diet alone. Those who know Chittenden, however, do not doubt the accuracy and honesty of his facts. Without being convinced that Chittenden is fully correct, we do not feel that the author of this book has proved his point. It is undoubtedly true that the Bengali are feeble, accomplish little work, live shorter lives, are more susceptible to diseases and succumb more easily than other natives of India, and the natives of other countries who have a more generous protein diet; but we are not convinced that all this is due only or chiefly to the diminished quantity of protein in their daily dietary. McCay believes that a low protein diet increases a person's susceptibility to diseases, but offers little evidence except the susceptibility of the Bengali to disease and the high mortality among them which certainly cannot justly be ascribed to diet alone.

We can commend this book to all students of dietetics because of the large amount of new information which is brought together in it, especially the studies of protein utilization by different races and groups of people in India and the analyses of their foods.

INTERNAL MEDICINE. By David Bovaird, Jr., A.B., M.D., Assistant Professor of Clinical Medicine in the College of Physicians and Surgeons of Columbia University. Cloth. Price, $5. Pp. 618, with 116 illustrations. Philadelphia: J. B. Lippincott Company, 1912.

Treatises on internal medicine or the practice of medicine can be placed in three categories; the first is an encyclopedic compilation as full and complete as the author can make; the second is more or less complete but contains the experience of a great clinician; the third is written for the writer's students. Our author frankly says in his preface that some treatises he finds "too long, too rich in information for those entering on the study of medicine." He has therefore made a book between such as are brief categories of facts and those that are complete and encyclopedic. While we do not recognize the need of such a book, and while a practitioner cannot get from this book all the information he will want on the subjects treated, the writer has accomplished fairly well what he set out to do.

Treatment is described in a superficial way. For instance, what is said of the treatment of diabetes would remind one who knows the subject well of many points to be observed, but certainly would not lead a recent graduate to do all that he should for a patient. The treatment of chronic parenchymatous nephritis is described in thirteen lines, and the dietetic treatment of interstitial nephritis in five. Under the heading of chronic polyarthritis the author places cases of arthritis "for which no satisfactory explanation can at present be given." This includes what is generally called arthritis deformans. The author places beriberi among the infections, though he admits that no infective agent is known to produce it, and he ignores all the proofs which have been demonstrated by many observers that it is due to a fault in the food-supply, to the removal of some imperfectly known substance from rice and wheat by milling processes. The disease has been produced experimentally, and both animals and men having it have been cured by feeding them the necessary material contained in the whole grain. The literature of this subject has become large in the last five or six years and should not have been ignored. The book is well written and fairly accurate. It is also well illustrated. It can be criticized, however, because it is not sufficiently complete.

PRINCIPLES OF ECONOMIC ZOOLOGY. Part 1—Field and Laboratory Guide. By L. S. Daugherty, M.S., Ph.D., Professor of Zoology, State Normal School, Kirksville, Mo., and M. C. Daugherty. Cloth. Price, $1.25 net. Pp. 276. Philadelphia. W. B. Saunders Company, 1912.

This book is a guide for field and laboratory study of (not about) the animal, and will be appreciated by those who are interested in the subject. It consists of questions and outlines carrying out the idea that the only right method for scientific training is based on observation and deduction from that observation, to be verified later by study of the text. The seasonal arrangement is helpful, and the abundance of material gives opportunity for variety of work and for exercise of individuality on the part of teacher or student.

ABHANDLUNGEN AUS DEM GEBIETE DER GEBURTSHILFE UND GYNAEKOLOGIE. Mitteilungen aus der zweiten Frauenklinik der königl. ung. Universität zu Budapest. Herausgegeben von W. Tauffer, Direktor der Klinik. Vol. II, Part I. Price, 4 marks. Paper. Pp. 199. Berlin: S. Karger, 1912.

The high character of the scientific work in Tauffer's clinic which was revealed in the first volume is maintained in the first part of the second volume. Frigyesi, in "Klinik der Placenta praevia," analyzes exhaustively the 110 cases which have occurred in the clinic during the last twelve years since it has occupied the present large buildings. He emphasizes, for both prognosis and treatment, the importance of determining the grade of the praevia. He urges the danger of the tamponade, to which he prefers colpeurysis. In partial placenta praevia with good pains he prefers rupture of the membranes. If this is ineffectual, and in cases of total praevia, he advises intra-amnial hysteurysis in clinics, and combined version with tamponade with the child's body in general practice. The Momburg compression should be ready for the third stage in all cases, and in women who have lost much blood it should be applied immediately after birth. The Duehrssen tamponade should be applied early.

Mansfeld in a short paper, "Schwangerschaft und Pyelitiden und ihre Behandlung," describes twenty-six cases, and concludes in regard to treatment that during pregnancy retention in the renal pelvis should be overcome, while during labor and the puerperium the treatment should be as expectant as possible.

Scipiades in "Die Vorbereitung der Bauchwand zu gynäkologischen Laparotomien" advocates the acetone-alcohol-iodin preparation in preference to the Fuerbringer method.

Frigyesi describes "Die Anwendung der Momburgschen Blutleere in der Geburtshülfe," which has been employed in the obstetric clinic in twenty-five cases.

Mansfeld in "Inversio Uteri bei Hypoplasie des Adrenalsystems" describes a fatal case in which he attributes the extreme atony of the uterus which led to the inversion to hypoplasia of the adrenal system and the consequent atony of the sympathetic.

Scipiades begins the discussion of "Myom und der Schwangerschaft" by considering in this first part of the volume the relation between myoma sterility and pregnancy based on 985 myoma cases, of which sixty-five were complicated with pregnancy.

THE PRACTICE OF DENTISTRY. A Practical Treatise on the General Practice of Dentistry, Operative and Prosthetic. Exclusive of Orthodontic Practice. By Leo Greenbaum, M.D., D.D.S., and Max Greenbaum, D.D.S. Cloth. Price, $6. Pp. 836, with 350 illustrations. New York: D. Appleton & Co., 1912.

This book, while taking up briefly the practical aspects of operative and prosthetic dentistry, is admirable on account of the way in which it discusses the most recent theories and opinions in the literature of dentistry. It is really surprising to find how much of such discussion is contained in the book, and toward these opinions and theories the authors maintain a judicial attitude which is gratifying. For physicians perhaps the most interesting chapter in the book would be the one on oral hygiene and its connection with the general diseases of the body.

THE PRACTITIONER'S ENCYCLOPEDIA OF MEDICINE AND SURGERY IN ALL THEIR BRANCHES. Edited by J. Keogh Murphy, M.C., F.R.C.S., Surgeon, Miller General Hospital for South-East London. Cloth. Price, $7. Pp. 1423, with illustrations. New York: Oxford University Press, 1912.

This work is designed to supply the need of a compact, practical encyclopedia, so that the busy practitioner can within a single volume at once find reliable information on all subjects with which he may be called to deal in his daily work. The object of the work appears to be fairly well accomplished in consideration of the space allowed.

A TREATISE ON DISEASES OF THE HAIR. By George Thomas Jackson, M.D., and Charles Wood McMurtry, M.D. Cloth. Price, $3.75 net. Pp. 366. Philadelphia: Lea & Febiger.

In the notice of the above book, March 29, page 1020, the name of the publishers was omitted.

# *Medicolegal*

## Law Violated by Chiropractor—What Constitutes Practice—Admissibility of Evidence—Result of Treatment Immaterial

*(Swarts vs. Sirony (R. I.), 85 Atl. R. 33)*

The Supreme Court of Rhode Island overrules the defendant's exceptions to a conviction on a charge of holding himself out as a practitioner of medicine, in violation of Section 8 of Chapter 193 of the general laws of Rhode Island, without having a license from the State Board of Health, the case being remitted to the superior court for sentence. At the time of the trial he was 52 years of age; had in his boyhood attended a grammar school, which he left at the age of 13 or 14 years, and he thought that he had attended for two terms some institute, the name or location of which he did not disclose. Thereafter he had carried on the business of a mason and been employed as a bricklayer. At the age of 44 he attended for three or four months a school of chiropractics.

The court says that the necessity for some legislation designed to regulate the practice of medicine and surgery has been very generally recognized. Legislatures in many of the states have enacted laws looking to the protection of the public from unscrupulous persons, or persons of insufficient education or acquirement, who might seek to treat disease and bodily ailments. Under the laws of Rhode Island any person desiring to practice medicine therein must first observe certain regulations regarding registration, must present satisfactory evidence of fitness to practice and pass such examination as the State Board of Health may require. Then, if the State Board of Health is satisfied that the attainments of the applicant are such as would warrant it, a certificate will be issued by said board authorizing him to practice medicine. Without such certificate no one is authorized to practice medicine in the state.

The word "chiropractic" or "chiropractor," according to the defendant, is coined from two Greek words, "chiro" and "practicas," signifying something done with the hands. The defendant in his testimony made use of the words "cure" and "cured" two or three times, apparently in a moment of forgetfulness; but on the whole he seemed studiously to avoid the use of those words, evidently under the impression that any attempt to cure disease would bring him within the practice of medicine. He further undertook to exclude himself from the practice of medicine by showing that he did not take the pulse or ascertain the temperature of the patient, did not administer drugs, and did not otherwise employ the means usually resorted to by physicians in aid of their diagnosis. He claimed that the chiropractic idea was not to cure the disease, but to remove the cause, and thus allow or bring about a recovery therefrom; a distinction which the court finds some difficulty in appreciating.

The practice of medicine does not wholly depend on the administration of drugs. It is a matter of common knowledge that the use of drugs by physicians of medicine has materially decreased, especially during the last twenty years or more, and that not infrequently the medical practitioner limits his efforts to cure or alleviate disease to the regulation of diet and exercise, or to prescribing some change of scene, climate, or environment, reaching a conclusion as to the needs of his patient after learning his physical condition through a proper diagnosis, in which he is materially aided by his knowledge of disease, its origin, its anatomic and physiologic features, and its causative relations.

The court thinks that the defendant was guilty of practicing medicine within the terms of the statute, the phrase "practice of medicine" to be taken in its ordinary acceptation and popular meaning. He undertook by a certain system or method of treatment to cure or alleviate disease or pain. His intentions so to do were clearly evidenced by the testimony of witnesses and the literature which he had adopted and distributed in the advertisement of his business, and he had exacted a certain compensation for each treatment or group of treatments. If it

be assumed that the method or system practiced by the defendant was of any value, it must also be assumed that some knowledge of disease, its origin, its anatomic and physiologic features, and its causative relations must be employed to locate and determine its nature, unless the defendant would have the court believe that all the ills to which flesh is heir proceed from the impingement of nerves between the sectional vertebrae of the spine, and that whenever one or more displaced sections are brought into proper alignment the disease will disappear without the need of any determination on the part of the chiropractor as to the location of the affected part or the nature of the ailment. This view of the matter the court is not prepared to accept.

The complaint charged that the defendant "did open an office with intent to practice medicine, and did hold himself out to the public as a practitioner of medicine by appending to his name the title of 'Chiropractor' and by representing that he was versed in and willing to practice for compensation the art of preventing, curing, and alleviating disease and pain." His attempt to divide the charge in the complaint into a series of separate charges, and then to individualize them in his argument, does not seem to the court to be warranted or to serve any useful purpose.

The defendant asked Dr. Swarts, the complainant, secretary of the State Board of Health, if he issued the complaint on the strength, alone, of the word "Chiropractor." This was objected to, and the court thinks properly excluded. It was immaterial. The complaint spoke for itself, and the mental attitude of Dr. Swarts in making the complaint was in no way important.

The defendant also interrogated some of the witnesses with a view to showing the benefits resulting to some of the parties who had been treated by the defendant, and that in some cases he had succeeded in alleviating their troubles after regular doctors of medicine had made the attempt and failed. These questions were objected to, and the court thinks properly ruled out as immaterial. The result of the defendant's treatment was of no consequence in this inquiry. The purport of the complaint was that the defendant had been practicing medicine without authority. The result of such practice to the patient, if shown, could not have aided the jury in determining the question submitted to them.

But it was not error to permit the introduction in evidence of certain books and pamphlets, relating to chiropractic schools and methods, to which the defendant had referred with approval in his testimony.

A request for an instruction of the jury that, "If the jury find that a chiropractic is not a practitioner of medicine and surgery, then your verdict should be for the defendant," was rightly refused. The question for the jury was not thus limited. The real question was the broader one, as to whether the defendant, under all the evidence in the case, had been guilty of practicing medicine without authority.

### Holder of Certificate Failing to Have It Recorded

*(Wilson vs. State (Okla.), 129 Pac. R. 82)*

The Criminal Court of Appeals of Oklahoma reverses a conviction of Wilson of practicing medicine in Woodward County without having at the time a valid and unrevoked certificate from the state board of medical examiners of the state of Oklahoma, because of error in the exclusion of a certificate which he held, which, the court says, should have been admitted in evidence, and which, when admitted, would have been a complete defense by the accused to the charge contained in the information. The court holds that a person who has been regularly licensed to practice medicine in Oklahoma, and who has failed to record the certificate, issued to him by the board having jurisdiction to issue licenses under the laws of the state, in the county in which he resides and maintains a place of business, cannot be convicted under section 4256 of the Compiled Laws of 1909 for practicing medicine without a license, but is subject to prosecution under section 4252, for failure to record his license in said county. A certificate to practice medicine in Oklahoma issued by the state board having jurisdiction to issue same, properly authenticated and under the seal of said board, is entitled to be received in evidence when tendered on behalf of a person who is on trial charged with practicing medicine without authority, and such certificate when bona fide is a complete defense to a prosecution based on section 4256. Had the accused been prosecuted under section 4252 of the statute, and had a conviction resulted, no relief could have been had in this court on the ground set out in the petition in error.

---

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

Alabama State Medical Association, Mobile, April 15-18.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
American Urological Association, Boston, April 15-17.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Association of American Physicians, Washington, May 6-7.
California State Medical Society, Oakland, April 15-17.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Georgia State Medical Association, Savannah, April 16-18.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
South Carolina State Medical Association, Rock Hill, April 15-17.
Texas State Medical Association, San Antonio, May 6-8.
West Virginia State Medical Association, Charleston, May 21-23.

---

## NEW YORK ACADEMY OF MEDICINE

*Meeting held March 6, 1913*

The Second Vice-President, DR. W. B. JAMES, in the Chair

### Devices for Artificial Respiration

DR. SAMUEL J. MELTZER: Much progress has recently been made in dealing with temporary failures in respiration. In my opinion the Sylvester method is more satisfactory than that of Schäfer, but I suspect that there is a fairly large proportion of medical men who are unprepared to use either of these methods efficiently. By neither of these methods can the respiration be kept going for hours, and hence a search has been made for more efficient devices for maintaining artificial respiration. As a member of the committee appointed by the Bureau of Mines to investigate such devices I am not at liberty to express my opinion as to their actual value more than to say that the invention of other devices has not yet been made superfluous by the existence of those already on the market.

My method of pharyngeal insufflation gave satisfactory results with animals, but when tested on dead human bodies was found to permit the escape of air through the nose and mouth, and this could not be prevented in the same easy man-

ner in which it had been accomplished in animals. In endeavoring to adapt this method to the requirements of the human anatomy I have made studies in carrying on the respiration by means of a well-fitting face-mask. In both of these methods a heavy weight should be placed on the abdomen and reinforced by the application of tight bandages in order to prevent the entrance of the accumulated air into the gastro-intestinal tract. This restriction of abdominal respiration causes the blood to be driven from the paralyzed blood-vessels of the splanchnic region into the heart and medulla oblongata where it is most needed. The external arrangement for an efficient rhythmic and safe control of the respiration in both methods consists of a source for gas or air-pressure, of a valve regulating the rhythm of respiration and of a safety-valve. The two methods are differentiated by the fact that in the pharyngeal method the pharyngeal tube is of fairly large transverse diameter and capable of filling out the entrance into the pharynx so that the insufflated air cannot escape back through the mouth so readily. The pharyngeal end of the tube is cut off slantingly so that when inserted into the pharynx the end of the lower wall remains anterior to the opening of the larynx, while the upper wall extends to the posterior wall of the pharynx, raising the soft palate and the uvula so as to shut off the pharynx from the nasal cavity. When this apparatus is used the tongue is pulled well out of the mouth, the mouth opened wide, and the pharyngeal tube inserted as far as it will go. The pharyngeal tube is then connected with the bellows or oxygen tank. The air or oxygen is then turned on, a person grasps the respiratory valve and turns the ring from side to side every three or four seconds, thus keeping up an efficient respiration. A tightly fitting mask, with a nozzle for connection with the blowing apparatus, tightly attached to the head will do efficient service instead of the pharyngeal tube. The Schäfer method can easily be combined with either of these methods.

### Protein Assimilation

DR. DONALD D. VAN SLYKE: Our problem is that of tracing the proteins of the food from the alimentary canal through the blood-stream into the tissues, and there ascertaining their final fate. The confusion and controversy which have resulted from the attempts to solve this problem seem to be due to the failure to apply methods which are sufficiently accurate and sensitive to determine whether amino-acids and proteins are or are not present in the blood, and whether or not they pass into it from the alimentary tract during digestion. We have developed a method which may solve the problem. When amino-acids are brought into a solution of nitrous acid under proper conditions, an almost instantaneous decomposition of the amino group occurs, and its nitrogen is evolved in the form of an elementary nitrogen gas. This gas can be measured accurately, and affords a delicate means for detecting amino-acids in minute quantities.

On experimenting with this method we found that the blood of a dog always contained a small amount of amino-acid nitrogen, and that this amount could be more than doubled by feeding protein. The concentration of the amino-acids in the blood was small even at its maximum but was entirely sufficient to account for the most rapid imaginable absorption of proteolytic products. It is now certain that digestive products are taken directly into the blood, and although the possibility of some synthesis in the course of absorption has not been excluded, there is at present no reason to believe that any such roundabout mechanism plays an important part in normal absorption. From the low amino-nitrogen content of the blood, it is apparent that if all the digestive products enter the circulation they must be removed from it very rapidly in order to keep their concentration so low.

In order to test the rate at which the removal occurs, we injected 12 gm. of alanin intravenously into a dog. The nitrogen was nearly 2 gm., an amount which in the form of protein could keep the animal in equilibrium for a day; yet five minutes after the injection, 88 per cent. of the injected amino-nitrogen disappeared from the circulation, and after half an hour the amino figure of the blood had dropped to 12 mg., which is about normal for a dog in digestive activity. The experiment was repeated with mixtures of all the amino-acids yielded by hydrolysis of casein, with absolutely similar results. It is probable that in man the fluctuations during digestion are less than those observed in dogs, owing to the lesser amount of protein ingested.

The next question that confronted us was what becomes of these products when they vanish from the circulation. Owing to the velocity with which the amino-acids disappear from the circulation it seemed that a physical explanation was more probable than a chemical one. Hence we analyzed the tissues after known amounts of amino-acids had been injected, observed them to disappear from the circulation and found that they were in fact merely absorbed by the tissues. As nearly as we could estimate it, all the injected amino-nitrogen was found again in the muscles and other organs. It will be seen that the tissues, even in a fasting animal, are about ten times richer than the blood in amino-acids. When the concentration of the latter is increased in the blood by injection, absorption into the tissues immediately occurs and leads to a new equilibrium between the blood and the fixed organs in respect to the content of both in amino-acids.

That such a state of equilibrium exists is indicated by the fact that, notwithstanding the extreme avidity of the tissues for these products, we never entirely removed them from the blood. A point worthy of note is that in the case of muscles a fairly definite saturation point exists which sets the limit to the amount of amino-acids that can be absorbed. We have never been able to force the amino figure of the muscles above 75 mg. per hundred grams of tissue. The statement that the amino-acids entering the blood-stream are merely absorbed without chemical alteration by the tissues is a very loose description of the phenomenon for which the complete explanation will be far from easy.

Our experiments, undertaken to determine how long the amino-acids can remain unaltered in the tissues, showed that the amino-acids disappear from the kidneys at a rate incomparably greater than that at which they leave the muscles, or apparently the other organs analyzed at the end of the experiment. In the muscles the drop was so slight that it hardly exceeded the differences which can normally occur in different sections of the same organ. The disappearance of the amino-acids from the liver and kidneys was accompanied by an increase in the urea content of the blood. These facts strengthen the view that the liver is active in transforming the products of protein digestion into urea. It was somewhat surprising to note a similar disappearance of amino-acids from the kidneys. Other experiments seemed to show that while the muscles are stored with amino-acids up to their saturation point after a heavy feeding of meat, the liver and kidneys metabolize their portion of the products as rapidly as they receive them. It is possible that the entire task of removing the digestive products from the circulation, when the other tissues become saturated, devolves on the liver and kidneys, and that most of the proteolytic products which they take up are normally broken down, the nitrogenous portion being broken up into urea. This hypothesis will explain many previously known facts.

#### DISCUSSION

DR. LOUIS FAUGERES BISHOP: In discussing this subject some time ago I was taken to task for predicting the existence of amino-acids in the blood. I have been making an intensive study of arteriosclerosis during the past three months, and I believe that arteriosclerosis is a disorder of the ultimate cells of the body in which the blood-vessels partake of an important share. The cells become sensitive to particular proteins, and this originates a subsymptomal reaction that causes the damage. The discovery of the lodgment of the amino-acids in the tissue so quickly that their detection in the blood is difficult is of extreme interest.

### Studies in Experimental Pneumonia

An abstract of this paper by Dr. Martha Wollstein was published in THE JOURNAL, March 22, 1913, p. 942.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Anatomy, Philadelphia

*March, XIV, No. 3, pp. 299-390*

1 *Histology of Thymus. A. M. Pappenheimer, New York.
2 *Development of Elasmobranch Liver. R. E. Scammon, Minneapolis.

1. **Histology of Thymus.**—The glands examined by Pappenheimer were obtained during the months of July, August and the early part of September from freshly caught specimens of *Rana clamata*; a few also from spotted frogs shipped from a distance and showing in consequence of the prolonged starvation, marked involutional changes. In addition to the usual histologic methods a variety of granule stains were used. Minute granules of a type not hitherto described were demonstrated in the frog's thymus by the use of Benda's mitochondrial method. Larger gentianophil granules and droplets were found in some of the cells of this type. Whether these were secretory or degenerative in nature was not determined. Granules, possibly of the same nature as those demonstrable by the mitochondrial methods, were shown to be present in the living cells by the use of vital stains. The small thymic cells also contain granules, and in this respect, the small thymus cells are identical with the lymphocytes of the blood.

In clotted plasma cultures, there is a radical difference in the behavior of the small and large thymus cells. The former show practically no capacity for further proliferation, but after a period of active motility, undergo degeneration; the latter exhibit active growth, often in the form of syncytial cell masses. They are actively phagocytic toward the degenerating small thymus cells. The small cells of the rat thymus show absolutely no morphologic differences from the lymphocytes of the lymph-nodes; they exhibit the same active motility and the same proneness to undergo degeneration when kept *in vitro*. The growth of rat thymus differs from that of lymph-nodes (1) in the early rarefaction of the implanted fragment, with the appearance of numerous large phagocytic cells; (2) in the formation of tissue-like planes composed of epithelial reticular cells differing in their appearance from the fusiform or stellate cells which grow from the connective tissue capsule or reticulum of the lymph-nodes. This characteristic difference corresponds to the different histogenesis of the thymic reticulum and suggests a different function.

2. **Development of Elasmobranch Liver.**—The observations made by Scammon in the course of his embryologic studies may be summarized as follows: The liver arises in Acanthias embryos of from 20 to 25 segments as a pair of shallow lateral diverticula from the lateral walls of the ventral half of the gut. These diverticula extend both behind and in front of the anterior wall of the yolk-stalk. The growth of the fore-gut posteriorly through the coalescence of the lateral walls of the yolk-stalk causes the lateral hepatic diverticula to lie mainly in front of the anterior wall of the yolk-stalk in later stages. The median ventral liver pouch described by Balfour and others is, in Acanthias at least, a secondary structure produced by the fusion of the anterior ends of the primary lateral diverticula. Three secondary parts are derived from each primitive lateral hepatic diverticulum. The anterior portion goes to the median hepatic pouch. The upper part of the middle portion forms the lateral hepatic pouch. The posterior part goes to form a posterior connecting segment between the liver and gut. This has been termed the pars ductus lateralis and later becomes a part of the ductus choledochus. At an early stage the liver shares in the left to right rotation which produces the spiral valve in the intestine and the lateral vitelline groove in the yolk-stalk. The median hepatic pouch is somewhat differentiated into two parts: an anterior one, the pars hepatica mediana to which the lateral pouches are mainly attached and which gives rise to hepatic trabeculae, and a posterior one, the pars ductus mediana, which forms the anterior part of the ductus choledochus. The anterior part of the left hepatic duct is formed from the left hepatic pouch and the left part of the pars hepatica mediana, and the anterior part of the right hepatic duct from the right hepatic pouch.

The hepatic ducts and ductus choledochus are very markedly rotated to the right about a vertical axis in a comparatively late stage. This rotation is probably due to the great growth of the left omphalo-mesenteric vein and the formation of a venous sinus below and to the left of the anterior end of the ductus choledochus. The difference in size of the right and left omphalo-mesenteric veins may be due to the longitudinal rotation of the gut. By this rotation the space between the left hepatic pouch and the median pouch and gut is somewhat increased while the corresponding space on the opposite side is decreased. A third shifting of the duct system and the gall-bladder forward and upward occurs at a much later stage. It is probably brought about through the great increase in size of the internal yolk sac.

The minor hepatic ducts arise as the elongated pedicles of definitely placed groups of hepatic tubules. These tubule groups are differentiated at the time when the liver loses its dorsal connection with the fore gut. The variations in position of the minor hepatic ducts in the adult depend on the degree of shifting of these tubule groups at the time when the main hepatic pouches are differentiated into hepatic ducts and when the rotations mentioned above take place.

The gall-bladder appears much later than do the primary lateral hepatic diverticula. It arises posterior to the hepatic anlage as a distinct evagination of the gut at the juncture of the floor of the fore-gut and anterior wall of the yolk-sac, and its intimate connection with the liver duct system is acquired secondarily. The gall-bladder loses its dorsal and posterior connection with the gut and is shifted forward and downward until its greatest axis is in the transverse plane of the body. In this way its connection with the ductus choledochus comes to lie in front of that of the lateral hepatic ducts. Subsequently the gall-bladder is again shifted upward and forward so that the cystic duct passes backward and downward to join the ductus choledochus.

The ductus choledochus is formed from three distinct elements: the anterior part from the pars ductus mediana, a derivative of the secondary median hepatic pouch; the middle part from the pars ductus lateralis, a derivative of the posterior part of the primary hepatic diverticula, and a posterior part formed from the floor of the duodenum and valvular intestine.

### American Journal of Public Health, New York

*March, III, No. 3, pp. 197-296*

3 Health Work Progress in America. F. E. Fronczak, Buffalo.
4 How Shall We Spend the Health Appropriation? C. V. Chapin, Providence, R. I.
5 Elementary Theory and Principles of Street Cleaning. S. Whinery, New York.
6 Epidemiology of Poliomyelitis. W. H. Frost, Washington, D. C.
7 Seasonal Diseases and Seasonal Temperatures. C. E. North, New York.
8 *Use of Bismuth Salts in Media to Detect Formation of Sulphur Bodies of Bacterial Origin. S. T. Darling, Ancon, C. Z.
9 Importance of Negative Eugenics or Prevention of Ill-Bornness. W. Hutchinson, New York.
10 Need for General Health Protective Surveys and Programs. M. N. Baker, New York.
11 Unique Organization of Milk Dealers. F. D. Bell, New York.
12 Sanitary Improvement in Cuba as Demonstrated by Statistical Data. J. Le Roy y Cassá, Havana, Cuba.
13 Annual Report of Condition of Yellow Fever Throughout Mexican Republic. E. Liceaga, Mexico City.
14 Estimation of Daily Soot Deposit in Indianapolis. H. E. Barnard and W. D. McAbee, Indianapolis.
15 Control of Temperatures in Pasteurization of Milk. C. H. Kilbourne, New York.

8. **Use of Bismuth Salts.**—During an investigation of the effect of bismuth subnitrate on intestinal bacteria and pathogenic entamebas, Darling observed that the stools, which became quite black after the administration of large quantities of the drug, contained many crystals of bismuth subnitrate the surface of which had become coated with bismuth sulphid. The crystals of bismuth subnitrate were not disintegrated but had taken up the hydrogen sulphid generated by the intestinal bacteria. In addition to this, he was struck by

the enormous numbers of micrococci and bacteria which were jet black in color evidently due to the absorption or assimilation of bismuth and its conversion into sulphid.

On account of the facility with which bismuth subnitrate is sulphuretted by certain micrococci and bacteria, it was thought that it might be used to advantage for the detection of sulphid-formers among water bacteria and for the detection of sulphur bodies of bacterial origin, and a series of comparisons was made with bismuth and lead acetate media. It was seen that bismuth subnitrate broth possessed certain advantages over broth prepared with lead acetate as usually advised for the detection of sulphid-forming bacteria, for a number of microorganisms were stained black or stained the media brown or black in bismuth broth, which exhibited no such changes in lead acetate broth. Inasmuch as the object of the lead acetate media is to demonstrate by a color reaction the formation of hydrogen sulphid by a microorganism, it would seem that if bismuth has a wider or different range of usefulness for this purpose, it should be employed instead of lead or in combination with it.

Darling's observations lead him to the opinion that the staining of bismuth subnitrate and lead acetate media is not always due to the excretion of hydrogen sulphid, as is generally believed, but may also be due to the assimilation of these heavy metals by certain microorganisms and the formation of metallic sulphids, by sulphur not necessarily existing as hydrogen sulphid but due to the intracellular splitting off of sulphur or sulphur bodies by hydrolysis, autolytic or other enzyme action.

## American Journal of Obstetrics and Diseases of Women and Children, New York

*March, LXVII, No. 423, pp. 433-648*

16 *Chorionic Villi in Uterine Wall Eighteen Years After Last Pregnancy. E. Ries, Chicago.
17 *Difficulty of Producing Sterility by Operations on Fallopian Tubes. V. N. Leonard, Baltimore.
18 Classic Cesarean Section. E. P. Davis, Philadelphia.
19 Advantages of Suprasymphyseal Extraperitoneal Cesarean Section in Clean as Well as in Presumably Infected Cases. B. C. Hirst, Philadelphia.
20 Cesarean Section for Central Placenta Praevia. C. Foulkrod, Philadelphia.
21 *Treatment of Puerperal Sepsis at Sloane Hospital for Women. W. Ward, New York.
22 *Cases of Hydatidiform Mole at University Maternity. P. F. Williams, Philadelphia.
23 Why Incidental Removal of Vermiform Appendix, When Reasonably Possible, Should be the Rule. A. Goldspohn, Chicago.
24 *Chronicity of Appendicitis. J. H. Jacobson, Toledo, O.
25 Omental Cysts. L. Frank, Louisville, Ky.
26 *Good Way to Treat Femoral Hernia. T. B. Noble, Indianapolis.
27 *Cesarean Section in Double Uterus and Double Vagina. N. S. Scott, Cleveland.
28 *Postoperative Acute Dilatation of Stomach. C. E. Ruth, Des Moines, Ia.
29 Relation of Weight Curve of Infant to Food. J. M. Brady, St. Louis.

16. **Chorionic Villi in Uterine Wall.**—The case reported by Ries presents the unusual feature of degenerated villi found in the veins and in the wall of a fibroid uterus eighteen years after the last pregnancy. He believes that it tends to clear up the pathogenesis of those cases of chorio-epithelioma in which the tumor did not arise until many years after the last pregnancy. True, no chorionic epithelium was found on these villi. The epithelium-like covering of the villi which was observed cannot be considered anything but endothelium. He does not know at what time since the last pregnancy the chorionic epithelium became lost and was replaced by vascular endothelium. The absence of chorionic epithelium does not militate against the possibility of a chorioepithelial tumor originating from these villi at some time during the eighteen years which had elapsed between the last pregnancy and the removal of the uterus. The absence of the chorionic epithelium is evidently one of the reasons why in this case no chorioepithelioma was formed. The importance of this case, Ries believes, lies in the fact that it presents the hitherto unparalleled picture of a benign survival of chorionic villi in the uterine wall for as many as eighteen years after the last labor.

17. **Operations on Fallopian Tubes.**—Of the twenty-three instances in the gynecologic clinic of the Johns Hopkins Hospital, in which it was deemed advisable to attempt sterilization by ligation of the tubes, fourteen cases have been successfully traced. Of this number, five patients were over 40 at the time of operation. Two of the remaining nine patients became pregnant after operation. Until more satisfactory methods have been devised, Leonard says it would appear that extirpation of the tubes, together with excision of a wedge of uterine cornu, had best be adopted as the only simple procedure reasonably sure to prevent conception.

21. **Treatment of Puerperal Sepsis.**—In the last 8,000 deliveries at the Sloane Maternity, there have been thirty-nine cases of puerperal sepsis, 0.485 per cent. Of these thirty-nine cases, thirty-three had no interference postpartum except simple vaginal and intrauterine douches. There were four digital explorations on four patients. In two cases this was sufficient, while in the other two extension into the parametrium took place requiring later posterior vaginal sections. In the first of these latter two, the single colpotomy with drainage was sufficient, while in the other new local abscesses developed and required further incision and drainage. In this last case there were in all three vaginal sections done, and finally a laparotomy was necessary; through-and-through drainage was instituted with the result of controlling and clearing up the process. In one other patient, delivered by cesarean section, there was a breaking down of both abdominal and uterine wounds, and through-and-through drainage was instituted after the wounds had opened up as a result of the infection. This was done at one of the daily dressings, without anesthesia. The only other operative procedure was the opening by laparotomy of an intramural abscess of the uterus and draining by vagina as well as from above.

Of these thirty-nine patients, eleven died, a mortality of 28.2 per cent. However, two patients hardly belong to the series, as one died of pulmonary embolism after being up and about, convalescent, after a mild infection of a few days' duration, and the other, admitted in the eighth month of pregnancy, with a red-blood cell count of 1,100,000, with all the characteristic blood changes of a true primary pernicious anemia, died of exhaustion and anemia a few days post partum, although there probably was an element of infection in her case. All the remaining patients made good recoveries.

The causes of death in the eleven patients were: General septic peritonitis, 5 cases; pyemia and exhaustion, 4 cases; pernicious anemia, pulmonary embolism, each one case. In all these cases, save the last two, in which the sepsis was slight, there was a true bacteremia yet with no localized foci capable of being attacked by surgery. So none of the fatal cases had any of the operative measures detailed above, with the one exception of the through-and-through drainage employed in the case of infected cesarean section.

The prophylactic treatment employed consists in extreme care as to surgical asepsis, limiting as far as possible all antepartum, intrapartum and post-partum examinations, interference and instrumentation, resorting to them only when clearly indicated. The active treatment consists in: A. Obtaining adequate uterine drainage, first, by simple vaginal and intrauterine saline douches. This proving insufficient to control the process, explore the uterus once, and once only, to make sure that it is empty of foreign products, using the finger for the exploration, and with a minimum of trauma to the uterine tissues. B. Treat expectantly secondary foci as they arise, and C. Support the general condition of the patient.

22. **Cases of Hydatidiform Mole.**—In this series of four cases reviewed by Williams, two women had previously normal pregnancies; in the other two it was the first pregnancy. The ages varied, as follows: 22, 26, 27 and 30 years. Bleeding was a prominent symptom in three cases, abdominal pain in two, nausea in two, and severe vomiting was present in one case. The enlargement of the uterus as compared with that of normal pregnancy for a similar period of amenorrhea was in one case, twice the size to be expected, in a second case it was only slightly greater. The difference from normal in the two remaining cases could not be determined on account of the

obscure menstrual histories they presented. Cystic degeneration of the ovaries was present in two cases. In one there was a definite lutein cell proliferation, in the second an atypical lutein cell formation of the lining wall of the cysts. In the treatment of these cases one was subjected to a panhysterectomy; another had a cystic ovary removed by a laparotomy; the mole in this case was expelled spontaneously after packing the cervix. In the two remaining cases the treatment was dilatation of the cervix and curettage of the uterine cavity. Death occurred in two cases, in the first case from acute hepatic degeneration, and in the second instance from a hemorrhage, supposed to have been from a pulmonary tubercular process.

24. **Chronicity of Appendicitis.**—Infection of the vermiform appendix, Jacobson believes, is of enterogenic origin, and as a rule is a slow process resulting from stasis of intestinal contents in the cecum, and in his opinion is essentially a chronic disease. Chronic inflammatory changes in the appendix usually precede the acute attack. Stasis in the cecum is favored by the antiperistalsis of the ascending colon in combination with a mobile cecum or adhesions about the ileocecal junction.

26. **Treatment of Femoral Hernia.**—Noble makes an incision 4 or 5 inches in length parallel with Poupart's ligament midway between this ligament and the saphenous opening. In older persons, it is made in the sulcus formed by the thigh on the abdomen. The subcuticular fat and areolar tissue is wiped by gauze dissection from the surface of the sac well down and into the external margin of the saphenous opening. The skin and subjacent fat of the upper margin of the wound are then pushed upward until Poupart's ligament and the lower aspect of the fibers of the external oblique muscle are brought plainly into view. The base of the wound now contains the lower fibers of the aponeurosis of the external oblique, Poupart's ligament, the falciform process of the fascia lata, the saphenous opening and the hernial sac.

One-half inch above Poupart's ligament and directly above the femoral canal, the fibers of the external oblique are separated, and a gridiron opening is made through the internal oblique and transversalis muscles down on the peritoneum. The finger now separates the transversalis fascia from the peritoneum, to which it is loosely attached, the separation being carried completely around the process of peritoneum which has been pushed down through the femoral canal to form the hernial sac. This completely frees the sac from all its surrounding tissues. The peritoneum is opened through the gridiron incision and an opening is also made in the hernial sac. This gives definite knowledge of the conditions of the hernial contents and makes reduction much easier. After proper care has been given to the contents of the hernia, the sac is easily pulled up through the canal, tied and cut away.

The removal of the sac and pulling the lower margin of the wound forward, brings into view the upper margin of the hernial canal (now empty), Gimbernat's ligament, lower border of Poupart's ligament and the iliac vein. These structures are seen to form an isosceles triangle, the lower side of which is Gimbernat's ligament, the upper Poupart's, and the base the iliac vein. One or two sutures of No. 1 chromic gut are made to include the two sides of this triangle which when tied, completely obliterate the intervening space closing the canal. In other words, with the vein in view, the ileopectinal fascia is sutured to the lower border of Poupart's ligament, and definite knowledge is had relative to the encroachment on the vein. A running suture of plain gut next closes the gridiron opening, and a subcuticular stitch approximates the skin.

27. Abstracted in The Journal, Sept. 28, 1912, p. 1210.

28. **Postoperative Acute Dilatation of Stomach.**—Failure of the cardiac orifice to readily yield, Ruth believes, is the one essential to acute dilatation of the stomach. Motor paralysis of the stomach, whether due to central or peripheral paresis, to inhibition through the solar plexus and splanchnic stimulation, or any narcotic or toxic agent, may cause the condition. Reflex inhibitory influence is well shown by failure to produce dilatation of the stomach from ligating the duodenum alone, but to ligate the duodenum and crush the testicle in dogs promptly causes dilatation of the stomach. The greater frequency of the condition following surgery of the upper abdomen, in which wick and other drains are used, indicates the importance of inhibitory influences of the solar plexus, trauma and irritation. Knowing that paralyzed bowel is obstructed bowel and peristalsis can alone obliterate kinks due to paralysis, one should not expect the stomach to be subject to different laws. On whatever side of the cardia the gastric muscularis is weakest, the dilatation will be greatest, causing the cardiac opening to be pushed to the opposite side and more or less angulated against the sharp margin of the cardiac opening in the diaphragm, thus adding another factor of difficulty in emptying the stomach by vomiting.

Operative absurdity is at once indicated by the impossibility of draining a paralyzed stomach into a paralyzed gut, and a considerable part of the intestinal tract may be expected to be paralyzed in every case of acute dilatation of the stomach by the same cause which produced the gastric paresis and paved the way for dilatation. The permanency of acute dilatation of the stomach will depend on the cause operating to produce the paresis and on the degree of distention. Acute dilatation of the stomach sometimes occurs and progresses rapidly during an operation. As only a few drops of ether in the stomach may cause great dilatation, it is necessary to prevent the patient from swallowing ether. Acute dilatation of the stomach may begin when the small intestines are very much distended with gas and not yet paretic. Occlusion by the root of the mesentery must be secondary else the tube and lavage would not afford relief. The need of vigilance must not be relaxed in any period of life, as the condition has been encountered at nine months and at 74 years of age.

In all cases the stomach tube must be passed at once as it represents no danger and its early and thorough use gives almost the only hope of cure. It is so easy to detect the first manifestations of acute dilatation of the stomach by touch that Ruth is convinced that at every visit for the first few days after an operation the surgeon should pass the hand down over the ensiform cartilage and note whether there is distention of the epigastrium and when it is detected he should pass the stomach tube at once and prevent grave complications. This precaution is especially important in abdominal cases and interns as well as nurses should be taught the importance of this sign of fulness in the epigastrium in order that danger from acute dilatation of the stomach may be at once detected and dealt with in time, even though the surgeon may not be present, because of the extreme rapidity with which it may develop into a condition of the utmost gravity.

## Boston Medical and Surgical Journal

*March 27, CLXVIII, No. 13, pp. 449-484*

30 Few Important Points in Roentgenoscopy of Digestive Tract. F. W. White, Boston.
31 Experimental Production of Lesions Resembling Pellagra. H. M. Adler, Boston.
32 *Present Position of Abdominal Cesarean Section in Eclampsia. J. T. Williams, Boston.

32. **Abdominal Cesarean Section in Eclampsia.**—Excluding operations performed post mortem and on the dying, Williams has collected eighty-five cases from the literature. In twenty-one of these there existed a mechanical indication as well for cesarean section, but this in no way influenced the actual result of the operation. These were all cases of well developed eclampsia. Among the 85 cases there were 41 maternal deaths, a mortality of 48.2 per cent. This mortality, is distributed as follows: From sepsis, 7 deaths; from hemorrhage from broad ligament after Porro operation, 1; from rectal hemorrhage, 1; from tuberculosis, 1; from exhaustion, 1; from pneumonia, 1; from eclampsia, 20. In 9 cases the immediate cause of death was not stated, but presumably was eclampsia. Therefore, Williams concludes that abdominal cesarean section in eclampsia should be restricted to those cases in which there is a pelvic contraction sufficient in itself to demand it, and possibly also early cases of threatened eclampsia at or near term, where the shock of a vaginal delivery seems to offer much greater danger than the added strain imposed on the excretory organs by cesarean section.

### Iowa State Medical Society Journal, Clinton

*March 11, No. 9, pp. 625-696*

33 Abdominal Cesarean Section for Placenta Prævia. D. Macrae, Council Bluffs.
34 Carcinoma of Cecum; Its Diagnosis. O. J. Fay, Des Moines.
35 Physiology and Pathology of Hypophysis Cerebri. J. T. McClintock, Iowa City
36 Traumatic Injuries to Cornea. T. U. McManus, Waterloo.
37 Tuberculin Therapy of Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
38 Urethral Obstruction by Prostate, with Report of Twenty-Six Cases. W. L. Allen, Davenport.
39 Treatment of Tonsillitis. F. G. Murphy, Mason City.
40 Actinic Sunlight in Treatment of Chronic Lesions of Skin. J. W. Kime, Fort Dodge.

### Journal-Lancet, Minneapolis

*March 15, XXXIII, No. 6, pp. 159-190*

41 Trachoma with Special Reference to State of Minnesota. T. Clark, Evansville, Ind.
42 Operations for Uterine Prolapse Compared. A. W. Abbott, Minneapolis.
43 *Regeneration of Tendons. M. S. Henderson, Rochester, Minn.
44 History of Case of Spasmophilia with "Repeated Absences." J. P. Sedgwick, Minneapolis.
45 Eye-Strain as Etiologic Factor in Functional Diseases. J. C. Clark, Mt. Vernon, S. D.

**43. Regeneration of Tendons.**—In the experiments reported by Henderson the work was done on the tendo Achillis. One and a half inches of tendon was removed. The suture material used to bridge the defects was black linen. Two strands were the most used, the purpose being to provide a scaffolding on which repair could take place. In the dogs in which the sheath was saved, it was always closed with plain continuous catgut sutures. The skin was sutured with plain catgut. At the end of the operation a plaster-of-Paris cast was applied from the toes to the groin. This was removed in two weeks, after which time the dogs were allowed to run at will in their pens. The dogs were killed with chloroform at the end of six months; the legs were amputated and macroscopic and microscopic examination made.

In none of the animals in which the sheath was removed was there a well-marked freely movable sheath, as there is normally. In those in which the sheath was not removed, there was a nearer approach to the normal, though even here the sheath was more or less adherent. In one dog in which no linen was inserted to bridge the defect and the sheath was carefully sutured over the space with catgut, there was an anatomic restoration more nearly normal than in those in which the linen was inserted. The linen seemed to act as a foreign body, causing great proliferation, evidenced grossly by the increased size of the tendon. In one dog linen was inserted high up on the tendon and carried down the outside to be inserted into the periosteum. There was great proliferation macroscopically, and microscopically many giant cells were present. In this instance there was apparently an unsuccessful attempt to absorb the linen. Linen was used in three of the animals. In two the linen was used to bridge a defect caused by the removal of a piece of tendon. In the first dog the sheath was left and sutured over the two strands of bridging linen. In the second the linen was left uncovered by the sheath, the sheath and peritendineal structures being removed along with the piece of tendon. In both there was a complete restoration of function. On dissecting the specimens only knots of the linen were found. The third dog is the one in which there was great proliferation and numerous giant cells.

### Journal of Cutaneous Diseases, New York

*March, XXXI, No. 3, pp. 145-220*

46 So-Called "Annular Syphilis" of Negro. H. H. Hazen, Washington, D. C.
47 Course Virus of Herpes Zoster Takes to Reach Nerve Ganglion. D. W. Montgomery, San Francisco.
48 Multiple Primary Carcinoid of Skin in Infant. W. Hutchinson, Montreal.

### Journal of Medical Research, Boston

*March, XXVII, No. 4, pp. 391-540*

49 *Relation of Bordet-Gengou Bacillus to Lesion of Pertussis. F. B. Mallory, A. A. Horner and F. F. Henderson, Boston.
50 *Morphologic Changes in Tissues with Change in Environment.—Changes in Gall-Bladder Following Autoplastic Transplantation into Gastro-Intestinal Tract. M. Smith, St. Louis.
51 *Morbid Histology of Cardiac Nervous Ganglia. J. McFarland and A. Anders, Philadelphia.
52 Group of Mice with Exceptional Resistance to Mouse Carcinoma. J. McFarland and G. McConnell, Philadelphia.
53 Immunizing Effect on Guinea-Pigs of Small Doses of Diphtheria Toxin. H. R. Brown, Boston.
54 *Meningitis in Infant Caused by Typhoid Bacillus. H. W. Lyall, Brooklyn.
55 Outbreak of Acute Disease in Adult Fowls, Due to Bact. Pullorum. F. S. Jones, Ithaca, N. Y.
56 Value of Macroscopic Agglutination Test in Detecting Fowls That Are Harboring Bact. Pullorum. F. S. Jones, Ithaca, N. Y.
57 *Nature of Anaphylaxis and Relations Between Anaphylaxis and Immunity. R. Weil, Ithaca, N. Y.
58 *Leukocytic Inclusions of Döhlé. W. T. Cummins, San Francisco.

**49. Bordet-Gengou Bacillus.**—The authors have already shown that the primary essential lesion of whooping-cough consists in the presence of masses of minute bacilli between the cilia of the epithelial cells lining the trachea and bronchi. Their action is chiefly mechanical: they interfere with the normal movements of the cilia by sticking them together; in this way the microorganisms furnish a continual irritation which results in the symptoms peculiar to the disease. Their next experiment was to find out if they could produce in animals the same peculiar lesion they had found in man. For this purpose a puppy was inoculated intratracheally at intervals of one week for five weeks with sputum collected from patients in the acute stage of whooping-cough. The animal was killed at the end of six weeks and the tissues fixed in Zenker's fluid. The sections showed numerous minute bacilli between the cilia of many of the epithelial cells lining the trachea. They correspond morphologically in every way with those occurring in the human tissues.

The next step was to obtain, if possible, a pure culture from a case of whooping-cough and repeat the experiment with it. Sputum was examined from thirty patients in the acute stage of the disease. The characteristic bacillus was found in all in large numbers and often in an almost pure state both free and enclosed in polymorphonuclear leukocytes and rarely between the cilia of desquamated epithelial cells. After repeated failures, pure cultures were finally obtained directly from the sputum from two different patients. A third pure culture was obtained indirectly from a puppy infected by means of sputum injected into the trachea. It was found impossible to start cultures except on the potato-blood-agar medium devised by Bordet and Gengou.

Several puppies were directly inoculated in the trachea with pure cultures. In two of the puppies the success of the inoculation was readily demonstrable in sections. The bacillus was reobtained in pure culture from one of the dogs, but not from the other. In four puppies the results were negative. The dogs in which the results were negative all came from one litter and were strong, healthy animals. The organisms were obtained in cultures, however, from the trachea or lung in each instance. Three adult monkeys (*Rhesus macacus*), inoculated intratracheally, showed no symptoms, and were therefore not killed. Infection readily took place in rabbits. In all the animals successfully inoculated the *Bacillus pertussis* was found regularly in the trachea, less often in the larger and smaller bronchi, and in four instances (all rabbits) in the nares. In all of these situations it occurred between the cilia of the lining epithelial cells. In addition it was occasionally found free in the secretion in the trachea or bronchi. Several puppies kept in the same cage with the first one inoculated with sputum acquired infection by direct contact or by contagion and showed the typical lesion in the trachea and lungs.

**50. Morphologic Changes in Tissues.**—The technic employed by Smith was that commonly used in the performance of anastomosis between the gall-bladder and intestine by the suture method. A direct implantation, however, was often supplemented by a second operation done several weeks later, which aimed at detaching the gall-bladder completely from its usual site in order to separate it from its customary nerve and blood supply. In the second operation the abdomen was again opened, the cystic duct ligated and divided, and the gall-bladder severed from its attachment to the liver. The tissues of the

fundus of the gall-bladder, now firmly united to the intestine at the point of anastomosis, obtained an entirely satisfactory blood supply from the intestinal wall. The gall-bladder was cut down to a piece corresponding to about one-third to one-half of its original size. The open end of the gall-bladder was then inverted and closed by a double layer of silk sutures, so that, when the operation was completed, a gall-bladder diverticulum was formed which communicated directly with the intestinal tract.

Smith found that autoplastic transplantation of the tissues of the gall-bladder into the gastro-intestinal tracts is followed by definite histologic changes as a result of adaptation of the transplanted tissue to new environment. Gall-bladder tissue transplanted into the gastro-intestinal tract undergoes hypertrophy of the mucosa with development of new lymphoid tissue. When transplanted into the stomach, the hypertrophy of gall-bladder mucosa may become especially marked, and be associated with active proliferation and degeneration of the transplanted cells with mucous production. The increase in lymphoid tissue developed in the gall-bladder transplanted to the surface of the intestinal tract, whereas a considerable decrease of lymphoid tissue occurs in gall-bladder transplanted into the sterile peritoneal cavity, affords evidence that the development of lymphoid tissue is in response to bacterial environment and possibly to other chemical or mechanical causes injurious to the tissue. There is no experimental evidence that a metaplasia occurs in gall-bladder tissue in fistulous communication with the intestinal tract, such as has been described as taking place in the human gall-bladder under similar conditions.

51. **Histology of Cardiac Nervous Ganglia.**—The nerve cells scattered over the surface of the human heart are said by McFarland and Anders to resemble the cells of the sensory type, and probably are a part of the sensory nervous mechanism of the heart. These cells may differ from other sensory nerve cells in that an eccentric position of the nucleus is normal to them. The nerve cells of the cardiac ganglia are very frequently diseased. The diseased cells occur in the ganglia side by side with normal nerve cells. No disturbance of the cardiac movements seem to result from the disturbance of these cells. The bradycardia in the case specially studied by the authors could not be referred to the diseased condition of the nerve cells of the cardiac ganglia.

54. **Meningitis Caused by Typhoid Bacillus.**—The case described by Lyall was one of purulent meningitis in a child 5½ months old. An organism corresponding to bacillus typhosus in its morphology, cultural characteristics and biochemical reactions, was isolated from the spinal fluid and also from the nose before death, and was obtained in pure culture from the brain, cord, spleen and heart's blood at autopsy. The usual pathologic lesions characteristic of typhoid were absent.

57. **Nature of Anaphylaxis.**—The results of Weil's experiments lead him to the conclusion that anaphylaxis is due to the reaction between specific antibodies present in the cells and the introduced antigen. In passive sensitization, the body cells absorb the introduced antibodies from the blood, and the animal is thus made anaphylactic. The function of immune bodies present in the serum is to neutralize the introduced antigen, and so to protect the body cells. The anaphylactic animal regularly contains in his circulation an insufficient quantity of antibodies to protect the body cells. The immunized animal is potentially anaphylactic. His body cells possess anchored immune bodies, but are protected by those in circulation. Exactly the same antibodies are present in anaphylaxis as in immunity. In the former they predominate in the cells—in the latter, in the serum.

58. **Leukocytic Inclusions.**—Cummins made 155 examinations of ninety-five febrile and twenty-six afebrile cases, seventeen normal individuals and sixteen laboratory animals. Among the diseases are typhoid (17 cases), scarlet fever (15 cases), tuberculosis (14 cases), croupous pneumonia (4 cases), mumps (4 cases), local suppuration (4 cases), acute bronchitis (3 cases), acute articular rheumatism (3 cases), otitis media (2 cases), syphilis (2 cases), hernia (2 cases), one each of pyemia, gangrene, glanders and epidemic meningitis. In each case 100 neutrophils were examined, except for typhoid, in which fifty cells were examined. Two to four smears were made from each patient and stained by the Giemsa as well as the Manson method. Cummins is convinced that the so-called inclusion bodies are to be found in practically all febrile diseases and that they, in some cases, persist in decreasing numbers well into convalescence; in pyogenic conditions (chronic) of afebrile character; in severe injuries without febrile disturbance and in some normal individuals. They are apparently absent in laboratory animals. A nuclear origin seems probable. The alleged specificity to scarlet fever was not corroborated.

### Journal of Nervous and Mental Disease, Lancaster, Pa.

*March, XL, No. 3, pp. 145-216*

59 Status of Apraxia with Study of a Case. (To be continued.) A. Glascock, Washington, D. C.
60 Case of Hypoglossal Nuclei Paralysis. A. M. Moll.
61 *Occurrence of Syphilitic Organism in Brain in Paralysis. J. W. Moore, Central Islip, N. Y.

61. The same subject was discussed by Noguchi and Moore, *Jour. Experimental Medicine*, Feb. 1, 1913, and abstracted in The Journal, February 22, p. 626.

### Journal of Pharmacology and Experimental Therapeutics, Baltimore

*March, IV, No. 4, pp. 251-362*

62 Pharmacologic Action of Catha Edulis and Its Alkaloids. R. Stockman, Glasgow.
63 Chemical and Pharmacologic Properties of Hederin, a Sapo-Glucosid Contained in the Leaves of Common Ivy (Hedera Helix). B. Moore, Liverpool.
64 Epinephrin. H. McGuigan and H. T. Mostrom, Chicago.
65 Peripheral Action of Certain Drugs with Special Reference to Lungs. D. E. Jackson, St. Louis.
66 Observations on Fungi, Particularly Clitocybe Sudorifica Peck, Pholiota Autumnalis Peck and Inocybe Decipiens Bresadola. W. W. Ford and J. L. Sherrick, Baltimore.
67 *Resistance of Various Spirochetes in Cultures to Action of Chemical and Physical Agents. J. Bronfenbrenner and H. Noguchi.

67. **Resistance of Spirochetes.**—The authors found that while in a culture spirochetes remain alive at room temperature for many weeks, yet as it results at the end of twelve hours most of them are already dead. The reason for this is not the temperature, but the unfavorable conditions of experiment as: lack of nutritive substances, presence of oxygen, effect of light, the toxic effect of sodium chlorid, etc., all of which markedly diminish the viability of spirochetes. As the temperature is heightened the viability of spirochetes suffers more, as we would naturally expect and even at the end of six hours at 37 C. we already see marked differences between the tubes exposed, respectively, to room and 37 C. temperature. At the temperature of 45 C. the rate of this process increases so much that already at the end of seven minutes most, and at the end of ten minutes all of the organisms tested were dead. On the other hand, the spirochetes survive for many hours at 45 C. if they are subjected to this temperature under the favorable conditions such as are provided in the growing culture tubes, viz., strictly anaerobic conditions, properly balanced saline constituents and other nutrient substances. The toxic effect exerted by the chemicals in the experiments was from twenty to one hundred times greater if tested on spirochetes than it was against colon bacillus. The toxic effects of salvarsan were increased from two to five times and possibly more in the presence of enzymes from the liver and especially from the blood. Spirochetes suspended in physiologic salt solution are sterilized by the temperature of 45 C. in from seven to ten minutes.

### Kentucky Medical Journal, Bowling Green

*March 15, XI, No. 6, pp. 233-266*

68 Have We a Trachoma Problem? C. T. Wolfe, Louisville.
69 Eclampsia. E. Speidel, Louisville.
70 Hay Fever. D. H. H. Wolfe, Louisville.
71 Four Cases of Appendicitis Associated with Foreign Bodies (Coal, Grape Seed, Oxyuris, Bismuth). J. W. Price, Louisville.

72 Three Cases of Imperforate Anus. G. P. Grigsby, Louisville.
73 Radiographic Plates Showing Malposition of Stomach and Large Intestine. D. Y. Keith, Louisville.
74 Suprapubic Cystotomy. C. G. Forsee, Louisville.
75 What Does the Cystoscope Reveal? G. H. Day, Louisville.
76 Separation of Symphysis During Delivery. H. E. Tuley, Louisville.
77 Morovan's Disease. M. L. Ravitch, Louisville.
78 Case of Pellagra. M. L. Ravitch, Louisville.
79 Management of Compound Fractures. A. D. Willmoth, Louisville.

### Kansas Medical Society Journal, Kansas City

*March, XIII, No. 3, pp. 95-138*

80 Wassermann Reaction in Relation to Diagnosis and Treatment of Syphilis. L. S. Milne, Rosedale.
81 Etiology of Eclampsia. L. V. Sams, Topeka.
82 Diagnosis and Treatment of Extrauterine Pregnancy. J. C. McGee, Leavenworth.

### Medical Record, New York

*March 29, LXXXIII, No. 13, pp. 553-598*

83 Occurrence of Dextrorotatory Albumins in Organic Nature. J. Beard, Edinburgh, Scotland.
84 Action and Administration of Crotalin in Pulmonary Tuberculosis and in Epilepsy. T. J. Mays, Philadelphia.
85 Menace of "Recovered" Insane. E. H. Williams and J. S. Brown, Montclair, N. J.
86 Differential Diagnosis Between Pneumonia and Appendicitis. G. F. Boehme, Jr., New York.
87 Brief Comparison Between Hospital Service in Germany and That in United States; with Reference to Requirements for Medical Practice. H. J. Boldt, New York.
88 Treatment of Erysipelas in Infants by Means of Vaccines. E. M. Sill, New York.

### Military Surgeon, Washington, D. C.

*March, XXXII, No. 3, pp. 221-324*

89 Evolution of Ambulance Corps and Field Hospital. L. C. Duncan, U. S. Army.
90 Typhoid Prophylaxis in British Army in India and in American Army in United States. A. G. Love, U. S. Army.
91 New York Division, M. R. C., U. S. Army. H. S. Baketel, New York.

### New York Medical Journal

*March 29, XCVII, No. 13, pp. 633-688*

92 Massive Doses of Roentgen-Ray in Epithelioma. G. M. MacKee and J. Remer, New York.
93 *Hospital Morbidity Statistics. C. F. Bolduan, New York.
94 Suprapubic Cystostomy. C. G. Cumston, Boston.
95 Improved Roentgen-Ray Generator. S. Tousey, New York.
96 Extract of Adrenals. J. Aikman, Rochester, N. Y.
97 Chronic Seminal Vesiculitis. A. Hyman and A. S. Sanders, New York.
98 Newer Teachings of Diseases of Gastro-Intestinal Canal: Examination of Chyme. M. I. Knapp, New York.
99 Dreaming and Dreams. G. Drenford and L. K. Hirshberg, Baltimore.
100 Hyperidrosis; Etiology and Treatment. H. G. Wertheimer, Pittsburgh.
101 Plea for More Expert Anesthetists. M. Lavandera, New York.
102 Prevention of Otitis Media. M. Lubman, New York.
103 *Ten Cases of Goiter. J. J. Gilbride, Philadelphia.
104 Salvarsan in Asthma. L. E. Glasgow, Pittsburgh.

93. **Hospital Morbidity Statistics.**—A practicable method of making hospital morbidity statistics uniform and preparing them for analytic study is presented by Bolduan. The basis of the system proposed is the "Discharge Certificate," a form of report very similar to the ordinary death certificate. These discharge certificates would be supplied to all the cooperating hospitals, and for each patient discharged from a hospital, a discharge certificate, properly filled out and signed, would be sent by the hospital to a central recording bureau. The discharge certificates contain the ordinary data concerning the sex, age, race, nationality, social condition, occupation and residence of the patient, and then certain data pertaining to the patient's admission, stay in, and discharge from the hospital, the disease and its complications, etc. At the central recording bureau each certificate is looked over by a trained physician registrar, who indicates on each certificate the correct designation, in the standard nomenclature, under which the certificate is to be classified. It then passes to a tabulating clerk, who transfers, by means of punch holes, all the information on each certificate to a correspondingly numbered tabulating card. These cards are specially prepared to fit machines which sort and count the cards into any desired groups. In order to give an idea as to the utility of such tabulations, and the light they would shed on hospital practice and hospital administration, a number of specimen tables are presented.

103. **Cases of Goiter.**—The ten cases of goiter reported on by Gilbride represent six cases of exophthalmic goiter and four cases of simple goiter. The cultures and stained sections of all of these cases were negative, with the exception of the culture made from one case of exophthalmic goiter which gave a growth of *Micrococcus tetragenus*. In a series of fourteen cases reported by Gilbride previously (THE JOURNAL, Dec. 16, 1911, p. 1988), there were six cases of exophthalmic goiter and eight cases of cystic goiter. A growth was obtained by culture in two cases. One case of exophthalmic goiter gave a growth of *Micrococcus tetragenus*, and a growth of *Streptococcus vermiformis* of Sternberg was obtained from one case of cystic goiter.

### Old Dominion Journal of Medicine and Surgery, Richmond, Va.

*March, XVI, No. 3, pp. 97-150*

105 Nature of Malignant Tumors. A. G. Brenizer, Charlotte, N. C.
106 Principles of Serum Therapy. I. Battle, Rocky Mount, N. C.
107 Ligation of Superior Thyroid for Goiter Under Local Anesthesia, with Report of Case. I. Watson, Oklahoma City.

### New Jersey Medical Society Journal, Orange

*March, IX, No. 10, pp. 491-544*

108 Indurative Headache. C. C. Beling, Newark.
109 Phthisiophobia. T. W. Orange
110 Cholecystic vs. Duodenal and Duodenal Versus Cholecystic Disease. J. B. Deaver, Philadelphia.
111 Ethical Problems Confronting Eye, Ear, Nose and Throat Specialist. L. Emerson, Orange.
112 Diagnosis of Incipient Pulmonary Tuberculosis. C. V. R. Bumsted, Newark.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Journal of Children's Diseases, London

*March, X, No. 111, pp. 97-144*

1 *Multiple Calcification ("Calcinosis") in Subcutaneous Tissue. F. P. Weber.
2 Subaortic Stenosis. H. Thursfield and H. W. Scott.
3 Case of Patent Ductus Arteriosis. R. Miller and G. H. Orton.

1. **Multiple Calcification in Subcutaneous Tissue.**—Weber's patient, aged 7 years, was admitted to the hospital on account of the presence of a large number of hard nodules in the subcutaneous tissue of the extremities and the portions of the trunk adjoining the extremities. Most of the nodules were smaller than an average pea, but some of them, especially those on the buttocks and about the knees, were much larger, the larger nodules having apparently arisen by the coalescence of several smaller nodules. The face, head, thorax and abdomen were practically free. On the child's admission to the hospital the skin over one of the nodules was ulcerated, and the skin was inflamed and adherent over one or two others, but the nodules, as a rule, gave rise to no pain or tenderness, and seemed to have developed without the child being aware of their existence. The lymph-nodes in the groins and right axilla, and some in the neck, were moderately enlarged. The liver and spleen could not be felt, and the child seemed to be free from any visceral disease. The urine contained no albumin or sugar. There was no fever. The presence of hard subcutaneous nodules was first noticed twelve months before the patient's admission to the hospital, and since these were detected many others had appeared. One little nodule near the right knee became very prominent and discharged spontaneously six weeks before admission. In regard to the patient's past history, she is said to have been subject to skin eruptions, but the chief point is that in November, 1909, she was under treatment at a fever hospital for scarlet fever, and that from that time to August, 1910, she suffered successively from diphtheria, paresis of the lower extremities (diphtheritic paralysis?), a skin eruption somewhat resembling lichen ruber, pneumonia, an abscess in the right axilla and an abscess at the back of the neck, a corneal ulcer (marantic?) of the left eye, and left-sided

otorrhea. The corneal ulcer perforated (giving rise to considerable prolapse of the iris), but ultimately healed up again. During the latter period of this succession of illnesses the patient was in the hospital. She left the hospital on Aug. 1, 1910, but was readmitted in September of the same year for temporary fever of uncertain origin. Since that time the child's condition seems to have remained satisfactory until the appearance of the subcutaneous nodules first attracted the parents' attention about August, 1911. That the subcutaneous nodules consist largely of calcareous material has been proved both by Roentgen-ray examination and by chemical analysis. The nodules occasionally become inflamed and softened, the skin over them becomes adherent, and if left to themselves thin purulent matter mixed with calcareous debris would be discharged.

## British Medical Journal, London

*March 15, I, No. 2724, pp. 537-592*

4 *Alimentary Toxemia. W. H. White.
5 *Bacteriology of Alimentary Canal. F. W. Andrewes.
6 *Alimentary Toxemia: Its Symptoms and Treatment. R. Saundby.
7 Idem: Consequences and Treatment from Surgical Point of View. W. A. Lane.
8 Death by Electric Currents and Lightning. A. J. Jex-Blake.
9 Necessity of Recognizing Midwifery as Branch of Surgery. V. Bonney.

4. Also published in *The Lancet*.

5. **Bacteriology of Alimentary Canal.**—As to the part played by bacteria in alimentary toxemia, it seems to Andrewes reasonable to lay down the following propositions: In an important group of cases the poisoning is by foreign proteins, as such, the defect lying in the liver, which ought to shield the body from their effects. With this, bacteria have, as a rule, nothing to do. The main effect of bacterial activity in the production of alimentary toxemia lies in their ability to carry out protein cleavages beyond the capacity of the ordinary digestive ferments, with the formation of products which, when in excess, the body is unable to neutralize. There is at present little evidence that true toxins, derived from the ordinary flora of the gut, soluble or intracellular, play much part in alimentary toxemia.

6. **Symptoms and Treatment of Alimentary Toxemia.**—Under physiologic conditions, Saundby says, the natural protective agencies in the alimentary system are sufficient to shield the body from the dangers of poisons formed therein or of those introduced with the food, provided that these are not in overwhelming amount. Infrequent or incomplete evacuation of the colon is not in itself a cause of disease. Such morbid symptoms as arise result from a breakdown in the protective machinery, in consequence of functional defects or pathologic changes in the organs concerned. Wholesome food in reasonable quantities may consist of animal or vegetable protein, carbohydrates and fat in due proportion, and the evidence does not justify the entire exclusion of animal protein, as being directly or indirectly the cause of toxemia. When toxemia is present treatment should be based on the principles of eliminating the poison already present, preventing any further introduction and reinforcing the natural protective agencies. Where there is extensive disease of the wall of the colon the exclusion or removal of this organ is a justifiable proceeding after a reasonable trial has been given to medical methods.

## Edinburgh Medical Journal

*March, X, No. 3, pp. 193-288*

10 Inquiry into Outbreaks of Febrile Illness, with Rapidly Fatal Cases, Occurring in Boys' Industrial School Near Edinburgh. C. McNeil and J. P. McGowan.
11 *Carcinoma of Stomach; Analysis of 200 Cases. J. Langwill.

11. **Carcinoma of Stomach.**—Langwill summarizes his study of 200 cases as follows: Gastric cancer is probably the commonest form of malignant growth occurring in males. Perhaps with the exception of the uterus and breast, it is also the most common form of malignant growth in females. It is all-important therefore that greater attention should be given to its early recognition. Females are far more frequently affected than text-books would lead one to imagine. Gastric cancer is not so much a disease of middle age as one would be led to believe, a marked percentage of cases occurring under 40. The prevalence of the belief that it is a disease of middle age has often led to disastrous results in the diagnosis of the disease under 40. Heredity, in some cases, plays an important rôle in etiology. When present, it is usually markedly so.

All cases of gastric ulcer, healed or unhealed, are potential carcinomas. Alcohol, by acting as an irritant, may cause ulceration and, later, carcinoma, or it may cause carcinoma directly. Oral sepsis and carious teeth probably are important factors also. "Pyloric" carcinomas are more common than "gastric." As a rule, the former give more definite signs. They should accordingly be more easily diagnosed, and as they lend themselves more readily to excision, operative results should be brighter. Gastric disturbance in a person of over 45 should always arouse suspicion and be considered seriously. Unless definite improvement occurs in three or four weeks under medical treatment, such cases should be dealt with surgically. Systematic weighing in all gastric cases should be more commonly practiced, carcinoma being marked by a steady decrease in body-weight.

Anemia being marked in most cases only toward the close, blood examination is probably useless as a help to early diagnosis. Like anemia, subnormal temperature also is probably a late occurrence. Constipation is a marked feature in practically every case of carcinoma of the stomach. But its occurrence is so common, even in health, that it must only be awarded secondary consideration. Anorexia as a symptom is of the greatest importance—especially if occurring in a person over 45 previously healthy—all the more so if it be accompanied by a feeling of load or weight in the epigastrium after food, by eructations, water-brash and heartburn. Vomiting and hemorrhages as symptoms are too often late occurrences to be of value in diagnosis in the early stages. Pain is an almost invariable early symptom. Examination of test-meals should be more commonly performed. On the results obtained, however, reliance can be placed only in the late stages. In the early stages they may support a doubtful diagnosis. Careful abdominal examination is essential. It must be performed leisurely and frequently repeated. The presence of a tumor above the umbilicus should be a signal for immediate action, provided the bowels have been cleared out, and a splenic or hepatic origin excluded.

Scientific tests should be more generally resorted to. The disease, however, first comes under the notice of the ordinary practitioner, who, in many cases, unfortunately lacks both the time and the facilities for the necessary investigations. In most cases scientific tests are applied and results drawn therefrom only when the disease is clinically almost unmistakable. Cases in the past have been sent to the surgeon much too late—a fact clearly brought out by the relatively small number in which a radical operation was possible.

The only cure at present is a surgical one, and the mere prolongation of life is possible only through surgical intervention. All cases of doubtful gastric disorder, therefore, should be submitted to a careful examination, first without and later (if necessary) under a general anesthetic. This applies both to chronic cases and to cases occurring in persons over 45 with a previously clean gastric history. If, thereafter, doubt exists, the situation being clearly and definitely described to the patient and his friends, a surgeon should be consulted. With the surgeon eventually must the issue lie. Only by the collaboration of physician and surgeon will an early diagnosis be arrived at, and a consequent radical treatment be rendered possible.

## Glasgow Medical Journal

*March, LXXIX, No. 3, pp. 161-239*

12 *Two Unusual Forms of Spina Bifida. G. H. Edington.
13 Sporadic Congenital Deafness and Deafness from Syphilis. J. K. Love.

12. **Two Unusual Forms of Spina Bifida.**—The cases reported by Edington are: (1) Spina bifida occulta in upper cervical region with irregular formation of laminae and a large mass of fat covering the vertebral defect. (2) Lumbosacral spina

bifida, presenting large unilateral swelling in right gluteal region and deformity of corresponding lower limb.

### Journal of Tropical Medicine and Hygiene, London

*March 1, XVI, No. 5, pp. 65-80*

14 Climate and Other Factors in Relation to Health of Europeans in China. J. G. Cormack.
15 Tropical Diseases in Tripoli. U. Gabbi.
16 Intestinal Parasites in Costa Rica. S. C. Jamison.

### Lancet, London

*March 15, I, No. 4672, pp. 737-802*

17 Surgery of Thyroid, with Special Reference to Exophthalmic Goiter. J. Berry.
18 Alimentary Toxemia. W. H. White.
19 *Etiology of Cysts Connected with Hernia Sacs. R. W. Murray.
20 Static Cyclophoria. A. A. Bradburne.
21 *Treatment of Carbuncles, Boils, Staphylococcic and Streptococcic Infections by Internal Administration of Dilute Sulphuric Acid B. P. J. Reynolds and R. J. Reynolds.
22 *Tuberculin Treatment of Pulmonary Tuberculosis. N. D. Bardswell.
23 Some Anatomic Considerations of Disposition of Sciatic Nerve and Femoral Artery. F. Wood-Jones.
24 Retained Placenta of Extra-Uterine Pregnancy. J. Aikman.
25 Case of Gangrene of Leg in Infant 11 Days Old; Amputation; Recovery. D. C. L. Fitzwilliams and W. H. Vincent.

19. **Etiology of Cysts Connected with Hernia Sacs.**—A young man suffering with a "hydrocele of the cord" presented himself to Murray. At the operation a small hernia sac was found, and connected with the fundus of the sac were two patent funicular processes, each of which opened into the sac. At the blind end of the shorter process was a tense cyst, 1 inch in length which contained clear fluid. The longer process had a uniform lumen and passed downward behind the cyst, to which it was intimately adherent. The lower end of this process was connected with the tunica vaginalis by a fibrous cord, so that it undoubtedly was the remains of the true processus vaginalis testis. A second case was that of an adult male, who was admitted to hospital for the cure of a scrotal hernia which had existed for many years and could not be reduced satisfactorily. At the operation a large cyst, which contained clear fluid, was found lying on and intimately adherent to the anterior surface of the sac wall. Murray submits that as the gubernaculum is undoubtedly responsible for the presence of the peritoneal divertieulum known as the processus vaginalis testis, circumstantial evidence is strongly in favor of the view that if this process is found to be duplicated then this second divertieulum must be due to a duplication of the force which produced the first. If this premise be correct then the subsequent irregular obliteration of these processes, Murray believes, clearly accounts for the anomalous conditions deseribed.

21. **Sulphuric Acid for Carbuncles, Etc.**—The treatment used by the Reynoldses in these cases consisted in administering internally dilute sulphuric acid B.P. in 20- or 30-minim doses, each dose diluted with 2 ounces of water, every four hours. In the case of carbuncle treated by this drug in large doses (small doses are not of the slightest use), changes are observed to take place in the following order: First, within twenty-four hours the infiltrated area of tissue becomes strictly circumscribed; then the slough is observed to soften; during the next few days pus is freely discharged, and the whole affected area shrinks and healthy granulation tissue forms, filling up the cavity until the part is healed. The cicatrization takes place in a comparatively short time from the commencement of the treatment, the period varying, of course, with the size of the lesion. The only external application is a dressing of phenolized petrolatum (1 in 20).

In cases of what would appear to be streptococcic infection, such as those resulting from abrasions or punctures by bones of high game, or inoculation by decomposing animal matter, the patient showing early symptoms of septicemia, a somewhat different though favorable course obtains; the high temperature is quickly reduced and the pain and swelling and malaise gradually subside, the patient progressing uninterruptedly toward convalescence. Where the lymphatics are inflamed and the glands enlarged and painful these conditions in a few days also disappear.

The authors have treated in the same way a very large number of patients— e. g., blind boils, which are aborted and completely disappear. Recurrent crops of boils and pimples in different parts of the body and severe cases of acne have yielded readily. In one case in particular, in which the patient developed recurrent crops of boils, the drinking-water was found to be taken from a very foul cistern with dead animal and vegetable matter covering the bottom. This remedy proving so effectual in such classes of cases, they were led to try its effect on other conditions where pyogenic organisms were responsible for some of the symptoms observed. Cases of bronchiectasis and pulmonary tuberculosis, in which there is so often a staphylococcic infection, were benefited; the sputum becomes less purulent and much less in quantity, and in tuberculous cases the fluctuations of temperature are less.

22. **Treatment of Pulmonary Tuberculosis.**—Bardswell recommends the tuberculin treatment and cites the records of patients treated at the King Edward VII Sanitarium.

### Annales de Médecine et Chirurgie Infantiles, Paris

*January 1, XVII, No. 1, pp. 1-32*

26 Treatment of Tuberculosis in Children on the Mediterranean Coast. L. Revillet.
27 Direct Sunlight in Treatment of Tuberculous Peritonitis; Rapid Cure in Three Cases. D'Oelsnitz.
28 Modification of Abbott's Method of Treating Scoliosis. Q. Calve and L. Lamy.

*January 15, No. 2, pp. 33-64*

29 Vomica in Children. Maillet and Aime.
30 Diagnostic Importance of Manner of Children's Crying. (Le diagnostic du "cri" chez l'enfant.) R. Saint-Philippe.
31 Radioscopy in Diagnosis of Infants' Diseases. (Applications de la radiologie à l'étude des maladies du nourrisson.) G. Variot.
32 General Principles for Treatment of Tuberculous Spondylitis. (Considérations sur le mal de Pott.) Froelich.

*February 15, No. 4, pp. 97-128*

33 Fascia Graft to Correct Spina Bifida. (La greffe aponeurotique libre dans l'opération du spina bifida.) G. Piéri.
34 Gastro-Enterostomy on Thirteen-Day Infant. (Sténose hypertrophiante du foie chez un nourrisson. Gastroentérostomie. Guérison.) Fredet and L. Tixier.
35 Pulmonary Complications of Scarlet Fever. Two Cases. R. Porak.

*March 1, No. 5, pp. 129-164*

36 *The Alimentary Saccharose Test for Infants. (L'épreuve de la saccharosurie alimentaire chez le nourrisson.) Gaujoux.
37 Chronic Appendicitis in Children. P. Lereboullet.
38 Inefficiency of Serotherapy by the Rectum. E. Lesné and L. Dreyfus.

36. **Saccharose Test for Infants.**—Gaujoux summarizes forty-eight cases in which he applied the alimentary saccharosuria test. The results show that when saccharose appears in the urine after ingestion of less than 2 gm. per kilogram of weight, there is reason to assume insufficient functioning on the part of the liver or intestines or both, and the prognosis should be guarded. The test was made with ordinary simple syrup containing 50 per cent. saccharose.

### Archives des Maladies du Cœur, etc., Paris

*March, VI, No. 3, pp. 161-224*

39 The Intersystole in Man. (L'intersystole chez l'homme. Démonstration clinique de son existence chez l'homme et du mécanisme de la fermeture des valvules auriculo-ventriculaires.) G. Etienne.
40 Sudden Death in Perpetual Arhythmia. (La mort subite dans l'arythmie complète.) J. Heitz and G. Clarac.
41 Case of Anemic Diastolic Murmur at Base of Heart. Bouchut and Mazel.
42 Lymphoid Leukemia in Cattle. (La leucémie lymphoide chez les bovidés.) C. Aubertin and T. Morel.
43 *Arterial Pressure During Digestion. M. Looper.

*April, No. 4, pp. 225-304*

44 Alternating Rhythm After Extrasystole. (Alternance du pouls révélée à la suite d'une extrasystole. Sa valeur pronostique.) J. Heitz.
45 Atypical Chloroma. (Etude clinique hématologique et anatomique d'un cas de chlorome atypique.) Pissavy and C. Richet, Jr.

43. **The Arterial Pressure During Digestion.**—In the three normal persons examined the arterial pressure rose after a meal but then, after from fifteen to forty-five minutes, it

dropped to below normal. Then the pressure rose again and ran up higher than normal by the third hour. He analyzes the different elements of the food liable to be responsible for these fluctuations. The initial hypertension seems to be due exclusively to the distention of the stomach, and it is more marked the larger the amount eaten and drank. The secondary hypotension corresponds to the phase of gastric secretion; the hypotension thus is more marked after foods that stimulate gastric secretion, strongest with salt and meat, weakest with milk, briefly transient with water and macaroni. The secondary hypertension corresponds to the distention of the intestine and the plethora in the blood. It is proportional to these, to their irritating action on the vessels and the rapidity of their elimination. The above facts demonstrate the necessity for avoiding large meals and ingesting much liquid when the arterial pressure is already considerable. Another lesson taught is that the secretion of hydrochloric acid should be reduced as much as possible. The third practical conclusion is that salty foods, alcohols and all stimulants should be avoided by such patients, especially by those with atheroma or chronic kidney disease. In this group the phase of tardy hypertension is particularly pronounced.

### Archives des Maladies de l'App. Digestif, Paris

*February, VII, No. 2, pp. 61-120*

46 *Operative Treatment of Gastric Cancer; Sixty-Nine Cases. G. Faroy.
47 *Diabetes in Course of Acute Partial Pancreatitis. Norero.
48 Acute Infectious Colitis in Adults. A. Cade.

46. **Gastric Cancer.**—Faroy has reexamined recently sixty-nine patients given operative treatment before 1907 for malignant gastric disease. Although none seemed radically cured by the operation yet long survival was realized in a number of cases, the patients living three or four years afterward in fair condition. This occurred in 66 per cent. of the nineteen cases of malignant degeneration of a gastric cancer. The cancer can develop only slowly in old ulcer tissue. The outcome was less favorable in the cases without a history of a gastric ulcer; only 33 per cent. in this group survived for more than a year.

47. **Diabetes from Pancreatitis.**—Diabetes developed in the course of an acute destructive inflammatory affection of the pancreas in a man of 41, a hard drinker. Necropsy showed old cirrhosis of the liver and pancreas, but the glycosuria had come on only after the acute hemorrhagic pancreatitis had developed. It proved fatal. Norero compares the case with similar ones on record, emphasizing that even for the milder forms of diabetes some pancreatic derangement may often be incriminated.

### Archives de Médecine des Enfants, Paris

*March, XVI, No. 3, pp. 161-240*

49 Acute Colitis in Children. V. Hutinel and P. Nobécourt. To be continued.
50 Chlorotic Type of Anemia in Children. M. de Biehler.
51 Sarcoma of Ovary in Infant. A. Lesage and Girault.

### Journal de Médecine de Bordeaux

*March 2, XLIII, No. 9, pp. 129-144*

52 The Part Played by the Lipoids in Biology and Therapeutics. P. Mauriac.
53 Complex Aphasia and Parietal Syndrome with Necropsy. H. Verger and Desqueyroux.

### Lyon Chirurgical, Lyons

*March, IX, No. 3, pp. 233-350*

54 *Malignant Chorio-Epithelioma; Six Cases. A. Pollosson and H. Violet.
55 *Combined Operation for Cancer of the Rectum. (Résultats immédiats et éloignés de l'opération combinée dans le cancer du rectum.) A. Chalier and E. Perrin. Commenced in No. 2.
56 Palliative Operations for Cancer of Lower Bowel. (De l'insuffisance de l'anus caecal pour assurer en permanence la vidange du gros intestin dans les cancers occlusifs du rectum et de l'S iliaque.) H. Muller.
57 *Operative Treatment of Gastric Crises. (A propos des opérations rachidiennes chez les tabétiques.) J. A. Sicard. (L'opération de Franke et l'opération de Foerster dans les crises viscérales du tabes.) R. Leriche.

54. **Chorio-Epithelioma.**—Pollosson and Violet have encountered six cases in the last three years and report them in detail. These are the first that have been noted at Lyons since 1894. This malignant growth never occurs without a preceding pregnancy, usually a mole pregnancy. It spreads exclusively by way of the blood-vessels, the veins; the lymphatics are rarely if ever invaded. Metastases are frequent, especially in the lungs, but they have also been encountered in the spleen, liver, kidney, brain and vagina. In one of their cases a nodule in the vagina first cleared up the diagnosis. In some cases the symptoms from the metastasis were the first to be noted. Hemoptysis, pulmonary symptoms, uncontrollable vomiting, mental derangement, hemiplegia—these have been observed from the metastasis when there were no symptoms on the part of the uterus. Phenomena of this kind after a childbirth, miscarriage or mole should suggest the possibility of a chorio-epithelioma with early metastasis. In the majority of cases, however, hemorrhage is the first symptom. If microscopic examination is not made, the chorio-epithelioma is liable to escape detection or it may be taken for a simple polyp. The prompt recurrence of the polyp is typical but if the patient is not seen by the same medical attendant each time the new polyp may be ascribed to an incomplete exploration at the other times. In one of the cases reported, the supposed placental polyp recurred three times in the course of three months. Treatment can be only operative, preferably by abdominal hysterectomy; in one of the cases reported two metastatic nodules were found in the ligaments. Of the five patients operated on, all are living, one after five years, the others after three and four and one after twenty years. Four of the patients were between 22 and 29 and all but one had borne one child before; another was 50, a vii-para, and one 43, a iii-para.

55. **Cancer of the Rectum.**—Chalier and Perrin state that the mortality of the combined operation for cancer of the rectum in 208 cases they have compiled from sixteen clinics, has ranged from 16.66 to 69.23 per cent. The larger size of the female pelvis renders the outlook for women better both at the time and later. The principal complication is from infection, and the progress of technic will improve conditions in this respect. Of 125 patients followed to date, 16.8 per cent. have been permanently cured for over three years (15 of 55 women; 6 of 68 men). The combined operation was followed by recurrence in only 19.48 per cent. of 77 patients traced for more than three months. This is a much better showing than with other methods. Goullioud has reported a recurrence after more than five years, and Rotter after over three years. In the six known cases of metastasis, it was in the liver in three, the lung or brain in the others. In all the cases in which the sphincter was preserved there were no functional disturbances, not even when the coccyx and last sacral vertebra had been sacrificed.

57. **Operative Treatment of Gastric Crises.**—Sicard declares that Franke's operation is illogical because it does not really act on the spinal ganglion nor on the posterior roots, while it becomes dangerous if we attempt to extract the ganglion by the external route. Guleke's operation permits escape of the spinal fluid and possibility of infection of the meninges. The operation Sicard here advocates anew seems to him superior to other technics for various reasons. He ligates in the epidural space the posterior and anterior roots together, after which they are severed, with or without removing the ganglion at the same time.

Leriche has applied Franke's operation in five cases and found it entirely harmless when properly done while it is not illogical and it may answer the purpose, but its lack of precision is a drawback. The method may be indicated in the debilitated, but under other conditions he advocates intradural severing of the roots. He has done this extradural in four cases, twice in tabetics, once for Parkinson's disease and once for zona. He severed in these four operations twenty-three of the posterior roots; the operation was simple and easy in one case but in the others it caused severe hemorrhage, interfering with the operation and liable to permit infection of the

meninges. Since then he does the operation intradural and regards this an improvement in the technic.

### Presse Médicale, Paris

*March 1, XXI, No. 18, pp. 165-176*

58 Family of Dwarfs from Defective Development of Cartilage. (Nanisme familial. Mésomélie et brachymélie métapodiale symétrique.) Bertolotti.
59 *Technic for Injection of Neosalvarsan. P. Ravaut.

*March 5, No. 19, pp. 177-184*

60 Technic for Subcutaneous Injection of Quinin. G. H. Lemoine.
61 Toxic Action of Glandular Secretions as Factor in Syndrome of Ileus. H. de Gaulejac.

*March 8, No. 20, pp. 185-196*

62 Arrest of Development Limited to the Skull and Scalp. E. Bounaire and G. Durante.
63 *Simple Serum from Animals in Surgery and Therapeutics. H. Nolhia.

59. **Technic for Injection of Neosalvarsan.**—Ravaut states that sodium chlorid acts on this drug and consequently should not be injected with it. If a little neosalvarsan is dissolved in plain distilled water and other specimens in salt solutions of varying strengths, the solution with distilled water alone will remain permanently limpid while the solutions with salt will grow turbid in twenty-four hours. He consequently avoids the use of sodium chlorid, and has found that the drug will not lake the blood-vessels if it is in a concentration of 10 c.c. of distilled water for 0.45 or 0.60 gm. of neosalvarsan, or in 15 c.c. of distilled water to 0.75 and 0.9 gm. of the drug. These proportions have been tentatively arrived at and have been found the best for intravenous injection of neosalvarsan in his experience. He commences with the smallest dose, increasing to the largest mentioned above. The injections are made at eight-day intervals. Some of his patients were given up to six injections in the same vein but no induration followed.

63. **Simple Serum in Treatment.**—Nolhia reviews the history of the use of non-specific simple serum from animals to combat hemorrhage and infections, both by local application and by subcutaneous or intravenous injection. It favors the coagulation of the blood, stimulates the leukocytes and promotes their diapedesis while it has a bactericidal action. R. Petit asserts that it is not necessary for the serum to be fresh for local application, and that heating it to 56 C. suspends certain qualities which might be injurious. It can be used in the form of a dry powder, dissolving it when needed in ten times its weight of physiologic salt solution. In this form it seems to be particularly useful for burns after they have been cleansed, rinsed with hydrogen dioxid and then with boiled saline. The burned region is then covered with several thicknesses of gauze dipped in horse-serum, heated; over this two or three compresses moistened with saline, then oiled silk and cotton. This dressing is changed at first every twenty-four hours. The oiled silk can be discarded if the epidermis becomes macerated. Later the serum is replaced by dusting with desiccated serum. In treatment of hemorrhage, the desiccated serum is particularly useful for all except hemorrhages from injury of an artery. In treatment of hemorrhage by subcutaneous or intravenous injection, the serum must be fresh, not heated. There is no fear of trouble at the first injection or soon after, but if there has been an interval of fifteen days it is better to test the sensitiveness by a tentative injection of 1 or 2 c.c., or 5 c.c. at most, in the loose cellular tissue, extremely slowly. If the patient shows the least disturbance from this, nausea, distress, more rapid pulse or lipothymia, it is better to refrain from the injection. The fear of anaphylaxis imposes great caution in injecting fresh serum for its hemostatic action, especially in hemophilia. Weil, who has made a special study of this subject, found that human serum, horse, rabbit and beef serum were equally effectual in this line, but that beef serum sometimes induces briefly transient accidents. Antitoxin might be used if quite fresh, but simple serum answers the purpose. Hemopoietic serum is especially useful in the anemia following severe hemorrhage; this is serum taken from animals after repeated venesection, their blood being thus in active regeneration. (See Editorial in THE JOURNAL, Oct. 26, 1912, p. 1549.)

### Semaine Médicale, Paris

*March 12, XXXIII, No. 11, pp. 121-132*

64 Treatment of Fracture of the Patella. F. Lejars.

### Beiträge zur Geburtshilfe und Gynækologie, Leipsic

*XVIII, No. 1, pp. 1-162. Last indexed Nov. 23, 1912, p. 1926*

65 *Removal of Cerebellum in Case of Congenital Occipital Hydrencephalocele. R. Mees.
66 Symptomatology of Rachitis and Osteomalacia in Japan. M. Ogata.
67 Double Monster. (Dicephalus tribrachius.) A. Hajocrlc.
68 Unusual Forms of Contracted Pelvis. (Einige seltene Formen von engem Becken.) A. Mayer.
69 Active Measures in Febrile and Septic Abortion. Y. Kasashima.
70 "Twilight Sleep" in General Anesthesia. (Ueber den Pantopon-Scopolamindämmerschlaf.) Y. Kasashima.
71 The Solidity and Elasticity of the Abdomen. (Aggregatzustand—Elastizität und Festigkeit des Bauches.) H. Sellheim.
72 Gynecology and Psychiatry. (Eierstocks-Uteruskrankheiten und Psychopathien.) L. M. Bossi.

65. **Removal of Cerebellum.**—The tumor at the back of the head was as large as the head itself but the child was apparently normal otherwise. The second day after birth the hydromeningocele was removed and with it the cerebellum and vermiform appendix which projected into the tumor and had evidently suffered from the compression to such an extent as to render recuperation impossible. The floor of the fourth ventricle was exposed by the operation. The child nursed vigorously after the operation and did not seem much the worse for it. The temperature ran up to 40.5 C. several times in the first three days but then dropped to normal. The infant vomited twice the third and fourth days and for twelve days in the eighth and ninth weeks. Other disturbances attributable to the loss of the cerebellum are nystagmus, lack of corneal reflex action and a tendency to hypertonicity of the legs. Recurring hydrocephalus required tapping four times, but this has not been necessary since for nine months. The child is developing slowly; it cannot sit up nor stand yet at the age of 15 months. Mees has found seventy-five cases of occipital encephalocele on record. The list includes four with hernia of cerebellum, all cured by operative treatment. In eight cases no operation was attempted and the children all died. In nine cases the children were born dead. In fourteen cases the encephalocele contained other parts of the brain.

### Berliner klinische Wochenschrift

*March 3, L, No. 9, pp. 381-428*

73 *Operative Treatment of Nephritis. (Beitrag zur Chirurgie der Nephritiden.) A. Pousson.
74 *The Kidneys in Eclampsia. (Ueber die Schädigung der Niere bei der Eklampsie.) A. Zinsser.
75 *Resection of Stomach; 157 Cases. S. Weil.
76 *Influence of Sequestration of Venous Blood on the Pulse in Heart Disease. (Demonstration der Wirkung der Venenstauung auf die Pulskurven Herzkranker.) C. S. Engel.
77 *Coagulation by Electricity as Adjuvant in Operative Treatment of Cancer. (Die Elektrocoagulation bei der chirurgischen Behandlung des Krebses, speziell des Gebärmutterkrebses.) Abel.
78 Chemical Action of Thorium X on Organic Substances, Especially Uric Acid. W. Falta and L. Zehner.
79 The Active Principle in the Biochemical Reaction to Radiotherapy. G. Schwarz.
80 Internal Secretion and the Nervous System. A. Münzer. Commenced in No. 7.
81 To Improve Instruction in Midwifery. (Vorschläge zur Verbesserung des neuen preussischen Hebammenlehrbuchs.) C. Holste.

73. **Operative Treatment of Nephritis.**—Pousson used to teach that operative treatment of acute toxic nephritis could not benefit on account of the rapid destruction of epithelium, but recent experimental research has converted him to the view that decapsulation and nephrotomy may alter conditions to such an extent that the still intact elements may proliferate and vicariously substitute the destroyed patches. In twenty-six cases of acute nephritis there was no mortality in the group of eleven in which the disease had not reached the phase of suppuration; in the other fifteen there were two operative and two later fatalities. The intensity of the fever and impairment of the general condition are direct indications for

operative measures when with oliguria there is much albuminuria and numerous leukocytes and casts in the urine. For acute nephritis as well as for the chronic he advises nephrotomy. This relieves the pressure inside the organ from the proliferation processes in the canaliculi, blood-vessels and connective tissue inside of the inelastic capsule. The nephrotomy further permits a copious outflow of blood which not only relieves the kidneys and regulates diapedesis but clears out the obstructions in the tubuli and washes away toxins. Kneading of the kidney may help in this. The incision also permits the calices and pelvis to be rinsed out with a weak antiseptic solution. The drainage, which is indispensable, continues the good work. Nephrotomy thus provides for relief of pressure, antisepsis and drainage, while decapsulation answers only the first of these indications. In three cases of chronic painful nephritis he combined decapsulation and nephrotomy with the best of results. One of these patients has not had the slightest disturbance during the seven years since. He tabulates twenty-four cases of chronic nephritis in which the fatal outcome was postponed by the operation for from two to over fifteen months. The survival was longest in the cases with edema alone; it was less when the edema was accompanied by uremia, and shortest with uremia and oliguria without edema. Sixty-six patients survived to date of writing, eight apparently cured, eleven very much improved, twenty-three much improved and only six showing no improvement. The eight cured cases were in patients with uremia alone, edema plus uremia, edema plus oliguria, or uremia plus oliguria. Very great improvement was observed in eleven cases in these various groups, as also in twenty-three with one of the six types of Bright's disease. The cases showing no improvement were in the groups with edema alone, uremia alone, or both combined. Myocarditis contra-indicates any operation for nephritis as the patient is liable to die suddenly either from the anesthetic or the strain on the organism. On the other hand, hypertrophy of the heart with powerful apex beat and gallop rhythm should urge the operation. By reducing the pressure in the kidney, the task of the heart is rendered lighter. In the total 164 cases of operative measures in nephritis which he has compiled, decapsulation alone was done in 153. Even when the chronic nephritis is not accompanied by severe symptoms but still interferes with ordinary social and business life, he advocates surgical measures after failure of the internal; particularly in that phase of Bright's disease when the urine does not contain much albumin or casts but the urea and the urates are constantly decreasing and there is cachexia manifested by pallor, slight puffiness of the face, fleeting edema of the legs, much weakness, dyspnea on slight effort and low red corpuscle count.

74. **The Kidneys in Eclampsia.**—Zinsser is convinced that the kidneys suffer only secondarily in eclampsia. Measures to act on the kidney hence cannot have an essential influence on the disease although disturbance in the kidney functioning aggravates the general condition. From this point of view the elimination of salt in the urine is important for the prognosis. When the salt content suddenly and continuously drops to a fraction of the normal figure, the prognosis is grave while a medium salt content even with a clinically severe syndrome permits hope of a favorable outcome.

75. **Resection of the Stomach.**—Weil states that during the last five and one-half years 800 operations on the stomach have been done in Küttner's service. In 149 cases this was a typical resection of the stomach. In fourteen cases of callous ulcer one patient died of pneumonia, another of gangrene of the lung and the third of hemorrhage from a second ulcer in the stomach. The remaining eleven patients are entirely well to date; the general health and the functioning of the digestive tract did not seem to be affected at all by the resection of the stomach. Of the 104 patients with cancer who survived the operation and its effects, forty are still living; eight for more than three years. This gives 2 or 3 per cent. permanently cured of the total patients with gastric cancer who were given treatment at the clinic between 1907 and 1909. Comparison with previous decades shows that the number of permanent cures is about the same while the proportion of patients with operable gastric cancer has grown less. Progress can be only along the lines of an earlier diagnosis.

76. **Sequestration of the Blood in Heart Disease.**—Engel gives a number of tracings taken before, during and after the blood had been sequestrated in the arms and legs by compression with two large pneumatic cuffs. The pressure was applied only enough to arrest the venous blood while the arterial blood could still flow into the limbs. The tracings show a remarkable effect on the heart, giving it a chance to rest and recuperate.

77. **Electric Method of Excising Cancer.**—Abel calls attention to the advantage of cutting the tissues with the de Forest electric needle which cuts quicker than the knife and modifies the tissues so that they are coagulated instantaneously, thus closing the blood and lymph vessels as they are cut and hence preventing any absorption into them of cancer-cell tissue. He summarizes his principle in the statement that the carcinoma should be killed before removal, that is, be coagulated through and through with the electric current before we touch it. This diathermy preliminary to the excision lengthens the operation only slightly but it possibly may prove an effectual barrier against recurrence in the wound.

### Deutsche medizinische Wochenschrift, Berlin

*March 6, XXXIX, No. 10, pp. 441-488*

82 *Syphilitic Disease of the Aorta. T. Deneke.
83 Lupus of the Nose. (Schleimhautlupus der Nase.) Walb.
84 *Typhoid Bacilli on the Tonsils. F. and L. Schütz.
85 *Tuberculosis in Childhood. A. de Besche.
86 *Technic for Microscopic Study of Tubercle Bacilli. (Verhütung der mikroskopischen Fehldiagnose der Tuberkelbazillen.) H. Bontemps.
87 *Toxicity of Urine in Acute Infectious Diseases. (Weitere Mitteilungen über die Giftigkeit des Harns bei Masern und anderen Infektionskrankheiten.) H. Aronson and P. Sommerfeld.
88 Local Anesthesia for Operations on Sternum. (Ueber Lokalanästhesie bei Operationen am Brustbein.) H. Harttung.
89 Indications for Arthrodesis. W. Böcker.
90 *Operative Treatment of Nephritis. (Operative Behandlung der Nierenentzündung.) P. Herz.
91 *Latent Erysipelas. S. S. S. Blumenfeld.

82. **Syphilitic Disease of the Aorta.**—Deneke reviews his experiences with 173 cases. About half of the patients admitted syphilis and one had signs of inherited syphilis. The shortest period between infection and the aorta disease was five years; the longest, forty-four years; the average about twenty. No occupation or age seemed to be particularly affected. In fifty-three cases the nervous system was also investigated and disease of the nervous system was evident in 40 per cent. The mortality was large, some of the patients succumbing suddenly, others after a long course of improvements and exaggerations. In forty-six cases under observation for some time, the present condition is unmistakably the more favorable the more vigorous and persevering the specific treatment to which the patients had been subjected. In this group is one workingman of fifty-one who had severe pulmonary edema at first but improved under treatment until he has regained full working capacity. Another patient is a merchant of 38 whose left radial pulse had been imperceptible for years but after several courses of treatment, the pulse returned. This group also includes a number of patients whose previous sickly aspect has changed to that of health as their seriously demoralized myocardium recuperated in surprising fashion. In his service at the public hospital at Hamburg, when inunctions were impracticable he gave Ricard's blend of red mercuric iodid and sodium iodid. With this formula the dosage of mercury is so small that the first course should last three months. He approves of Höfler's method of giving iodid alone when the Wassermann is negative; if positive, he associates mercury with it. Salvarsan cannot be given to patients with serious aortitis and even with good compensation great caution is necessary. Deneke seldom gave over 0.2 or 0.4 gm. and always with other measures at the same time. His personal impression is that a patient with a positive Wassermann on starting treatment is never sure against the progress of his disease until the Wassermann reaction has become permanently negative. This may require years or may never be attained; the best we

can do then is to order as many courses of treatment as possible. Transient benefit is easy to realize in these cases, but permanent success is difficult. We must impress patients with the seriousness of syphilitic aorta disease and the necessity for vigorous treatment through months and years. The trouble is that the patient feels so much improved under a single course that he is heedless of returning for further treatment and he hears outsiders talk of "injury from mercury," so he does not return for further treatment until irreparable lesions are installed.

84. **Typhoid Bacilli on the Tonsils.**—Schütz examined the tonsils of thirty-seven patients, including twenty-three with unmistakable typhoid. Seventy-one tests were made of smears from the tonsils but typhoid bacilli could not be cultivated from the tonsils in any instance.

85. **Tuberculosis in Children.**—De Besche inoculated animals with material from the lymph-nodes of 134 child cadavers; in 39 per cent. there were clinical signs of tuberculosis. Positive results were obtained in from 24 to 50 per cent., increasing from the first to the fifth years, and in 58.8 per cent. of the children between 5 and 15. In three cases of the fifty-two giving positive findings the bacilli cultivated were of the bovine type; in one of both human and bovine and in forty-five of the human type.

86. **Errors to Avoid in Examining for Tubercle Bacilli.**—Among other points Bontemps gives illustrations of some bacteria-like and acid-proof bodies which simulated tubercle bacilli but which were finally discovered to be scraps from disintegrated lycopodium spores. The newer sputum technics break up these spores very readily. Lycopodium is frequently used to dust pills and it is easily inhaled by druggists handling it or it is ingested with the pills. It is probable that there are other substances which leave detritus resembling tubercle bacilli in the body fluids. Cork cells and honey-comb wax are acid-proof. He urges search for other substances possessing this acid-proof property and liable to mislead in microscopic examination of urine, sputum, blood, milk, etc.

87. **Toxicity of the Urine in Infectious Diseases.**—Further research has confirmed the unusual toxicity of the urine in measles. The standard limit for toxicity is accepted as the fatal action of 2 c.c. of neutralized and warmed urine injected into a vein in a guinea-pig weighing from 180 to 200 gm. The present article reports the findings in 146 cases of various acute infectious diseases with 500 tests on animals. Besides measles, varicella, fourth disease and serum exanthem are accompanied by extremely toxic urine, while scarlet fever is not. This test may be found useful in differentiating scarlet fever.

90. **Operative Treatment of Nephritis.**—Herz has found decapsulation of the kidney or slitting the kidney of great efficacy in kidney colic and essential hemorrhage from the kidney, anuria or uremia, with chronic and acute nephritis, but these operations, although relieving symptomatically, were never known to bring about a cure.

91. **Latent Erysipelas.**—Blumenfeld describes two cases which show that erysipelas may develop in the depths and not reach the surface for several days.

### Jahrbuch für Kinderheilkunde, Berlin

*February, LXXVII, No. 2, pp. 125-241*

92 Elimination of Acetone in Urine of Young Children. (Die Acetonausscheidung im Urin gesunder und spasmophiler junger Kinder.) E. Liefmann.
93 Clinical Availability of Acetone Reaction in Children. (Ueber die klinischen Verwendbarkeit der Acetonreaktion in der Kinderpraxis.) G. von Bitter.
94 Whey in Treatment of Catarrhal Enteritis Resembling Dysentery. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank.
95 The Skin Reactions in the Exudative Diathesis. (Hautreaktionen bei Kindern mit exsudativer Diathese.) E. Raehmilewitsch.
96 Rupture of Umbilical Cord. (Ueber Nabelschnurbruch.) W. Usener.
97 Postdiphtheric Facial Paralysis; Recovery Under Antitoxin. (Postdiphtherische Facialislähmung.) S. Wolff.
98 Recurring Mumps. (Wiederholte Erkrankung an Parotitis epidemica.) J. K. Friedjung.

### Medizinische Klinik, Berlin

*March 2, IX, No. 9, pp. 319-356*

99 Internal Anthrax and Workmen's Compensation. (Innerer Milzbrand als Unfallkrankheit.) L. Lewin.
100 *Oxygen Under Pressure in Treatment of Asphyxia in the Newly Born. (Die Sauerstoffdruckatmung zur Bekämpfung des Scheintods der Neugeborenen.) F. Engelmann.
101 *Decapsulation of the Kidney. (Zur einseitigen und doppelseitigen Nierenenthülsung.) M. Penkert.
102 Contagiousness of Latent Syphilis. (Zur Infektiosität der latenten Lues.) M. Müller.
103 Factors Which Enhance Potency of Drugs in Combination. (Ueber wirkungspotenzierende Momente in Arzneigemischen.) W. Henbner.
104 Cure of Woody Phlegmon Under Serotherapy. (Fall von Holzphlegmone mit Antistreptokokkenserum Aronson behandelt.) W. Thedinga.
105 Roentgenoscopy in Diagnosis of Enlarged Bronchial Lymph-Nodes. (Zur Röntgendiagnostik der Bronchialdrüsenvergrösserungen.) S. Engel.

100. **Oxygen in Treatment of Asphyxia Neonatorum.**—For nearly three years Engelmann has been reviving the deeply asphyxiated infants in his service by means of oxygen under slight pressure with a safety valve regulator. A mask fits over the face; the oxygen accumulates in a rubber balloon into which the mask opens. He uses the Tiegel mask for the purpose, one tube bringing the oxygen into the balloon, another tube conveying the excess and the expired air to a metal tube which stands upright in a vial filled with water. By raising and lowering the metal tube the pressure in the entire system is regulated. In many cases the effect of the oxygen was most striking. The child is wrapped in warm blankets and the mask is applied with the lower jaw drawn forward. Then at regular intervals the thorax is compressed with both thumbs, which expels the air while inspiration follows from the forcible entrance of the oxygen under pressure. As a rule, the skin soon grows pink and the child begins to breathe naturally unless there is some injury of the brain from hemorrhage or pressure. In one unusually severe case described at length, no result was obtained for an hour and a quarter; by the end of another fifteen minutes the child was pink and breathing regularly. It died twelve hours later and extensive subdural hemorrhage was found at necropsy. This same method was applied, with a larger-sized mask, to an adult with paralysis of respiration after stovain spinal anesthesia. The apparatus worked finely during the hour required before danger was past. The method might also prove useful in embolism or severe pneumonia. He contrasts the method with Schultze swinging, pointing out its advantages when there are contraindications to the swinging (premature birth, injury of the brain or fracture). He adds that as we are unable to exclude with certainty complications on the part of the brain in severe cases of asphyxia, it seems wiser to apply this method in every case of severe asphyxia without exception, as the simplest and most harmless means of expanding the lungs and ensuring a regular supply of oxygen.

101. **Decapsulation of the Kidney.**—Penkert reports two cases in which the benefit from decapsulation was most striking after failure of all other internal measures. The first patient was a woman of 34 who had long been under treatment for relics of left perinephritis which had evidently developed from an abscess following an injection of fibrolysin. The decapsulation cured her and there has been no further trouble during the three years since. The second patient had pregnancy nephritis in the severest form with an eclamptic convulsion during delivery and albuminuria over 30 per thousand. After the failure of internal measures, decapsulation of both kidneys, four weeks after delivery, was followed by marked improvement, the albumin dropping from 22 to 1 per thousand, although it rose again temporarily afterward, but it disappeared permanently the third month.

### Monatsschrift für Kinderheilkunde, Berlin

*XI, No. 10, pp. 455-544*

106 Connection Between Face Presentation and Obstetric Paralysis. (Zusammenhang von Gesichtslage und spontaner infantiler Geburtslähmung.) L. Kaumheimer.
107 Manifestations of the Exudative Diathesis in the Mucosa of the Urogenital Apparatus; Forty Cases. C. Beck.
108 Differentiating Reaction in Cow's Milk and Human Milk. (Eine Reaktion zur Unterscheidung von Kuh- und Frauenmilch.) Bauer.

109 Utilization of Gruels in Infants. (Ueber die Ausnützung von Mehl- und Griessbreien beim Säuglinge.) F. Pfersdorff and K. Stolte.
110 Tuberculin in Diagnosis of Tuberculosis in Children. (Zur Tuberkulindiagnostik im Kindesalter.) N. Stricker.

### Münchener medizinische Wochenschrift

*March 4, LX, No. 9, pp. 449-504*

111 *Technic for and Experiences with Operative Treatment of Pulmonary Tuberculosis. (Welche Formen der thorakoplastischen Pfeilerresektion sind je nach Ausdehnung und Schwere der Lungenerkrankung zu empfehlen?) M. Wilms.
112 Derangement of the Knee. (Zur Behandlung der inneren Verletzungen des Kniegelenks.) O. Vulpius.
113 Influence of Thorium X on Seedlings. (Einfluss von Thorium X auf keimende Pflanzen.) F. Kahn.
114 *Prophylactic Serotherapy in Tetanus. K. Kolb and K. Laubenheimer.
115 Technic for Bacteriologic Diagnosis of Diphtheria. (Erfahrungen mit der Conradi-Trochschen Tellurplatte zum Diphtherienachweis.) G. Wagner.
116 *Orthostatic Albuminuria and Tuberculosis. (Ueber orthotische Albuminurie und ihre Beziehungen zur Tuberkulose nach Untersuchungen bei Hautkranken, insbes. bei Hauttuberkulose und Syphilis.) W. Arnold.
117 The Protective Ferments. (Zur Frage der Spezifizität der Schutzfermente.) E. Abderhalden.
118 Injuries of the Toes and Insurance Against Accidents. (Die Verletzungen und traumatischen Erkrankungen der Zehen und ihre Begutachtung in Unfallsachen.) C. Waibel.
119 Modified Technic for Roentgenotherapy. (Vierjährige Erfahrungen mit unterbrecherlosen—Gleichrichter—Röntgenapparaten und einige wichtige Neuerungen an denselben. Zugleich ein Beitrag zur Frage der Apparatbeurteilung durch den Arzt.) F. M. Groedel.
120 Medical Impressions of America. (Hygienisches aus Nordamerika.) R. Müller. Commenced in No. 8.

111. **Thoracoplastic Treatment of Pulmonary Disease.**—Wilms gives a number of illustrations to show the preferable technic for permitting compression of the lung by an operation on the ribs.

114. **Prophylactic Serotherapy of Tetanus.**—Four severe cases of crushing of the hands in a threshing machine came to treatment in the course of five days. Tetanus antitoxin was injected at once and tetanus did not develop in any instance but in one of the cases tetanus germs were cultivated from the wound. There seems to be little doubt that the prophylactic injection must have actually warded off tetanus in this case. There is a similar case in the literature in which a fire-arm wound of the orbit contained tetanus bacilli but no tetanus developed after the prompt serotherapy.

116. **Orthostatic Albuminuria and Tuberculosis.**—Arnold examined forty-four patients with chronic tuberculous disease of the skin, eight with psoriasis and thirty-three with syphilis to determine the prevalence of orthostatic albuminuria in these conditions. The findings were negative in the cutaneous affections but in early and still untreated syphilis orthostatic albuminuria was encountered almost as frequently as in the early stages of tuberculosis. The discovery of orthostatic albuminuria is therefore not to be regarded as a sign of incipient tuberculosis unless syphilis can be excluded. He adds that orthostatic albuminuria seems to be the manifestation of a chronic infection or intoxication and is not of specific import.

### Petersburger medizinische Zeitschrift

*February 28, XXXVIII, No. 4, pp. 43-55*

121 Treatment of Sinusitis. (Zur Behandlung der eitrigen Erkrankungen der Nebenhöhlen der Nase.) A. von zur Mühlen.
122 Sexual Fetishism. V. Nordmark. Commenced in No. 3.

### Therapeutische Monatshefte, Berlin

*March, XXVII, No. 3, pp. 177-256*

123 Treatment of Gonorrhea and Its Complications. C. Bruck.
124 Medicinal Treatment of Cardiac and Renal Dropsy. (Ueber Kombinationswirkung von Medikamenten bei der Behandlung der Herz- und Nierenwassersucht.) H. Strauss.
125 *Castor Oil in Appendicitis. (Zur Rizinusbehandlung der Blinddarmentzündung.) Sorge.
126 Indications for the Wearing of a Monocle Instead of Spectacles. R. Halben
127 Salts from Mineral Waters. (Ueber Quellprodukte.) O. Rössler.
128 Experimental Organotherapy. (Ueber die Wirkung von Pituitrin und Histamin an der isolierten Gebärmutter.) H. Fuhner.
129 Reform in Advertising Medicinal Articles. (Wünsche zur Reform des Arzneivertriebes.) J. Herzog.

125. **Castor Oil and Appendicitis.**—Sorge states that in his experience the cases with perforating lesions in the appendix were invariably those in which castor oil had been taken not long before, nearly all the patients asserting that soon after taking the castor oil the pains had set in with great intensity. He gives the details of ten such cases out of a much larger experience and emphasizes the importance of caution in giving laxatives even when the case does not suggest actual appendicitis. It is particularly imperative to beware of danger from this source in the country, where hospitals are not so easy of access. In a hospital, castor oil may be given to confirm the diagnosis in chronic and subacute cases. If the condition becomes aggravated, an operation is indicated at once.

### Wiener klinische Wochenschrift, Vienna

*February 20, XXVI, No. 8, pp. 281-316*

130 *Psychotherapy for Children. (Ueber psychische Behandlung im Kindesalter.) F. Hamburger.
131 *Dyspnea from Spasmodic Contraction of the Musculature of the Bronchi in the Spasmophilic Diathesis. (Ein noch nicht beschriebenes Krankheitsbild der spasmophilen Diathese.) R. Lederer.
132 Vital Transformation of Structure of Transplanted Fascia. O. M. Chiari.
133 Lipoids in the Urine. (Ueber ein Phosphatid im menschlichen Harn.) L. Hess and B. v. Frisch.
134 The Meiostagmin Reaction. (Verwertbarkeit der Azetonextrakte bei der Meiostagminreaktion. S. Zarzycki. (Zur Meiostagminreaktion.) R. Köhler and A. Luger.
135 *Disturbances from Adhesions Following Pleurisy. (Entstehung und Bekämpfung der konsekutiven Störungen bei Pleuraschwarte.) L. Hofbauer.

130. **Psychotherapy for Children.**—Hamburger is privatdocent for children's diseases at Vienna and has a service in the policlinic. His experience has convinced him that psychotherapy can be advantageously applied even to very young children in cases of neurasthenia resulting from a sense of injustice. Feelings wounded by real or fancied unjust treatment may in some children bring on actual neurasthenia. The neurasthenia in this case is amenable to psychotherapy as the causal treatment. Psychanalysis by the Freud method and efforts to wean the little patient away from brooding over his injury are the main reliance. Suggestion can be successfully applied to children 2 years old and upward; it may succeed in correcting abnormal conditions even during sleep, but it is particularly useful, he states, for the psychogenic complications and aggravation of organic affections. Here it serves to sift out the psychogenic disturbances from those of organic origin

131. **Dyspnea from Spasm of Bronchial Musculature.**—Lederer has sometimes noticed in children with a tendency to spasmophilia disturbances in breathing, especially dyspnea during expiration. It generally proved fatal, in one case in twelve hours, in another in four days. There were signs of spasm of the larynx or general convulsions in some, and death occurred during these attacks or the children slowly suffocated to death, with the heart growing weaker. He has never seen a description of this slow type of fatal tetany. Dulness over the lungs and râles suggested pneumonia which had aroused the spasmophilia, hitherto latent in some of the cases, or that the spasmophilia had become complicated with pneumonia. Necropsy, however, showed the lungs free from all tendency to pneumonia, but atelectasia was pronounced at various points and emphysema at others. Examination of fifty-eight children with spasmophilia during the last year revealed this tendency to atelectasia in six. In two of the cases this was the only sign of the spasmophilia. The only plausible explanation of these findings is the assumption of spasmodic contraction of the smaller muscles of the bronchi. This would close the lumen of the bronchi, thus shutting off the alveoles from intake of air; the air already in them is absorbed, and atelectasia results.

135. **Disturbances from Pleural Adhesions.**—Hofbauer remarks that the general health may and often does suffer from the immobilization of the diaphragm by the adhesions and other changes left, as well as from the functional paralysis of the diaphragm liable after a pleurisy. Both the respiration and circulation suffer, and every effort must be made to correct conditions. He gives reasons and diagrams to explain the benefit from exercises to promote absorption and from lying on the

affected side, not the sound side. The diaphragm in these conditions is better able to make normal excursions on the lower side as the patient lies on this side. Another useful aid is in deep breathing exercises, breathing from the abdomen as the patient stands with the arms akimbo on the sound side, the other arm held out horizontally. During a slow deep inspiration the patient bends his trunk over on the sound side, raising at the same time the other arm straight over his head. He must breathe through his nose exclusively. To enhance the effect the trunk is twisted as he bends over. This exercises the thorax, the aim being to stretch and mobilize the intercostal spaces and the diaphragm. The hip of the sound side is the pivot on which the trunk is twisted. The outcome of these exercises has been excellent in his experience, as he shows by a typical case, described at length, in a boy of 13.

### Zentralblatt für Chirurgie, Leipsic

*March 8, XL, No. 10, pp. 337-376*

136 Paralysis of the Diaphragm After Anesthesia of Brachial Plexus. (Phrenicuslähmung bei Plexusanästhesie.) R. Sievers.
137 Local Anesthesia for Appendicectomy. (Die Anästhesierung der rechten Darmbeingrube bei der Operation der chronischen Appendicitis.) H. Fowelin.
138 Tincture of Iodin for Mucosa in Gastro-Intestinal Operations. (Zur Frage der Schleimhautjodierung bei Operationen am Magen-Darmtrakt.) J. Hohlbaum.

### Zentralblatt für Gynäkologie, Leipsic

*March 8, XXXVII, No. 10, pp. 329-368*

139 Pituglandol Retards Delivery. (Zur Wirkung des Hypophysenextraktes.) F. Lieven.
140 *Reflex Tenderness with Inflammation of Female Genital Organs. (Reflektorische Schmerzempfindungen bei Druck auf den Plexus coeliacus bei entzündlichen Erkrankungen der weiblichen Geschlechtsorgane.) M. S. Alperin.

**140. Pain in Diagnosis of Inflammatory Conditions.**—Alperin comments on the way in which the subjective symptoms are usually neglected in favor of the objective. Snegirew has long been teaching the clinical importance of pain in gynecology, and Alperin in his service has made a special study of this subject in 309 cases. His method was to press with the index finger the umbilicus back to the spine as the patient lay on her back. Some of the women said as this was done it caused pain radiating to the stomach region, others to the pubis, others to the inguinal region, others to the sacrum, while others said that there was no pain except from the direct pressure of the finger. The statements in regard to the radiating pain were classified and compared with the diagnosis of conditions in the pelvic organs. It soon became evident that this radiation of the pain corresponded to certain specific abnormal conditions in the genital organs. When the pain radiated toward the epigastrium, the inflammatory process was concentrated in the uterine mucosa; toward the symphysis, in the peritoneum surrounding the uterus; when toward the inguinal region on one or both sides, the inflammatory process was in the adnexa; toward the sacrum, there was inflammation or venous hyperemia in the muscular tissue of the uterus. When there was no pain except under the finger, no trace of inflammatory processes could be found in the genital organs. In only 12 per cent. of the total 309 cases did the findings fail to confirm the information derived from the radiation of the pain. It seems evident that the pain is caused by the overfilling of the blood-vessels, while this distention of the blood-vessels is the result of abnormal conditions in the special innervation. As illustrations of this are cited the familiar facts that pain is sometimes felt in the eyes with sudden suppression of menstruation, and that the pain of dysmenorrhea can be relieved by painting with cocain the congested points in the lower turbinate bone. The pressure of the vessels on the nerves causes the pains, and soothing this spasm of the vasomotors restores normal conditions in the blood supply. Alperin gives the details of a few cases in which the findings were apparently contradictory, as in a case in which the pain radiated both to the stomach and pubis. According to his classification this would indicate inflammation in both the endometrium and perimetrium, but in reality the perimetrium alone was inflamed and the uterine mucosa was apparently sound. Study of the former history, however, revealed that there had been endometritis not long before, with leukorrhea. In another case the pain radiated to the left inguinal region; this would indicate disease in the left adnexa, but in fact there was merely an inflammatory process in the cervix and the case was recorded as contradictory. But here again the case history showed an inflammatory process in the left inguinal region after a long preceding childbirth. An interesting point is that in five cases with left salpingitis the pain radiated to both inguinal regions; this suggested that the inflammation had already spread to the other tube although there was nothing otherwise to suggest this at the time. We know that disease of one tube is frequently followed by involvement of the other; Kannegiesser has confirmed this on animals: Ligating and infecting one tube were soon followed by a similar infectious process in the other tube, conveyed probably by the lymph stream. Alperin presses his finger inward and a little upward, trying to reach the process at the 2—3 lumbar vertebra, where the sheath of the solar plexus lies. The patients were asked to describe the pain if they felt any, without suggesting any region, and each examination was done with the patient lying on her back, the legs flexed at hip and knee, the abdomen freed from all bands, and the test was applied by three physicians in turn to prevent any influence from the personal equation.

### Zentralblatt für innere Medizin, Leipsic

*March 8, XXXIV, No. 10, pp. 241-264*

141 Myositis from Excessive Use of Group of Muscles Involved (Traumatische Myositis.) H. Rotky.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*February 27, XXXIV, No. 25, pp. 257-264*

142 Iodin for Sterilization of Skin. (Contributo clinico-statistico alla disinfezione della pelle con tintura iodica.) C. Gaetano.

*March 4, No. 27, pp. 281-288*

143 *Early Diagnosis of Pulmonary Tuberculosis. B. Nicola.

**143. Early Diagnosis of Pulmonary Tuberculosis.**—Nicola reviews his experience at the Turin preventorium where all the various methods for diagnosing have been systematically applied in hundreds of cases. The methods found most useful were Goldscheider's threshold percussion and the albumin reaction in the sputum—which was found constantly negative in simple bronchial catarrh and positive in chronic inflammatory conditions in the lungs and in cardiorenal insufficiency in over 200 applications of the test. He regards negative findings as excluding tuberculous infection. Other diagnostic measures found useful were the skin reaction (Pirquet), the intradermal reaction, and the subcutaneous test for adults, and Pottenger's method of systematic palpation.

### Policlinico, Rome

*March 2, XX, No. 9, pp. 289-328*

144 *Radiotherapy of Cancer. (La Röntgenterapia degli epiteliomi cutanei.) G. Scaduto.

**144. Roentgenotherapy of Superficial Cancers.**—Scaduto thinks that there is no necessity for histologic distinctions between epitheliomas, but that it is important to distinguish between the superficial ones and those burrowing deep. He emphasizes the importance of excising the outer layers of the epithelioma so as to permit the rays to act on the deeper cancerous elements, which are the most dangerous from the point of view of recurrence. The best means of warding off recurrence is by periodical exposures to the roentgen rays, kept up indefinitely every forty or sixty days for years.

### Riforma Medica, Naples

*February 8, XXIX, No. 6, pp. 141-168*

145 Experimental Immunization by the Mouth Against Cholera. (Immunizzazione delle cavie col nucleoproteide del vibrioni colerigeni per la via gastrica.) V. de Bonis and P. Natale.
146 General Anesthesia by Intramuscular Injection of Ether. (Breve nota su di un caso di anestesia generale per mezzo di injezioni intramuscolari di etere.) G. Giordano.

147 Transient Albuminuria (Albuminuria transitoria determinata dalla separazione intravescicale delle urine.) L. Cocco.
148 Resistance of Arteries to Suppurative Processes. G. Palazzo. Commenced in No. 3.

*February 15, No. 7, pp. 169-196*

149 Pulsating Effusion with Pleurisy. (A proposito di un caso di pleurite destra, bloccata, pulsante.) T. Silvestri.
150 *Reduction of Abnormally High Arterial Pressure by Roentgen Exposures of Adrenals. (Contributo clinico alla radioterapia delle ghiandole surrenali in alcuni stati ipertensivi.) C. Quadrone.

*February 22, No. 8, pp. 197-224*

151 Vitality of Cholera Germs in Contact with Acids. (Vitalita del vibrione del colera a contatto con gli acidi.) D. Pane.
152 Kala-Azar in Southern Italy. (Leishmaniosi interna—kala azar—a Messina. Nuovi esempi clinici e sguardo riassuntivo.) G. Spagnolio.
153 Technic for Removing Gall-Stones in Common Bile Duct. (Per la coledocolitotomia transpancreatica.) G. Morone. Commenced in No. 7.

150. **Effect on Blood-Pressure of Exposure of Adrenals to Roentgen Rays.**—Quadrone reports further research in this line. His previous conclusions were confirmed by the negative results from roentgenotherapy in nephritis reported last year by Galausino (Abstr. in THE JOURNAL, Feb. 17, 1912, p. 525). This showed that the kidneys were not sensitive to Roentgen exposures, so Quadrone ventured to apply the rays systematically to the adrenals in five cases of permanently high blood-pressure. In four of the five patients the blood-pressure was materially reduced and the subjective condition much improved but no appreciable influence was apparent on morbid conditions in the heart and kidneys. His experiences confirm the reduction in the blood-pressure which is possible by exposures of the adrenals where previously the adrenals had been functioning to excess. The epinephrin disappeared from the blood after the exposures. His findings confirm in every respect those reported by Zimmern last year on the reduction of the blood-pressure under radiotherapy of the adrenals. They also confirm Decastello's report of the changes in the adrenals after exposures to the Roentgen rays. Of course it is only in a comparatively small proportion of the cases of excessive blood-pressure that excessive functioning of the adrenals is responsible for the hypertension. The finding of epinephrin in the blood suggests the possibility of this and explains the benefit from the exposures. Zimmern obtained a more or less pronounced reduction in the blood-pressure in fifteen of the sixteen patients thus treated.

## Semana Medica, Buenos Aires

*February 6, XX, No. 6, pp. 305-368*

154 The Brownian Movements are Due to Microorganisms. A. L. Herrera.
155 Measurement of Hearing Capacity. (Acumetria. Sonidos extramusicales y limite superior acustico. Monocordio Struyeken.) M. J. Rizzi.
156 Chemical Study of Ozone and of Water. (Apuntes de quimica.) V. Delfino.

## Hospitalstidende, Copenhagen

*March 5, LVI, No. 10, pp. 249-272*

157 Manometer for Therapeutic Artificial Pneumothorax. (En ny Manometeranordning ved Pneumothoraxbehandling.) C. H. Würtzen.
158 Research on Secretion in the Stomach During Digestion. I. (Undersøgelser over Ventrikelsekretionen under Fordøjelsens Forløb. I.) J. P. Gregersen. Commenced in No. 9.

## Norsk Magazin for Lægevidenskaben, Christiania

*March, LXXIV, No. 3, pp. 289-440*

159 *Pathogenesis of Blood-Borne Skin Disease. (Bidrag til belysning av de hæmatogene dermatosers særlig erythema nodosums patogenese.) E. Bruusgaard.
160 Further Research on Pepsin. (Nyere mavesaftundersøkelser.) A. O. Haneborg.
161 Diplococci Found in Gasserian Ganglion in Case of Herpes Zoster of the Brow in Senile Dement. (Herpes zoster frontalis med bakteriefund i ganglion Gasseri.) A. Sunde.
162 Quack Practices and Tuberculosis. (Kvaksalveri mot tuberkulose.) S. Schmidt-Nielsen.
163 Fracture of Posterior Process of the Heel Bone. (Om brud av proc. posterior tali.) H. Wille.
164 *Relations Between Appendicitis and Gynecologic Disease. (Appendicit i forhold til gynækologiske lidelser.) H. Natvig.

159. **Pathogenesis of Blood-Borne Skin Disease.**—Bruusgaard reports two cases of nodose erythema in which the primary essential element was evidently inflammation in the subcutaneous tissue in or around a vein. There was a history of acute articular rheumatism in one and of syphilis in the other case. He knows of only two cases on record in which bacteria were found in the nodules. The data presented seem to show that nodose erythema belongs to the group of affections due to an attenuated pyemia. Bacteriologic and histologic research as early as possible is the only means to decide the question definitely and Bruusgaard urges early excision of a nodule for examination, especially in the cases complicated with serous effusions and joint troubles.

164. **Appendicitis in Connection with Gynecologic Disease.**—Natvig insists that appendicitis is far more frequent in women than is generally recognized, and that it often causes exclusively symptoms apparently of genital origin. It is also liable to induce functional and organic morbid conditions in the genitals as he shows by a number of striking examples. On the other hand, primary genital affections often involve the appendix. The abdominal route is preferable to the vaginal for operations on the genitals as it permits oversight of conditions in the appendix region. Incision on the median line is more instructive than in the side for appendicectomy as the genital organs can be examined better. He also advocates a laparotomy rather than the classic technic for the Alexander-Adams operation. He always removes the appendix when operating on the internal genitals if there is anything in the aspect of the appendix or the history of the case to suggest that the appendix is not entirely sound. Pankow found signs of appendicitis in 66.66 of 150 women under treatment for gynecologic disease. Petterson found unmistakable signs of it in about 50 per cent. of several hundred gynecologic patients. Other statistics are cited to show the frequent coincidence and the connection between lesions in the appendix and internal genitals. Riedel has reported sixteen cases of severe peritonitis in virgins developing from some genital process, but presenting in every respect the typical picture of peritonitis from perforating appendicitis. Natvig reports a similar case in a girl of seventeen apparently entirely well until symptoms of fatal perforation peritonitis developed suddenly. The laparotomy revealed that the appendix was sound and that the trouble originated in the tubes. There is no need to waste time in trying to differentiate between appendix and genital disease; the operation should include both in its possible scope. Natwig reviews his own experience, giving the details of twenty-four of the more instructive cases, salpingitis or displacement simulating acute or chronic appendicitis, habitual abortion or sterility from appendicitic adhesions, tubal pregnancy due to the same anomalies, thrombosis, myoma complicated with pains from chronic appendicitis, associated appendicitis and tubal pregnancy, etc.

## Ugeskrift for Læger, Copenhagen

*February 27, LXXV, No. 9, pp. 363-400*

165 The Changes in the Red Corpuscles in Progressive Anemia. (Forandringer i de røde Blodlegemer ved progressive Anæmier.) L. Melchior.

*March 6, No. 10, pp. 401-438*

166 Connection Between the Presence of Body Lice and of Pigmented Areas on the Skin. (Notice historique sur les taches bleuatres—taches ombrées—des morpions.) Ehlers.

## Upsala Läkareförenings Förhandlingar

*XVIII, No. 3, pp. 121-188. Last indexed February 1, p. 408*

167 Mercury Refound in Air and Dust of Rooms Where Mercury is Handled. (Untersuchungen über das Vorkommen von Quecksilber in der Luft und in dem Staube in einigen Unterrichts- und Dienstlokalen, in denen mit Quecksilber hantiert wird, sowie im Harne der dort beschäftigten Personen.) A. Blomquist.
168 Study of the Pulse and Blood-Pressure in Children Between 6 and 14. (Några iakttagelser angående utvecklingen af puls och blodtryck under den senare barnaåldern.) R. Friberger.
169 Influence of Certain Colloids (Saponin and Cholesterin) on Action of Enzymes. (Några kolloida substansers inflytande på hämningen af enzymverkan.) G. J. Blohm.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, No. 16 CHICAGO, ILLINOIS APRIL 19, 1913


## INSTRUCTION IN HYGIENE IN MEDICAL COLLEGES AND THE TRAINING OF HEALTH OFFICERS*


F. F. WESBROOK, M.D.

Professor of Pathology and Bacteriology and Dean, College of Medicine and Surgery, University of Minnesota; President-Elect, University of British Columbia

MINNEAPOLIS


In America we have been slow to recognize the need of special training for the various branches of public service. Many examples lie close at hand. We are proud to show visitors that our most imposing and best buildings are for the training of our children, those who are to carry on the work after we have laid it down. Yet we entrust the training of our girls and boys to those who are school-teachers *pro tempore* and whose ultimate graduation at the altar, at the bar, in the profession of medicine or in business, being constantly in mind, is apt to lower pedagogic efficiency. Corporation lawyers often use the bench as a postgraduate training. The interests of the corporations demand and receive the services of the best and most highly paid talent, while, on the other hand, the interests of the public are too often left to the individual who needs the opportunity either as a stepping-stone to something higher, or because he finds himself unfitted for the practice of law.

Our health offices are frequently given to the incoming recent graduate, from a mixture of motives. It is freely admitted by the older practitioners that service as a health officer is likely to make the individual so unpopular that he will move on. The newcomer is therefore cajoled into the position. Frequently the older medical men have too much to lose from their private practices to be able to afford the questionable luxury of public service. Occasionally, too, the position of health officer, or superintendent of hospital or other institution is regarded by the medical profession as a suitable gift for the man who has shown inaptitude or encountered misfortune in private practice. Too often, the position of city engineer is given to the land surveyor or other individual who needs it, but whose original training and field of practice have not been such as to fit him for the care of this phase of the public interest.

On every hand, we seek through volunteer agencies to secure satisfactory administration of laws which should become operative through official mechanisms, thus possibly postponing the final solution of our difficulties. Thereby, we add tremendous burdens to those who volunteer for public service and work them at great disadvantage, because frequently their main qualification is *interest* rather than *detailed knowledge*.

We need not dwell, however, on what has been. We can better discuss what is to be. Without delaying further to inquire into the mixture of causes or pausing to fix the blame for the apathy of the public in regard to its own welfare, we recognize the need for radical reform. Here in America, we who are optimistically inclined believe that the time has come when a demand is to be made in increasing degree for trained specialists, who shall devote their whole time and energy to the various phases of public health protection. We must, however, adjust the pay, as well as the authority, of our health officials and workers to the responsibilities which the public expects them to assume. We must guarantee them tenure of office dependent alone on efficiency. We must continue to insist that they be trained before they assume office and not expect them to gain their experience at the expense of the public.

The present great wave of publicity cannot but develop a public and private discrimination which will demand efficiency. Will the people who demand the efficient service be willing to pay the price for efficiency?

Altruistic and not financial considerations should dominate our discussion of the public welfare. It is useless, however, to expect men and women to spend thousands of dollars in preparation for life's work, unless they may look forward to a fair return upon the invested capital. There is a yet more important investment of which we sometimes lose sight. I refer to the years of youth and enthusiasm which cannot later be replenished as can an exhausted exchequer. On such a combined investment of the individual, it is but just that the public should make a return in recognition and the wherewithal to live.

What workers are needed in public health fields is a question we must ask ourselves in attempting to provide for their training. The answer to this is that experts in every line who approach social and economic activities from the health standpoint are even now required. All of us are naturally solicitous about the future and desirous that better training be provided for our successors. Complexities in increasing degree are, however, inevitable, notwithstanding the rapid advance in man's knowledge concerning his own environment. This very advance demands greater specialization and therefore means increased difficulty of coordination. Furthermore, increase in density of population and in facilities for transportation very naturally increase our difficulties in the adjustment of the duties and responsibilities of individuals to each other and of the individual to the mass.

In the ultimate analysis, no official public health-protective mechanism can operate without the intelli-

* Presented before the Section on State and Municipal Hygiene at the International Congress on Hygiene and Demography, Washington, D. C., September, 1912.

gent interest and the sympathetic support of the medical profession, since its members are responsible for individual and family health, which in the mass represents public health. No attempt should be made, however, to make sanitary experts out of physicians by the ordinary medical college training. They should have sufficient foundation to enable them to meet their own responsibilities in general or special lines and to articulate with the official health agencies.

No nation has more rapidly advanced in methods, machinery and requirements for the teaching of medicine than has the United States, and the training now given to undergraduates in our best colleges is not excelled by that of any other country. They require from six to eight years in college or university, medical school and hospital. This provides a general training in medicine but does not qualify graduates as specialists in private practice or as leaders in public medicine.

Engineering colleges, notably the Massachusetts Institute of Technology, are providing courses in sanitary and municipal engineering which require a four or five years' training on the completion of which graduates are incompetent to assume important and responsible public health positions without further training in relation to their "disease point of view." In our leading colleges and universities in connection with the departments of economics and sociology, training is provided for social workers and others who have important public duties to perform. They need, however, some more definite ideas concerning structural problems and the engineer's point of view, as well as of basic biologic, chemical and physical principles and modern conceptions and methods of dealing with health problems. The recently aroused interest in the study of municipal problems is important, if it does not leave out of consideration or subordinate state, federal and international relations, as well as that most urgent of our problems, namely, rural betterment, which has so many sanitary complications.

Health departments of the future and other official and volunteer agencies for promoting public health must secure the coordinated service of various groups of physicians trained in many diverse lines; of economists, of social workers, of statisticians, of engineers of various trainings and ambitions, of dentists, of hospital superintendents, of bacteriologists, pathologists, and chemists, of meat, milk and food inspectors, of visiting nurses, school inspectors, physical trainers, inspectors of industries, teachers of public and personal hygiene; and legislators, lawyers and even policemen must be impressed into the service.

Now many of these workers require special training in advance in relation to their public duties. How should this training be provided and who shall teach?

Universities with the necessary departments must cooperate with the various federal, state or municipal official and volunteer public-health agencies. The state universities of the middle west can perhaps more easily make the needed articulations with other interests and thus obtain opportunities for practical instruction, than can the privately endowed institutions. If these universities are fortunate enough to be located, like the University of Minnesota, in progressive cities, the various phases of municipal hygiene may be studied practically, and more efficient and practical public-health teaching "clinics" conducted.

### AN OUTLINE OF COOPERATIVE WORK

In laying out a course for Minnesota, the following agencies, among others, have been considered in plans for cooperative work and should be expected to furnish teachers and opportunities for practical observation, with actual field work in the case of certain of them because of their need of trained workers.

1. The University of Minnesota, a state institution.

A. The colleges of medicine, dentistry and pharmacy and the School for Nurses must continue to graduate practitioners, train teachers and become more productive in research.

B. The College of Agriculture in relation to rural sanitary betterment, food production and other such problems has much in the way of opportunity and responsibility.

C. The College of Engineering in matters involving construction and expenditure of funds, particularly in relation to water, wastes, ventilation, building construction, etc., should continue and extend its work in sanitation and public health.

D. The School of Chemistry should continue to participate in sanitary research and public-health teaching.

E. The College of Science, Literature and the Arts in its scientific laboratories of biology, physics and psychology and its departments of economics and sociology is in a position to contribute and receive much of very real value.

F. The College of Education, particularly in medical school inspection and the teaching of personal hygiene and physical training for children, has very real needs and offers unsurpassed opportunity for coordinating effort.

G. The University Department of Physical Training should be extended and built into a health-promoting and teaching organization.

H. The university health officer, when such a mechanism is provided will furnish the means for public-health teaching and research in the discharge of his daily work which is so much needed.

I. The University Extension Bureau can undertake no more practical and important work than the training of experts in health publicity and the spread of the gospel of health.

J. The College of Law and other departments and mechanisms of the university can all help and be helped by such affiliations.

2. The State Board of Health in its various branches, including administrative, engineering, epidemiologic, statistical and laboratory work, is in need of trained workers and should be glad to help in its many fields for practical training because it thereby helps itself. Three of the four divisions are already housed by the state university and cooperative arrangements should be still further extended. One of its division heads is on the university teaching staff in medicine and one in sanitary engineering. Both the engineering and medical graduates are therefore better prepared to meet their public responsibilities and to be of real help to the State Board of Health and their own local health boards.

3. The state departments of education, as also the city departments of education of St. Paul and Minneapolis, have many problems educational and sanitary which cooperative effort alone can solve.

4. The board of control institutions, which include state hospitals for the insane, schools for the feeble-minded, deaf and blind; state institutions for tuberculosis; schools for dependent and neglected children; correctional institutions, etc., are increasingly embarrassed by lack of trained workers. They will increase the efficiency of their own staffs by the stimulus of having them assist in giving instruction.

5. The State Live Stock Sanitary Board has many problems to solve and is helping to solve those which affect human health. It is already cooperating with the University Agricultural College.

6. The state dairy and food department and the federal meat inspection service at South St. Paul are important instruments not only in the protection of human welfare but in the teaching of public sanitation.

7. The state attorney-general's office can help in the study of the legal mechanism for the control of disease and in the teaching of those who are to become expert in the use of legal and other tools for protecting health interests. The university should also prove useful to that arm of the state if it could

furnish medical and other scientific experts for the court work of the state and develop an "institute of forensic medicine."

8. The state labor bureau has much both to give and receive in such a combined effort.

9. The municipal health departments of Minneapolis and St. Paul, the city engineering departments in relation to water supplies, sewage disposal, etc.; the municipal hospitals for contagions and other diseases, and the municipal health agencies of smaller cities are important to the success of such an organization.

10. The Associated Charities organizations of Minneapolis and St. Paul need workers and can teach much.

11. The State Association for the Prevention and Relief of Tuberculosis and other voluntary organizations and agencies should all present their work and activities to the students of public health and would undoubtedly welcome the advent of any mechanism for training workers.

The list given above is one which has already been presented[1] to the Minnesota State Sanitary Conference in 1910, to which I have made some additions which should doubtless be extended still further.

Time does not permit of a detailed outline of such courses but by interesting such agencies and workers as those mentioned, and by efficient instruction at our state university, and at certain stages of the teaching by placing the students in the field with those actually engaged in the work, an ideal training could be provided.

In regard to the teachers, it is not enough that a single individual should give all the instruction. A lasting impression concerning the responsibilities involved in daily practice in a particular sanitary field can be had only from intimate contact with those who are specialists in that line. The different workers, factors and fields involved should be presented to the student so that he may realize more clearly what is expected of him in his private and public capacities.

Public health work constitutes a series, and it should be a coordinated series, of specialties. For its successful teaching, therefore, a large staff is required, just as a large staff of medical teachers is required to teach modern medicine in all its phases. It seems probable that the development, even with those universities which are able to furnish the facilities already mentioned and to secure the proper articulation, will first be along the lines of departments of public health, and later, replacement of these by schools or colleges of public health, having on their faculties many members of the staffs of other colleges in the university; and in addition, lecturers from various state, municipal and federal departments, bureaus and institutions, and officers and workers of voluntary associations and certain private institutions.

## CURRICULUM

Little has been said about curriculum, which must include the following, among other topics:

1. Legal mechanisms, federal, state and municipal, for the control of disease.

2. Vital statistics, or the bookkeeping of public health.

3. Consideration of the transmissible diseases and their means of spread and of prevention, whereby the nature of the virus, or the microbe, or exciting cause, is considered; the atrium or gateway through which the virus gains entrance into the body; the distribution of the exciting cause in the infected individual; methods of its elimination; its point of exit; the rôle played by intermediate carriers or vehicles and the modifications of procedure which are involved by our possession of any specific means of protection based on the use of vaccines, antitoxins, or other such agents.

4. Disinfection.

5. Occupational diseases, exclusive of infection.

6. Milk-supply in relation to disease.

7. Food-supply; meat inspection, etc.

8. Water-supply and sewage disposal.

9. Sanitary engineering and architecture, including plumbing, ventilation, hospital, school and other public building sanitation as well as housing conditions.

10. Social economics and the economic cost of disease; saving to be effected through conservation; governmental and other life and sickness insurance mechanisms.

11. Publicity in relation to public health.

12. Sanitation of travel.

13. Sanitary aspects of embalming, funeral direction, transportation of the dead.

14. Inspection of hotels and restaurants in relation to cleanliness, sanitary facilities and also medical inspection of those who handle food, water, etc

15. School hygiene in its many phases.

16. The hygiene and the conduct of public institutions for the insane, feeble-minded, deaf, blind and also our correctional institutions.

17. Eugenics in its educational and legal aspects.

18. Infant welfare.

19. The hygiene of venereal diseases.

20. Mental hygiene.

21. Naval and military hygiene.

22. Tropical medicine.

23. Personal hygiene, to include nutrition, instruction on food values and preparation, exercise, clothing, individual habits of work, sleep, etc.; sex hygiene.

24. Alcoholism in its personal and public phases.

25. Dental and oral prophylaxis considered in relation both to personal hygiene and to public teaching and practice.

It is not practical that the instruction given to the various types of public health workers should be identical, in regard to the length of the course, the subjects included, or the amount and character of instruction in each course. It is not necessary or even desirable that students should all have the initial training. It seems fairly certain in fact, that very different courses will be demanded and it is therefore only logical that different degrees or diplomas should be granted, according to the nature and length of the training which has been received and the character of the public-health service for which the individual seeks to qualify. For those who expect to serve as medical officers of health, shall we demand a preliminary graduation in medicine? If so, shall we give a three years' training in the public-health school? This question can be answered best by saying that thus far, the American universities which have developed such courses have had practically no students. It is absolutely necessary that all workers in the public-health field should acquire the disease point of view, but it does not seem feasible or desirable that of every worker in public health, a medical degree should be demanded. Physicians who go into public health work find that to their knowledge of medicine must be added many other important items of experience. Engineers are ready to make the same admissions about their deficiencies of training. Sociologists and economists have already found that it is impossible for one individual or department to specialize in every phase of human activity and relationship. They realize that unless due care is exercised, they are likely to lack discrimination in relation to medical matters just as the engineers accuse the medical men of being deficient in quantitative sense. We shall not arrive at our destination however, if we stop when we have pointed out each other's faults.

1. Wesbrook, F. F.: Diplomas in Public Health, Jour. Minnesota State Med. Assn., 1910, N. S., xxx, 304.

Only by team work in which each recognizes the importance and strength as well as the needs of his collaborators shall we advance.

As an additional safegnard of our public health, if it seems desirable, we may require license of the trained worker, in addition to his diploma or certificate.

The additional duty might be put on our State Board of Health of examining for license those who seek to enter any of the sanitary fields, for which they have received special training as evidenced by their diplomas or certificates.

The Danish plan of a provisional appointment to public office for a limited period, say for six months, in order to determine practical fitness, before the appointment is confirmed, has very decided advantages. This proceeding is perhaps more applicable, however, to the position of medical officer of health than it is to some of the subordinate positions.

For the training of public-health workers, not only is it necessary that some knowledge of man's structure and the functions of his various organs be learned, but his relation to his environment must be understood. The practical consideration of costs and of structural detail must not be lost sight of since much of our program must needs be constructive. Above all things a knowledge of mankind is quite as essential as a knowledge of man. Human nature will continue to be just as important a factor in the future as in the past. Men and women of exceptional caliber and of great breadth and depth of training are needed and will be forthcoming just as rapidly as the public realizes its need. Our problem then is largely that of developing public interest and support by the rationality of our methods of work, and our recommendations for the betterment of existing means.

## SYSTEMATIC EXERCISES IN POSTOPERATIVE TREATMENT

EUGENE H. POOL, M.D.

Attending Surgeon to the French Hospital; Associate Attending Surgeon to the New York Hospital

NEW YORK

The object of this paper is to recommend early systematized exercises in postoperative treatment when the condition of the patient and the character of the operation permit. It is with some hesitation that the suggestion is made, since it involves a detail so simple that it might appear not to merit discussion and so obvious as to make it scarcely credible that it has not been regularly employed by others. Yet any procedure which might be expected to increase the comfort and tend to the welfare of the patient demands consideration, and, as far as can be ascertained, no plan for the systematized application of postoperative exercises has been presented.

I am in a position to speak from personal experience of the value of the procedure. In August, my appendix was removed, the operation being performed in the interval. The exercises here described were planned and carried out regularly three times a day, from the third day. There was comparatively little fatigue after leaving bed on the eighth day, and on the thirteenth and fourteenth days 60 miles over a rough trail were covered by wagon and on horseback without undue fatigue and with no apparent ill effects. Since then a number of patients have been encouraged to pursue a similar course of exercises. These have involved no hardship and almost invariably have been commended as a reasonable and useful procedure. Several patients stated that they felt better after beginning the exercises. Certainly, on getting up, all of them gave the impression of being stronger than the average patient, who has followed the usual postoperative course and has lain listless and inert during his confinement in bed, attention being directed almost exclusively to primary union and the bowels, with consequent complete neglect of the general physical well-being.

The following are exercises from which a choice may be made. They do not constitute an exhaustive list, but appear in general to be the safest and most efficient.

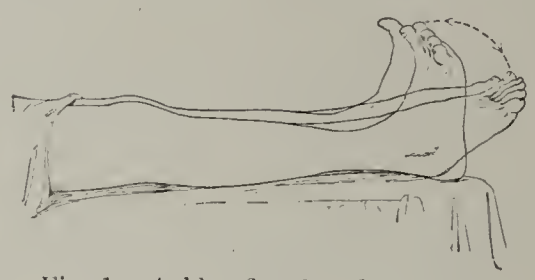


Fig. 1.—Ankles flexed and extended.

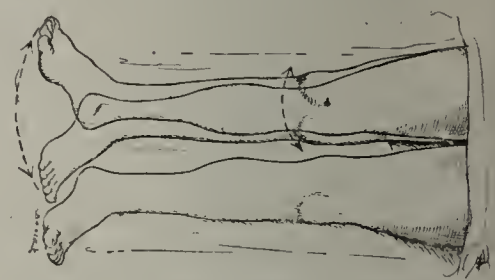


Fig. 2.—Right lower extremity rotated (limbs are rotated separately).

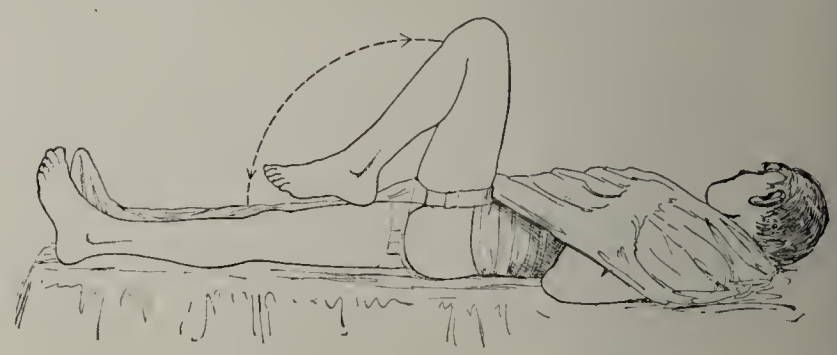


Fig. 3.—Hip flexed and extended.

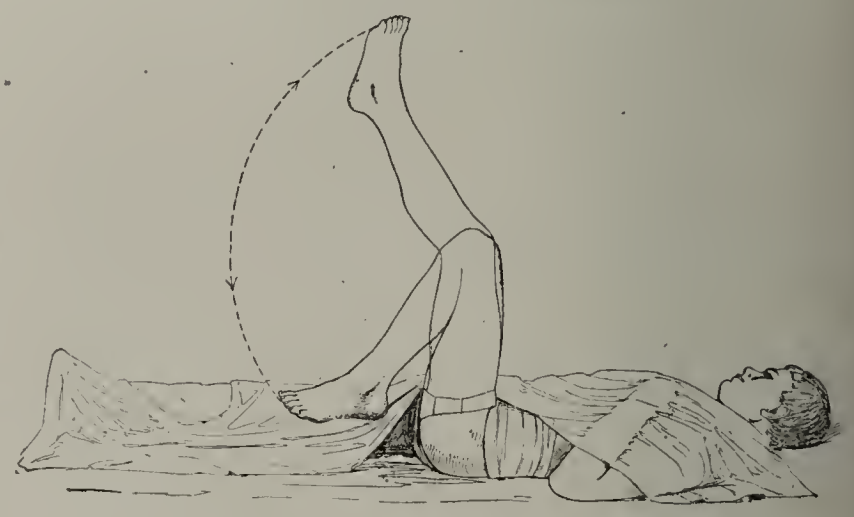


Fig. 4.—Knee flexed and extended.

1. Ankles flexed and extended.
2. Lower extremities rotated (separately).
3. Hip flexed and extended.
4. Knee flexed and extended.

Both 3 and 4 should be used with care after a celiotomy; frequently they should be restricted to one side, the other thigh being somewhat flexed; thus after appendectomy or right inguinal hernia, they should be omitted on the right side.

5. Fingers flexed and extended.
6. Wrists flexed and extended.
7. Forearms pronated and supinated.
8. Elbows flexed and extended.
9. Arms flexed and extended.
10. Neck flexed by raising head.

11. Head moved from side to side (lateral flexion, not rotation).

12. Deep breathing.

Those exercises appropriate to a given case having been selected, the patient is instructed in their performance.[1] The exercises should never be continued beyond a point of moderate fatigue and should be modified according to the character of the patient and the operation. In general, however, each movement should be performed about ten times at first and gradually increased to twenty-five or thirty, three times a day, beginning about the third day or as soon after the operation as conditions warrant. Five minutes should suffice for all the exercises. In the exercises for the neck and upper extremities the knees should be flexed to relax as far as possible the abdominal muscles, but even then the neck exercises may cause some contraction of the abdominal recti. *All movements of the limbs should be performed with voluntary muscular resistance.*



Fig. 5.—Fingers flexed and extended.



Fig. 6.—Wrists flexed and extended.



Fig. 7.—Forearms pronated and supinated (should be bilateral).



Fig. 8.—Elbows flexed and extended.

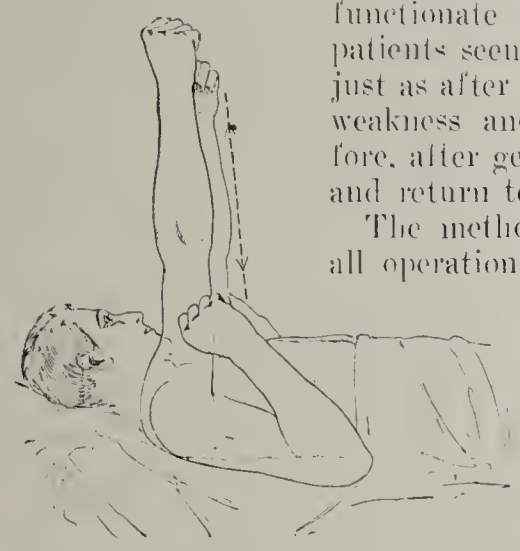


Fig. 9.—Arms flexed and extended.



Fig. 10.—Flexion of neck by raising head.



Fig. 11.—Head moved from side to side (lateral flexion).

The assumed and apparent advantages of the procedure are as follows: The general circulation is improved, and as a result all parts of the body should functionate in a more normal manner; the patients seem to appreciate this and feel better, just as after exercises at other times. Muscular weakness and atrophy are diminished; therefore, after getting up, exertion is less fatiguing, and return to normal is more rapid.

The method obviously cannot be used after all operations, nor should it be substituted for early sitting up in the old and feeble; it is chiefly applicable to routine cases, such as internal appendectomy, simply herniotomy and many gynecologic operations. The procedure is not intended as a substitute for massage and passive movements when these are indicated. It may frequently supplement them with advantage, but it is especially appropriate for the kind of case in which massage is not ordinarily used; that is, when the patient's health and strength are good at the time of operation, and, deterioration not being conspicuous, no effort is made to keep him in good condition. Private patients doubtless will receive the benefit of these exercises to a greater extent than ward patients, both because they demand and obtain more supervision and thought for their comfort, and because they are isolated so that their actions do not attract attention or excite comment. But if systematic exercises should be regarded with favor, their application to ward patients would not offer any serious obstacle.

Two objections to the procedure will at once suggest themselves; first, the possibility of interference with the repair of the wound by movement of the parts, and, second, the danger of embolism from the dislodgement of a thrombus. Let us analyze these objections.

A fairly prolonged stay in bed after a celiotomy (usually from one to two weeks) is recommended by most surgeons, largely that the coapted tissues may unite firmly before considerable strain is allowed to bear on them. On the other hand, some surgeons, among whom is Kümmel,[2] advise getting patients out of bed as early as the first day after a celiotomy. But it is manifest that premature rising from bed is done at the sacrifice of proper wound repair which demands rest of the parts involved, and this can be secured, in many classes of

1. The instruction of the patient or attendant as to the exercises is simplified by the use of such a form as the following in conjunction with the illustrations. The parts in italics should be blank to be filled in by the surgeon.

Instructions for exercises following *Right Inguinal Hernia* or *Internal Appendectomy.*

Begin postoperative exercises on *third* day.

Number of times daily: *three.*

Times for exercises: (*regular times should be prescribed*).

Number of times each exercise (always stop short of fatigue): *Begin at 10, increase gradually to about 30.*

Exercises: *1-12 with exceptions as follows: left side only, 3 and 4.* (In a hernia the operator may consider it wiser to omit or postpone 3 and 4.)

2. Kümmel: Deutsch. med. Wchnschr., 1909, No. 43, p. 1865.

operations, only by confinement to bed for a reasonable length of time. The adoption of exercises during this period provides almost all of the advantages gained by a shortened stay in bed, without interfering with the best conditions for the repair of the wound. In this connection, however, it must be emphasized that movements should be carefully chosen and regulated so that the tissues in the region of the operation may not be disturbed, especially by the play of muscles which would strain the sutured wound.

As bearing on the question of danger from thrombosis and embolism, it is significant that the only recommendations for the use of postoperative exercises which seem to have been made heretofore have been in connection with the prophylaxis of these complications. Kleinschmidt[3] states that opinions are of late increasing in favor of mechanical causes as the decisive etiologic factor. He states that in the majority of cases thrombosis is due to retardation of the blood-current; and that less often infection is the cause. He states that when infection plays a part it is through inflammatory changes in the vessel wall resulting in a secondary thrombus which is often found to be free from bacteria. By reason of the importance thus ascribed to retardation of the blood-stream in the etiology of thombosis, he recommends as a prophylactic measure in all laparotomy cases the improvement of the circulation by movements of the extremities, raising the upper part of the body, change in position and massage. Krecke,[4] Henle[5] and others have advocated similar measures. Whereas it is claimed by those who advocate getting patients out of bed soon after an operation that the resulting improvement in the circulation diminishes the occurrence of thrombosis and embolism, some surgeons, notably Gebele,[6] feel that the danger from these complications is increased unless moderately long rest and quiet in bed is practiced. Yet the fact cannot be overlooked that a large proportion of the fatal cases of embolism occur about the thirteenth day, or soon after the patient rises from a recumbent position which he has occupied during the whole period of convalescence, relatively inactive and inert. Such cases are in favor of exercises for the prophylaxis of emboli. Although the question cannot be settled theoretically, there are no arguments sufficiently weighty to allow the fear of embolism to militate against the employment of exercises. In fact, if early rising has any merit in preventing the occurrence of thrombosis and embolism, exercises should be equally advantageous without interfering with the essential rest of the parts undergoing repair.

### CONCLUSIONS

While it is impossible to estimate accurately the effects of postoperative exercises, their trial in a number of cases seems to support the theory that as a result of their use the general circulation is improved, the functions of the body are performed in a more normal manner, the patients feel better, muscular weakness and atrophy are diminished, and after getting up exertion is less fatiguing and return to normal is more rapid. The two objections—possible interference with the repair of the wound and danger of embolism and thrombosis—may be disregarded. No injury to the wound is to be anticipated provided proper exercises are selected and intelligent instruction is given the patient; moreover, there is no valid reason to fear embolism and thrombosis: in fact, there is some reason to believe that the exercises may be advantageous as a prophylactic against these complications.

If postoperative exercises are desirable, it is essential that their use should be systematized. A general policy may be adopted in each variety of operation as to the kind of exercises, the number of times each is to be performed, the number of times a group of exercises is to be carried out each day, and definite times for their performance. Yet in many cases the condition of the patient and the nature of the operation demand variation from a fixed routine, so that, although a definite plan may be followed in general, supervision is essential in every case.

107 East Sixtieth Street.

3. Kleinschmidt: Ergebnisse der Chirurgie und Orthopädie, 1913, v, 432.
4. Krecke: München. med. Wchnschr., 1910, No. 39, p. 2037.
5. Henle: Verhandl. d. deutsch. Gesellsch. f. Chir., 1908, xxxvii, 17.
6. Gebele: Verhandl. d. deutsch. Gesellsch. f. Chir., 1908, xxxvii, 17.

---

## A NEW LUMBAR-PUNCTURE NEEDLE

JULIAN MAST WOLFSOHN, M.S., M.D.
Assistant in Neurology, Leland Stanford Junior University, Department of Medicine
SAN FRANCISCO

The need is obvious for a new lumbar-puncture needle which will accurately measure the cerebrospinal pressure, and which will permit the withdrawal of uncontaminated fluid from the spinal canal or the introduction of serum, anesthetics or other fluid with minimum manipulation.

The instrument usually employed in America is the simple straight needle, the use of which always entails the loss of more or less cerebrospinal fluid before the trocar is withdrawn and a manometer attached for making a pressure-reading. This of itself not only makes the pressure-readings inaccurate, but soils the field of operation, especially when the patient is suffering from epidemic cerebrospinal or tuberculous meningitis.

Many modifications of this apparatus have from time to time appeared.[1]

In Germany, the three most popular needles in use are:

1. Quincke's apparatus which, according to Reichmann, when showing a reading of 120 mm., uses 8 c.c. cerebrospinal fluid.

2. Krausche's apparatus, which gives fairly accurate measurements, but employs normal sodium chlorid solution, which mixes to a certain extent with the cerebrospinal fluid, thereby preventing accurate cytologic or chemical examinations.

3. Reichmann's apparatus, which seems too complicated to come into general use.

The above-mentioned needles do not quite fill the need of an instrument in the use of which there must be a quick, accurate method of reading the pressure and of withdrawing or introducing fluids without much manipulation.

1. Those interested are referred to the following literature:
Quincke: Technique der Lumbal Punction 1902. Deutsch. Klin., 1901, vi, 351.
Kronik: Deutsch. med. Wchnschr., 1897.
Wilms: München. med. Wchnschr., 1897, p. 55.
Pfaundler: Beitr. z. klin. Med. u. Chir., xi, 20.
Crohn: An Improved Apparatus for Estimating the Pressure in the Cerebrospinal System, THE JOURNAL A. M. A., April 1, 1911, p. 1566.
Reichmann: München. med. Wchnschr., February, 1912, No. 9.
Ebright: Lumbar Puncture in Diagnosis and Therapeutics, THE JOURNAL A. M. A., Nov. 7, 1908, p. 1566.

The apparatus which seems to fill the needs above mentioned is simple in construction, and consists of:

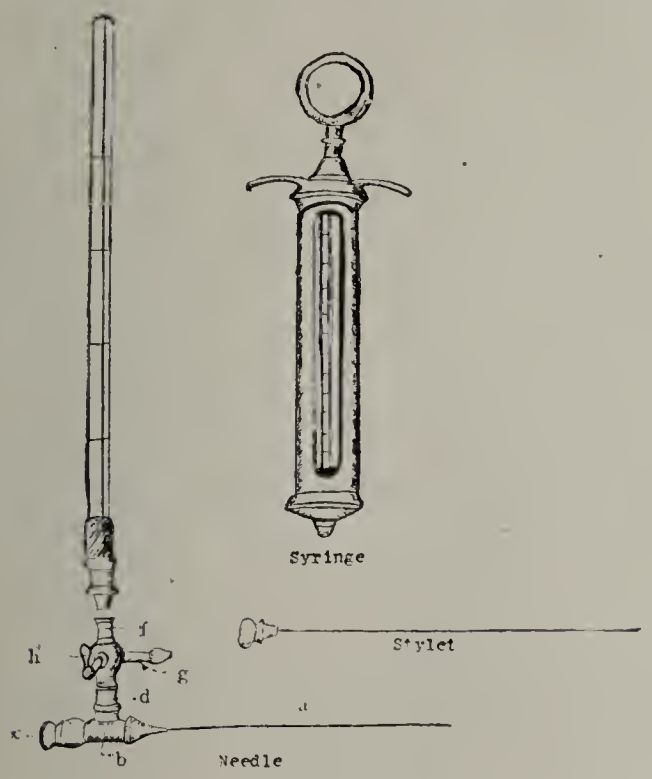
1. An iridoplatinum needle (*a*) 9 cm. long with a bore of 1 mm. which is attached to

2. An elbow (*b*) into one arm of which a plug (*c*) is fitted. This plug can easily be removed and a trocar inserted, should the needle become clogged. The other arm (*d*) is attached to

3. A 3-way stop-cock, one arm (*g*) of which comes off at right angles to the direction of the needle, and is used to withdraw the fluid used in the various tests.

4. A manometer consisting of a piece of glass tubing from 400 to 600 mm. long, 6 mm. thick and of 1 mm. bore. This is attached to the arm (*f*) of the stop-cock by means of a perforated plug. The manometer is graduated to 10 or 25 mm.

The technic for reading the pressure and for withdrawing fluid is thus made very simple indeed. Until the needle pierces the skin, the indicator (*h*) of the stop-cock is placed between the arms (*f* and *g*), thereby shutting off both outlets. Once underneath the skin, the manometer is attached and the indicator turned so




Lumbar-puncture needle.

that it points in the direction of the manometer. The operator pushes the needle until it reaches the pia-arachnoid space, at which instant there will be a rush of fluid into the manometer. The maximum height is quickly reached and the fluid is seen to oscillate with each phase of respiration.

In some cases of suspected brain tumor showing signs of increased intracranial pressure, the outflow of the cerebrospinal fluid has been too rapid, and sudden exitus has resulted. With this apparatus the outflow can be so controlled that such accidents should be more infrequent.

After the pressure is read the indicator is turned through 90° toward arm *g*, which allows the escape of the fluid from the manometer into a collecting tube held there by the operator, and finally through 180° toward the elbow (*b*). This connects arm *g* with the needle and causes the cerebrospinal fluid to flow into the collecting tube from the spinal canal. When sufficient fluid has been collected, the stop-cock is turned off, or another reading of the pressure can be made merely by turning the indicator.

If, now, serum, anesthetic or other fluid is to be inserted into the spinal canal, the manometer is removed; a syringe containing the fluid is substituted and its contents introduced at whatever speed desired. When this operation is completed, the stop-cock is closed and the needle withdrawn without the loss of a single drop of fluid at any stage.

In summary, the advantages of this apparatus, aside from its simplicity, are:

1. The manometer readings are accurate.

2. The control of the speed of outflow of the cerebrospinal fluid is absolute.

3. The instrument is so constructed that it is possible to tell the instant the pia-arachnoid space is reached, thus causing a minimum of injury to the surrounding tissues.

4. During the whole operation, not a single drop of fluid is lost.

5. A small amount of fluid is needed to record a reading of 120 mm. pressure (12 drops, about .75 c.c.).

6. The instrument can be used for the introduction of serum, anesthetics or other fluids into the spinal canal.

7. The needle requires so little manipulation during its use that the principles of asepsis can be carried out with exactitude.

I wish to express my thanks to Dr. F. J. Sladen of the Johns Hopkins Hospital and to Dr. W. F. Schaller of the Stanford Neurologic Department for the privileges of the wards and for many helpful suggestions.

---

## HOSPITAL CLINICAL RECORDS

JAMES S. BROTHERHOOD, M.D.
SARATOGA SPRINGS, N. Y.

With the adoption of more uniform and systematic methods of accounting in the administration of the hospitals throughout the country, it has occurred to me that the same line of improvement might be continued in the matter of hospital clinical records. There exists in almost every hospital a wealth of clinical material, the systematic record of which would afford untold value in proving the efficacy of any particular line of treatment, medical or surgical, or the relative value of the various diagnostic signs. With the uniform recording of the clinical observations and the laboratory findings, the correlation of all such data would be made possible.

Investigation of the records of a few hospitals would soon convince one of the necessity for some such uniformity or standard of method. There are few hospitals, and these mostly in close connection with medical schools, which attempt to keep any record of the patient's condition other than a numerical register of the temperature, pulse and respiratory rate. If the patient happens to be very ill, a few bedside notes or "special charts" are kept by the nurses.

A little over a year and a half ago I secured from about thirty of the leading hospitals throughout the country samples of their clinical record blanks and charts. With these as a guide I have endeavored to arrange a set of clinical record sheets which would incorporate the good points of all. In seeking after a set of charts for use in a general hospital no attempt was made to include the various forms, charts or diagrams used by the "specialists." The first consideration to be met was the choice of a page of suitable size for the printed forms, as the sample records received ranged in size from small note-paper to large sheets measuring

14 by 30 inches. It was found most economical to select a standard-size paper 8½ by 11 inches, the size used for business letters, and all record forms were printed on this size. In addition to being of convenient size to handle, the paper is easily adapted to the various filing devices offered by the manufacturers.

Medical No._____

**WASHINGTON UNIVERSITY HOSPITAL**

General No._____

WARD_____ Single Married Widowed

Name_____ Age____ Sex ____

Address_____ Race_____

Occupation_____ Nationality_____

Relative_____ How Related

Address_____

Physician_____ Address_____

Admitted_____ Discharged_____

History Taken by_____ Result_____

**DIAGNOSIS:**

FORMER OR SUBSEQUENT ADMISSIONS

| Date | Med. No. | Diagnosis |
|---|---|---|

Blank 1 (on white paper).—The upper half of the history front sheet, for recording vital statistics regarding patient, diagnosis and remarks. There are six lines for the record of former or subsequent admissions, below which, under the heading "Remarks," are eight blank lines. In all the illustrations the margin at the left for binding has not been reproduced. Blank 2, which is not reproduced, has spaces for the name and the medical number at the top; the rest of the sheet has plain ruling and is used as a history filler for recording the patient's history, results of physical examination and bedside observations. At the left, inside the margin for binding, is a vertically ruled column one and one-half inches wide for synopsis or abstract of paragraphs.

The routine hospital record may be said to consist of four different portions, and these will be taken up in detail. The first portion of the history form designated as the "front sheet" (Blank 1) is devoted to the vital statistics regarding the patient; namely, patient's name, address, occupation, age, sex and nationality, and the name and address of patient's nearest relative or friends; name and address of the physician referring the case to the hospital; date of admission and discharge; result; history taken by ————; diagnosis: dates of former and subsequent admissions to the hospital, diagnosis and history numbers. A generous amount of space is left at the bottom of the page and headed "remarks" for the notation of any particularly interesting feature of the case or unusual complication. At the top of the page spaces should be provided for the general hospital number and the special service number (medical, surgical, gynecologic, obstetric).

The second portion of the history form or "filler" consists of a plain ruled paper with a side margin or column of 1½ inches width and an additional allowance for binding. The side column permits the writing of a few notes and an abstract or summary of the paragraphs of the history. The major portion of the ruled space is devoted to a carefully taken history of the patient's illness, the results of the physical examination on admission to the hospital, and subsequent bedside observations by the attending physician, resident physician or intern. It is advised that a good thin bond paper be used and that all the writing be confined to one side of the paper. The use of a rubber stamp and printed outlines of the chest, abdomen and pelvis greatly facilitates the accurate description and localization of the various signs and abnormalities.

The third portion of the clinical record consists of several charts on which are recorded the results of the laboratory and special examination, with places for photographs, tracings and sphygmographic tracings. The advantage of having all the laboratory findings and results of special tests together and not scattered throughout the history is apparent. The laboratory record forms (Blanks 3 and 4) have spaces devoted to the examination of urine, blood (fresh smears, stained specimens and differential counts), sputum, stomach analysis, stool examination and pathologic reports. With such complete and uniform outlines as a guide one can be reasonably sure that none of the "usual findings" to be looked for will be forgotten. At the suggestion of Dr. George Dock the laboratory and special examination charts were printed on different-colored paper from that of the main body of the history, thus permitting quick reference in reviewing the history.

The fourth portion of the clinical record (Blank 5) consists of the record of the patient's temperature, pulse and respiratory rate, blood-pressure determinations, daily output of urine, number of stools, etc. The making of these charts naturally becomes the duty of the

**WASHINGTON UNIVERSITY HOSPITAL**

MEDICAL NO._____

NAME_____ WARD_____

**URINE**

| DATE | Amount C. C. | CHARACTER | Specific Gravity | Reaction | Sugar | Albumin | MICROSCOPIC EXAMINATION | REMARKS SPECIAL TESTS |
|---|---|---|---|---|---|---|---|---|

(Here six lines are left)

**BLOOD**

| DATE | FRESH BLOOD | RED BLOOD CELLS | WHITE BLOOD CELLS | Hemoglobin | Color Index | REMARKS |
|---|---|---|---|---|---|---|

(Here three lines are left)

**DIFFERENTIAL COUNT**

| DATE and No. of Cells Counted | | Lymphocytes | Large Mononuclears and Transitionals | Polynuclear Neutrophiles | Polymorphonuclear Eosinophiles | Mast cells | Myelocytes Neutrophilic | Myelocytes Eosinophilic | Unclassified | | Normoblasts | Intermediates | Megaloblasts | DATE | Blood Culture | Widal | Wassermann |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Per cent | | | | | | | | | | | | | | | | |
| | Number of Cells | | | | | | | | | | | | | | | | |
| | Absolute Number | | | | | | | | | | | | | | | | |
| | Per cent | | | | | | | | | | | | | | | | |
| | Number of Cells | | | | | | | | | | | | | | | | |
| | Absolute Number | | | | | | | | | | | | | | | | |

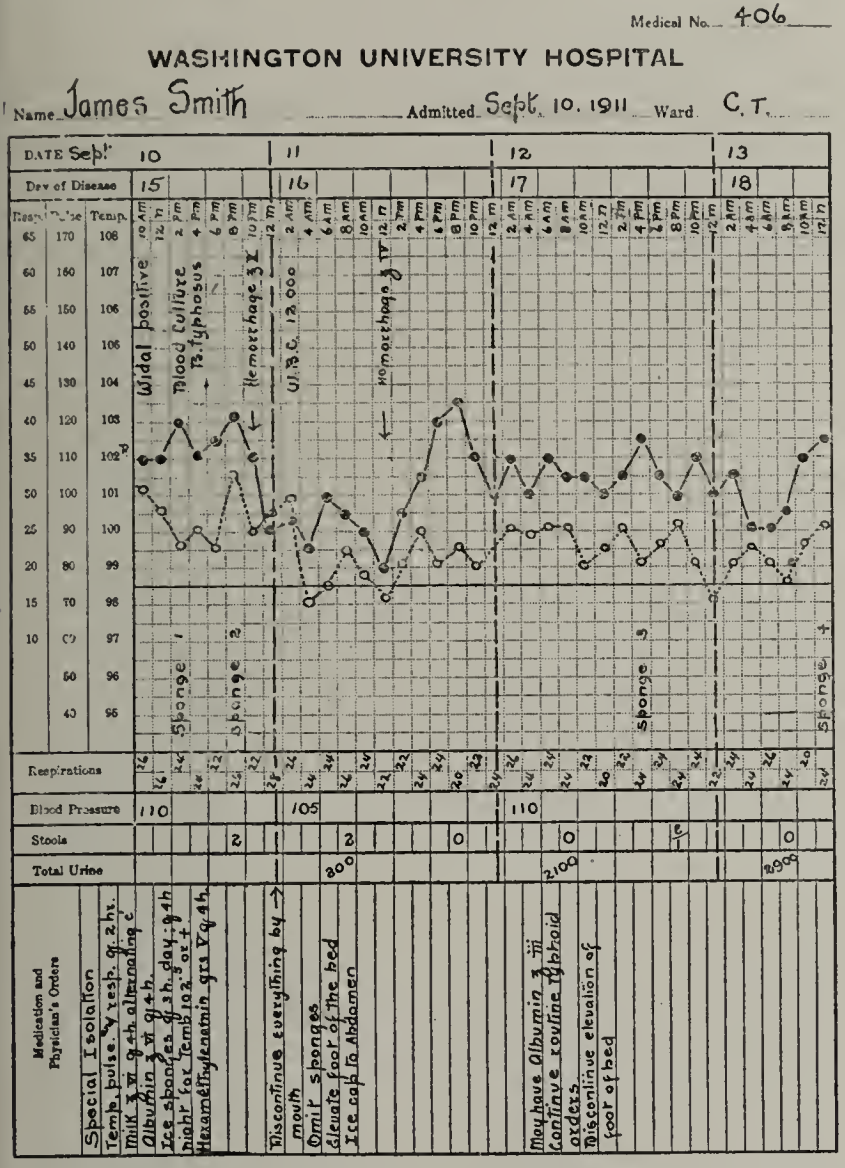
STAIN USED _____ PATHOLOGIC CHANGES IN THE BLOOD_____

EXAMINED BY_____

Blank 3 (on pink paper).—Laboratory records: urinalysis, blood examination, fresh and stained specimens, differential count.

nurse, and in order that these records may be uniform it is customary to set apart one nurse at a time to take the temperature, pulse and respiratory rate, and record the same for a whole ward.

This chart, generally designated as the "temperature chart," is the most important of the daily records of




Blank 5.—Temperature chart form for recording temperature, pulse and respiratory rate, blood-pressure, stools, urine, day of disease, medication and physician's orders. The temperature is plotted in the upper line, solid, with solid circles. The pulse-rate is represented by lower line, dotted and with open circles. In charting, this line is made the same as the temperature line, but is printed in red ink. Midnight line also a solid line in red ink.

the patient's condition, and is to the physician what a compass and log-book are to a mariner, and is an invaluable aid to the conduct of the case. The so-called "temperature-pulse curve" formed on the chart by connecting lines instead of a series of numbers is often so characteristic as to be of distinct assistance in reaching a diagnosis.

The relation of the pulse to the temperature over an extended period are depicted with faithful accuracy. Spaces are also provided for the date of the day of admission to the hospital, day of the month and day of illness, and the number of the day or days after operation. At the bottom is a wide horizontal column for the record of the standing orders of the physician, special medications or therapeutic procedures. These may be arranged so as to correspond with the hour of the day when given and when discontinued.

Below is a sample chart and a set of instructions to the nurse who does the charting. A single chart will suffice for the recording of thirty-eight separate temperature and pulse determinations, and will last from three days to two weeks for the usual case.

RULES FOR CHARTING

Always put patient's full name, date of admission, ward number, on each temperature chart (in black ink), and the hospital number in the appropriate space (in red ink).

Number sheets of long chart.

Midnight line (red ink) to be drawn in the middle of the space.

When charts are made "B D" (temperature taken twice daily) draw line at midnight and change on next day.

The letters R and M placed at the beginning of the temperature line will indicate whether the temperature was taken by mouth or rectum. In case a change in method is made, it is to be indicated by the letter under the dot where the change occurred.

Patient's temperature is to be taken twice on admission: once by mouth and again when in bed by rectum, the latter to be charted as the admission temperature. In all cases temperatures are to be taken every two hours until otherwise ordered; all continuous fevers—typhoid, malaria and pneumonia—every two hours.

Patients on a two-hour temperature are always awakened until otherwise ordered. All two-hour temperatures are rectal, all four-hour and twice daily, by mouth until otherwise ordered.

If any patient develops a sudden rise of temperature, temperature is to be taken every two hours.

Chart temperature (black); pulse (red); hours (red ink) except 8 a. m. and 8 p. m. in black ink.

Chart stools (character and size, in typhoid fever) and urine, in red ink; day of disease in black ink.

Stools charted 8 a. m. and 8 p. m., urine (total amount) at 8 a. m. (red ink).

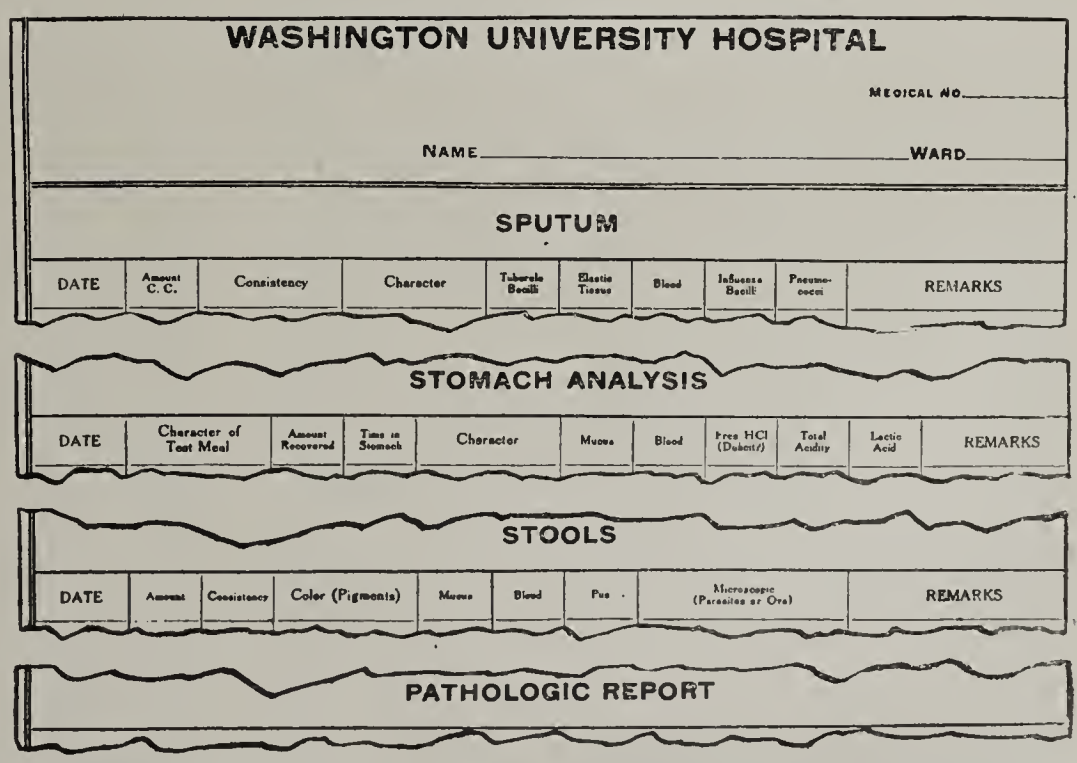
Chart enemas in space for stools.

All medicines charted when ordered and when discontinued, for example, digitalis, strophanthus, potassium iodid.

Chill to be printed and underscored on chart. Temperature to be taken every half hour during any chill until it begins to fall, then every two hours until normal.

Sponge-baths entered below the normal temperature line numbered 1, 2, 3, not in roman numerals (red ink).

Hemorrhages or operations (charted by nurses), black ink. Positive or negative Widals, blood-cultures and leukocyte




Blank 4 (on green paper).—Laboratory records; examination of sputum, stool and pathologic report. Three lines are left under each of the headings "sputum," "stomach analysis" and "stools"; a larger space is left under "pathologic report."

counts are to be charted by the ward doctor (in black ink) in space above 103 temperature line.

In typhoid fever cases, chart diet and first day up. All standing or continued orders are to be charted in black ink in proper space, corresponding to the hour ordered. When treatments or drugs are discontinued, the order for the discontinuance is placed in the space as near as possible to the hour which corresponds to that in which the change is ordered to take place.

Several methods are employed for the storing and keeping of the completed records. In small hospitals, the number of the records being small, suitable manila paper covers are attached to the histories and the whole properly placed in filing cases according to general hospital or special service number. In larger hospitals the histories are bound, and this keeps the records in small compass and prevents the loss of any individual history. The binding of fifty medical histories makes a volume from 4 to 5 inches thick. A cross-index card system of patient's name and disease facilitates in locating any desired record, and is of marked service when any statistical hospital report is to be made of the progress of the various services.

The clinical history forms described and illustrated here have been in use for the past year and a half in the Washington University Hospital, St. Louis, and the Saratoga Cure and Infirmary, Saratoga Springs, N. Y., and have given satisfaction.

I am indebted to Dr. George Dock and Dr. Roger Morris for many helpful suggestions.

109 Caroline Street.

---

# COMPLEMENT-FIXATION TESTS FOR STREPTOCOCCUS, GONOCOCCUS AND OTHER BACTERIA IN INFECTIVE DEFORMING ARTHRITIS AND ARTHRITIS DEFORMANS

THOMAS WOOD HASTINGS, M.D.

Professor of Clinical Pathology in Cornell University Medical College; Assistant Visiting Physician to Bellevue Hospital

NEW YORK

Assuming that the cause of arthritis deformans is a bacterial infection, cases of chronic infective deforming arthritis, or "chronic infectious arthritis," and arthritis deformans must be classed as the same disease etiologically. This assumption has been made by several, and a few physicians, on the basis of this assumption, have treated cases of arthritis deformans with streptococcus vaccines (Smith,[1] Ball,[2] Horder[3]). Horder and Smith have given good reasons for considering a particular vaccine specific for the disease.

An article by Skinner,[4] in 1910, describing the results of 160 cases of arthritis deformans, claims much for the usual methods of treatment thoroughly carried out. He reports 25 per cent. apparently cured, 65 per cent. benefited in varying degrees, and 10 per cent. apparently uninfluenced. The 10 per cent. of uninfluenced cases is the class that specific therapy is supposed, by those who employ specific treatment for infective processes, to benefit.

Articles by Bannatyne and Lindsay[5] and by Painter,[6] which from their titles one would suppose dealt with vaccine therapy, contain nothing of a positive nature relating to the subject.

The proof of infection may be searched for by making the following tests:

1. Cultures of exudates from the joints and tissues about the joints.
2. Cultures from possible foci other than the joints (as evidenced by clinical manifestations).
3. Blood-cultures for a bacteriemia.
4. Blood tests for immune bodies, of which the complement-fixation test against autogenous antigens (obtained by the three preceding methods) and against exogenous antigens, is the most appropriate.

The first method is the only one which will prove absolutely that the joints and neighboring tissues have been invaded by bacteria. The second and third methods show an infection of the body with bacteria, and from this fact it is sometimes concluded, as with infective endocarditis ("malignant" and "ulcerative" endocarditis) that the bacteria isolated by Methods 2 and 3 are the cause of a local infection of which the focus cannot be submitted to bacteriologic investigation. Whether or not a positive result from Method 3 excludes a positive result from Method 4, or the opposite, has not yet been determined. It would seem, however, that a positive complement-fixation test for any one germ would exclude a possibility of obtaining a growth of that germ by culture from the blood.

In cases of chronic arthritis the first three methods have been employed by many investigators without result, while a few have found by the second method foci of infection with streptococci and other germs (Ball, Smith, Horder).

The papers on "A Study of Streptococci with the Complement-Fixation and Conglutination Reactions" by Swift and Thro,[7] and on the "Complement-Fixation Test in the Diagnosis of Gonococcic Infections" by Schwartz and McNeil[8] suggested the employment of complement-fixation tests against various strains of streptococcus, staphylococcus and gonococcus to determine the existence of bacterial infection in cases of chronic deforming arthrities.

In 1910 and early in 1911, four typical cases of arthritis deformans were searched thoroughly for foci of infection with the idea of isolating some germ, preparing an autogenous vaccine, and treating the cases with this vaccine in the hope that the chronic arthritis might respond to such specific therapy. The first case had been considered and treated as arthritis deformans for nine years, and in 1909 and 1910, for a period of eighteen months, had been given injections of gonococcus vaccine, since there was a history of a specific urethritis fifteen years previously. There was no favorable result from the gonococcus vaccine, and in the fall of 1910 the patient was emaciated, cachectic and wholly disabled. Cultures were made from the exudate obtained by massage of the prostate and a typical *Streptococcus mitior* was obtained on two occasions. The complement-fixation test for gonococcus was not carried out because the patient had received vaccine injections for over a year, and any blood may give positive reactions after three

1. Smith, L.: Glasgow Med. Jour., 1911, lxxv, 218, 288; Tr Med.-Chir. Soc., Glasgow, 1911, x, 51.
2. Ball, C. P.: Brit. Med. Jour., 1911, i, 1105.
3. Horder, T. J.: Lancet, London, 1912, i, 1053.
4. Skinner, C. E.: Am. Jour. Med. Sc., 1910, cxl, 684.
5. Bannatyne, G. A., and Lindsay, J.: Brit. Med. Jour., 1911, i, 192.
6. Painter: Tr. Cong. Am. Phys. and Surg., 1910, viii, 344.
7. Swift and Thro. A Study of Streptococci with the Complement-Fixation and Conglutination Reactions, Arch. Int. Med., January, 1911, p. 24.
8. Schwartz and McNeil: Am. Jour. Med. Sc., 1911, cxli, 693.

or four injections of gonococcus vaccine. The hope that the vaccine prepared from the streptococcus isolated from the prostate would prove effective was realized, for the first few injections of the autogenous vaccine, though small in dosage, produced focal reactions in the joints and after several months restricted the progress of the disease and restored to a great degree the joint motility and the general health.

Early in 1911 a second case of the same type was studied, in which there had been no response to a gonococcus vaccine, and an autogenous vaccine of a streptococcus from the prostate brought about a rapid improvement and ultimately an arrest and partial cure of the disease.

A third case likewise gave on two occasions positive cultures of streptococcus from the prostate, but was not treated specifically, except with gonococcus vaccine which had no beneficial effect.

In a fourth case, with chronic endometritis, *Staphylococcus albus* was obtained from the cervix uteri, but it could not be determined that this organism had to do with the joint condition.

These four cases were typically arthritis deformans of several years' duration. In Case 1, of nine years' duration, and Case 2, of fifteen years' duration, attempts were made to carry out complement-fixation tests, but owing to improper standardization of antigen the results were worthless. Since the fall of 1910 twenty-four cases of arthritis deformans have been investigated by Methods 2, 3 and 4. In none was a positive blood-culture obtained. In seven cases foci of infection were found and in twelve cases positive complement-fixation reactions were obtained. In twelve cases complement-fixation tests were negative, and in two of these positive cultures were obtained from foci of infection which could not be proved to have any relation to the disease.

In addition to the joint cases complement-fixation tests were made in eleven non-arthritic cases, as controls. For three cases of infective endocarditis in which the *Streptococcus viridans* (or *mitior*) was isolated from the blood, complement-fixation tests were negative. For one case of *Streptococcus pyogenes* septicemia in which *Streptococcus pyogenes* was isolated from the blood, the tests were negative. For one case of acute tonsillitis in which *Streptococcus viridans* was isolated from the tonsil, the tests were negative. For one case of secondary anemia (cause unknown) and for one case of "lumbago" the complement-fixation tests were negative. For two cases of lues, one secondary with a gonococcus arthritis, and one tertiary with an arthritis which cleared up under antisyphilitic treatment, complement-fixation tests for other bacteria than gonococcus were negative. In one case of chronic infective adenitis involving the lymph-nodes and soft tissues of the left cervical region, left axilla and mediastinum (simulating Hodgkin's disease) and in one case of simple purpura the complement-fixation tests were positive for three strains of *Streptococcus viridans*.

The blood from each case was tested for the Wassermann reaction and for complement-fixation against gonococcus, streptococcus (from three to twelve strains), staphylococcus and *Micrococcus tetragenus*. In a few instances the pneumococcus and *Micrococcus rheumaticus* (Poynton) were used. Twenty-two antigens were used at different times; *Streptococcus viridans* (*mitior*) 13 strains, *Streptococcus hemolysans* 1 strain, *Micrococcus rheumaticus* 1 strain, pneumococcus 1 strain, *Micrococcus aureus* 1 strain, *Micrococcus albus* 3 strains and *Micrococcus tetragenus* 2 strains. Of the *Streptococcus viridans* strains 6 came from the sockets or roots or gums of patients with pyorrhea alveolaris, 2 from the tonsils, 1 from the sputum, 3 from the blood and 1 from the prostate. The strain of *Streptococcus hemolysans* was isolated from the tonsil. The *Micrococcus rheumaticus* came from the Poynton stock. The strain of pneumococcus and one strain of *Micrococcus albus* were isolated from the sputum. The other strains of *Micrococcus albus* were obtained from the cervix uteri (1) and from the prostate (1). The *Micrococcus aureus* came from a tooth socket. The two strains of *Micrococcus tetragenus* were isolated from the cervix uteri.

The antigens were prepared by washing the surface of agar slant tubes with 0.85 sodium chlorid solution, shaking thoroughly and killing with heat at 60 C. for one-half hour.

For these bacterial suspensions the number of germs in millions per cubic centimeter was determined, sometimes by Wright's method and sometimes by mixing with a weak basic fuchsin solution in a blood-cell-counting pipette. It was found that standardization for complement-fixation was best carried out with a bacterial suspension of 1,000 million to the cubic centimeter and that, as a rule, from 0.1 to 0.3 c.c. should be used for the complement-fixation tests. This is the rule for the strains of *Streptococcus viridans*. The variations were from 0.05 to 0.3 c.c. For the tests as done in this laboratory the antigens were diluted 1 to 10 since one-tenth of the amount employed in the original Wassermann technic was used throughout. In other respects than the one-tenth dilution, the Wassermann technic was followed. This is similar to the method employed by Schwartz and McNeil. Throughout, the blood-serum of the patients was tested for 0.3, 0.2, 0.1 of a 1:10 dilution.

Of the typical cases of arthritis deformans, of from two to fifteen years' duration, six reacted to strains of *Streptococcus viridans*. From four of these cases the same organism was isolated from a tooth-socket after the extraction of teeth — in three of the four, complement-fixation tests were found positive before the infection of the alveolar processes was looked for. One of these cases reacted to gonococcus also. Four cases of typical arthritis deformans reacted to the gonococcus; one of them to streptococcus also. Three cases, which were classed from the history as infective deforming arthritis, reacted to the gonococcus. The deformities were typical of arthritis deformans. In twelve cases of typical arthritis deformans the tests were negative for the Wassermann reaction, and for the gonococcus, the streptococcus and staphylococcus. Improvement under treatment with injections of vaccine, considered specific on account of the complement-fixation tests, has strengthened the supposition that some cases of arthritis deformans are infective in nature and that the infecting germ may be a *Streptococcus viridans* or a gonococcus.

First Avenue and Twenty-Eighth Street.

---

**Epileptiform Attacks After Salvarsan.**—F. Lube describes a case of his own and cites twenty-four others from the literature in which injections of salvarsan were followed at periods varying from three days to three months by epileptiform attacks with the clinical picture of cerebral intoxication. He thinks the attacks were due to the salvarsan, but is unable to explain why certain individuals should be affected in this way while others are not. His report appeared in the *Dermatologische Zeitschrift*, 1913, xx, 8.

# MEMBRANOUS STRICTURES OF THE ESOPHAGUS OF OBSCURE ETIOLOGY

WILLIAM LERCHE, M.D.
ST. PAUL, MINN.

The occurrence within a year of three cases of benign cryptogenic stricture of the esophagus has indicated that the condition may be of relatively frequent occurrence. These strictures have occurred in the cervical part of the esophagus in women, the youngest of whom was 32, and the other two 67 years of age.

When a middle-aged or elderly patient complains of difficulty in swallowing, it is apt to be diagnosticated offhand as due to nervousness or cancer, according to the length of time the trouble has lasted. Ocular inspection through the esophagoscope is the only method by which a positive diagnosis can be made in any esophageal disorder, and, in the cases to be presently reported, it would have been impossible to ascertain the pathologic condition in any other way.

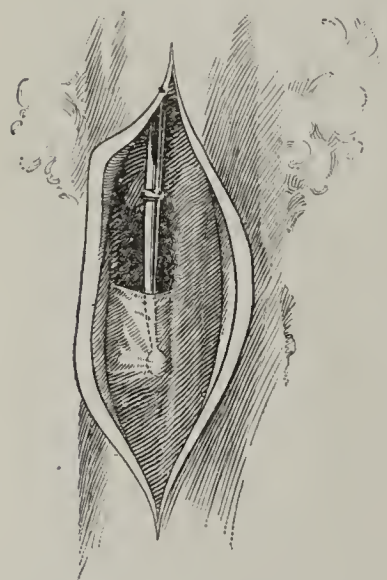


Fig. 1.—The pocket demonstrated by the probe with the movable end.

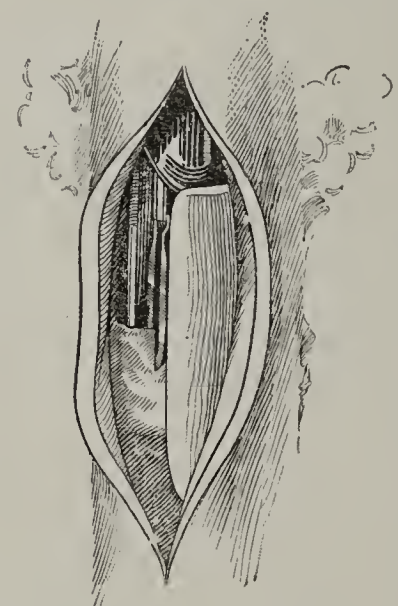


Fig. 2.—The esophagoscope in place, the pocket wall between the shields and the electrocautery at work.

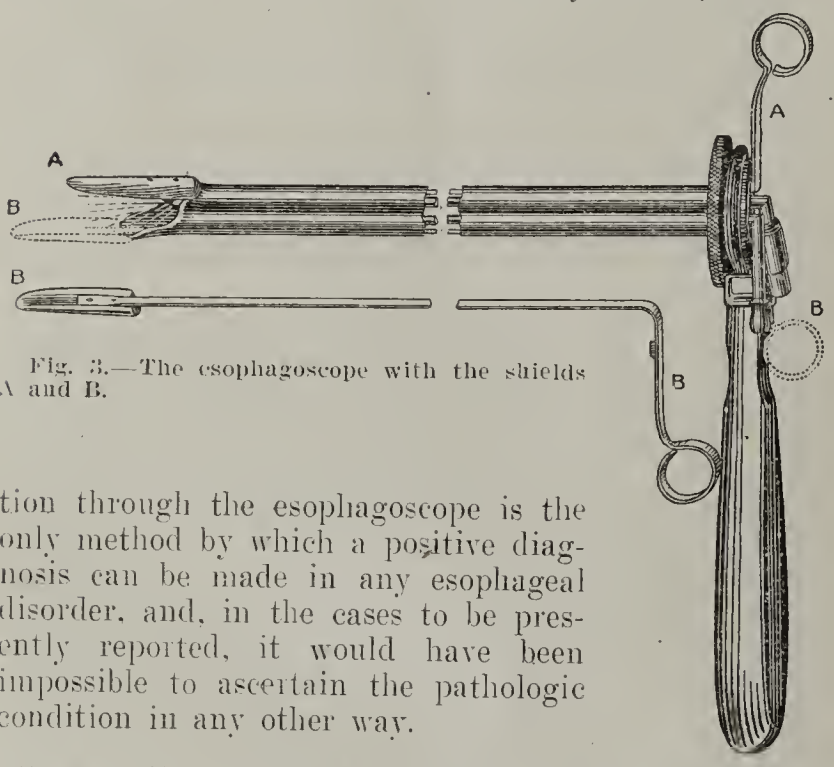



Fig. 3.—The esophagoscope with the shields A and B.

CASE 1.—The patient was a woman aged 67 with fifteen children, one still-birth. The still-birth occurred at the age of 43, and was followed by sepsis from which the patient was ill for several months. More than eighteen years prior to consultation, she began to have difficulty in swallowing. For ten years she had been unable to take solid food; besides liquids she took mostly porridge made of very fine meal.

*Examination.*—An obstruction was met 20 cm. from the incisor teeth. A filiform whalebone bougie was introduced through my curved metal guiding tube, and on this a small bougie was passed. When the instrument was passed through the stricture it gave the sensation of tearing through a fairly thick membrane. Esophagoscopy revealed a membranous stricture with an opening posteriorly to the right close to the esophageal wall. A small superficial ulceration was seen just below the opening.

CASE 2.—The patient, a woman, aged 67, had two children. She had never been strong, but had been healthy except for protracted and recurring diarrheas at about the age of 35 years. Nearly ten years prior to consultation, the patient began to have difficulty in swallowing. She chewed her meat and spat it out again. Of late she had been obliged to drink slowly, because otherwise the liquid would be apt to be regurgitated. Cold water would pass better than hot drinks.

*Examination.*—An obstruction was found 17 cm. from the incisor teeth. A flexible spiral bougie 11 F. could be passed. By esophagoscopy a membranous stricture was seen with a small opening to the left posteriorly, toward which the membrane seemed to be sloping down. The membrane to the right of the opening appeared to be on a somewhat higher level than that to the left, thus forming a fold.

Esophagoscopic examination after treatment showed remnants of the membrane.

CASE 3.—The patient, a woman aged 32, had had one child, no miscarriage. About ten years prior to consultation she noticed that she could not swallow onions, and gradually it became difficult to swallow any solid food. For the last four years she had taken only soft food and liquids. She had to be very careful in eating because at times even fluids would be rejected. She frequently gulped up mucus.

*Examination.*—An obstruction was encountered 16 cm. from the incisor teeth. An opening was found that admitted an 11 F. flexible bougie. When a somewhat larger instrument was introduced it gave the sensation of passing through a membrane. Esophagoscopy revealed a membranous stricture partly opened. On the posterior wall of the esophagus, somewhat to the right, was seen a superficial ulceration and, at the lower part of this, a diverticulum or pocket, into which the ulceration extended, came into view. The pocket, which measured about 1 cm. in depth, had a thin front wall, apparently consisting of the mucosa only, and could readily be demonstrated by the aid of my probe with the movable end (Fig. 1). With the probe thick mucus could be milked out of the pocket by stroking its front wall.

*Treatment.*—In order to obliterate this pocket it was decided to burn through the front wall. For the protection of the surrounding parts I devised two ivory shields fastened to long brass spring wires, so that after the esophagoscope[1] was in place the shield A (Fig. 3), could be introduced through the esophagoscope into the pocket and attached to the short lip of the latter instrument, while the shield B in a similar manner was introduced into the lumen of the esophagus outside the pocket and attached to the long lip. With the front wall of the pocket thus between the two shields it was burned through with the electrocautery, under chloroform anesthetic (Fig. 2). This was followed by the proper after-treatment, and esophagoscopy a few months later revealed a quite normal-looking esophagus.

It is possible that the thin wall of the pocket had originated in the same way as the membranous stricture, but it was situated below the latter. On the other hand, it is possible that the mucosa at the lower edge of the ulceration had become detached, and that by constantly lodging mucus and other foreign substances, a pocket had gradually formed.

The latter condition is analogous to one seen by Kussmaul[2] at necropsy. A man, aged 27, had a cicatrix from chronic ulcer of pylorus and dilatation of the stomach. Between mucosa and submucosa from the edge of the cicatrix toward the lesser curvature there was a 12 mm. deep diverticulum.

1. Lerche, William: An Improved Esophagoscope, THE JOURNAL A. M. A., March 2, 1912, p. 619.
2. Kussmaul, A.: Ueber die Behandlung der Magenerweiterung durch eine neue Methode mittelst der Magenpumpe, Deutsch. Arch. f. klin. Med., 1869, vi, 480.

The esophagoscopic examination of these cases may be facilitated by first introducing the long filiform whalebone bougie, and then the esophagoscope on this as a guide, in order to have the opening for a landmark. The probe with a movable end is of the greatest utility here.

The three patients whose cases are here reported are well, and perfectly normal in regard to swallowing.

628 Lowry Building.

---

## SAHLI'S POCKET SPHYGMOBOLOMETER *

NATHANIEL BOWDITCH POTTER, M.D.

Assistant Professor of Clinical Medicine at Columbia University, College of Physicians and Surgeons; Visiting Physician to the New York City Hospital, and to the French Hospital

NEW YORK

In order to estimate the work or the energy of the pulse-wave and so indirectly the strength of the cardiac systole, Professor Sahli has devised and quite recently simplified a portable and clinically applicable instrument which he calls a pocket sphygmobolometer (bolos = a throw); see illustration.

A small rubber bag (*D*) is bound to the radial artery by the cuff (*H*). This bag is connected by small rubber tubing to a 10 c.c. syringe (*G*), to a horizontal blind manometer (*E F*) containing a kerosene index, and to a vertical, throttled mercury manometer (*A*). By means of the syringe the rubber bag is inflated, and the pressure on the contained air increased until the pulsations of the index in the blind manometer reach a maximum. The pressure of the air in excess of atmospheric pressure is then read on the mercury manometer. The initial volume of air contained in the different parts of the instrument and its connections is given for each instrument.

If V = volume of the air at atmospheric pressure,
P = increase in pressure in centimeters of mercury,
B = mean barometric pressure (New York = 76.4 cm. of mercury),
($\Delta$p) = change in pressure, expressed in centimeters of mercury, due to pulsations in the artery (this is obtained by observing the maximum pulsation of the kerosene index and then reducing it to centimeters of mercury in the manometer), and
density of mercury = 13.6 gm. per cubic centimeter,

then the work (W) done on the contained air by each pulse-wave may be expressed thus:

$$W = V \left(\frac{B}{B+P}\right) \left(\frac{P}{B+P}\right) (\triangle p)\ 13.6 \text{ gm. cm.}$$

The above equation is based on Boyle's or Mariotte's law which states that for a given mass of a perfect gas the product of the pressure (per unit area) and the volume is constant provided the temperature is constant. $p_1 v_1 = p_2 v_2 = \text{constant}$. Using the symbols given above we have

$$BV = (B+P)\, v$$

whence

$$v = V \frac{B}{B+P}$$

when v is the new volume under pressure.

The work done in compressing a gas, for very small changes in volume, is equal to the product of the applied pressure and the corresponding decrease in volume ($p \Delta v$). If the gas is a perfect gas this work may also be expressed as the product of the volume and the change in pressure ($v \Delta p$). The total work done in the above case is

$$V \frac{B}{B+P} (\triangle p)$$

But this work, as was pointed out by Christen, is done by the pressure of the pulse and of the atmosphere; hence the part done by the pulse alone is

$$V \left(\frac{B}{B+P}\right) (\triangle p) \left(\frac{P}{B+P}\right)$$

If V is given in cubic centimeters and ($\Delta$ p) in centimeters of mercury, then to obtain the work in gram centimeters, the above must be multiplied by the density of mercury in grams per cubic centimeter which gives the final equation for the work done by a single pulse-wave on the air in the instrument.

The value of B may be assumed constant for any locality, and the volume, V, for any given instrument is constant. For convenience Professor Sahli has therefore calculated at pressures from 5 to 23 cm. a table of values for

$$\left(\frac{B}{B+P}\right) \left(\frac{P}{B+P}\right) 13.6 = (F)$$

To this I have added another column representing ($F \times V$) at these pressures, when V = 16.9 c.c. (the volume of my instrument). A similar column can be determined for any instrument and remains constant.

$$W = F \times V \times (\Delta p)$$

W = Work performed by each pulse-wave.
V = Volume of air in instrument No. 13 = 16.9 c.c.
($\Delta$p) = Maximum oscillation reduced to cm. Hg.

$$F = \left(\frac{B}{B+P}\right) \left(\frac{P}{B+P}\right) 13.6$$

B = Mean barometric pressure = 76.4 (New York)
P = Pressure in cm. Hg. at maximum excursion of kerosene index.

| P. | F. | F. × V. |
|---|---|---|
| 5 | .78 | 13.2 |
| 6 | .92 | 15.5 |
| 7 | 1.04 | 17.6 |
| 8 | 1.16 | 19.7 |
| 9 | 1.28 | 21.7 |
| 10 | 1.39 | 23.5 |
| 11 | 1.49 | 25.2 |
| 12 | 1.59 | 27.0 |
| 13 | 1.69 | 28.6 |
| 14 | 1.78 | 30.1 |
| 15 | 1.87 | 31.6 |
| 16 | 1.95 | 32.8 |
| 17 | 2.02 | 34.2 |
| 18 | 2.10 | 35.5 |
| 19 | 2.17 | 36.7 |
| 20 | 2.23 | 37.8 |
| 21 | 2.30 | 38.9 |
| 22 | 2.36 | 39.9 |
| 23 | 2.42 | 40.9 |

Thus each estimation requires but one multiplication: ($\Delta$ p) × (F × V), the figure in the third column, which corresponds to the pressure, P, for maximum excursions of the kerosene index.

In patients with very high systolic pressures it frequently happens that a larger volume of air is required before the increase of pressure in the instrument is sufficient to induce a maximum pulsation in the blind manometer. In such an event we either substitute a 20 c.c. syringe or else cut off the connecting tube from the 10 c.c. syringe with the clamp (*J*), disconnect syringe, withdraw the piston, reconnect syringe, remove clamp and then exert more pressure. With either procedure the factor V must be increased by 10 c.c.

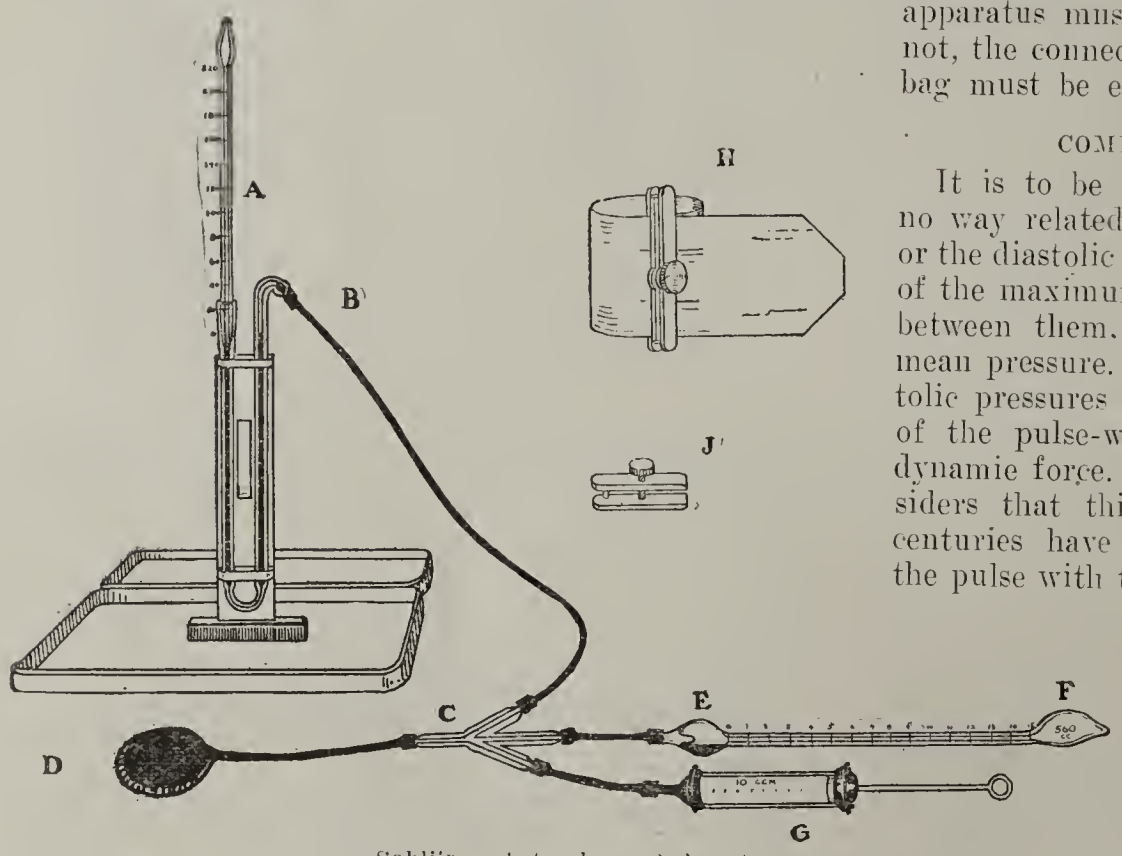
The accuracy of any single determination depends mainly on the reading of ($\Delta$ p), errors in the other terms being negligible in comparison. This involves a reading of the excursions of the kerosene index and a calibration of these excursions in terms of mercury. Com-

* Demonstrated at a meeting of the Medical Section of the New York Academy of Medicine, Nov. 19, 1912.

putations show that under normal conditions, results obtained by an experienced observer cannot be relied on to better than 10 per cent.

### TECHNIC OF APPLICATION

The examiner sits at the right of the patient, both facing a table on which stands the instrument. The extensor surface of the patient's right arm rests at the wrist on the table, his radial artery is marked out and the rubber bag (*D*) is snugly bound to the wrist by the cuff (*H*) so that the edge of the bag's connecting rubber tube just projects beyond the cuff, and the tube lies parallel and slightly to the right of the radial artery. The piston of the syringe (*G*) should be at the 10 c.c. mark, the kerosene collected in the proximal bulb (*E*) of the blind manometer, and the mercury in the vertical manometer (*A*) at zero. With the connections tightly made, the index manometer (*E F*) is held vertically (care being taken to avoid touching the distal bulb [*F*] and so heating and expanding the contained air), and slight pressure is applied by the piston. The index




Sahli's pocket sphygmobolometer.

manometer is quickly inverted, and the pressure is continued until an index of from 2 to 4 cm. is formed. The index manometer is then laid horizontally on a sheet of white paper on the table, and the pressure is increased until the index begins to pulsate. The cuff is now tightened to see if the pulsation will increase at the same pressure. Practice with the application of the cuff soon enables one to apply it properly at once, and so obviates this delay. Pressure is quickly continued until the excursion of the index reaches a maximum and begins to decrease. As soon as a decrease is noted the pressure is very guardedly released until the maximum excursion is again obtained and its extent noted. The height of the mercury column corresponding to the point of maximum pulsation in then read (*P*) and the extent of the maximum excursion is converted into terms of centimeters of mercury. This is quickly accomplished by raising or depressing the kerosene index 3 cm. of the blind manometer, noting the corresponding height of the mercury column, calculating the difference between these two heights of mercury, dividing by 3 and multiplying this result by the extent of the index excursion thus: If the maximum excursion of the index is 0.7 at 15.0 cm. Hg, and if by depressing the index 3 cm. the corresponding height of the mercury column is 12.6 cm., the difference = 2.4, one-third = 0.8, and ($\Delta$ p) would then equal $0.8 \times 0.7$, or 0.56 cm. Consulting the table we see that in this supposed case, according to the equation $W = F V \times (\Delta p)$ when F V at 15 cm. = 31.6; and so $W = 31.6 \times 0.56 = 17.7$ cm. Hg. Rapidity is essential to the accuracy of the test. With practice the entire procedure requires no more time than does an estimation of the systolic and diastolic blood-pressures. It sometimes happens that the index is split up into small subdivisions along the capillary tube or that the kerosene collects in the distal bulb (*F*) of the blind manometer. To correct the latter it is necessary only to invert the manometer with the distal bulb (*F*) upward and to rotate the instrument gently until the kerosene gradually flows down into the collecting bulb at the proximal end. In case of the index splitting, a few strokes of the piston back and forth will suffice to suck it back into the bulb (*E*). The entire apparatus must, of course, be absolutely air-tight. If not, the connections, the syringes and finally the rubber bag must be examined and the leak corrected.

### COMPARISON WITH OTHER METHODS

It is to be understood that this measurement is in no way related to the estimation of either the systolic or the diastolic blood-pressure. The pressure at the point of the maximum excursion of the index lies somewhere between them, and does not even correspond to the mean pressure. Pulse-pressure, systolic, mean and diastolic pressures are static conceptions, whereas the work of the pulse-wave or the energy of the systole is a dynamic force. The distinguished Swiss clinician considers that this measurement is what physicians for centuries have endeavored to determine in palpating the pulse with the finger; and he believes that a reasonably exact estimation of this dynamic force will give us new information concerning the condition of the circulation, and will be of great value in many pathologic conditions. He adds that an attempt to estimate the condition of the circulation from sphygmomanometrie measurements is as futile as it would be to try to calculate the horse-power of a locomotive or even the speed of a train from the measurement of the steam pressure in the boiler. Even if we know the difference between the pressure of steam entering and leaving the cylinders of an engine we are still wholly ignorant of the work which the engine is doing. In Sahli's original communication,[1] again in the fifth edition of his textbook,[2] and in all his later communications[3] until very recently, the instrument described was so cumbersome that most of his readers questioned its clinical applicability. The simplicity of the above-described instrument, its portability and the ease with which it can be employed need no further discussion.

1. Sahli: Deutsch. med. Wchnschr., 1907, No. 16, p. 628; No. 17, p. 665.
2. Sahli: Diagnostic Methods, edited by Potter, W. B. Saunders Company, Philadelphia, Ed. 2.
3. Sahli: Deutsch. med. Wchnschr., 1910, No. 47, p. 2181. Christen: Ztschr. f. klin. Med., 1910, lxxi, 390. Sahli: Ztschr. f. klin. Med., 1911, lxxii, 1. Sahli: Ztschr. f. klin. Med., 1911, lxxii, 214. Christen: Ztschr. f. klin. Med., 1911, lxxiii, 55. Christen: Deutsch. med. Wchnschr., 1911, No. 14, p. 644. Christen: Cor.-Bl. f. schweiz. Aerzte, 1911, p. 562. Sahli: Ztschr. f. klin. Med., 1912, lxxiv, 230. Christen: Ztschr. f. klin. Med., 1912, lxxiv, 477. Sahli: Lehrbuch der klinischen Untersuchung Methoden, i, 217, 742, Franz Deuticke, Leipsic and Vienna, 1913, Ed. 6.

In interpreting sphygmobolometric measurements it is evident that we must carefully distinguish between work accomplished and functional capacity. The instrument measures not the amount of work which the heart is capable of performing under increased demand, but the amount which its actually performs at a given moment; for example, the work of a healthy person's systole while sitting quiet may be very small, but the vigorous demand of severe muscular exercise will show in a much higher figure for (W), a capacity for a greatly increased work; whereas a functionally damaged heart may show a diametrically opposite condition, a much higher figure while at rest, but a prompt fall after even moderate muscular exercise, such as climbing one flight of stairs.

Clinical experience will soon show whether this new method is to bring valuable help in estimating the character and capacity of the circulation, first in varied diseases and second in following the course of a disease like pneumonia or typhoid fever, which so often lays an unduly heavy tax on the circulation.

591 Park Avenue.

---

# THE BACTERIOLOGY AND BACTERIOTHERAPY OF RENAL CALCULUS AND ITS SEQUELS

A. P. OHLMACHER, M.D.

DETROIT

The concurrence of bacteriuria and urinary calculi has long been known, and the opinion that some varieties of calculi, particularly the phosphatic, might result from microbic agencies has also been held. It is only going a step further, as Wright said in his introductory address on Vaccine Therapy, before the Royal Society of Medicine,[1] May 23, 1910, to search for a bacterial cause in connection with every case of urinary calculus. On the occasion of this particular lecture Wright reported on four cases, observed in the course of the daily routine work in the department of therapeutic immunization at St. Mary's Hospital, in which bacteria were discovered in the urine, and in which nephrolithiasis also existed. Recognizing the authority of this distinguished bacteriotherapeutist, and since the cases correspond so closely to those that have fallen to my observation, I shall quote Wright's report[2] as follows:

## WRIGHT'S CASES

Case 1.—A medical man who had suffered for years from a bacteriuria, which furnished in every case a pure culture of staphylococcus, developed a renal calculus and was operated on.

Case 2.—The daughter of a medical man, who had undergone an operation for renal calculus which resulted in the removal of twenty-one oxalic acid calculi from the pelves of the kidneys, was brought to me with a view to something being done to prevent a recurrence of her troubles. A series of cultures made from the urine furnished in each case a copious growth of staphylococcus.

Case 3.—A patient whose urine had for years furnished on each occasion a pure culture of a coliform bacillus, and who had undergone vaccine treatment for this, developed symptoms of renal calculus. The operation revealed the presence of a stone, and cultures made from the pelvis of the kidney furnished copious cultures of staphylococcus. A similar operation for calculus, undertaken twelve months later on the other kidney, again furnished a culture of staphylococcus.

Case 4.—A patient who had been admitted to the inoculation wards at St. Mary's Hospital for the treatment of a deep and extensive ulceration caused by a combined syphilitic, streptococcal and staphylococcal infection, developed symptoms of renal colic. Roentgenographic examination showed the presence of a stone in the pelvis of the right kidney, and a similar calculus in the right ureter. An examination of the urine revealed the presence of staphylococci in fair numbers.

It will be seen that in but one of these cases does Wright mention a trial of therapeutic immunization by means of autogenous bacterial vaccines, though it is possible that at the time of making his report, or subsequently, he resorted to it in others. At any rate this is the only mention of the coexistence of bacteriuria and nephrolithiasis that I can find in the literature of bacteriotherapy, and nowhere have I discovered another report dealing with the treatment of calculous bacteriuria and pyuria by means of autogenous bacterial vaccines such as is here to be presented, based on a personal experience now dating back four years.

Since, on the whole, the outcome of bacteriotherapy has been so satisfying in the treatment of a morbid condition that has hitherto been largely neglected, I am in hopes that the following record of my observations will stimulate a more searching examination of all cases of non-neoplastic renal colic, renal calculi, non-tuberculous pyuria and bacteriuria from the point of view of their bacteriology, and of the possibility of beneficial results following a trial of autogenous bacterial vaccines either alone, before or after operative treatment.

## AUTHOR'S CASES

Case 1.—Distressful urination. Attack simulating appendicitis. Colon bacillus bacteriuria and pyuria. No immunizing response to autogenous vaccines. Probable right-sided ureteral calculus.

Mrs. J. H. J., wife of a physician, had for some years experienced irritability of the bladder though her general health did not suffer. Several years before consulting me she had an attack of right-sided abdominal pain so severe as to suggest to the attending physician an appendicitis; operation was proposed but not instituted. Immediately after the birth of her first child the frequency of urination and tenesmus increased so that a fear was entertained that the urethra had been injured during labor. Frequent and painful urination persisted, and at the time of my first examination, May, 1909, the urine was found to be acid, to contain a moderate amount of pus and large numbers of a bacillus of the colon group (specifically *Bacillus pyogenes foetidus* in pure culture. To eliminate the possibility of a tuberculosis, a guinea-pig was inoculated with 0.5 c.c. of pus from the centrifuged urine, but it was killed in twelve hours by the coliform bacilli. Inoculations of autogenous vaccine, varying in dose and frequency over a period of three months, failed to modify the symptoms. In September a Philadelphia roentgenographer found a shadow indicating a calculus at the vesical end of the right ureter (or a phlebolith), and a subsequent Roentgen examination by a Detroit specialist confirmed this finding and strengthened the presumptive diagnosis of an obstructive calculosis of the right lower ureter. A course of local bladder treatment by solution of silver salts has been pursued by a gynecologist, but at present the patient still suffers from bladder irritability. I believe that the mechanical obstacle of the ureteral stone accounts for the failure of vaccine therapy in this case.

Case 2.—Frequent painful urination. Pyuria. Colon bacillus bacteriuria. Ureteral calculus. No bacterial therapy.

Mr. G. T. M., merchant, aged 45, consulted me in August, 1909, for pain and frequency in urination without marked impairment of general health. I found the urine to be acid, cloudy, containing pus and mucus, and yielding abundant bacilli of the colon group in pure culture. A Roentgen-ray examination disclosed a shadow suggesting to the roentgen-

1. Wright, A. E.: Vaccine Therapy. Its Administration, Value and Limitations, Lancet, London, Sept. 17, 1910.
2. Wright, A. E.: Vaccine Therapy, Lancet, London, Sept. 17, 1910.

ographer a calculus in the lower end of the left ureter. This stone proved to be so located that it could be felt by digital rectal examination. No vaccine therapy was instituted in this case, and no operative procedure. So far as I can learn, this patient is still in a fair state of general health.

CASE 3.—Left-sided renal colic. Painful frequent urination. Impaired general health. Pyuria and bacteriuria (staphylococcus). Negative roentgenography. Autogenous vaccine therapy and symptomatic recovery.

Mr. B. B., non-resident, a young unmarried farmer, was referred to me May 25, 1911, with a history of discomfort in urination dating back about two years. Soon after this discomfort began, a severe left-sided attack of renal colic occurred, with excruciating pain in the left hypochondrium extending to the suprapubic region, lasting two hours, accompanied by nausea and abruptly abating but leaving a dull ache in the left side for several days. After this attack the frequency and pain of urination increased, necessitating evacuation of the bladder every hour during the day and several times at night. These symptoms and a loss of weight amounting to 10 pounds were in evidence when the patient consulted me. I found the freshly voided urine to be faintly acid, cloudy and to contain pus. Smears of this pus stained for tubercle bacillus were negative, and no other bacteria could be identified in them. Agar plate-cultures with 1 c.c. of the fresh urine yielded about 150 colonies of a pale yellow, non-liquefying staphylococcus which I classed as *Staphylococcus pyogenes flavus*, and from it a vaccine was prepared. A von Pirquet skin-tuberculosis test being negative, and a negative report being furnished as to the presence of shadows indicating calculus by a roentgenographic specialist, I began inoculations of the autogenous staphylococcus vaccine in doses of 100 to 200 millions. After satisfying myself as to the dosage and interval to sustain the beginning symptomatic improvement, I sent the patient home, where his local physician continued the inoculations at weekly and later biweekly intervals. A year later the young man returned to me in robust general health, having in the meantime married. He urinated painlessly at normal intervals. I found the urine acid, clear and pus-free, but still yielding ten or fifteen colonies of staphylococci in agar plate-cultures made with 1 c.c. From these cultures a new autogenous vaccine was prepared and used by his local physician for a few months. At present the patient's health is perfect.

CASE 4.—Repeated left-sided renal colic and calculi with hematuria. Dull pain in the left hypochondrium. Irritable bladder. Pyuria. Bacteriuria (staphylococcus). Vesical calculus by Roentgen ray. Operative removal. Persistent distressful urination. Autogenous staphylococcus inoculations. Colon bacillus bacteriuria. Autogenous vaccine therapy and symptomatic recovery.

J. T., aged 52, non-resident, a blacksmith of unblemished personal history, was referred to me in January, 1912. During twenty years preceding he had passed five or six urinary calculi at intervals, always after attacks of left-sided renal colic and with hematuria after some of them. Throughout this period he had experienced more or less discomfort in urinating, and this gradually became worse until he found it necessary to urinate every fifteen minutes in the daytime, and a number of times at night. Unless the bladder could be speedily emptied there was incontinence of urine. The general health suffered, and when he first came to me his weight had fallen from 180 to 158 pounds. The urine was found to be diffusely cloudy (pus), of acid reaction, and yielding from 500 to 1,000 colonies of a pale yellow staphylococcus (*S. pyogenes flavus* or *citreus*) in pure plate-culture. An autogenous vaccine was prepared from this staphylococcus. Believing the extreme bladder irritability to arise from a vesical calculus, I had a roentgenographic examination performed, resulting in the locating of an almond-sized calculus at the base of the bladder. The calculus was removed by a local surgeon who performed suprapubic cystotomy in February, 1912. In the meantime I had given two inoculations of the autogenous staphylococcus (100 millions), and while there was a betterment of the uncomfortable urination after the operation, relief was not complete. Inoculations at from five- to seven-day intervals were performed by the local physician, but in April the patient returned to me still complaining of frequent unsatisfactory urination. I found the urine still cloudy, with some pus, and in the plate-cultures I was astonished to find vast numbers of colonies of a bacillus of the colon group and no staphylococci. From this colon bacillus, autogenous vaccine was prepared, standardized at a dose of 50 millions at weekly intervals, and with this the patient returned and continued treatment at home. In February, 1913, the patient returned at my request, reporting the continued inoculations at biweekly intervals. I found the urine clear but still containing numerous colon bacilli. Urination now occurs at normal intervals and without distress. The general health is excellent—"better than for years"—and the patient weighs 185 pounds, notwithstanding the stress of his trade. A fresh vaccine has been prepared, and directions given for continuing the inoculations at intervals of one or two weeks.

CASE 5.—Vague right-sided abdominal pain. Renal colic and temporary obstruction of the right ureter. Frequent painful urination. Impaired general health. Negative roentgenography. Pyuria and bacteriuria (staphylococcic). Autogenous vaccine therapy and symptomatic recovery.

Mrs. P. G. K., aged 31, secundipara, was referred to me by a local surgeon, Jan. 20, 1912, after his examination by thorough Roentgen-ray exploration had convinced him of the non-existence of urinary calculus. The patient complained of frequent, unsatisfying urination both during the day, and at night to break her rest. Her health was somewhat impaired and she had lost ten or more pounds in weight. In November, 1908, while living in another city, she first noticed a disagreeable aching sensation in the right side of the abdomen. The following March a sudden attack of excruciating pain "under the ribs" on the right side occurred which lasted for several hours and ceased, to be followed by hematuria. The next day she went to a hospital and her physician thought she had passed and overlooked a calculus; but the right kidney was found swollen and an operation was under consideration when the swelling suddenly subsided. During her two weeks' stay at the hospital a Roentgen-ray examination failed to locate a calculus. Now followed the distressing frequency of urination which continued until she moved to Detroit and consulted the surgeon referred to. My examination of the fresh urine obtained by aseptic catheterization showed it to be acid, cloudy, containing pus and staphylococci (*S. pyogenes albus*), and yielding several thousand unmixed colonies on agar plate-cultures made with 1 c.c. Autogenous vaccine was prepared from the pure cultures. The first dose, Jan. 24, 1912, of 100 millions caused a negative phase with increased micturition and tenesmus lasting till nearly midnight. Next day a marked relief of urinary distress was noted which lasted four days. The second dose of 150 millions proved too large, since an aggravation of the familiar symptoms lasting eight days was caused. Finally a dosage of the 50 millions at intervals of five days was settled on, and steady improvement began, which in three months had entirely relieved all former symptoms. At this time the patient left Detroit for a summer's visit, taking some of her vaccine along and using a few more doses. At this writing, a year since treatment began, the patient reports a perfect freedom from urinary trouble, a splendid state of health and gain in weight, and a clear (presumably pus-free) urine.

CASE 6.—Repeated renal colic, right and left sides. Bacteriuria (staphylococcic) after last two attacks. Autogenous vaccine therapy.

Mr. J. C., railroad official, aged 47, was under my treatment for chronic nasopharyngeal catarrh when he suffered two attacks of renal colic, the last making the fifth of its kind that he had experienced. His first colic, right-sided, occurred in 1901, the pain lasting from twelve to fourteen hours; after this attack no stone was found, nor was a calculus discovered after any of the succeeding attacks. In December, 1904, another right-sided renal colic of sixteen or eighteen hours' duration was suffered, followed by a similar seizure of thirty-six hours' duration in April, 1905. In February, 1912, there was another right-sided renal colic of five

hours' duration, and a few days after this attack I made plate-cultures of the fresh acid urine and obtained about 100 colonies of a yellow staphylococcus (*S. flavus* or *citreus*) from 1 c.c. No inoculations were employed on this occasion, but when in May, 1912, another five-hour renal colic occurred, this time left-sided, and when the same staphylococci were found in the urine afterward, an autogenous vaccine was prepared and inoculations were commenced, June 10, and continued at intervals of one or two weeks, in dosage of from 50 to 200 millions until January, 1913. A recent examination resulted in obtaining a single colony of the yellow staphylococcus in an agar plate laid with 2 c.c. of freshly voided urine. While no further renal colic has been experienced it is not, of course, presumed that the possibility of nephrolithiasis has been abolished.

CASE 7.—Renal colic. Vague backache. Uncomfortable and frequent micturition. Bacteriuria (colon bacillus). Autogenous vaccine therapy. Symptomatic recovery.

Mrs. J. B., non-resident, aged 54, first consulted me with reference to a chronic empyema of the antrum of Highmore, April 20, 1911, for which autogenous bacterial vaccine therapy was instituted by me and continued by the local physician. Aug. 29, 1911, the first attack of renal colic began in the morning with pain in the left hypochondrium continuing all day and getting worse during the night, when the family physician was summoned and made the diagnosis. Nausea was followed by vomiting which continued at half-hourly intervals till 9 p. m. of August 30; at 4 p. m., the first urine "red as blood" was passed; and at 5 a. m., August 31, the second urine was voided with blood and "a tablespoonful of little red stones the color of brick." After a week in bed the patient gradually regained her usual health except for occasional dull pain in the left hypochondriac region. In June, 1912, a severe urticaria to which the patient had been subject since childhood began and speedily assumed the type of angioneurotic edema, especially pronounced in the legs, and leading to an examination of the urine and a presumptive diagnosis of acute nephritis. The hives continued for some weeks, resisting all treatment, and during this time difficulty in urination with more or less discomfort began, together with occasional dull pain in the region of the left kidney, and vomiting now and then. At the same time the woman's health failed until she had lost 15 or 20 pounds when she returned to Detroit, Nov. 18, 1912. On examining the fresh urine obtained by aseptic catheterization I found it to be diffusely cloudy and acid in reaction. The cloudiness proved to be due to the contained bacteria which, in a plate-culture were found to be of the colon group and so numerous that a plate prepared from 0.1 c.c. of urine was so thickly sown as to make accurate computation impossible. From the autogenous colon bacilli a vaccine was speedily prepared and the first inoculation of 100 millions performed. In twenty-four hours relief was experienced in the frequent and annoying urination, and by the end of the week when a second inoculation was performed the vague backache and discomfort in micturition were decidedly better, and with improved appetite and general tone 3 pounds in weight were gained. The patient then returned to her home, where the inoculations were continued at first at weekly intervals, and later biweekly until the present, when the patient reports that except for a backache and the passage of "red" urine for two days, her improvement has been uninterrupted. She has regained her normal weight and strength.

CASE 8.—Attacks of abdominal pain mistaken for appendicitis and cholecystitis. Appendectomy without relief. Frequent uncomfortable urination. Colon bacillus bacteriuria. No calculi by Roentgen ray. Autogenous vaccine therapy. Symptomatic relief.

Mrs. F. W., aged 35, non-resident patient, consulted me Nov. 22, 1912, with reference to a nervous, "run-down" condition, and frequent unsatisfactory micturition. Two years before she had an attack of central and right-sided abdominal pain which a surgeon diagnosed as due to appendicitis and for which appendectomy was performed. A month after the operation the same pain returned and the surgeon then revised his diagnosis to gall-stone colic, and proposed gall-bladder operation, which was not permitted. These attacks of abdominal pain, mostly central, but at times right-sided prostrating in their severity, and accompanied with nausea or vomiting, continued until the patient consulted me. During the last year it had been noticed that micturition became more frequent and was often followed by a sense of discomfort, more pronounced soon after the abdominal attacks. In my first examination I found the acid urine voided through a sterile catheter to be diffusely cloudy, the lack of clarity again being due to the excessive number of bacteria, which in agar plate-cultures immediately prepared proved to be bacilli of the colon group in pure cultures. From these cultures an autogenous bacterial vaccine was prepared, and the first inoculation of 50 millions was performed Nov. 29, 1912. A sharp negative phase with nausea, anorexia, diarrhea and aggravation of the discomfort in urination persisted for twenty-four hours, followed by a betterment of the previous symptoms. December 5, before the second inoculation was performed, a careful Roentgen-ray examination was made by an expert radiographer, who found no shadows indicating urinary calculi. From this date to Feb. 8, 1913, inoculation in doses of 50 to 75 millions was continued; in this period (two months) no further attacks of abdominal pain had been experienced; and a marked relief of the frequent and uncomfortable micturition also ensued. Feb. 8, 1913, immediately following a menstruation, a mild attack of abdominal pain was noticed and on the patient's return I found the freshly catheterized urine clear, but still containing colon bacilli, though in greatly reduced numbers. The inoculations are being continued in the patient's home, and the last reports are of steady gain in health.

## SYMPTOMATOLOGIC REVIEW

It will be seen from the foregoing account that a history of one or more attacks of renal colic was obtained in five of the seven cases, and that the clinical phenomena attending these attacks were so like the classic description as to make further comment superfluous. But in no case was it the renal colic which led these patients to consult the physician who referred them to me or to apply to me for treatment. In all but one it was the distressful micturition — the frequent, painful, unsatisfactory passage of urine with its resulting tenesmus — that became burdensome, and in several of the patients contributed to affect the general health. Moreover, this discomfort in urination was present alike in the patients whose stones had long before been passed (at least so far as negative roentgenography could determine), those in whom these had been removed by operation, and those in whom a calculus could still be demonstrated by roentgenography. It was the outstanding symptom in the cases of non-calculous bacteriuria.

Another symptom-complex which particularly emphasized itself on me is shown in two of the cases (Cases 1 and 8), namely, vague abdominal pain simulating appendicitis with bacteriuria (Case 8), or with bacteriuria, pyuria and calculus (Case 1). In one of these patients the abdominal pain was of such a nature as to lead to the diagnosis of appendicitis and proposal for operation, when apparently the pain marked the passage of a calculus from the right kidney to find lodgment in the corresponding ureter. In the other patient appendectomy was performed, but the pain for which relief was sought returned, leading the surgeon to suggest biliary calculi, and to propose a cholecystotomy. Here the first break in the periodically recurring attacks of pain followed the inauguration of bacterial vaccine therapy.

## RESULTS OF BACTERIAL VACCINE TREATMENT

Conclusive deductions as to the value of bacterial vaccine therapy in the sequels of nephrolithiasis cannot be drawn from the cases here recorded. Their number is

necessarily small though they comprise all the patients with this particular affliction who came to me in the course of a routine private special practice devoted to therapeutic immunization with bacterial vaccines as directed to infections generally. But as would naturally be supposed, these cases were all scrutinized from the point of view of their bacteriology; and with operative measures either not indicated, or already prosecuted without affording relief, and with the failure of various kinds of internal medication and local treatment, it was quite natural that I should have tested the therapeutic effect of inoculations with autogenous bacterial vaccines.

From the point of view of symptomatic relief, especially in the matter of distressful micturition and the accompanying failure of general health, I have been most favorably impressed by my experience in treating the sequels of renal calculus by the method of autogenous vaccine therapy.

That therapeutic inoculations of bacterial vaccines will in any way modify the production of urinary calculi is an open question. And of course it is almost superfluous to add that this mode of therapy in no way alters the matter of surgical intervention in those cases in which the operative indication, in the light of expert surgical judgment, is clear.

Whether bacteriuria can be abolished by the prolonged use of bacterial vaccines of autogenous origin is also undetermined, though the available evidence suggests that such an achievement would be the exception. In several of my cases the patients considered themselves well and did not return so as to permit a final bacteriologic analysis; but in the various subsequent examinations I still found the offending bacteria in the urine, though usually in greatly reduced numbers, even when a perfect symptomatic recovery had been achieved. It is especially on this account, I believe, that a conservative attitude should be maintained relative to the possibility of preventing nephrolithiasis by bacterial vaccine treatment.

### TECHNIC

In all cases the bacteriologic analysis was immediately begun on the freshly evacuated urine. With women the urine was obtained by aseptic catheterization of the urethra; in men by micturition into a sterilized receptacle, the first portion being ignored, and the stream of the middle portion being so directed as to enter the receptacle without touching anything else. I have been surprised to find how effective this simple procedure of direct urination proves to be in studying the bacteriology of urine in the male. With normal individuals sterile plates are the rule when laid with ordinary amounts (1 or 2 c.c.) of fresh urine thus obtained; and even the presence of the so-called urethral (white) staphylococci is rare.

Agar plate-cultures were prepared with varying quantities of urine, usually from 0.1 c.c. to 1 c.c.; and when there was reason to suspect an abundant bacteriuria, as in the case of marked turbidity, ordinary agar-slants were streaked with a single loopful of urine, working the loop up and down one side and proceeding thus across the surface of the slant to the opposite side, resulting in thickly sown colonies on one side and isolated, pure colonies on the other (the modified Banti-Grosglick method).

Vaccines were prepared either from the first generation of pure cultures when laid on agar-slants, or from the second generation from plates, transplants being taken from several colonies to secure the possible "varieties." The bacterial emulsion was killed by heating for half an hour at 60 C. (140 F.), diluted with sterile water, and preserved by adding 0.2 per cent. trikresol. The first dose of vaccine was numerically approximated by the differential density method, and subsequently standardized by the response to inoculation both as regards the local reaction and the symptomatic effect. When treatment was prolonged, fresh autogenous vaccines were prepared as occasion required.

### CONCLUSIONS

The routine bacteriologic analysis of all cases of renal calculus and the associated pyuria and bacteriuria are emphasized.

Therapeutic immunization with autogenous bacterial vaccines should be attempted in non-operative cases of calculous pyuria and bacteriuria for the relief of bladder irritability and impaired general health, and in cases in which there has been operation, when these symptoms persist unduly.

24 Broadway.

---

# THE TREATMENT OF AMEBIC DYSENTERY WITH SUBCUTANEOUS INJECTIONS OF EMETINE HYDROCHLORID

## REPORT OF SIX CASES

RANDOLPH LYONS, M.D.
Instructor in Clinical Medicine, Tulane University
NEW ORLEANS

A new treatment of amebic dysentery is of particular importance to physicians in the Gulf states because of the frequency with which the disease is met in practice. It was therefore with much interest that I read the reports of the treatment of amebic dysentery with soluble salts of emetine by Dr. Leonard Rogers of India. My clinical experience with ipecac in amebic disease, while limited to thirty cases, led me to look on this drug as practically specific when administered in sufficiently large doses (60 to 100 grains daily).

In 1911 I made some experiments,[1] at the suggestion of Dr. George Dock, to test the specificity of ipecac on amebas *in vitro*. These experiments failed to demonstrate any specific action, probably because the ipecac used, as I later discovered, was much below the pharmacopeial standard in total alkaloids (emetine, etc.). Still another cause of failure was the employment of watery suspensions of ipecac, in which the drug is but slightly soluble. About a month previously, Vedder,[2] working independently in the Philippines, reported his experiments with ipecac in which he showed that emetine was in all probability the active principle of ipecac as regards its destructive action on amebas.

### ROGERS' EMETINE TREATMENT

Using Vedder's experimental findings as a basis, Rogers developed the emetine treatment. His first article[3] appeared in June, 1912. In this he reported three cases treated hypodermatically with emetine hydrochlorid with striking success. In August of the same

1. Lyons, Randolph: Observations on the Effect of Ipecac, Phenol and Salicylic Acid on Amebas in Vitro, Read Before the Am. Soc. Trop. Med., 1911.
2. Vedder, E. B.: A Preliminary Account of Some Experiments Undertaken to Test the Efficiency of the Ipecac Treatment of Dysentery, Bull. Manila Med. Soc., March, 1911.
3. Rogers, Leonard: The Rapid Cure of Amebic Dysentery and Hepatitis by Hypodermic Injections of Soluble Salts of Emetine, Brit. Med. Jour., June 22, 1912, p. 1424.

year[4] he published his further experiences of the specific, curative action in amebic disease of the hypodermic injections of soluble emetine salts. Twelve cases were described with two deaths. At necropsy gangrene of the bowel was found in one and multiple liver abscesses in the other. Of the remaining cases (cures), two were complicated with hepatitis, two with single liver abscesses and one with splenic abscess. The next publication appeared in October.[5] In this Rogers compares twenty-four cases of amebic dysentery treated with soluble salts of emetine, with thirty consecutive cases in which ipecacuanha was used. The following tabulation shows the result:

| | Ipecac | Emetine |
|---|---|---|
| Died from dysentery within 3 days of admission | 4 patients | 2 patients |
| Died from dysentery over 3 days after admission | 7 patients | 0 patients |
| Died from other diseases after cure of dysentery | 0 patients | 2 patients |
| Removed from hospital in very bad condition | 2 patients | 0 patients |
| Left hospital unchanged or not cured | 4 patients | 0 patients |
| Cured | 13 patients | 20 patients |
| Average days in hospital of cured patients | 16.4 | 7.2 |
| Average days before stools became normal | 11.4 | 2.35 |
| Grains of ipecac or emetine to that time | 406 | 2. |

Rogers' last article[6] appeared in December, 1912. Here the new treatment is reviewed and discussed. Still more recently Allen[7] reported two cases of amebic dysentery treated with emetine. Both patients were apparently cured. The second case required 12.3 grains of emetine hydrochlorid. No mention is made in regard to the subsequent history of the patients.

After careful perusal of Rogers' papers, one cannot help being impressed by the rapid results obtained by the new treatment. Certain questions, however, arise: First, what are the shortcomings of the older ipecac treatments? Second, what are the supposed advantages of Rogers' method of treatment? Lastly, does it cure?

## SHORTCOMINGS OF OLDER METHODS

No matter how enthusiastic one may be in regard to the treatment of dysentery with ipecacuanha, it must be admitted that the modes of administration are crude and cumbersome. Because of its emetic action, to give it in liquid form is practically out of the question. To overcome this objection, the powdered drug is put up in salol- or keratin-coated pills in order that they may pass through the stomach undissolved. Of the two coatings salol (phenyl salicylate) is to be preferred[1] because of its bactericidal and amebicidal properties. Each salol-coated pill contains 5 grains of ipecac and the dose of ipecac is from 60 to 100 grains (adult) daily for at least a week, that is, from twelve to twenty bulky pills each night. This in itself is a formidable undertaking and may sometimes, in nervous patients, produce emesis. If the coating of a pill is defective or too thin there will be vomiting; on the other hand, if the coating is old or very hard many pills may pass through the intestinal tract intact. This applies especially to machine-made salol-coated pills put on the market by pharmaceutical houses.

Recently Beck[8] advised the duodenal medication of ipecac by means of an Einhorn duodenal tube. Such a procedure may insure the passage of the drug into the duodenum but could scarcely be called an improvement in method of administration.

Lastly, unless the ipecac has been previously assayed it may be found below the U. S. P. standard. This unreliability of the drug is a serious handicap in its successful usage.

Before discussing the emetine treatment it may be well to describe briefly the cases observed and their treatment. I had the preparations made up by a local chemist from the alkaloid emetine. This product caused, at times, considerable local irritation and infiltration owing to a slight excess of acid, and absorption was doubtless on these occasions much delayed. In fairness to the drug, allowances for this fact should be made in two of the cases.

In order to give the treatment a thorough test no other medication was employed and no colonic irrigations. Cases were not selected and all patients were kept in bed on liquid or soft diet while taking the injections.

## BRIEF REPORT OF CASES

CASE 1.—M. F., colored man, aged 27, carpenter, was admitted to Charity Hospital, Aug. 15, 1912. Patient's first attack began about Jan. 7, 1912, and has persisted up to date of admission with the exception of a period of improvement of three weeks in May. The stools varied in number between ten and twenty in twenty-four hours, often accompanied with tenesmus and containing mucus, pus and blood.

*Treatment and Course.*—Patient given ipecac in 5-grain salol-coated pills, beginning with 75 grains first night; dose gradually reduced to 60 grains. The length of treatment was seven days; total amount of ipecac 445 grains minus four pills passed in stools equal to 425 grains. Bowels were apparently controlled but some abdominal tenderness and discomfort remained and patient went home August 27 against my advice.

October 4 patient was readmitted to hospital having first been examined at my office. He stated that diarrhea began again six days previously and admitted that he had never been free from slight discomfort in abdomen since leaving hospital. He had passed seventeen stools in past twenty-four hours. Examinations of stool showed ameba, pus, mucus, blood and trichomonads.

*Physical Examination.*—Temperature normal; pulse, 76; fairly well nourished; mucous membranes slightly anemic; abdomen, flat; tenderness in left iliac region; general moderate adenopathy.

*Further Treatment and Course.*—Emetine hydrochlorid ⅔ grain subcutaneously in arm at 9:30 a. m.; following this he had ten stools.

October 5: This forenoon patient had soft movement: no tenesmus.

October 6: Seat of injection shows slight infiltration and is tender. Only three stools; no blood or pus noticeable.

October 7: One soft stool this forenoon; contains no ameba or blood. Emetine hydrochlorid 5/8 grain injected in other arm. Seat of first injection still a little sore.

October 8: Well-formed stool. Patient up and on full diet. He states his abdomen feels entirely comfortable for first time in six months.

October 9: Emetine hydrochlorid ½ grain was injected to-day as a safeguard against recurrence.

October 12: Bowels normal for past four days. Patient discharged but urged to report at office.

October 18: (Office) Patient says he has been feeling splendid. Bowels perfectly normal.

4. Rogers, Leonard: Further Experience of the Specific Curative Action in Amebic Disease of Hypodermic Injections of Soluble Salts of Emetine, Brit. Med. Jour., Aug. 24, 1912, p. 405.

5. Rogers, Leonard: Amebic Colitis in India: Prevalence, Diagnosis and Emetine Cure, Lancet, London, Oct. 19, 1912, p. 160.

6. Rogers, Leonard: The Rapid and Radical Cure of Amebic Dysentery and Hepatitis by the Hypodermic Injections of Soluble Salts of Emetine, Therap. Gaz., Dec. 15, 1912, p. 837.

7. Allen, William: The Emetine Treatment of Amebic Dysentery, THE JOURNAL A. M. A., March 1, 1913, p. 664.

8. Beck, H. G.: Duodenal Medication of Ipecac in the Treatment of Amebic Dysentery, THE JOURNAL A. M. A., Dec. 14, 1912, p. 2110.

Feb. 6, 1913: (Office) Patient fine. Has gained 15 pounds. Bowels normal.

In this case ipecac failed in spite of a course of treatment with moderately large doses. Yet the patient reacted in a very striking manner to two doses of emetine subcutaneously. He has remained well for nearly four months following. Total amount of emetine administered was 1.8 grains, equivalent to about 170 grains of ipecac.

Case 2.—W. L., white man, aged 47, cook, home, Bogalousa, La., was admitted Oct. 9, 1912. He had been on a spree fifteen days previously and following this his bowels became loose. Stools numbered about fifteen per day and contained blood and "slime." Tenderness also was present. He lost considerable weight and felt very weak. He developed a cough during the past two weeks and expectorated freely. He stated he had fever at onset.

*Physical Examination.*—Temperature, 98; pulse, 70, somewhat weak: low pressure. Lungs, a few sonorous râles heard at right apex anteriorly and posteriorly, otherwise negative. Heart, negative. Abdomen, slightly distended and very tender especially over right iliac region; some rigidity over this area. Patient appears anxious and complains of abdominal pains. Sweat on forehead. He appears a poor subject for a new treatment, as peritonitis seemed more than likely.

*Course and Treatment.*—October 10: Passed twenty-five bloody stools in past twenty-four hours. Temperature in evening, 100.8.

October 11: Emetine hydrochlorid ⅔ grain. Number of stools slightly less. Signs of peritonitis more evident. Abdomen more tender and rigid; hiccough present; clammy sweat on forehead; pulse 100, small and weak; sputum, negative for *Bacillus tuberculosis*.

October 12: Emetine hydrochlorid 5/8 grain. Examination of stool, foul odor, blood, pus, little mucus. No amebas found; necrotic material present.

October 15: Marked bulging of epigastrium; great tenderness; bowels move about every hour but no amebas can be found. Stools have foul odor, and pus, blood and necrotic material as chief ingredients. Patient suffering a good deal. Opiates required.

October 18: An attempt was made October 16 to administer ipecac pills by mouth but patient was unable to swallow them. Patient failed rapidly in past three days and died to-day at 10 a. m.

Partial necropsy permitted. Abdomen only was opened. Necropsy diagnosis: "Amebic dysentery, gangrene of the large intestines, perforation and peritonitis." Practically all of the large intestine, except a few inches of the descending colon, was gangrenous. There were walled-off fecal masses from perforations in the epigastrium, right iliac region and in the rectum.

The necropsy clearly demonstrated the utter hopelessness of any therapeutic measure in a fulminating case of this type. The case, however, illustrates that in very severe types of dysentery a subcutaneous or intravenous method of treatment is the only one offering any possibility of cure. It is unfortunate that the colonic contents and walls were not examined at the necropsy for amebas. It might have been shown that the amebas had been destroyed by the emetine injections, and that the gangrenous process was due entirely to secondary invaders, especially in view of the fact that the last three examinations of his stools revealed no amebas.

Rogers has reported a case of very similar history in which on necropsy, scrapings of the ulcers and stained sections through the walls of some of the more recent ulcers failed to show a single parasite.

Case 3. E. Y., colored man, aged 25, waiter, was admitted Nov. 25, 1912. Patient taken sick about eight months ago at Biloxi, Miss., with loose bowels and straining. Stools contained blood and "slime." He also suffered from a constant gnawing sensation in abdomen. Bowels have progressively become worse. Number of actions between ten and eighteen in twenty-four hours. Says he feels weak and has lost weight.

*Physical Examination.*—Fairly well nourished; mucous membranes pale. Thorax, negative; abdomen, flat, tender in epigastrium and iliac regions. Temperature normal; pulse 70, low pressure. Examination of stool: many motile amebas, blood, mucus and pus; few trichomonads.

*Treatment and Course.*—November 6: Fifteen stools in past twenty-four hours. Emetine hydrochlorid 5/8 grain, subcutaneously (fresh solution).

November 7: Site of injection sore. Seven stools in past twenty-four hours. Emetine hydrochlorid 5/8 grain by needle.

November 8: Has had five stools since last injection; character of stool changed, now yellowish; contains but small amount of mucus, no blood. Emetine hydrochlorid ¾ grain by needle.

November 9: Tenderness in abdomen nearly gone. Five stools. Examination revealed, after long search, one sluggishly motile ameba, a little mucus, no blood, numerous trichomonads.

November 12: No more injections given because patient complained so much of pain in previously injected muscles. Examination of the emetine hydrochlorid solution showed it to be distinctly acid to litmus, instead of neutral.

November 13: Sites of injection still painful and infiltrated. Four or five stools per day. Examination of stool revealed a few sluggishly motile amebas, encysted amebas, little blood and numerous trichomonads. Because of the pain caused by the new solution of emetine, I decided to give the patient ipecac pills until a fresh solution could be prepared. He was given twelve (60 grains) salol-coated ipecac pills. A few hours later he had a severe vomiting attack.

November 15: Patient refused pills on following night. He was persuaded to try them again but after taking eight pills (40 grains) again vomited and refused to try them any more, stating that he preferred the pain of the injections.

November 16: Emetine hydrochlorid (new preparation) ⅝ grain by needle.

November 17: Seven stools since injection. No pain, no blood.

November 18: One stool. Eemetine hydrochlorid ⅝ grain by needle.

November 19: One formed stool. Patient says he feels all right and wants to go home. Discharged after promise to report to office.

November 30: (Office) Has gained 2½ pounds. Says bowels act regularly once a day. Eats anything he wants.

Jan. 21, 1913: (Office) Feels fine; has gained 11 pounds. Bowels perfectly normal.

The number of injections required in this case was probably due to the fact that the dosage was small and absorption very slow owing to the irritation produced by the acidity of the first preparation. Infiltration about the site of the injection could be felt as long as ten days.

The fact that the patient was highly nervous may account for the vomiting which followed the administration of ipecac pills. At all events the case illustrates the difficulties sometimes met in giving ipecac by mouth.

Case 4.—J. C., colored man, aged 33, laborer, home, New Orleans, was admitted Nov. 18, 1912. Present illness began in May, 1912, with diarrhea. Bowels moved at first five or six times in twenty-four hours; were slimy and accompanied with straining. Some abdominal pain between actions. His bowels gradually became worse. Of late they act as often as fifteen to twenty-five times in twenty-four hours. The stools contain blood and mucus. Patient has constant but slight abdominal pain. Has lost 25 pounds.

*Physical Examination.*—Rather poorly nourished, slightly anemic. Temperature, normal; thorax, negative; abdomen, upper half, tender; no distention. Liver and spleen not pal-

pable. Examination of stool shows mucus, blood, pus and motile amebas. No trichomonads.

*Treatment and Course.*—November 20: Patient's bowels moved thirteen times in past twenty-four hours. Emetine hydrochlorid ½ grain by needle in forenoon.

November 21: Six stools since injection. Abdominal pain absent for first time in many months. Emetine hydrochlorid ⅝ grain.

November 22: No stool since last injection; feels much better. Both arms tender from injections.

December 2: Bowels have been normal since November 23 with tendency to constipation. Requires purgatives.

December 12: (Office) Has gained 5 pounds and reports bowels are perfectly normal. Feels fine.

March 4, 1913: (Office) Bowels are normal. Feels perfectly well.

The effect of the injections in this case was very striking. Twenty-four hours after the first injection all abdominal discomfort disappeared and after the second, the stools became normal and remained so. The total amount of emetine administered was 1.1 grains.

CASE 5.—S. S., colored man, aged 40, laborer, home, Adeline, La., was admitted Nov. 19, 1912. About the middle of June patient's bowels became loose; fourteen and fifteen actions in twenty-four hours containing bloody mucus and at times accompanied by tenesmus and abdominal pain. Patient has lost about ten pounds.

*Physical Examination.*—Fairly well nourished. Temperature normal. Chest, negative. Abdomen, negative except for tenderness in lower half. Subluxation of right hip. Examination of stool: mucus, blood and pus; few motile amebas; many trichomonads.

November 26: Patient had nine actions in past twenty-four hours. Emetine hydrochlorid ½ grain by needle.

November 27: Five stools since injection and seat of injection tender. Emetine hydrochlorid ⅝ grain by needle.

November 28: Discomfort in abdomen better. Three stools. Both arms tender. Emetine hydrochlorid ¾ grain.

December 4: Bowels have acted once or twice daily since last injection but abdominal discomfort (described by patient as "boiling" sensation) still persists. Stool contains some mucus but no amebas. Both arms sore and infiltrated around sites of injections. Emetine hydrochlorid ⅝ grain by needle.

December 12: Some abdominal pain still present. Patient had three soft stools, the last one showed a few streaks of bloody mucus; active amebas found; no trichomonads.

As the previous emetine solution was so irritating it was discarded for a fresh one. Emetine hydrochlorid ⅝ grain by needle.

December 13: No stool. Emetine hydrochlorid ⅝ grain by needle.

December 14: One action: contains no mucus, blood or ameba. Patient feels much better.

December 20: The patient was given three injections of ⅔ grain a day of preparation of emetine hydrochlorid put up in ampules on the 17th, 18th and 19th, in order to make assurance doubly sure.

December 27: Bowels normal for two weeks. The injections caused practically no pain or tenderness. Patient discharged.

The failure of the first four injections may perhaps be attributed to the local infiltration caused by that particular preparation with consequent delayed absorption.

CASE 6.—White man, aged 40, cashier, home, New Orleans, was seen Dec. 5, 1912. Present illness began about three weeks ago with loose bowels. Stools contained mucus. He was treated by a colleague at office with small doses of Epsom salts and enemas. As bowels did not improve at the end of a week, he was put to bed. Stools now contained bloody mucus. On several occasions he passed over one-half ounce of pure blood. As his physician was called out of town, I was called in to see him. He complained of no pain. Temperature was normal. Stool consisted chiefly of blood-streaked mucus.

*Physical Examination.*—Patient well-nourished. Passages number about ten in twenty-four hours. States he has lost 10 pounds. Thorax, negative. Abdomen, negative.

*Course and Treatment.*—December 6: Stool (obtained by rectal tube) shows mucus, blood, pus and a few motile amebas; no trichomonads.

December 7: Emetine hydrochlorid ⅝ grain by needle.

December 8: Three stools since last injection, last one partially formed. Emetine hydrochlorid ¾ grain by needle.

December 9: Three stools, soft, a little mucus still present. Emetine hydrochlorid ⅝ grain by needle.

December 10: One stool since injection; no blood, pus or amebas. Both arms slightly painful and tender.

December 14: Bowels constipated. Given purgative, full diet. Discharged.

December 16: (Office) Patient weighs 167 pounds, usual weight 187 pounds.

December 21: (Office) Bowels regular and normal.

March 7, 1913: Back to former weight. Bowels normal.

Of the six patients all recovered except Patient 2. In fairness, however, this case should be omitted in judging the treatment, as the patient was beyond redemption. The average length of treatment with emetine until stools became normal was nine days for the five cases. The shortest interval was two days and the longest twenty days. There is little doubt but that this average of nine days would have been considerably lower had the ampules of the emetine been used throughout. For example in Case 3 injections had to be discontinued temporarily because of the pain produced. In Case 5 absorption was most probably delayed because of local infiltration. The largest dose used was ¾ grains. Larger doses may be found more effective. There were no ill effects noted from this dosage. The average total amount of emetine hydrochlorid used for the five cases was 2.6 grains. This is 0.6 of a grain more than Rogers required for cure in his series. In a case under observation at present 2 grains of emetine have been given and stools have been normal for the past three days.

## ADVANTAGES OF EMETINE TREATMENT

The treatment of amebic disease with emetine rests on an experimental basis. It has been shown that ipecacuanha without emetine has but little effect on ameba *in vitro* (as well as clinically) while emetine has a most powerful amebicidal action. Granting this, then we may assume that emetine is the active principle of ipecac so far as amebas are concerned and theoretically should be used in preference to the whole drug in the same manner as we employ quinin for the treatment of malaria in preference to cinchona. According to Rogers a third of a grain of emetine is equivalent to 30 grains of ipecac. The soluble salts of emetine are put up by several pharmaceutical houses. The hydrochlorid, to which my experience is limited, is practically non-irritating when used subcutaneously and in moderate doses causes no nausea, vomiting or depression. Rogers' largest dose was 3 grains in one day. Allen injected 4 grains at one dose and produced nausea for several hours — the patient vomiting once. Rogers has given the hydrochlorid intravenously (one grain in 5 c.c. of normal saline solution) without any depressing effect on the pulse.

To summarize, the advantages of the emetine treatment are briefly (1) simplicity and ease of administration of the drug; (2) no vomiting or depression; (3) accurate dosage (no loss through bowels); (4) rapid absorption and effect; (5) reliability of product (hydrochlorid).

DOES IT CURE?

The question of curability of the emetine treatment can be answered only after a long period has elapsed. Of the five patients that recovered, four have been heard from or seen and all have remained well. Patient 1 is still cured after three months and three weeks; Patient 3 after two months; Patient 4 after three months; Patient 6 after two months and three weeks. Patient 5 has unfortunately been lost sight of. While these intervals of good health are not long, the outlook is, however, very encouraging.

While no definite conclusions can be drawn from the observations of so small a number of cases, I believe that the results are highly suggestive that in the subcutaneous injections of soluble emetine salts an ideal method has been found of treating amebic disease. Time will soon show whether or not, as Rogers believes, another specific has been found.

1428 First Street.

## BUDDING AND OTHER CHANGES DESCRIBED BY SCHAUDINN FOR ENTAMOEBA HISTOLYTICA SEEN IN A RACE OF E. TETRAGENA

S. T. DARLING, M.D.

ANCON, CANAL ZONE

Schaudinn and Craig have described peculiar changes in a pathogenic entameba which have been figured by Craig and by Hartmann. These changes believed to be essential features in the propagation of the entameba known as *Entamoeba histolytica* are:

1. Reproduction by budding, consisting in the formation of daughter entamebas.

2. Reproduction by sporulation. This is accompanied by changes in the nuclear chromatin. The nuclear area becomes widened, stains diffusely and chromatin apparently diffuses out into the cytoplasm. The nucleus stains less sharply, appears to give up its chromatin to the cytoplasm and then degenerates. Often the nucleus is expelled after having taken up a position on the periphery. Small buds appear on the periphery ranging in size from 3 to 7 microns in diameter; these become separated and later develop a colorless double outline, becoming brown in color and apparently undifferentiated in the interior. Buds of ectoplasm filled with chromidia protrude and are budded off from the parent body which later disintegrates.

Schaudinn described these appearances from human material in which the number of individuals is always sparse compared with that encountered in experimentally infected kittens.

These budding forms described by Schaudinn and Craig are very rarely encountered in man, but may be seen on certain occasions in large numbers in cats experimentally infected with *E. tetragena*. I have seen them also in small refractile trophozoites in surface sloughs from a fatal case of tetragena dysentery. These trophozoites were of the "small generation" type, they contained chromidia, and hematoxylin stained specimens displayed the nuclear characters of *E. tetragena*.

Recently in experimentally infected kittens inoculated rectally with *E. tetragena*,[1] after the strain had matured and at the time of or just before encystment when each nucleus had the characters of *E. tetragena*, that is a prominent karyosome, there occurred peculiar changes in some of the trophozoites, both in dry and in wet-fixed films. These changes as well as can be ascertained from Schaudinn's description and from Craig's and Hartmann's drawings are identical with most of the changes noted by Schaudinn and Craig in the development of the spore-cyst perpetuating forms of *E. histolytica*. The kittens had been inoculated rectally with trophozoites from a case of dysentery in man, and on the death of the first set, kittens of a second set were inoculated, and so on, until the strain matured. The material showing the budding forms was in the fourth remove, at the time of the death of the kittens, that is, when the strain had become mature or senile, reduced in size until it resembled *E. minuta*, when chromidia had appeared in every trophozoite and a few cysts had appeared. In wet-fixed hematoxylin preparations the peculiar changes noted in some of the trophozoites were as follows:

1. The appearance of buds of different sizes on the periphery of the trophozoites in question. These buds were usually clear and free from chromidia. Some, however, contained chromidia and not infrequently a bud contained the nucleus.

2. The extrusion of chromidia, nuclei and portions of cytoplasm. Chromidia was seen apparently being extruded. The nucleus always took up an extreme peripheral position in the cytoplasm, was frequently attached by a slim pedicle of cytoplasm and later detached. Round portions of the cytoplasm (buds) were extruded.

The staining qualities of the nucleus in these forms were always less sharp than in trophozoites and a few near-by apparently normal cysts. These findings can easily be confirmed by the rectal inoculation of kittens and search made in material from the last remove containing trophozoites with chromidia. While a final opinion as to the significance of the changes cannot be given now, the staining reactions in wet-fixed films indicate that they are all degeneration forms of *E. tetragena*. A fuller report with drawings will appear later.

It is believed that these findings in the cat establish a correlation between the findings of Schaudinn and Craig on the one hand and those of Viereck, Werner, Hartmann and others on the other, and it emerges that *E. tetragena* is the common pathogenic entameba of man as Hartmann has already stated and that *E. histolytica* is in all likelihood a spurious species, the alleged spore-cyst development having been described from degeneration forms in senile races of *E. tetragena*.

1. The strain is regarded as being a pure race of *E. tetragena* for it was scrutinized from the patient through each remove, and in the third and fourth removes all trophozoites had the nuclear characters of *E. tetragena* and the fourth remove contained a few *E. tetragena* cysts.

## THE RELATIONSHIP OF VARIOLA AND VACCINIA

P. M. ASHBURN, M.D.

Major, M. C., U. S. A.; President of the United States Army Board for the Study of Tropical Diseases as They Exist in the Philippine Islands

WASHINGTON, D. C.

The relationship of variola and vaccinia has been discussed since Jenner's day, but no satisfactory explanation found. Yet there is an explanation so simple, complete and satisfactory that as thorough an investigation of the literature as I have been able to make in Manila in three months does not reveal any evidence in opposition, and does yield an amount of support that seems almost to constitute proof.

### I. BASIC FACTS

1. Small-pox contagion or inoculation gives rise in man to small-pox, a highly contagious, generalized disease of considerable mortality, characterized ordinarily by a preeruptive stage, and other stages related to the appearance, development and subsidence of the eruption.

2. Passed through monkeys and cattle for a few generations and brought back to man, the virus gives rise to vaccinia, a localized, non-contagious, mild disease, that in itself causes no mortality, though septic complications may cause some.

3. Having, by passage, once lost its power to produce small-pox, the virus *never regains* it, even though passed from person to person (proper hosts for variola virus) for from thirty-five to one hundred years.

### II. EXPLANATION OF BASIC FACTS

Many explanations have been attempted by others and by myself, but all but two are at once rendered null by one or more of the stubborn basic facts. The two exceptions are:

1. The germ of small-pox by passage through certain lower animals loses (acquires) certain properties, and it transmits its altered condition to its offspring forever, a more striking instance of hereditary transmission of acquired characteristics than has ever before (so far as I know) been cited.

2. *Small-pox is due to a dual and divisible virus, one part of which causes vaccinia and the specific small-pox eruption, the other part being necessary for the production of the contagious, generalized, mortal disease with a distinct preeruptive stage and initial rashes.*

The latter is the favored explanation, both because it seems more reasonable and because it is supported by numerous well-established facts. Though these will not be considered at length here, the more striking ones will be indicated under three general heads.

### III. EVIDENCE FAVORING THE EXPLANATION

1. More or less analogous close association of two viruses — hog cholera, dog distemper, etc. (filterable virus and bacillus). Hydrophobia is so closely analogous, street virus corresponding to variola and fixed virus to vaccinia, that the same explanation (duality of virus), probably applies to it.

2. Animal poxes and variolation of animals.

A. Small-pox, cow-pox, horse-pox and sheep-pox mutually protect one against the other (Immermann). Clinically and otherwise they differ.

B. It is very difficult and often impossible to carry small-pox direct from man to calf, the latter being highly resistant. Once established in the calf the pock virus becomes exalted to such a degree that it protects against later vaccination better than does an attack of small-pox, though the latter, by causing immunity to both parts of small-pox virus, affords better protection against that disease.

C. The part of the small-pox virus which is not concerned in pock formation, but is necessary for the development of the contagious, generalized, mortal disease with an initial stage and initial rashes (small-pox), dies or disappears after a few bovine passages. It is therefore unable to participate in the immunization resulting from vaccination.

3. Clinical observations.

A. The three forms of small-pox not showing a pock stage, or only an incomplete one, purpura variolosa, varioloid and variola sine exanthemate, occur in vaccinated persons as often as, or more often than, in unvaccinated.

B. *Vaccinia therefore protects against the pock stage of small-pox rather than, or to a greater degree than, against the whole disease.*

C. Twenty-two per cent. of 2,601 persons who had had variola or been variolated were still susceptible to vaccinia, though immune to small-pox.

A much longer exposition of the above facts, all quoted from other authorities, with a list of references, will soon appear in the *Philippine Journal of Science* and in the *Military Surgeon*. Meanwhile it is hoped that others, more fortunate than we in being able to get hold of small-pox cases, will if possible anticipate this board in experimental work on the subject. For some months there has been no small-pox in or about Manila.

---

## TUBAL REIMPLANTATION

### A NEW CONSERVATIVE OPERATION FOR STERILIZATION OF WOMEN

GEORGE DeTARNOWSKY, M.D.

Instructor in Gynecology, Chicago Policlinic; Attending Surgeon, Chicago Union and Ravenswood Hospitals; Surgeon to the Northwestern Elevated Railway Company

CHICAGO

Permanent sterilization of the female in some cases has been advocated and more or less imperfectly carried out for many years. The indications have varied considerably with different operators. Chronic heart disease, tuberculosis, nephritis, diabetes and hereditary mental taints are generally regarded as indications for sterilization.

A few enthusiasts, such as Spinelli,[1] Cramer[2] and Pollack[3] would add chronic anemia, persistent albuminuria, epilepsy, syphilis, contracted pelvis, diseases of metabolism, infections, cholera, melancholia and cirrhosis of the liver.

Sterilization has been obtained through various unnecessarily mutilating operative procedures on the uterus, ovaries or tubes. The French school seems to prefer supravaginal hysterectomy, an operation which must often be considered as heroically destructive in its results, even though there be no loss of the ovaries and the ovarian secretion, often so essential to metabolic activity in such cases. The "castratio uterina atmocaustica" of Pincus[4] or vaporization of the uterine cavity in order to destroy its mucosa, and the use of the thermocautery as advocated by Kussman[5] are also permanently destructive in their results. Although oophorectomy was and is still too frequently performed, I believe that, to-day, no thoughtful gynecologist would perform a double oophorectomy with sterilization as the only object in view.

Tubal sterilization has been obtained by a variety of methods — total excision, partial resection of the tubes with or without suture of the stumps, and single or double ligation without section of the tubes. R. T. Morris[6] ties a silk thread about each fimbriated extremity. The ligature becomes encapsulated and closes the

1. Spinelli, P. G.: Indicazioni generali e tecnica della sterilizzazione della donna, Arch. ital. di ginec., Napoli, 1898, i, 443.
2. Cramer, H.: Ueber prophylaktische Sterilisierung der Frau, München. med. Wchnschr., 1904, i, 605.
3. Polak, J. O.: Sterilization in Cesarean Section, Tr. Am. Gynec. Soc., 1909, xxxiv, 73.
4. Pincus: Quoted by Sarway, Deutsch. med. Wchnschr., 1905, ii, 292.
5. Kossman: Quoted by Sarway (see Note 4).
6. Morris, R. T.: Buffalo Med. Jour., 1903, p. 387.

tube. Harris[7] implants the severed proximal ends of the tubes on the posterior uterine wall by flattening them out and suturing them to a peritoneal area previously denuded. H. D. Fry[8] buries the cut proximal ends in the broad ligaments. A. E. Rockey[9] excises the tubes at their cornua, draws them partly out of their peritoneal sheaths and cuts them off. (As shown by him, the severed ends of the tubes will slip into their sheaths and be completely covered by the latter.) He then closes the cornua and fastens the tubal sheaths to the fundus uteri. Van Meter[10] makes a small slit through the peritoneal covering of the tube at its proximal end, hooks the tube up and severs it at its uterine juncture, reflecting the severed end, on the distal side, out through the incision in the peritoneal covering and closing the

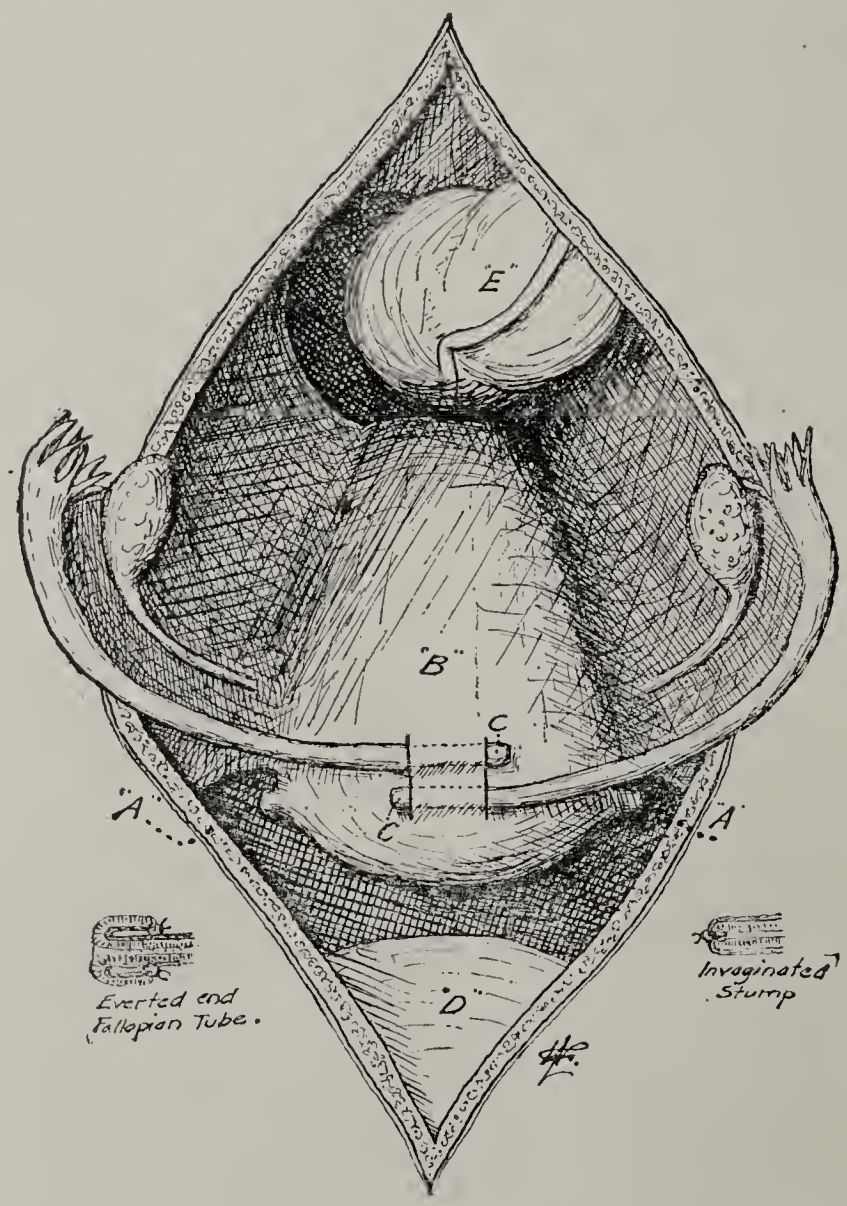



Fig. 1.—Tubal reimplantation; *A*, invaginated stump of tube; *B*, posterior surface of uterus; *C*, reimplanted tube; *D*, bladder; *E*, sigmoid.

peritoneal slit with catgut. Kirchoff[11] makes a longitudinal incision through serosa from 4 to 5 cm. long over the uterine portion of the tube, elevates the tubes with tissue forceps, resects from 3 to 4 cm. of the tubes, ties both ends and drops them back into their serous sheaths.

Simple and even double ligation of the tubes has proved inefficient in several cases, however, patients reporting subsequent pregnancies. Kustner,[12] who resects 2 cm. of each tube per vaginam, had two patients who became pregnant and required abortion. Reiffenscheid[13] reports pregnancy occurring in a patient one year after a similar technic.

Total extirpation of the tubes is advocated by Haberlin,[14] Frankel, Hubl, Sarway[15] and others. Except when done by the procedures of Fry and Harris, tubal sterilization must necessarily be permanent in its results. Fry alone does not disturb tubal drainage, the severed tube apparently lying free between the layers of the broad ligament.

I call my operation tubal reimplantation. I devised it some eighteen months ago and believe it is indicated in fairly definite selected pathologic conditions such as tuberculosis, nephritis, syphilis and certain mental conditions. It is essentially non-mutilating, conservative, and is conceived on what appears to be a reasonably sound physiologic and anatomic basis. It can be performed, of course, only on normal tubes, but minor pelvic lesions or displacements can be corrected at the same time. In multiparae it can be performed either abdominally or vaginally; in virgins lack of space makes the technic by the latter route somewhat difficult.

### STEPS OF THE OPERATION

1. Make mediolateral incision 4 inches long. Open peritoneal cavity in median line after retracting rectus muscle and opening posterior sheath with scissors.

2. Grasp fundus uteri with vulsellum forceps and draw it up through the incision.

3. Amputate tubes on either side one-fourth inch from the uterine cornua. With a fine rat-toothed forceps or a probe, invaginate the distal half of each stump and close the lumen with two catgut sutures. This produces a seroserous adhesion which will effectively close the canals.

4. On the posterior uterine wall, make two parallel vertical incisions 1 inch long and one-half inch apart. These incisions should not be over one-fourth or one-fifth inch deep. With a curved forceps, burrow between these incisions, creating a canal of sufficient size to contain the two tubes.

5. With the same curved forceps remaining in the new canal, grasp the opposite tube and draw it through the canal so that it emerges on the opposite side. Reintroduce the forceps from the opposite side and repeat the same procedure with the remaining tube. In the new canal the tubes should be parallel to each other, one lying above the other, the cut extremity of each tube emerging on the opposite side of the new canal.

6. Make a small cuff by everting the tubal mucosa (it is sometimes necessary to make two small incisions before being able to evert satisfactorily) and secure cuffs to the margins of the new canal by fine catgut stitches which also control any uterine oozing which may be present. Test the patency of both tubes by means of a fine probe.

7. Close the abdominal incision.

### RESULTS AND PURPOSE OF THIS METHOD

This operation, I believe, preserves the delicate function of the tubal ciliated epithelium; that is, the tube remains an open canal from end to end and continues to drain normally, if we believe in Menge's wave.

7. Harris: Quoted by Polak (see Note 3).
8. Fry, H. D.: Quoted by Polak (see Note 3).
9. Rockey, A. E.: New York Med. Record, 1906, ii, 423.
10. Van Meter, M. E.: Stamping out Hereditary Diseases by Sterilizing the Sexes, Am. Jour. Surg., 1907, xxi, 18.
11. Kirchoff: Ztschr. f. Gynäk., 1905, p. 1132.
12. Kustner, Otto: Zur Indikation und Methodik der Sterilization der Frau, Monatschr. f. Geburtsh. u. Gynäk., 1905, xxi, 279.
13. Reiffenscheid: Ztschr. f. Gynäk., 1905, p. 19.
14. Haberlin: Ueber Indikationen und Technik der operativen Sterilisierung vermittelst Tubenunterbindung, Med. Klin., 1906, ii, 1310.
15. Sarway, O.: Ueber Indikationen und Methoden der fakultativen Sterilisierung der Frau, Deutsch. med. Wchnschr., 1905, ii, 292.

Many cases of hydrosalpinx, in otherwise normal patients, have been reported following sterilization by ligation of either the uterine or fimbriated extremity of the tubes. By securing the everted cut extremities in an artificial canal, one reduces the danger of adhesions to a minimum.

Finally, although I cannot as yet offer proof, I am of the opinion that, if occasion demands, these tubes can be reconstructed and that these patients having recovered, may again become pregnant. Reconstruction of the tubes would consist in resecting the invaginated portion of the uterine stumps, removing the tubes from their artificial canal and reuniting the ends, mucosa to mucosa, with very fine interrupted catgut sutures. This work can also be done either vaginally or abdominally.

I was led to evolve the above-described technic by the demand, in several previously sterilized patients, for some procedure which might restore them to a condition of potential fecundity. Tubal sterilization by any of the several methods advocated offered no such hope. Careful study prompted me to try to create a positive but, if necessary, a temporary sterilization.

I have performed this operation four times during the past eighteen months. Two of the patients were tuberculous, the third was a multipara suffering from chronic nephritis who had had eclampsia at the time of her last parturition, and the last patient was a multipara on whom a ventral suspension had been performed for prolapsus uteri. Pregnancy having supervened shortly afterward, the marked anteversion caused severe dysuria and pollakiuria. A laparotomy was performed, but the adhesions encountered were so dense and extensive that it was deemed best to sterilize the patient and empty the uterus. This patient will at some future date have her suspension relieved and the tubes reconstructed.

Sterility has been maintained thus far in all four patients. There has been no menstrual disturbance whatever and repeated bimanual examinations have failed to elicit the presence of any tubal enlargement or palpable pelvic lesion. The general health of these patients has not been impaired and the psychic effect of the knowledge that their pelvic organs had not been removed has been most gratifying.

I desire finally to lay special emphasis on two points: first, the invagination of the tubal stump, thus obtaining seroserous coaptation; second, the eversion of the cut tube as it emerges from the tunnel on the posterior uterine wall, obliterating raw surfaces which would invite the formation of adhesions.

Ultimate success depends, in a large measure, on the careful observance of these two points.

---

## THE ETIOLOGY OF ARTICULAR AND MUSCULAR RHEUMATISM*

E. C. ROSENOW, M.D.
CHICAGO

Acute articular rheumatism is now generally regarded as an infectious disease but much confusion exists as to the nature of the infecting microorganism. Poynton and Payne and others have found that there is present in the periarticular structures and joints in rheumatism a coccus (*Micrococcus rheumaticus*) which, when injected into rabbits, produces lesions very similar to those of rheumatism in man. Many attempts to isolate this particular organism in acute rheumatism however, have failed, and the question of the etiology of the disease is not settled, although it must be emphasized that many clinical and experimental facts indicate that it concerns streptococci of some kind.

The etiology of muscular rheumatism or rheumatic myositis on the other hand is unknown. It is true that the clinical facts suggest that the cause of this affection is identical with that of acute articular rheumatism, but all experimental evidence is, as far as can be determined, entirely lacking.

In the course of my work on pneumococci and streptococci my attention became directed to rheumatism and I wish in this note to report very briefly certain results which seem to be of interest.

Organisms corresponding closely to *Micrococcus rheumaticus* have been isolated from one or more joints in seven of eight cases of acute articular rheumatism in the early stages. Blood cultures were made in four cases and gave positive results in two. Cultures of the tonsils yielded similar organisms in two cases. The cases were all typical and not unusually severe. In four there was a distinct history of tonsillitis. Two of the patients had marked pain and tenderness of the muscles, especially about the shoulders, neck and back, and of the more tendinous portions of the muscles of the extremities.

Experiments on rabbits, guinea-pigs, white rats and dogs show that the cultures are of relatively low virulence; they are, speaking generally, more virulent than *Streptococcus viridans,* but less virulent than hemolytic streptococci and the pneumococci. The results of injections into the ear vein in rabbits are very striking and different from those of injections of *Streptococcus viridans* of hemolytic streptococci or both. Multiple nonsuppurative arthritis, endocarditis, pericarditis and myocarditis have been obtained repeatedly in the same animal. The strains obtained from the tonsil at the height of the attack gave the same results as those from the joint but the one obtained from the tonsil eight days later, now growing exactly as a *Streptococcus viridans,* produced endocarditis but not arthritis, pericarditis or myocarditis.

The lesions of the joints are chiefly periarticular. Suppuration did not develop with the freshly isolated strains but after passing through animals abscesses about the joints sometimes developed.

By animal passage and by other means three of the strains from acute rheumatism have been converted into typical hemolytic streptococci on the one hand and pneumococci on the other. During one of the transition stages the strain (from a joint) lost much of its affinity for pericardium, endocardium and articular tissues but acquired what seemed like a pronounced affinity for myocardium and skeletal muscles and kidney, producing now a non-suppurative myocarditis and myositis and an acute nephritis. The lesions in the skeletal muscles have been obtained in twelve rabbits, three dogs and one monkey.

Similar lesions of muscles have been obtained also with strains from joints of two cases in which muscular involvement was present and with four strains of "nonvirulent" streptococci which have passed through many animals and which resembled the rheumatism strains very closely at the time.

The lesions in the skeletal muscles vary greatly in size, are elongated, and run parallel with the muscle fibers. Some are so small as to be scarcely visible while some are 5 mm. in length. They contain few leukocytes but a large number of the living cocci, while adjacent muscle

* Preliminary note from The Memorial Institute for Infectious Diseases.

contains few or none. Microscopic examination shows what appears to be a coagulation necrosis of the involved fibers. The distribution of the lesions in the muscles of the animals recalls the clinical phenomena of muscular rheumatism in man. They are most numerous in the more tendinous portions of the muscles of the extremities, the flat muscles about the neck and shoulder, the intercostal muscles and the muscles of the spine.

In all the animals mild arthritis and endocarditis and in most of them periearditis were present, but not in marked form. Iritis and conjunctivitis, hemorrhages in the sclera, retina and iris have been observed repeatedly. Occasionally lesions in the cortex of the brain, frequently punctate hemorrhages in the stomach, followed by ulcer, and hemorrhages in the appendix have been found.

It is well known that cold plays an important rôle in rheumatism. Exposure to cold after injections of rabbits increased the percentage and degree of joint involvement. Injection of frogs, kept at a temperature of from 22 to 25 C., with pneumococci, ordinary streptococci, and the cocci from rheumatism, show that frogs are quite insusceptible to the former but succumb to the latter, the blood containing a large number of cocci. This result suggested that the rheumatism cocci may grow better than pneumococci and streptococci at a low temperature, and this was actually found to be the case, and this then may be one of the reasons why chilling aggravates so markedly the symptoms of rheumatism.

The more virulent strains from rheumatism and certain other strains of streptococci which have attained the proper grade of virulence frequently produce hemorrhages of stomach and duodenum followed by ulcer. This has been observed in rabbits, guinea-pigs, dogs and in a monkey. To meet the objection which might be raised that although these lesions follow the injection of the organisms grown in vitro this is no proof that similar lesions may be caused by those grown in vivo, emulsions of tonsils were injected intravenously in rabbits, guinea-pigs and dogs. Arthritis (streptococcal), hemorrhages of stomach and ulcer of stomach and duodenum have thus been produced repeatedly. The emulsions from freshly removed tonsils were found to be very toxic for rabbits, guinea-pigs and dogs. The symptoms following injections of relatively large doses in guinea-pigs and dogs are those characteristic of anaphylaxis in each. The degree of toxicity was greatest in the emulsions from tonsils which were visibly infected and which showed the greatest numbers of bacteria in plate cultures.

---

## ACUTE TRAUMATIC SUBDELTOID BURSITIS

### A NEW AND SIMPLE TREATMENT *

JOSEPH MARSHALL FLINT, M.D.
NEW HAVEN, CONN.

Subdeltoid bursitis in its acute stages has hitherto been treated by rest to prevent primarily further traumatism to the bursa from motions which cause it to impinge on the coraco-acromial ligament. Counter-irritation, especially with the Paquelin cautery or hot air, has been employed together with the use of ice-bags for the pain. In most instances even with this treatment progress is not particularly rapid, a fact which can be readily appreciated from the sheltered position of the bursa beneath the deltoid muscle. Any treatment in which motion is permitted is sure to be slow owing to the renewed traumatisms to the already distended bursa. One of the most distressing difficulties is the loss of sleep due to the inability of the patients to find a comfortable position or to their being awakened by pain from any unconscious motion that brings the bursa between the ligament and the head of the humerus.

The method of treatment suggested in this paper resulted from an effort to make the diagnosis of such cases more definite for students by showing through aspiration that the bursa contained fluid. The first instance in which this was attempted was a case of pyemia following acute osteomyelitis of the femur in which the patient developed pain in the shoulder and symptoms of a metastatic purulent subdeltoid bursitis.

Aspiration of the bursa yielded pus, and the diagnosis was confirmed at operation when the distended bursa, filled with a purulent exudate, looked much like the wax injection of the bursa illustrating Baer's article.

Case 1.—A little over a year ago, a working man, aged 40, applied for treatment at the dispensary complaining of an injury to his shoulder. While engaged in his work, the patient slipped and fell, striking his shoulder against the pavement. No immediate disability was noted, but the next day the shoulder began to hurt and the patient found that it could not be used without paining him. This condition increased up to the time of his visit to the dispensary, a week after the injury.

*Examination.*—On inspection nothing abnormal could be found about the affected joint. Palpation revealed a painful point just in front of and below the tip of the acromion process. Palpation of the head of the humerus in the axilla revealed no tenderness about that portion of the joint. Adduction was possible, and there was almost complete internal and external rotation with the hand and arm at the side. Abduction was limited to 20 degrees, and the patient was unable to put his arm behind his back.

*Treatment and Result.*—With the idea of making the already obvious diagnosis more certain, the bursa was aspirated and about 3 c.c. of a straw-colored fluid removed. The effect of the aspiration was immediate, inasmuch as the patient could raise his arm at once in complete abduction. There was still slight discomfort on motion for a few days which disappeared completely in the course of a week without any further treatment than the aspiration.

Case 2.—Another patient, aged 63, who worked in a sawmill, was admitted to the dispensary service recently. Two weeks previously, he had fallen and struck his right shoulder with his arm doubled under him. Two days later it began to pain him and gradually became worse. The pain was most acute in the shoulder, the patient indicating a point on the deltoid between the coracoid and the acromion processes. There was also some pain running down the biceps on motion. One of the most distressing features of this case was the loss of sleep. On two occasions, the patient sat up all night because he could get no rest from the pain in bed.

*Examination.*—Pressure over the subdeltoid bursa produced exquisite tenderness. Palpation of the head of the humerus in the axilla revealed that the joint was not tender in this region. There was no crepitation heard on auscultation over the long head of the biceps on flexion and extension of the forearm. Adduction was free; the hand was easily placed on the opposite shoulder. Internal and external rotation was practically complete with the arm at the side, but abduction was limited to 15 degrees, and the hand could not be placed behind the back.

*Treatment and Result.*—In this instance the bursa was aspirated both with the idea of confirming the diagnosis and as a therapeutic measure. About 4 c.c. of a straw-colored fluid were withdrawn which coagulated on standing and remained sterile after being incubated for forty-eight hours. As in the previous case, the effect of the aspiration was instantaneous in permitting the patient to abduct his arm completely and put his hand behind his back. In the promptness of its result the therapeutic effect of the aspiration can be compared only with

*From the Department of Surgery, Yale Medical School.

the rupture of a ganglion. Two days later the motions were still free; the patient slept well, and there was only a slight tenderness over the bursa which disappeared completely in a week.

### METHOD OF TREATMENT

The method commends itself as the simplest and most effective that has yet been suggested for the treatment of acute traumatic effusions into the subdeltoid bursa. From the therapeutic point of view, the results are almost instantaneous. Moreover, the confirmation of the diagnosis by obtaining fluid from the bursa is extremely satisfactory.

Our experience with the method has been confined to two acute cases, and it is quite possible that there may be instances in which a more serious injury to the bursa

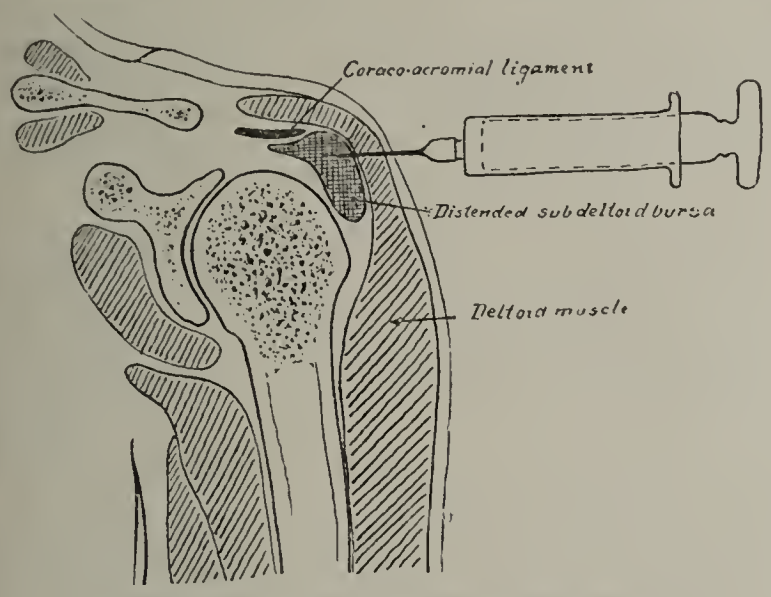



Diagram showing method of aspiration.

may require repeated aspiration owing to a recurrence of the effusion. I am inclined to believe, however, that the chief factor in maintaining the condition to a chronic stage with the accompanying marked thickening in the wall of the bursa is due not so much to the severity of the primary injury as to the repeated traumatisms brought about by movements of the shoulder-joint, which cause the already distended bursa to strike against the coraco-acromial ligament and thus maintain a sort of vicious circle.

After the aspiration, it might be well to fix the joint by a Velpeau bandage for a few days, although we have allowed and even encouraged these two patients to use their arms in order to determine just what effect the simple aspiration would have. It is particularly desirable to know whether or not the method is of any value in the treatment of the more chronic forms of subdeltoid bursitis. While this is purely a matter of speculation, it may prove that radical excision of the bursa according to the method of Baer or the treatment of Codman will be the most successful therapeutic procedure in these cases.

The method of aspiration which we employed is shown in the accompanying diagram. A Luer syringe is partly filled with about 1 c.c. of sterile cocain or novocain solution. The latter is injected into the skin and ahead of the needle as it passes through the deltoid. The needle is pointed roughly parallel to the clavicle and directed toward the bursa lying just over the bicipital groove. The point of entrance is about 2 cm. below the level of the acromion process. As the point of maximum tenderness lies directly over the bursa, this will prove perhaps the best guide for the needle, for it was at this point that fluid was obtained in my cases.

311 Temple Street.

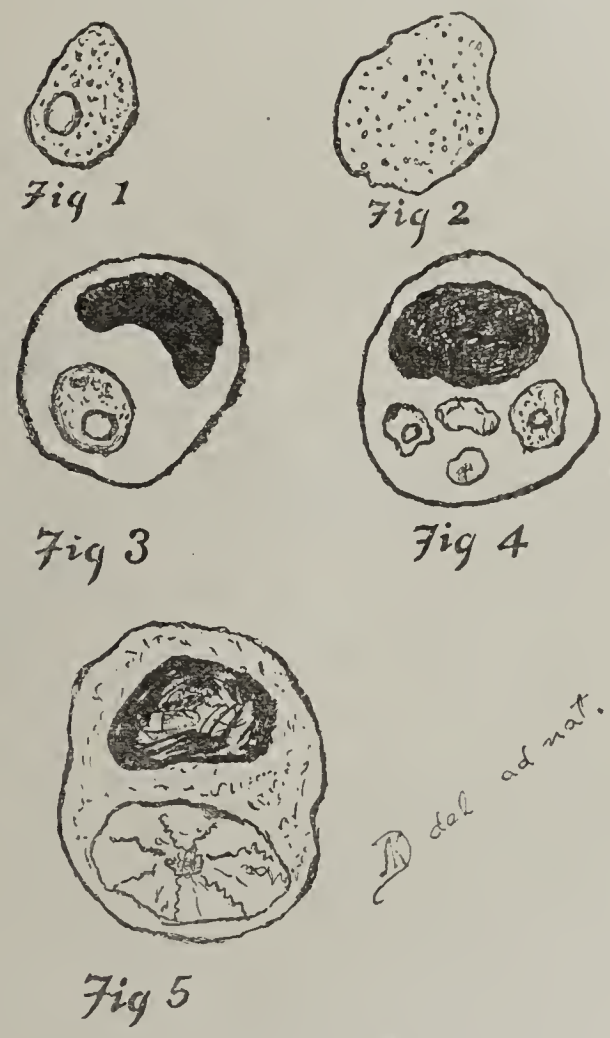
## THE RECENTLY DESCRIBED PARASITE OF SYPHILIS

A. K. DETWILER, M.D., OMAHA

In a recent article E. H. Ross[1] describes his "jelly method" for the examination of blood, fluid expressed from the lymph-nodes and the scrapings from sores or chancres in cases of suspected syphilis. I have repeated the technic and examined scrapings from chancres, the peripheral blood, and fluid squeezed from punctured lymph-nodes of syphilitic patients. I have found the parasites and followed most of the phases as described by him. "The jelly method" is so simple that I write this report with a view to its general adoption as a means of diagnosis of syphilis.

The bodies found by this method are regarded as protozoa with definite staining reactions; they undergo visible changes and certain stages of development within the protoplasm of the cells of chancres, lymph-nodes and mononuclear leukocytes. When lymph or scrapings from chancres cannot be obtained, an examination of the peripheral blood, prepared in the same way, is as satisfactory, but requires more time, as the organisms are scarce and difficult to find. They are not more difficult to find, however, than the *Plasmodium malariae*.

One has only to compare the ordinary familiar blood-picture with slides from syphilities prepared in this way to be convinced of the striking differences. The parasites appear as small, round, oval or pear-shaped, copper-colored bodies containing five granules more or less deeply stained and having at times a so-called vacuole or nucleus (Figs. 1 and 2). Sim-




Recently described parasites of syphilis.

ilar granular bodies are found in the cytoplasm of the mononuclear cells and may be seen to move freely, to enlarge and apparently to become surrounded by a wall. At times they divide and may even be extruded from the cell and become motile bodies free in the surrounding fluid (Figs. 3 and 4). The "enclosed inclusion" within the cell (Fig. 5) may develop into a bunch of spirochetes which diverge from the central stained mass like the spokes of a wheel.[2] The jelly is made as follows: agar 1 gm., sodium chlorid 0.5 gm., distilled water

1. Ross, E. A.: Brit. Med. Jour., Dec. 14, 1912, p. 1651.
2. For life cycle see McDonagh: Lancet, London, Oct. 12, 1912, p. 1033.

100 c.c. Boil, filter and add 4 c.c. Unna's polychrome methylene-blue (Gruebler) and keep in test-tubes. When required for use, melt, pour a small quantity on a microscope slide, spread into a thin film and allow to cool and set.

Take a drop of the material to be examined on a cover-glass and mix with the same quantity of a 3 per cent. solution of sodium citrate and invert on the hardened jelly. After several minutes the leukocytes and organisms take up the stain rather suddenly and the slide is ready for study with the oil immersion lens. The activity may last for an hour or more but finally the color fades and they die away. The accompanying sketch shows the bodies as I have seen them when working with the jellies myself.

## AN AUTOMATIC LIGATURE-PASSING FORCEPS

E. PIERRE MALLETT, M.D., NEW YORK

This instrument is designed for the passing of ligatures through any structure desired to be ligated and removed, but particularly for those situated deeply in the pelvis where it is difficult to use the needle or one of the ordinary ligature-passing devices.

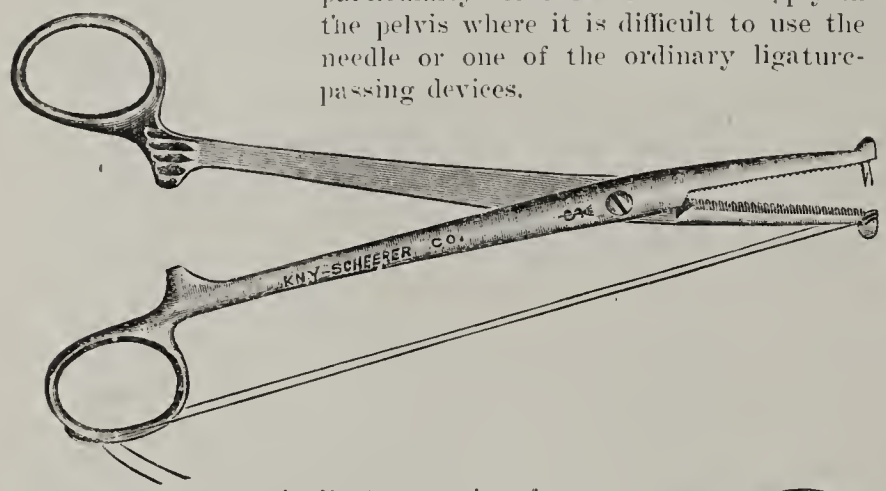



Fig. 1.—Automatic ligature-passing forceps, with ligature laid in the groove in the lower blade and the ends fastened in the catch of the handle. This illustration shows the forceps for use in the left hand.

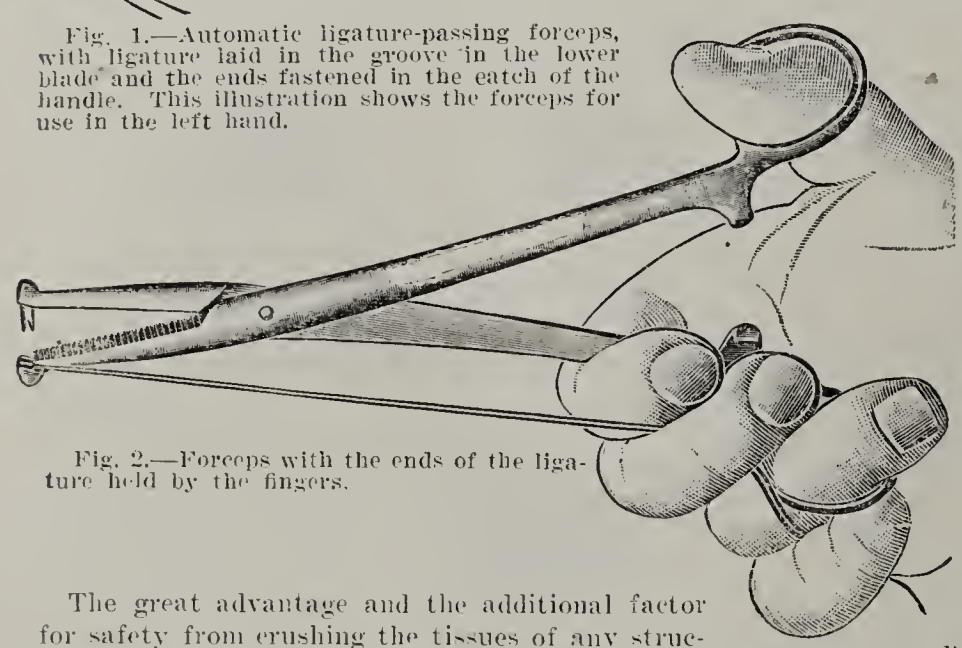


Fig. 2.—Forceps with the ends of the ligature held by the fingers.

The great advantage and the additional factor for safety from crushing the tissues of any structure before ligating, as suggested and practiced by Dr. Murphy, become evident to us all. In this instrument I have successfully combined the crushing and ligature-passing features, so that with one application of the forceps the pedicle is crushed and the ligature passed and left in position to tie.

The *modus operandi* is simple. A ligature is laid in the groove in the lower blade and the ends fastened in the catch of the handle, or held by the fingers of the right hand as the forceps is grasped for use, just like any other pair of forceps. The pedicle, broad ligament or whatever structure is to be ligated, is held with the left hand. The open forceps is then applied in the same manner as any other forceps, crushing the tissues within its grasp. The forceps is held momentarily for the crushing effect, then opened and withdrawn. The ligature will now be seen lying in the crushed groove, having been automatically caught from the lower blade and pulled through the tissues by the needle in the upper blade.

In withdrawing the instrument if the wrist is slightly rotated outward, thus bringing the point of the needle upward, the ligature slips through the needle and is easily released. If a double ligature is required, the loop is cut and the needle released.

Its advantages are:

1. The ease, accuracy and rapidity by which ligatures can be passed, at the same time crushing the tissues, reducing the size of the pedicle, and thereby minimizing the dangers of hemorrhage and the slipping of the ligature.

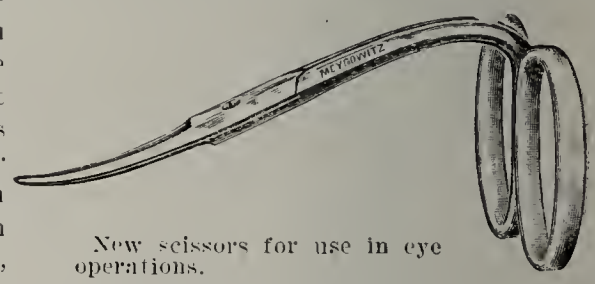
2. The fact that the operator is enabled to pass his ligature, unassisted, with one hand, while controlling the mass to be removed with the other.

244 West Seventy-Third Street.

## NEW IRIS-SCISSORS

FREDERICK FRISCH, M.D., ATLANTIC CITY, N. J.

For all eye operations in which scissors are used, it is desirable to have the hand in such a position that it may be steadied by resting the little finger, or both the fourth and the fifth finger, on the temple or other parts of the face. This is most necessary in irideetomy, and de Wecker had this idea in mind when he invented his iris-scissors. With the ordinary scissors the hand is suspended in mid-air, without a support, and in an awkward position. In order to obviate this, I have bent the scissor-handles in such a manner that the hand can hold the scissors in a natural position, as we hold a pen.




New scissors for use in eye operations.

The principal advantages of these scissors are (1) that it is always possible and convenient to support the hand, as we do with all other instruments, while using them for delicate operations, and (2) that the handles can be shorter without ever obstructing the field of operation.

It will be found not only that these scissors are the most convenient for iridectomy, but also that with them conjunctival incisions, tenotomies, enucleations, all lid operations, etc., can be done with greater ease and precision.

707 Pacific Avenue.

## AN UNUSUAL TYPE OF HYDROCELE

J. BENTLEY SQUIER, M.D., NEW YORK CITY

Charles A. Parker[1] recently reported a case of hydrocele of interest in view of its unusual pathology. Having recently operated on a patient who presented a similar history with a like pathologic condition, and because of the comparative rarity of this form of hydrocele, I make the following report:

*Patient.*—A boy, aged 8, had fallen while skating; next morning a painless translucent swelling, irreducible to pressure, was present in the left side of the scrotum. The cord was possibly a little thicker than its fellow. The inguinal ring seemed closed and no impulse was present on coughing. The condition was regarded as an acute hydrocele.

*Operation and Results.*—February 1, under general anesthesia, operation for radical cure of the hydrocele was undertaken. The sac was found to be distended with bloody serum and at its summit to contain a small process of protruding omentum. As in Dr. Parker's case, the omentum was adherent at this point. The omental protrusion was deeply injected, and evidence of recent hemorrhage was present. The operation was completed by radical cure of the congenital inguinal hernia. The process of omentum accompanying the cord enveloped it in a cobweb covering scarcely increasing its size. Before operation an accurate diagnosis of hernia was not possible.

49 East Forty-Ninth Street.

1. Parker, Charles A.: An Unusual Type of Hydrocele, THE JOURNAL A. M. A., Feb. 15, 1913, p. 514.

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

### ANTIGONOCOCCUS SERUM.—

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Antigonococcic Serum.*—A highly immune polyvalent serum, prepared by immunizing horses against many stralns of gonococci. Marketed in syringe container, holding 5 c.c.

### ANTISTREPTOCOCCUS SERUM.—

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Antistreptococcus Serum.*—A polyvalent serum obtained by immunizing horses with increasing doses of streptococci extract and subsequently with live cultures. Put up in bottles containing 20 c.c.

### NORMAL HORSE-SERUM.—

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

*Normal Horse-Serum.*—The serum of normal horse blood obtained in a sterile manner and passed through a Berkefeld filter. Marketed in packages of two syringes, each containing 10 c.c. Also in single vials of 100 c.c. each.

# Therapeutics

## TOXEMIA OF PREGNANCY

Among the factors which determine our success in the treatment and management of pregnancy are our knowledge of nitrogen metabolism, our knowledge of the chemistry of the digestion of food with the formation of possibly disturbing by-products, and our recognition of the fact that organs may be insufficient without necessarily being diseased. We must acknowledge that with the double metabolism more food is needed and more excretory products must be eliminated. If the mother does not eat enough she will lose nutrition, although the child may develop properly. If she eats enough but the excretory organs are insufficient, or if the organs that furnish secretions that combat poisoning from the products of metabolism are insufficient, she will be more or less poisoned by these toxins. Yet there may be no disease, for unless a large amount of such toxins are improperly eliminated or improperly combated in the system, the condition is not at all serious.

The well-recognized results following the neglect of serious toxemia of pregnancy are pernicious vomiting, nephritis and eclampsia. The results not recognized may include poorly developed fetus, miscarriage, diminished or greatly disturbed nutrition of the mother, a beginning chronic interstitial nephritis, cardiac disturbances and an inability to take up the duty of lactation.

To prevent the toxemia of pregnancy it is better for the mother, while eating more, generally to eat meat but once a day, and she should not take meat soups or broths. By meat should also be understood fish and fowl. Any increase in the food should be of vegetables, cereals and fruits. If she shows any signs of even the mildest toxemia, all meat should be withheld, for a time, at least. So much for the prevention of an increased amount of nitrogen-disturbing metabolism from the food ingested.

If a pregnant woman shows signs of toxemia, she should be put to bed in order that she may rest and that there may not be an increased amount of nitrogen toxins from her own metabolism which exercise, especially hard work, will cause.

The food being correct or as nearly correct as possible, the various eliminative organs should be investigated. The skin should be rendered active by the proper frequency of warm baths. The bowels should move daily with the gentlest and best laxative treatment for the individual patient, preferably laxative fruits and foods, bananas if agreeable to the patient, agar-agar, or perhaps caseara sagrada. The liver, the so-called Pasteur filter, should not be overwhelmed by toxins such as may be caused by large amounts of meat, sweetbreads, liver, alcohol, coffee, tea, etc., but should be encouraged in its normal activity by sensible food, a limited amount of meat, and possibly by the occasional administration of a simple saline, as sodium phosphate. The kidneys should be encouraged by a sufficient amount of water ingested, and of course, if there is trouble, by the withholding of every irritant food or drug and by a diet restricted to milk and cereals.

An important factor in preventing toxemia in pregnancy is a proper secretion of the thyroid gland. The thyroid gland normally is enlarged and hypersecreting during pregnancy. If it does not furnish the proper amount of normal secretion, there is great tendency toward nitrogen poisoning. If there are signs of hyposecretion of the thyroid, thyroid extract should be administered.[1] If there are only a few signs of thyroid insufficiency, small doses of sodium iodid, as 0.2 gm. (3 grains) once or twice a day, will be sufficient to stimulate the gland to normal activity.

The first signs of nitrogen or other metabolic poisoning in pregnancy are gastric indigestion, constipation, coated tongue, attacks of nausea, headache, backache, disturbed secretion of the skin (either it is too dry, or there is too profuse perspiration), and irregular heart, either attacks of palpitation or too slow action. The patient may be growing thin or fat. If several of these conditions are present, they should be recognized as signs of toxemia, and the bowels should be thoroughly cleaned out with castor oil or a saline, plenty of water given, food withheld for some few hours, and then milk and cereal should be the diet for some days, and the patient should be kept in bed. Warm baths will also be of benefit. Soon the patient may again become active and the diet be enlarged, but modified, unless some more serious disturbance of some organ or organs should be found.

In the persistent vomiting of pregnancy it should be remembered that ammonia is formed during starvation, and that it will continue the toxemia. This formation of ammonia is more or less inhibited by carbohydrates. It is therefore essential that a patient who is seriously vomiting or who is almost starving should receive cereals or other carbohydrates as soon as possible, or alcohol or glucose must be given by rectum.

1. See THE JOURNAL, March 16, 1912, p. 783.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, APRIL 19, 1913

## THE SUGAR CONTENT OF HUMAN BLOOD

Thanks to the gradual perfection of the analytic procedures of biochemistry, the estimation of the sugar content of the blood, once among the occasional methods applied to this circulating fluid for purposes of research, has become an almost current practice in some laboratories. Inasmuch as the organism is exceedingly sensitive to even small variations in the percentage of sugar in the blood, the importance of adequate quantitative information on this point can scarcely be overemphasized. For the most part we have been guided by the appearance of sugar in the urine as an index to the increased content in the blood. This has been due to the ease with which the desired information could be obtained by simple and accurate methods of chemical examination of the kidney secretion, rather than to any assumption that the data thus furnished give a perfect picture of the fundamental underlying condition, the sugar content of the blood itself.

The technic of the analysis of the blood for sugar has had its pitfalls, and has little by little profited by that wholesome criticism which makes for progress in scientific work. We would not imply that such an examination vies in simplicity with the routine methods of urinary analysis; but it is well within the possibility of any well-equipped and — what is more important — well-manned clinical laboratory. The removal of specimens of blood from the blood-vessels in man for purposes of examination has become a common procedure as a consequence of the diagnostic demands of the last decade, so that this feature presents no formidable obstacles. These factors have accordingly combined to furnish abundant opportunity for the collection of statistics regarding the sugar in the blood. New facts have been brought to light, among them the demonstration of the participation of the red corpuscles as well as the plasma in the sugar-carrying function.

The question of the sugar content of the blood has been subjected to critical review and received numerous analytic additions in the medical clinic of the University of Leipsic at the hands of Rolly and Oppermann.[1] A series of standard or normal figures, so to speak, have been established. The sugar content of the plasma was found to vary between 0.078 and 0.107 per cent. The average of 0.096 per cent. for the plasma is contrasted with 0.076 per cent. for the entire blood, including the red corpuscles. These investigators find the sugar content of the latter to be, as a rule, smaller than that of the plasma.

When the temperature of the body is artificially raised by the use of such methods as light baths, there is an attendant increase in the proportion of sugar in the blood. Rolly and Oppermann caution against the careless employment of such temperature-raising devices in the management of diabetic patients, inasmuch as the accompanying hyperglycemia may have an untoward effect on the welfare of these individuals. They have further demonstrated that febrile disease in man tends to be accompanied by an increased sugar content of the blood. This hyperglycemia is in part attributable to the heightened temperature and partly to the toxins furnished by the infecting organisms. Other types of poisons may induce similar consequences. Consideration has also been given to the occurrence of hyperglycemia in the absence of bacterial processes.

In the past high blood-pressure has sometimes been charged with conditioning an increase in the sugar in the blood. A causal relation between the two factors now scarcely seems tenable. When they are associated it appears more probable that some other pathologic process is responsible. The detailed analysis of such instances remains for the future.

1. Rolly, F., and Oppermann: Das Verhalten des Blutzuckers bei Gesunden und Kranken, Biochem. Ztschr., 1913, xlviii, 50, 187, 200, 259, 268

---

## EXPERIMENTAL BIOLOGY OF THE OVARY

The extremely interesting problems dealing with the connection of the ovary with all the sex qualities of the female and the probable existence of an internal ovarian secretion, as well as with the possibilities of regeneration of the ovary, are among the most interesting problems that occupy the medical profession at the present moment. Some recent experiments on birds illustrate clearly the dependence of sex qualities and characters on the presence of the ovary, and apparently demonstrate the existence beyond all doubt of an internal secretion capable of bringing about the development of these various sex phenomena. At the meeting of the American Society of Zoologists in January, H. D. Goodale[1] reported the occurrence of the development of male characters in ducks and fowls after the removal of the ovary. Of twelve ducks successfully operated on, all began at once to develop the male plumage, but after a short time three of the birds reverted to their original type. The cause of this reversion became apparent when on examination it was found that the ovaries had been only partially removed. The remaining nine ducks have continued to acquire male plumage; that is, as

1. Goodale, H. D.: Science, Feb. 13, 1913.

the female feathers drop out they are replaced by feathers similar to those of the corresponding male. Though as a consequence of this operation, most of the transformed females are externally at least almost perfect replicas of the corresponding male, nevertheless the voice remains that of the female,[2] in spite of the fact that in some cases the adult voice was not acquired until several weeks after the operation, the birds having been operated on at about the sixth week of life.

In fowls from which the ovaries are completely removed, the male habit and characters develop in their entirety. Plumage, spurs, comb and wattles all begin to grow at once and gradually come to full size. Notwithstanding the beginning of this development, in one case there was a reversion to the female type after a time, and then examination showed that there had been regeneration of the ovary from a small portion that had been left in place. When a portion of the ovary was deliberately left in place, or only a portion of it carefully removed, no male characters developed. Manifestly only the stimulus or perhaps the inhibitory influence of the internal ovarian secretion is needed, and not a definite amount of it to combine with other tissue-growth elements.

These observations have now been carried out on a sufficient number of birds to make the conclusions from them reasonably certain as well as eminently suggestive for human physiology and gynecology. They have been confirmed by some experimental observations made in the department of physiology of the University of Cincinnati and recently communicated to the Academy of Medicine of that city. In these experiments ovarian tissue was transplanted from the female guinea-pig into the castrated male. The mammary glands of the male began to develop and secreted milk, the nipples became surrounded with an areola of dark pigmentation, and the hair over the body became soft and more glossy. Both sets of observations seem to show that the development of male characters is inhibited by the internal ovarian secretion and apparently imply that femaleness is due to the presence of a certain definite factor which is lacking in the male. They thus tend to support the mendelian hypothesis that femaleness is one of a pair of alternative characters. Apparently in vertebrates the female character is the dominant one and the female vertebrate contains both the female and the male characters, while the male contains only the male characters. In other words, the female is a sex-hybrid, while the male is pure male.

"At the same time," as Bateson[2] says, "we should be wrong in supposing that the recognition of femaleness as a definite, allelomorphic factor is more than a first step toward an understanding of the phenomenon of sexual dimorphism." Such data as we have serve largely to indicate the extreme complexity of the problem and the vast amount we have yet to learn. For instance, there is evidence that, whereas in most insects it is the male that is a sex-hybrid, containing both male and female characters, in one lepidopteran, on the other hand, the female appears to be hybrid like the vertebrate female.

The little we do know opens up fascinating vistas of speculation. Although it would be a source of error to fail to realize that we do not yet know how far such observations made on lower animals are applicable to the more complex human animal, there is a temptation to ask, for instance, what the sociologic application of these biologic facts may be. What is the social effect of the frequent use of oophorectomy? What biologic, as distinguished from economic, factors enter into the pressure for change in the economic and political status of women seen particularly in the English-speaking world to-day? What would be the effect on the race of any condition of life which might tend to diminish human ovarian secretions? Each of these subjects for investigation beckons the inquiring mind out into the vague unknown. Indeed, the danger is not that such interesting possibilities will be overlooked, but rather that partisans on both sides of sex-involved questions of the day will seize on half-baked biologic deductions or uncoordinated biologic half-truths as polemic material. In the future Biology will probably give valuable aid to her sister sciences; while her contributions are unready, however, good manners and good judgment forbid snatching them unfinished from her hand.

2. Bateson, W.: Mendel's Principles of Heredity, G. P. Putnam's Sons, Cambridge, 1913, p. 191.

## "BIG BUSINESS" AND SCIENCE

Much has been written on how science and commercial industries (especially chemical industries) have been of mutual aid, in Germany and regrets have been expressed that alliances of this nature are not more frequent in the United States. Physicians seeking for impartial accounts of new drugs, however, often have occasion to wish that many of the communications which appear in German medical journals had been written by those less dependent on manufacturers. How little the big German chemical interests hesitate to sacrifice science for the sake of "business," moreover, is strikingly illustrated by a remark of Ostwald,[1] a man who has probably done more for both German science and chemical industry than any other one living. Ostwald for many years has been endeavoring to secure the establishment of an international institute of chemistry, one of the functions of which is to be the maintenance of a card index of all discoveries in chemistry so that an investigator anywhere in the world can have instant access to everything which has been written on a particular subject in which he may be interested. Violent opposition to this scheme, according to Ostwald, has developed on the part of the big chemical houses of Germany, the

1. Ostwald: Ber. d. deutsch. pharm. Gesellsch., 1913, No. 1, p. 5.

reason apparently being that these houses have established such catalogues for their own use, the possession of which gives them great advantages over the smaller houses in cases of patent litigation, etc. Ostwald says, however, that such an institute will be founded "in Belgium or in France or, what is most probable, in America."

Will America prove itself worthy of this expression of confidence? All will depend on the strength of the scientific as compared with that of the commercial spirit. Thus far American physicians have maintained the ideals of their profession; they have not (with rare exceptions, especially where certain serums and vaccines are concerned) entered into commercial alliances. It is true that in recent years at least they have seemed somewhat sterile as far as new discoveries in materia medica are concerned; but had the results of our laboratory workers been patented and exploited whenever they were patentable or exploitable the results would not seem so meager.

But it is evident that we are rapidly approaching a dividing of the ways: the efforts of the American pharmaceutical manufacturers to dominate the medical profession are well known; equally threatening are the German chemical houses referred to by Ostwald which, often taking advantage of our loose patent laws (under which, it must be confessed, they also sometimes suffer), are assuming more and more a dominant rôle in this country.

The antidote to this is the assiduous encouragement of the growth of all the scientific institutions (university, special research and government) having to do with medical research. Rapid advances have been made, but they are not keeping pace with the needs of the day; in even the best of our institutions, research workers and teachers are still expected to conduct large departments on sums less than the income of a fairly successful clinician or business man.

---

## MEDICAL MATTERS IN NEWSPAPERS

The development of preventive medicine through proper sanitation and correct hygiene, public and personal, demands that the public be educated as thoroughly as possible in all the essentials. The public is also entitled to correct information concerning scientific medical progress. The readiest means of attaining this is probably through the daily press. The newspapers are constantly giving increased space and attention to all public health and medical matters both for their news value and for the benefit of the public. They undoubtedly desire to have the matter they print correct, but frequently their attempts at describing medical matters are decidedly misinforming and even ludicrous.

The Philadelphia *Ledger* in describing the Trendelenburg position says: "The Trendelenburg posture consists simply of posterior operations by means of a specially contrived operating-table, that in cases of a particularly delicate character have been remarkably successful." Another leading daily paper, the Cincinnati *Enquirer*, says: "Dr. M. W. died suddenly of pleurisy of the brain. He became ill in this city with pulmonary peritonitis." The Philadelphia *Press* reports that "A 4-months'-old child died of what is known among surgeons as faraman ovale." The Fort Wayne *Journal-Gazette* in speaking of what it calls "ankersteleal nephortis" declares that "this disease makes the internal conditions worse than Bright's disease." The Cleveland *Plain Dealer* says: The V—— Pharmacy has been named as a supply-station for antitoxin. The antitoxin will be used in cases of diphtheria, to prevent blindness in newly born babies, for throat cultures and in the examination of blood in typhoid and malarial cases." The San Francisco *Chronicle* tells of a citizen who "while cranking his automobile, sustained what is technically known as a Colles fracture of the right rib." The Boston *Record* says: "The *bacillus Welchi* is the gas bacillus dwelling in the international track." The Chicago *Record-Herald* describes the death of a man from "shock and lumbar pneumonia following six gunshot wounds." An Erie (Pa.) paper records the opinion of three surgeons that a man "would always be a sufferer from chromatic epilepsy."

Reports of medical meetings record interesting talks and papers on "Ophthal nic Neonatorum of the New Born," "Perpetual Eclampsia," "Hydrated Mole" and "Chronic Intestinal Nephritis." Describing a fatal accident one paper says: "The shock acted on the neuromastic nerve leading from the lungs and stomach to the heart." A Roentgen-ray examination of a man who thought he had two hearts showed that he was suffering from "an aneurism of order A." Another suffered from "plumbago" and a third from "schlerous of the liver." Speaking of the death of a popular young woman one newspaper says: "The young lady had been suffering for some time from uriconia conia, or neuralgia of the heart, and apparently medical aid brought little or no relief."

The question has also its serious side, as in the instance of sensational newspaper articles concerning cancer and tuberculosis cures, some of which at least soon prove to be the rankest fakes, and their exploitation under the guise of great scientific discoveries the most palpable advertising dodges. Such false, incomplete or premature reports delude incurables into undertaking long journeys, thereby undergoing the most acute and hopeless suffering and wasting fruitlessly their remaining funds, only to experience the most cruel disappointment.

Self-respecting newspapers are careful to have their financial articles written by those familiar with financial subjects; for technical articles in various fields of activity they seek experts. Why not the same care in medical matters?

## EDUCATION IN SEX HYGIENE AND PROPHYLAXIS

Recognition of the preeminent responsibility of our profession in the field of preventive medicine has resulted in many lines in a marked awakening of physicians to their obligations as leaders and teachers in the science of keeping well. The essence of preventive medicine is education, and physicians, by virtue of their training, experience and ideals, of right ought to be leaders and teachers. Yet until within a few years their responsibilities were not recognized in the important fields of the prevention of venereal disease and education in the hygiene of sex.[1]

The earlier policy of silence and repression in regard to these matters is fast changing not only on our part but on the part of parents and educators. The sinister menace of venereal disease can hardly be overestimated. The late Dr. Prince A. Morrow,[2] who has done such excellent work in arousing public opinion to the dangers and moral issues of these diseases, states that in the United States annually 770,000 males reach early maturity. If the experience of the past is a safe criterion, at least 60 per cent., or 450,000 of these young men, will at some time become infected with venereal disease, 20 per cent. before the age of 22, 50 per cent. before 25, and over 80 per cent. before they pass 30. This is the morbidity among males reaching 16 in any one year. Each succeeding year adds a similar group to the aggregate.

Syphilis and gonorrhea undoubtedly surpass in prevalence all other infectious diseases combined, and their immediate and disabling effects fall most heavily on the most active and productive period of life. Morrow lays to gonococcus infection alone 80 per cent. of all deaths from inflammatory diseases peculiar to women, 75 per cent. of all special operations on women, and over 60 per cent. of all the work done by gynecologists; 50 per cent. or more of these infected women are left irremediably sterile besides the number whose offspring are still-born, premature, weakly, diseased or mentally defective. These figures may be too high, but probably not.

Considering the terrible ravages of these diseases and their wide prevalence, preventive and prophylactic measures have been wofully inadequate. The community and state assume immense burdens in the care of victims of such conditions as deaf-mutism, mental defectiveness, tabes, general paralysis, blindness and many others. Yet the prevention of a large percentage of these conditions by prevention of syphilis and gonorrhea receives but meager attention. If bubonic plague had but a fractional percentage of the incidence of these diseases all hands would be joined to drive it out. Cholera in a civilized country to-day is no such social and national menace as venereal disease. We appropriate great sums to fight certain epidemic diseases and to maintain a rigid quarantine against them, but we are only now beginning to wage prophylactic warfare against diseases which are as dangerous as any epidemic disease and far more dangerous than many.

There are various points of attack in this problem and various closely related problems, such for instance as prostitution in its various aspects, the proper regulation of divorce, physical and mental requirements for marriage, control of the dissemination of pornographic literature, plays, moving pictures, etc. But there is one point of attack in combating the spread of venereal disease which is justly regarded by many experienced workers as the most vital and strategic, and this is the education of the young. There has been an upheaval in pedagogic and social sentiment in the last few years regarding the question of sex-teaching in home, school and college. Conventional prejudice against such teaching is giving way rapidly, and results are already beginning to appear. Educators are coming to believe that these subjects have a rational and vital place in the educational system.

Members of our profession have an inherent and unique responsibility in furthering this educational work, and every physician can participate either privately or publicly. Modern social sentiment demands a new style of treatment and a new point of view in considering venereal disease, and it behooves the physician to be a leader in this great work.

1. This subject has been discussed previously in THE JOURNAL as follows: Sex Instruction in the Schools, editorial, April 1, 1911, p. 968; Sex and the Instruction of the Young, editorial, March 11, 1911, p. 746. An article by Dr. Philip Zenner (Sex Instruction in School, Feb. 1, 1913, p. 357) will also be found of interest.

2. Morrow, Prince A.: Society of Sanitary and Moral Prophylaxis, Its Origin, Objects, Aims and Methods, 105 West Fortieth Street, New York.

---

## WOOD ALCOHOL—POISON

In spite of numerous warnings published in so many medical, pharmaceutical and lay periodicals, it is strange that so much ignorance is still displayed regarding the toxicity of methyl or wood alcohol. This lack of knowledge, or perhaps of wisdom, is shown in some quarters in which it ought to be least expected. For example, the New York Board of Health a few months ago passed the following ordinance: "No preparation or mixture containing methyl alcohol intended for external use by man, or so used, shall, when offered for sale, sold or used, be especially labeled, as follows: 'This preparation contains methyl (wood) alcohol.'" If the foregoing means anything it permits a virulent poison to be sold to the ignorant public without a specific notice of its toxic quality. That one may fully appreciate the situation it must be remembered, as the *Practical Druggist* points out, that the sanitary code of New York, adopted in January, 1912, includes the following section: "No person or corporation shall offer for sale any food or drink which contains methyl alcohol (commonly known as wood alcohol), or any preparation or mixture of any kind whatever containing the same intended either for internal or external use by man; nor shall methyl or

1. Practical Druggist, December, 1912.

wood alcohol or any preparation or mixture containing the same be used on or applied to the person or body of another." This ordinance was certainly based on what we definitely know of the poisonous characters of wood alcohol, Columbian Spirits *et hoc genus omne,* but Health Commissioner Lederle and his board appear to have been looking backward — all in a year's time. A different attitude is that taken by the president of the American Barbers' Supply Company, who probably had something to lose in assuming it: "I am greatly surprised at the remarks of Health Commissioner Lederle, which seem to encourage the use of methyl alcohol. The honest manufacturer obeys the law and uses grain alcohol for his preparations, while the dishonest man uses methyl alcohol and sells the goods for one-half the price they cost to manufacture when grain alcohol is employed. I do not believe that any first-class barber would knowingly apply to his customer's face or head any lotion which contains methyl alcohol. The health board should enforce the law and protect the barbers and the public; and the barbers, on the other hand, should avoid buying bay rum, hair-tonics, witch-hazel, etc., at prices which are far below the regular market quotation."

In the face of this astounding piece of New York municipal legislation it would seem necessary to draw the attention of our readers once more to the recent discussion of this matter by Casey A. Wood.[1] Among other items will be found an account of the death of seventy-one municipal lodgers in a Berlin asylum from drinking cheap schnapps made with what corresponds in America to Columbian Spirits, the so-called "deodorized" wood alcohol. To this account might be added a methyl-alcohol holocaust later occurring in another German town. Here seven deaths and the usual accompaniment of blindness followed the ingestion of a cheap drink compounded from a "deodorized" wood alcohol sold by a local druggist under the trade name of Spirtogen" — a sort of Teutonic Columbian Spirits. It was shown at the trial of the druggist that although he labeled the bottles of methyl alcohol "For External Use," he 'winked the other eye" when its potable qualities were privately discussed. Moreover, a number of tinctures in his shop were found to be made up with methyl instead of ethyl alcohol. The crime having been committed in Gelsenkirchen instead of New York, (1) the culprit was haled into court at once, (2) the trial lasted seven days, at the end of which (3) the poisoner was sentenced to two years' imprisonment, and (4) the sentence was carried into effect. Although Columbian Spirits, as well as similar pernicious liquids since put on the market, have been responsible for an enormous number of cases of death and blindness, yet at this very moment they are not only being sold in drug-stores all over the United States in competition with the official denatured alcohol, but they may be, and often are, employed as a beverage in lieu of grain alcohol.

For the safety of our citizens the sale of every form of "deodorized" methyl alcohol should be discouraged or prohibited — better prohibited — and, although many states and municipalities have made legal provisions for the former contingency, these laws are frequently dead letters. Wood found exactly that state of affairs existing in Chicago. It seems incumbent on members of the medical profession, as teachers of hygiene, to comment at proper times on the subtle evils likely to attend either the internal or external use of this poison, whether it be exhibited in the form of crude wood alcohol or masquerades as a "pure," deodorized product "just as good" as grain alcohol. Denatured alcohol answers every legitimate purpose for which Columbian Spirits may be employed, and is even cheaper than that toxic agent.

1. Wood, Casey A.: Death and Blindness from Methyl- or Wood-Alcohol Poisoning, THE JOURNAL A. M. A., Nov. 30, 1912, p. 1962. See also this issue, p. 1247.

## THE VACATION SEASON, AND SANITATION AT RESORTS

The approach of the vacation season makes it desirable to note again the necessity for paying attention to sanitary conditions in camps or resorts. Not all resorts where one may spend a vacation are health resorts. Indeed, many of them are just the opposite, and some are centers from which ill health originates. Typhoid is the index of the sanitary status of rural health resorts; many cases of that disease which are set down in the vital and morbidity statistics of the cities originate there during the vacation season. While investigation is difficult on account of the lack of adequate supervision of so-called health resorts by public authorities, yet it behooves the seeker after health or recreation to pay some attention to this matter.

Many health resorts include in their literature statements as to sanitary conditions which afford at least one means of forming an opinion as to the desirability of patronizing such resorts. The health departments of some states provide for the systematic inspection of summer resorts with regard to sanitation, and reports of these inspections also afford valuable information. New York for the past six years has systematically inspected the summer resorts of that state, of which there are many, and these reports should prove valuable to persons contemplating going to such places in that state. When inspection reveals bad sanitary conditions, the proprietors of hotels, boarding-houses and other places of the kind are notified specifically as to shortcomings and are requested to make improvements. Subsequently reinspections are made to find out whether such improvements have been made; in case of failure to follow out suggestions, the condition of such resorts, hotels, etc., is published in the bulletins of the State Board of Health and in the public press, and people are warned against them.

Michigan is another state containing a large number of resorts, which likewise looks after these places carefully and urges improvements where improvements are needed, though perhaps no means of enforcing the regulations of the board are provided by the health statutes, except in the case of positive nuisances. Persons who spend their vacations away from home, however, are becoming educated to the necessity for inquiring into the sanitary conditions of places in which they expect to spend their vacations. In a recent bulletin of the Michigan State Board of Health an instance is given in which a man in another state reported that his wife had acquired typhoid in a Michigan resort, and that he desired to know of the state board whether it would be safe to return to that place during the coming season. The board replied that the improvements suggested by it had not been made at that resort and that he should keep away. The proprietor of that resort has thus lost business through his indifference toward the protection of his patrons. He coolly informed the state board that he knew his own business; this represents the short-sighted policy of many resort-keepers.

Campers, also, should exercise great care to select places with unquestionable water-supply, and to adopt proper camp arrangements as to the disposal of waste, prevention of breeding of flies, proper protection from mosquitoes, etc.

Typhoid is really a rural disease with its greatest incidence shortly following the height of the vacation season, and much of it may be traced to bad sanitation at vacation resorts. The report for 1912 of the New York State Board of Health shows that in that state the occurrence of typhoid in country and city was in the proportion of 12.8 in the former to 14.5 in the latter per hundred thousand of population; deducting the number of cases which investigation would clearly determine had originated at rural summer resorts, the figures would undoubtedly be in favor of a lesser origin in the city. Taking this disease as the index, the necessity for care in selecting a place to spend the summer vacation is apparent.

## *Current Comment*

### SANITAS IN RURE

In the North Atlantic states in 1910, 48 per cent. of the people lived in small towns and country districts comprising 99 per cent. of the land, and 52 per cent. lived in cities of 300,000 and over comprising the remaining area of 1 per cent. The lure of the great city, a theme saturated with tragedy, has been written of many times; we speak of it merely to call attention to a pamphlet by Dr. Frederick L. Hoffman[1] which sets forth one phase of the problem—how to keep in the country those whose only capacity for city life lies in their ambition to be of the madding crowd—and to urge those who have failed in the city to go back to the land. Hoffman points out that longevity and diminished liability to disease are decidedly favored in the country. The typhoid fever mortality-rate is higher in the country than in the city, but the difference is much less than has often been assumed. Although the mortality from malaria has been higher, and in many places no doubt still is so, mosquito elimination has greatly reduced the number of cases of malaria in rural districts. While influenza, dysentery, apoplexy, paralysis, heart-disease and peritonitis also seem more common in the country, some of these are diseases of old age, and the difference is undoubtedly in great measure by reason of a larger proportion of old persons in the country, the young having migrated to the city. On the other hand, the causes of death more common in the city are venereal diseases, cancer, alcoholism, meningitis, enteritis, bronchitis, the pneumonias, tuberculosis, cirrhosis of the liver, appendicitis, Bright's disease and death from violence. It is hardly to be hoped that emphasis on the greater healthfulness of the country will influence any one, however unfit, who is determined to enter city life. No appeal of this or any other kind has hitherto proved effective in the history of civilization. Yet there is one consideration entirely aside from the superior healthfulness of the country that ought to interest the medical man. Many a young doctor would do well to choose the comparatively clear field presented by a country town rather than the city, congested, as it is, not only in population but also in medical competition.

1. Hoffman, Frederick L.: Rural Health and Welfare, published by the Prudential Life Insurance Company.

### CENTENARY OF THE "TOP HAT"

It is proposed to celebrate the centenary of the high hat, although this badge of male affluence, if not of respectability, seems to have existed before 1813. Made of beaver skin, plush or silk, high-crowned hats certainly existed before that year; but they rather approximated truncated cones than the cylindroid shape which has since obtained — as witness the shaggy, yellow "grandfather's hat," with the flaring bell crown, of the "Tippecanoe and Tyler too" period, the lofty stovepipe which Lincoln wore, and the tile of to-day, which no presidential inauguration and no household can be without. For a century at least the high hat has been civilization's symbol of somber splendor; it has been the appendage of man's highest estates, in whatever sphere of existence. In London no gentleman of the stock exchange will venture across the street, however hot the August day, not thus bedecked. In Darkest Africa the jungle potentate will evidence his *savoir vivre* by receiving the explorer clad in a "stovepipe," though lacking every other adornment save a smile of greeting, and possibly also a loincloth. By the high hat alone may all "exalted personages" be recognized; and in some instances, we regret to add, there is no other mark of identification. Who would to-day enter an equipage of state that is not driven by a coachman adorned with a "plug," no matter how old its vintage? The tile is ever reserved for occasions when it tops the utmost pulchritude of which man is capable; and great indeed is he who can wear it as gracefully and "as easily as a camel bears a Bedouin family,

tent and furnishings and all, or a blithe little Sardinian donkey a load of grass"! A woman's crowning glory is her hair; a man's crowning glory is his tile. May not baldness, now so frequently observed in the human male, be concomitant with the vogue of the beaver hat? This structure fits tightly on the head. Is it not therefore possible that by compressing the blood-vessels, it leads to impoverishment of the scalp, which is the soil for hair to grow in? Neither hair nor plants (so our confrères in dermatology and botany assure us) will grow well if the soil be poor. A scalp favorable to hair growth is thick and pliable, and moves freely on the calvaria; a thin scalp drawn tightly over the skull will lessen the blood-supply in the vessels and cause pressure atrophy in the hair roots. Will not the tightly pressing beaver (the derby, too, for that matter) have the same devitalizing and depilatory effect? Women and savages (the terms seem now interchangeable in London) are seldom or never bald; why should civilized man be so? Is the reason to be found in the stiff hat? It has been observed that "measles is a disease, baldness an affliction, but a man's side whiskers are his own fault." Is a man's baldness also his own fault?

---

## THE RELATION OF INFECTIONS WITH COLON BACILLI IN WOMEN, AND HERPES OF THE FACE AND MOUTH

Schottmüller[1] calls attention to a hitherto apparently unnoticed relationship between infections with colon bacilli of the genito-urinary tracts in women and herpes of the face, especially the lips and mouth. He observed the occurrence of typical herpetic eruptions in altogether fifty cases of some form of infection with colon bacilli, mostly cystopyelitis and postabortive puerperal processes. Inasmuch as the cases were observed within a comparatively short time, Schottmüller believes that under certain circumstances colon infections are characterized by facial and oral herpes, which consequently may be of diagnostic significance, especially in pyelitis. As the herpetic lesions were not associated with invasion of the face and mouth by colon bacilli, in other words, were not metastatic in nature, the action of certain toxic products which have special affinities for the tissues in question must have been involved. In Schottmüller's cases the herpes did not develop in the course of any special nerves. The blisters were large and the lining of the mouth was frequently affected, suggesting that among the various kinds of herpetic eruptions those associated with certain colon infections perhaps may be found to constitute a special group. Formerly fever associated with herpes of the face was interpreted by some as a distinct disease; Griesinger, for instance, described a "herpetic fever." We now know that "fever blisters" occur in several infectious diseases, as pneumonia, malaria and meningitis, and also in arsenical poisoning and in plumbism, as well as without any apparent cause. The real nature of herpes is not understood. As indicated by Schottmüller, herpes does not necessarily depend on a local infection, at least when associated with colon infections of which Schottmüller shows it may be a symptom.

1. Schottmüller: Febris herpetica, Beitr. z. Klin. d. Infektionskr. u. z. Immunitätsforsch., 1912, i, 4.

## THE MOVING-PICTURE SHOW AS A HEALTH PROBLEM

The popularity of the moving-picture theater as a form of cheap entertainment for the masses has directed attention to several of its undesirable features. In Chicago it is said that 250,000 persons, a considerable portion of whom are children, attend these theaters daily. Most of the theater buildings are cheap storerooms, remodeled for the purpose, often, without adequate provision for ventilation. It is estimated that the air in one of these theaters will pass through the lungs of the audience in from six to eight minutes. They therefore constitute, as the Chicago *Health Bulletin* remarks, one of the health problems called into existence by modern customs and conditions. In cities all over the country, the problem is practically the same, involving the rôle of contact or close association in the spread of "colds" and the various infectious diseases. It is a matter of observation that the incidence of the various infective diseases of childhood immediately increases on the opening of the schools in the fall on account of the increased opportunity for contact between infected and non-infected children. It may therefore be reasonably assumed that the close contact in the moving-picture theater is also a factor in the distribution of infectious diseases. Since it is not easy to exclude those who have diseases or who come from homes where disease exists, well-considered regulations as to ventilation and sanitation should be enforced for the protection of the public.

---

# *Medical News*

### ARKANSAS

**New Officers.**—Fulton County Medical Association organized at Salem, April 5: president, Dr. C. W. Culp, Mammoth Springs; secretary-treasurer, Dr. J. L. Weathers, Salem.——Ouachita Medical Society at Camden, April 4: president, Dr. J. W. Meek; secretary-treasurer, Dr. Calvin S. Early, both of Camden.

**Personal.**—Dr. T. M. Rice, Avoca, was awarded the verdict at Bentonville, April 4, in the suit brought against him by W. L. Roller for $10,000 for alleged malpractice.——Dr. W. A. Harvey, Berryville, was caught under a falling tree in a windstorm and seriously injured. He was not found by searching parties for two days, and was then almost dead from exposure.

**Disastrous Fire in Hot Springs.**—As the result of an explosion in the basement of the building occupied by the Central Sanatorium, Hot Springs, the building and the adjoining building were destroyed, burning out the offices of Dr. E. F. Winegar, Leonard R. Ellis, A. C. Ellis, M. F. Mount, S. D. Weil, Zuber N. Short and James H. Chestnutt. The physicians were unable to save any of their property as they were occupied in caring for the victims of the explosion.

### ILLINOIS

**Hospital Notes.**—The cornerstone of the West Suburban Hospital, Oak Park, was laid with Masonic ceremonies, April 12. ——It is announced that Deaconess Hospital, Peoria, will be completed and ready for occupancy, September 1.

**New Officers.**—Rock Island County Medical Association at Rock Island, April 8: president, Dr. W. D. Snively; secretary, Dr. W. D. Chapman, Silvis.——McLean County Medical Society at Bloomington, April 3: president, Dr. W. H. Gardner; secretary-treasurer, Dr. Thomas D. Cantrell, both reelected.

### Chicago

**Mary Harris Thompson Memorial.**—On April 15 a memorial service commemorating the death of Dr. Mary Harris Thompson was held at the Mary Harris Thompson Hospital, Adams

and Paulina Streets, at which Mrs. John O'Connor, president of the board of trustees, presided.

**Personal.**—Dr. John A. Robison was the guest of honor at a dinner of the Chicago Medical Society, April 8. Dr. and Mrs. Robison leave soon for Europe to spend the summer.——Dr. Strother J. Beeson has returned from a trip to Australia, New Zealand, South America and the West Indies.

**Hospital Licenses Withheld.**—Licenses of twenty-eight hospitals of Chicago are being withheld by the health department on account of failure to comply with the ordinances, especially those in regard to fire protection. The chief defects are the failure to place exit signs at fire exits, the absence of automatic gas cut-offs and lack of fire extinguishers.

**Park Tuberculosis Exhibits.**—The second exhibit of the Chicago Tuberculosis Institute, under the direction of the Jewish Consumptives Relief Society was opened at Stanford Park, South Jefferson Street and West Fourteenth Place, April 12, and will continue until April 26. The exhibits include pictures and data pertaining to tuberculosis and lectures will be held twice a day on various subjects connected with the disease.

## INDIANA

**New Officers.**—Twelfth District Medical Society at Fort Wayne, April 9: president, Dr. J. A. McKinney, Bluffton; secretary-treasurer, Dr. L. T. Rawles, Huntertown.

**Dinner to Physicians.**—Drs. Alembert W. Brayton, William N. Wishard, G. V. Woollen and George J. Cook were the guests of honor at a dinner, March 21, given by the Younger Physicians' Club of Indianapolis, at the German House.

**Flood Relief Work.**—The social welfare department connected with the School of Medicine of Indiana University, reports that a large number of volunteer workers have made house-to-house visits in an effort to impress on those who have returned to their homes, the necessity of establishing more sanitary conditions. The refugees were urged to boil all water used for drinking and domestic purposes, to clean their premises of all disease-breeding refuse, and to be vaccinated against typhoid.——Governor Ralston, on April 8, detailed Major Frank W. Foxworthy to accompany Dr. Carl Michel of the U. S. P. H. S., on a trip down the river on a government boat, to make survey of conditions along the Indiana and Kentucky shores. ——It is stated that $50,000 of state money is available for immediate use by the governor to prevent the outbreak of disease in Indiana, as the result of the recent flood.——The State Board of Health has sent out warning, urging the necessity of boiling of water used for drinking purposes on account of the flood conditions recently prevalent in the state, to avoid typhoid and diarrheal diseases.——Lieutenant B. Pettijohn, M. C., Ind. N. G., has been placed in charge of sanitary affairs in West Indianapolis.

## IOWA

**Resolutions Regarding Dr. Staples.**—At a special meeting of the Dubuque County Medical Society, April 2, resolutions were adopted setting forth the services rendered to the society by the late Dr. George Allen Staples, and testifying as to the affection and regard in which he was held by members of the organization.

**Personal.**—Dr. Edward T. Alford has been appointed chief surgeon of the W. C. F. N. Lines with headquarters in Waterloo.——Dr. John J. McWilliams, Charter Oak, was seriously injured by the overturning of his automobile near Missouri Valley, April 6.——On March 30, the forty-third anniversary of his graduation from the University of Michigan, Dr. Ira K. Gardner, New Hampden, entertained the local physicians and their wives at an informal dinner.

**Hospital Notes.**—The Des Moines Hospital Association is making efforts to raise $100,000 for its new hospital to be erected at Fourteenth and Clark Streets, where three acres of land were secured for this purpose three years ago. It is expected that the city of Des Moines will cooperate with the Des Moines Hospital Association and build a hospital for contagious diseases as a part of the new Des Moines Hospital.—— The council has set aside $4,000 for the erection of cottages for diphtheria, scarlet fever and other contagious diseases, on ground adjoining the Smallpox Detention Hospital in North Des Moines.——A committee headed by Dr. Thomas F. Duhigg is endeavoring to secure funds for the establishment of a free medical dispensary in the abandoned Municipal Lodging House, Des Moines.

## MARYLAND

### Baltimore

**Doctors' Orchestra to Give Musicale.**—A musicale will be given by the Doctors' Orchestra and Chorus, April 21, for the benefit of the library building of the state society.

**Addition to Hospital.**—An addition has been made to the Hebrew Hospital, increasing the capacity of the institution by sixteen rooms. The building was formerly used as a home for nurses, who now have been transferred into a new building, erected at a cost of $60,000.

**Von Pirquet Lectures.**—Dr. Clemens von Pirquet, professor of pediatrics in the University of Breslau, formerly head of the Harriett Lane Johnston Home for Invalid Children, who is visiting in Baltimore as the guest of Dr. W. S. Thayer, delivered a lecture, April 5, at Johns Hopkins Hospital before the students of the medical school.

**Annual State Society Meeting.**—The fifteenth annual meeting of the Medical and Chirurgical Faculty of Maryland will be held, April 22-24. The Isaac Ridgway Trimble lecture will be delivered by Dr. Simon Flexner, New York City, on the opening day, on "Local Specific Treatment of Infections."——Dr. L. McLane Tiffany will present pictures belonging to the late Dr. Nathan R. Smith and Dr. H. H. Biedler will present the faculty with a portrait of Dr. Christopher Johnston.

## NEW YORK

**Personal.**—Dr. W. R. Reid, Rome, has been elected chairman of the board of managers of the Rome City Custodial Asylum. ——Dr. David C. Twichell, who evolved the outdoor school in connection with the public school at Saranac Lake, has had a nervous breakdown and has gone to the Pacific Coast.

**Tuberculosis Work in Buffalo.**—At the annual meeting of the Buffalo Association for the Relief and Control of Tuberculosis, Drs. Burt J. Maycock and Francis E. Fronczak were elected directors. During the year 11,159 new cases were examined at the dispensary, of whom 660 were adults and 499 children. The open-air camp admitted 165 patients, of whom 98 remained one month or more, and 15 children were cared for day and night with a special nurse in charge. Of the 98 patients who remained a month or more, 32 were incipient cases, 26 moderately advanced, 38 advanced and 2 surgical. At the close of the season, 9 of these patients had been discharged as apparently cured. In 48 cases there had been an arrest of the disease, 27 patients improved and 12 were unimproved.

**Hospital Notes.**—The last of the three new buildings for Rochester General Hospital, construction of which was made possible by the gift of $400,000 by George Eastman to the institution, will be completed and ready for occupancy early in autumn. The east wing was opened in January, 1912, and the second, or administration building, April 1, 1913. The third building is to be five stories in height and on the roof is to be a roof garden and sun parlors for patients. The three buildings are connected by wide, spacious and well-lighted corridors, furnished with roomy balconies for open-air treatment. ——The county board of supervisors of Lewis County is considering the proposition of building a county hospital for tuberculosis, or of uniting with one or more other counties in building a joint hospital.——The board of health of Saratoga Springs has given Dr. Richard H. McCarty authority to conduct a private and insane hospital in the village.

### New York City

**Personal.**—Dr. Julius L. Mortimer has been appointed medical superintendent of the Chicago-Winfield Tuberculosis Sanatorium, Winfield, Ill.

**Italian Hospital Open.**—The Italian Benevolent Institution and Hospital, located on the East River between Eighty-Third and Eighty-Fourth Streets, has been formally opened and is ready for the reception of patients. There are accommodations for 100 patients and a clinic and dispensary are connected with the hospital.

**Church Tries Parish Doctors.**—The Second Avenue Baptist Church has adopted a new feature of institutional work by having physicians to care for the health of members of the congregation and dentists to look after the teeth of their fellow parishioners. The physicians and dentists are provided with work-rooms, laboratories and even interpreters.

**Spanish Honor American Physicians.**—King Alfonso of Spain has made the following knights of the Royal Order of Isabella the Catholic: Dr. Alexis Carrel of the Rockefeller Institute, Dr. H. M. Biggs of the New York Department of Health, Dr.

William H. Park of the research laboratory of the department, Dr. John W. Brannan of Bellevue and allied hospitals and Dr. Hideyo Noguchi of the Rockefeller Institute.

**New York Lying-In Hospital.**—The report of this institution shows that during the past fiscal year 5,703 children were born within its walls. The outdoor department had recorded 3,735 births, making a total of 9,438 who have received gratuitons treatment during the year. The statistics show the smallest known mortality for such an institution, a mortality among the most lowly that is not surpassed among the most prosperous. It was recalled in connection with this report that this hospital owes its existence to J. Pierpont Morgan who contributed over a million and a quarter dollars toward the present structure.

## NORTH CAROLINA

**National Guard Appointments.**—Governor Craig has announced the following appointments in the Medical Corps of the National Guard of the state: Inspector-general—Col. Thomas Stringfield, Waynesville; surgeon-general—Col. S. Westray Battle, Asheville; majors—Drs. Eugene B. Glenn, Asheville; Francis J. Clemenger, Asheville; A. R. Winston, Franklinton; J. V. McGougan, Fayetteville; S. L. C. Clark, Scotland Neck and E. C. Boyette, Charlotte; captains—Drs. M. B. Abernathy, Reidsville; W. C. Horton, Raleigh; H. A. Newell, Louisburg; A. K. Tayloe, Washington, and R. A. Campbell, Statesville; and first lieutenants—Drs. Hubert B. Haywood, Raleigh; R. S. Stephens, Raleigh; E. F. Fenner, Henderson; John Tinsley, Greensboro; R. S. McGeachy, Raleigh; Henry Norris, Rutherfordton, and James M. Lynch, Asheville.

**Progress in Hookworm Eradication.**—The quarterly report of the Hookworm Commission of the North Carolina State Board of Health shows that during the three months ended March 31, state and county dispensaries for the free examination and treatment of hookworm disease were conducted in twelve counties; that 35,472 persons were microscopically examined for hookworm disease and 10,684 persons received free treatment for the disease. Up to date, 216,616 persons have been examined in the state of whom 122,656 have received free treatment. The dispensary work has been carried on in sixty-five counties and six additional counties have provided for it, making a total of seventy-one counties; five counties have also made provision for a second round with dispensary work. Dr. H. L. Sloan has entered the service of the State Board of Health as assistant director of the hookworm campaign, vice Dr. C. F. Strosnider, resigned.

## NORTH DAKOTA

**New Secretary of State Board.**—Dr. C. J. McGurren, Devil's Lake, the newly appointed secretary of the State Board of Health, assumed charge of his office, April 1, and the papers, records and documents of the board have been shipped to him. The stenographer of Dr. James Grassick, Grand Forks, former secretary of the board, will continue in the office of Dr. McGurren.

**Personal.**—Dr. Knut A. Wadel, Portland, has returned from Europe.——Dr. B. D. Verret, Rolla, has been appointed a member of the board of trustees of Dunseith Tuberculosis Sanatorium, vice Dr. D. Lemieux Dunseith, resigned.——Dr. J. G. Lamont, Cando, has been elected superintendent of the State Tuberculosis Sanatorium, Dunseith, vice Dr. J. P. Widemeyer, Rolla, resigned.

## OHIO

**Personal.**—Dr. L. L. Bigelow, Columbus, is reported to be ill with smallpox.——Dr. J. D. McAfee, superintendent of the City Hospital, Cleveland, has resigned, to take effect July 1. ——Dr. H. J. Gerstenberger has been given a leave of absence until November 1 by the Cleveland Health Board and will spend the summer in Europe.

**Flood Notes.**—Eleven members of the faculty and thirty senior students of Starling Medical College went to Dayton at the time of the flood and it is said rendered excellent service.——The staff of the Cincinnati Hospital has appointed a committee consisting of Drs. Charles E. Caldwell, Joseph Ransohoff and John C. Oliver to represent the hospital and medical department of the university in soliciting subscriptions for flood relief to be used for physicians only. This committee has been augmented by a committee from the Cincinnati Academy of Medicine, consisting of Drs. Walter L. Griess, John E. Greiwe and Charles A. L. Reed.——The Ohio-Miami Medical College Alumnal Association of the University has joined in the movement by dispensing with the annual meeting and banquet and donating the dues of its members to the fund. Subscriptions for this fund may be sent to Dr. Charles E. Caldwell, treasurer, 648 Main Street, Cincinnati.

## OREGON

**Medical College Merger.**—It is reported that the medical department of Willamette University, Salem, has been merged with the medical department of the University of Oregon, located at Portland, the merger to take effect at the conclusion of the present college year. There will hereafter be but one medical college in the state.——A biennial appropriation of $45,000 is reported to have been made by the Oregon legislature for the medical department of the State University.

## PENNSYLVANIA

**Plans for Abington Hospital.**—Architects are preparing plans for a two and one-half story brick building, 50 by 100, for the Abington General Hospital.

**Typhoid at Royersford and Spring City.**—The State Health Department has assumed charge of the typhoid situation at Royersford, and has discovered that all of the stricken persons were employed at the Crander Stove Co. Works. Up to April 11, in two places 16 cases and 3 deaths had been recorded. Dr. Joseph Scattergood, West Chester, Chester County Medical Inspector, has taken charge of the situation for the state health authorities at Spring City, and Dr. Whitcomb, Norristown, Montgomery County Medical Inspector, is in charge at Royersford.

### Philadelphia

**Addition to Nurses' Home.**—Work has been commenced on a four-story fire-proof addition to the Nurses' Home at Front Street and Lehigh Avenue connected with the Episcopal Hospital. The building will cost about $40,000.

**Medical Club to Entertain.**—The Medical Club of Philadelphia will entertain at a reception to be held at the Bellevue-Stratford, April 25, the president and judges of the court of common pleas, the orphans' court and the united district court.

**Hospital Installs Therapeutic Baths.**—The basement of one of the University Hospital wings has been outfitted as a laboratory of hydrotherapy, with baths, douches and all the most modern and scientific apparatus. This department is in charge of Dr. Josef B. Nylin, a graduate of the University Medical School, who has made a special study of therapy in this country and abroad.

**Bulletin for Visiting Physicians.**—For the information of visiting physicians, the Philadelphia Academy of Surgery has arranged to place each evening in the College of Physicians, a bulletin containing the operations to be performed in the various hospitals throughout the city the following day with a list of the operators. The following committee has been appointed to carry out the work: Drs. Charles H. Frazier, John B. Roberts and E. B. Hodge.

**Special Schools and Classes for Afflicted.**—The Orthopedic Hospital and the Board of Education have arranged for a class of orthopedic patients to be taught at the hospital by a teacher assigned by the latter board. For several years the Orthopedic Hospital has been providing instruction to about forty boys and girls who are suffering with physical handicaps, but able to obtain elementary education.——The Southwark School will open an eye clinic conducted by the Board of Health and under the supervision of Dr. L. C. Wessels, ophthalmologist of the Board of Health. This school already has a dental clinic where the children's teeth are examined and treated by the dentists there.

## TENNESSEE

**New Officers.**—Nashville Academy of Medicine, April 1: president, Dr. Olin West; secretary, Dr. Joseph F. H. Gallagher. ——Robertson County Medical Association at Springfield: president, Dr. D. E. Davis; secretary, Dr. B. F. Fyke.

**East Tennessee Physicians Meet.**—The semi-annual meeting of the East Tennessee Medical Association will be held at Lenoir City, May 16-18, under the presidency of Dr. H. M. Cass, Morristown. Dr. J. G. Eblen, Lenoir City, is chairman of the local committee of arrangements.

**Personal.**—Dr. George D. Butler, Pulaski, has been appointed secretary of the State Board of Medical Examiners, vice Dr. C. A. Abernathy.——Dr. Raymond Wallace has been elected chief of the winter staff, and Dr. John B. Steele, chief of the summer staff of Erlanger Hospital, Chattanooga.

**Cottages for Tuberculosis Patients.**—The Memphis department of health has arranged for the construction of two additional cottages for tuberculosis patients, which, with the four

already constructed, will accommodate fifty more patients. The structures are located on a five acre lot owned by the city at Livermore Street and Trigg Avenue, where it is hoped that the city eventually will construct a permanent building.

## TEXAS

**New Society.**—The Menard-Himble County Medical Association was organized at Menard, March 26.

**Quarantine Proclamation.**—The annual proclamation was issued March 27 declaring that quarantine is established on the Gulf Coast and Rio Grande border on and after April 1, to continue until closed by proclamation.

**Baby Camp Ready.**—Four tents have been erected on the grounds of the City Hospital, Dallas, for the baby camp to be conducted by the Dallas County Graduate Nurses' Association. The camp will accommodate twelve or fourteen babies.

**State Examining Board Reorganizes.**—The State Board of Medical Examiners held its annual meeting at Waco, March 18 and elected Dr. J. H. Evans, Palestine, president; Dr. J. F. Bailey, Waco, vice-president, and Dr. W. L. Crosthwaite, Waco, secretary-treasurer. The new members of the board are Drs. H. E. Morrow, Austin, and G. W. Johnson, San Antonio.

**Personal.**—Dr. Henry C. Hartman, Austin, state bacteriologist, has been appointed assistant state health officer. ——Dr. A. W. Browning, Fluvanna, charged with shooting J. F. Dowdy, was brought to trial at Snyder, April 3, pleaded an alibi and was acquitted.——Dr. Douglas Saunders Edwards, San Marcos, has returned from Europe and will locate in San Antonio.

**New Sanatoriums.**—A four or five-story sanatorium is to be erected on a lot 181 by 181 at Swiss and Haskell Avenues, Dallas, by Dr. W. W. Samuell, Dallas. The building is to be of reinforced concrete, will cost about $75,000 and will be known as the Dallas Sanitarium.——A two-story reinforced concrete building, erected by the Texas Antituberculosis Association for the treatment of children suffering from tuberculosis of bones, is ready for occupancy. The building is located on the Sceley Hospital grounds, Galveston, and cost about $20,000.——It is stated that the joint city and county sanatorium, Fort Worth, will be ready to receive patients July 1.

## VIRGINIA

**New Hospital.**—Drs. George B. Johnston, A. Murat Willis and other physicians of Richmond are interested in the erection of a new hospital at Rocky Mount, for which plans are being prepared. The hospital will accommodate seventy-four patients and will cost approximately $50,000.

**Personal.**—Dr. Lee J. Hammett has become resident physician at Mountain View Sanatorium.——Dr. William M. Randolph, Charlottesville, has resigned as local member of the board of visitors of the University of Virginia.——Dr. C. Curtis Hudson, medical inspector of the health department of Richmond, has resigned to become health officer of Danville.

**Society Meeting.**—At the meeting of the Richmond Academy of Medicine and Surgery, April 8, Dr. Charles H. Jaeger, New York City, read a paper on "Mechanotherapy and Other Recent Advances in Therapeutics."——The Southside Virginia Medical Association held its quarterly meeting in Richmond, March 11, and in the evening held a joint meeting with the Richmond Academy of Medicine and Surgery.

## WASHINGTON

**Fire in Hospital.**—A fire which started from a defective flue, in the Gruwell Hospital, South Bend, caused a loss of about $2,000 to the building. There were no patients in the hospital at the time.

**Personal.**—Dr. W. E. Russell, Walla Walla, who was operated on recently in Rochester, Minn., has returned, much improved in health.——Dr. H. H. McCarthy, Spokane, is reported to be seriously ill with septicemia, due to an operation wound.——Dr. A. J. Ghiglione, Italian consul in Seattle, has been given by King Victor Emanuel, the decoration of cavalier of the Crown of Italy.——Dr. Cora Clementine Bash, Port Townsend, sailed from Seattle for China, March 18. Dr. Bash spent the years from 1896 to 1899 in China and returns as a medical missionary on the staff of the hospital at Peking.——Dr. J. C. Mack, Walla Walla, is reported convalescent from an operation for the removal of gall-stones.

## WEST VIRGINIA

**State Sanatorium Opened.**—The West Virginia Tuberculosis Sanatorium, two miles east of Terra Alta, has recently been opened. It is known as Hopemont and consists of a receiving building, two stories in height with a frontage of 163 feet and two one-story cottages each 137 by 26 feet. The institution has accommodation for sixty patients.

**Antituberculosis Train.**—A portion of the $9,900 appropriated by the recent legislature for the educational work of the West Virginia Antituberculosis League is to be expended in sending a special car, donated by the Baltimore and Ohio Railway Company, over the state in order to give lectures and demonstrations. Dr. Harriet B. Jenks, Wheeling, has been appointed director of this campaign.

## WISCONSIN

**County Sanatoriums.**—Manitowoc is said to be the first county in the state to complete a county tuberculosis sanatorium. This building, erected at a cost of $15,000, is now ready for occupancy. It is a two-story structure and at present has accommodation for twelve patients.——At the annual election in Winnebago County, April 1, the question of bonding the county for the purpose of building a tuberculosis sanatorium was carried by a majority of 1,000 votes.

**Public Health Bureau Established.**—A bureau of public health has been established by the State of Wisconsin. It is to be under the University Extension Division and under the direct charge of Dr. Hoyt E. Dearholt of Milwaukee. The plan is to provide the public of the state with authentic, scientific information in intelligible form, regarding disease prevention, hygiene, care of the sick, etc. The most important problems are to be presented first in the form of popular bulletins.

## GENERAL

**Pediatrists to Meet.**—The twenty-fifth annual meeting of the American Pediatric Society will be held in Washington, D. C., May 5 to 7. The sessions will be held at the New Willard. Dr. John Lovett Morse, Boston, is president and Dr. Samuel S. Adams, Washington, secretary.

**Interns for St. Louis City Hospital.**—Of the forty-five appointments for positions as interns to be filled in the St. Louis City Hospital, thirty-nine have already been made. Of these twenty-six come from Chicago, six each from Philadelphia and St. Louis, five from New Orleans and two from Texas.

**Will Discuss Tropical Diseases.**—The tenth annual meeting of the American Society of Tropical Medicine will be held in the Hotel Bellevue, Washington, D. C., May 6 to 8, under the presidency of Dr. Edward R. Stitt, Washington. There will be a general discussion on "Is the Importance of Intestinal Parasites in Tropical Pathology Exaggerated?" The secretary is Dr. John M. Swan, 457 Park Avenue, Rochester, N. Y.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

Lancaster (Pa.) General Hospital, $5,000 to endow a bed to the memory of Charles B. Grubb, donated by Miss Daisy E. B. Grubb.

Methodist Hospital, Philadelphia, $5,000 for the establishment of a free bed in memory of his sister, Sarah Benner, and Presbyterian Hospital, $5,000 for a free bed in memory of his mother, Mary H. Benner, by the will of Samuel T. Benner.

Gynecean and University Hospitals, Philadelphia, each $10,000 by the will of Lucy W. Drexel.

Maimonides Kosher Hospital, Chicago, donations of $15,000 from A. Slimmer and $10,000 from Julius Rosenwald.

**International Congress on School Hygiene.**—The Fourth International Congress on School Hygiene—the first in the United States—will be held in Buffalo, August 25 to 30. The program is to cover the entire field of school hygiene with the object of improving the conditions surrounding schoolchildren everywhere. The officers are Dr. Charles W. Eliot, president; Dr. William H. Welch and Dr. Henry P. Walcott, vice presidents; Dr. Thomas A. Storey of the College of the City of New York, secretary general, and Dr. Francis E. Fronczak, the Buffalo member of the executive committee. Delegates will attend from all the leading nations, from every college and university of note in this country and from various other educational, scientific, medical and hygienic organizations. Buffalo has raised a considerable sum for the expense of the congress and the entertainment of those in attendance. In the general movement toward the procuring of better hygiene and sanitation, efforts directed toward the better health and efficiency of schoolchildren constitute a highly important part, and this congress should be encouraged by a large membership and attendance.

## FOREIGN

**Other Deaths Abroad.**—Aside from the deaths reported by our foreign correspondents, the following are noted: Philip Frank, M.D., Berlin, 1853; F.R.C.S., England, 1856; thereafter

for three years a member of the Royal Army Medical Corps; a surgeon on duty with the Anglo-American ambulance during the Franco-German War and thereafter until 1898 a practitioner of Cannes; died recently at his home in Kensington, London, aged 82.——Surgeon-General H. Skey Muir, M.D., Glasgow, 1863; M.R.C.S., England; a member of the Royal Army Medical Corps from 1864 to 1801, his service including the second Afghan War and the Kandahar campaign; later principal medical officer in India and Egypt and Deputy Director General of the Army Medical Service; died at his home in London, March 6, aged 71.——Peter Anderson, L.R.C.P. and L.R.C.S., Edinburgh, 1878; for thirty-one years a medical missionary in Formosa; died at his home in Stanley, Perthshire, Scotland, March 12, aged about 60.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, April 5, 1913.

### Trade-Unionism and the Profession

As stated in my preceding letter, the question of forming a trade-union for the medical profession has become a burning one in the British Medical Association as well as outside it. In addition to one trade-union, the National Medical Guild, which I have mentioned, there is another one called the Leicester Union, which is registered at the large manufacturing town of Leicester. Indeed, this was the first "union of medical practitioners." Its objects are: (1) to regulate the relations and conduct of medical practitioners among themselves and between them and their employers; (2) to regulate rates of payment and conditions of lodge and other forms of contributory practice, and the terms and conditions on which medical service shall be given to persons of limited income, and (3) to impose any other restrictive conditions which may be considered desirable on the conduct by members of the union of the trade or business of physician carried on by them.

In furtherance of these objects the union adopts the following methods: (1) the establishment of a fund or funds; (2) the promotion of a system of medical service regulating medical attendance and provision of medicines for persons unable to pay ordinary medical charges (public medical service); (3) the promotion of a system or systems of school clinics for the treatment of necessitous children; (4) the giving of legal assistance to members in connection with the preceding objects; (5) the promotion of legislation for the protection of the union and for the general and material welfare of its members or the support of or opposition to alterations; (6) the advising of members in ethical matters; (7) the watching over, protection and promotion of the interests of members and medical practitioners generally; (8) the federation or amalgamation with other bodies having similar objects; (9) the establishment of branches, subdivisions or districts, and (10) any other lawful method which may be decided to be advisable in the general interests of the members as declared by a majority of two-thirds of those of the members present and voting at a general meeting. There is an entrance fee of $5, and an annual subscription not to exceed $5.

A large part of the latest number of the *British Medical Journal* is devoted to discussing the advantages and objections to the formation of a trade-union. It is pointed out that the real power of a trade-union depens on: (1) the inclusion of so large a majority of the persons engaged in a calling that the minority in case of a strike shall be negligible; (2) the constancy of its members in abiding by the decision of the majority, and (3) the power in the event of the union failing to come to an amicable arrangement with the employers to induce its members to strike. It is held that the insurance act increases rather than diminishes the need for an effective system against the encroachment by the government, friendly societies and other forms of contract practice.

### Nostrums and the Insurance Act: Large Decrease in Sales

As anticipated, one good effect of the insurance act has been to curtail considerably the sale of nostrums as well as of simple remedies for minor ailments which are stocked by practically all pharmacists. Naturally when an unlimited supply of medicine can be obtained without charge on the prescription of an insurance physician, people are not willing to purchase remedies of any kind. In the past it has been common to resort to pharmacists to save the payment of physicians' bills. The decreasing demand for nostrums has been noted especially in industrial centers where a large proportion of the population are insured. Some pharmacists estimate the decrease in the sale of proprietary remedies at 20 per cent.; the experience of others is that it is much larger. In some working-class centers the nature of the pharmacist's business has been almost completely changed, and in many pharmacies, where the amount of dispensing was formerly negligible, sixty or seventy prescriptions, and in some even one hundred or more, are dispensed daily.

### The Government Committee on Nostrums

At the last meeting of this committee, evidence was given by Mr. A. E. Barclay, a member of a firm of chemists, on behalf of the proprietary articles section of the London Chamber of Commerce (an association of nostrum venders). The only article manufactured by his firm was "Mrs. Johnson's American Soothing-Syrup." The British Medical Association analysis stated that the preparation contained considerable free hydrochloric acid, but Barclay declared that none was put in his product. The soothing-syrup made by his firm is described in "Secret Remedies" as a preparation of hydrochloric acid, common salt, saffron and honey to be rubbed on the gums. He was asked if the following statement on the labels did not suggest a government guarantee: "Mrs. Johnson having sold this preparation to them, Messrs. Barclay and Co. beg to refer purchasers to the government stamp with their name thereon as a security to the public," he would not admit the impeachment. His attention was also called to the statement issued to the British public, "As soon as the syrup is rubbed on the gums the child will recover, being as innocent as it is efficacious." On the other hand, in Australia where the authorities exercise some censorship of nostrum advertisements, the statement reads merely, "The syrup is rubbed on the gums." Another statement made to the British public was, "By opening the pores at an early age no child will have fits." That statement was omitted from the Australian labels. The witness admitted that this was rather a sweeping statement, but the firm adhered as much as possible to the old style of label!

### Payment of Insurance Doctors

The National Insurance Practitioners' Association (an association formed, as stated in previous letters, by physicians who decided to work the insurance act at the time the British Medical Association endeavored to prevent this) has held a meeting presided over by Dr. Lauriston Shaw, who resigned from the council of the British Medical Association on the decision not to work the act. The conference expressed satisfaction at the decision of the commissioners that no further wholesale "signing on" of insured persons would be required. Physicians were urged to give the suggested card system a careful and thorough trial. It was resolved that further experience must be gained before it could be decided how many insured persons each physician could treat. The opinion was emphasized that at the termination of the present quarter all moneys for medical benefit should be allotted to the practitioners then on the panel in proportion to the number of insured persons on each physician's list, regard being had to the date at which the physician joined the panel. It was urged that after the first quarter the allotment of persons who had not chosen their physician should be carried out by a subcommittee appointed by the panel practitioners of each district, in accordance with a previously approved scheme. The meeting considered it imperative that medical representatives on insurance committees and on the advisory committee should use their influence to limit the number of officially recognized institutes and dispensaries, and to secure constant supervision in order to insure compliance with the regulations. The provision of medical attendance for persons on holiday and also for those away from their own area while ill or convalescent was discussed. Resolutions were passed that no deduction should be made from the funds at present available for medical benefit for the purpose of meeting any deficiency arising in particular cases, but that a separate and additional fund should be provided by the government for the payment of attendance on migratory insured persons. A resolution was also passed urging practitioners on the panel to consider the formation of a pension fund by means of contributions to be deducted at the source.

### The Fund for Research in Tropical Disease

The advisory committee for the Tropical Disease Research Fund has issued a statement which shows that the revenue for 1912 was made up of contributions from the imperial government, $5,000; government of India, $2,500, and the Dominion and colonial governments, $8,725. The expenditure was allotted as follows: London School of Tropical Medicine, $7,655; Liverpool School of Tropical Medicine, $6,000; University of London, $3,756, and University of Cambridge, $1,750.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, March 28, 1913.

### Poverty of Paris Medical Schools

M. Liard, vice-rector of the University of Paris, recently published in the *Revue de Paris* an article on the benefactors of universities which concludes by a statement of the needs of the institution. In this connection Dr. Pierre Delbet, a professor in the Faculté de médecine de Paris, has just published a letter in which he complains bitterly of the fact that the medical school is not mentioned by the vice-rector in the list of departments needing money. In many instances the insufficiency of the equipment of the medical school and in particular of the clinics is, according to Dr. Delbet, actually humiliating. The Faculté de médecine is wretchedly poor, and to instal clinics which can sustain comparison with those of other countries, many millions would be necessary.

### Treatment of Obstinate Digestive Troubles of Infants by Small Doses of Ipecac

On March 25 Dr. Rousseau-Saint-Philippe, physician of the hospital of Bordeaux, read before the Académie de médecine a paper on the digestive troubles observed in children aged from 18 months to 2 or 3 years or even 4 and over which in their character, duration and resistance constitute really disease. These are constipation, intestinal atony, lack of appetite, dyspepsia and apepsia, with their consequences: intoxication, lack of nutrition, anemia, dystrophy and atrophy. These troubles are often prolonged by erroneous treatment and diet. A merely temporary improvement, or even the incomplete success of the methods of chemical antisepsis, show the uselessness of such efforts. Experience proves, on the other hand, that these troubles are due in the greater part to inactivity of the liver and deficiency of bile which act injuriously on diet, digestion and nutrition. It is necessary to act along this line. Cholagogues and especially ipecac seem to be the treatment of choice in such cases. It is necessary to employ the tincture of ipecac in small doses, progressing regularly and prolonged until the patient is entirely cured. At the same time it is necessary to modify the diet to diminish severity by varying it and augmenting it rationally.

### Household Lead-Poisoning

There is a natural tendency to think that lead-poisoning is a disease exclusively of painters, plumbers and of some artisans who manufacture paint, etc. For some years, however, several other modes of lead-poisoning have been noticed which might threaten any one in daily life. Thus the lead water-pipes, when they are new or have been unused for a long time, and when there is very little mineral in the water, may bring on such troubles. Under certain circumstances the carbon dioxid of seltzer water may attack the siphon head and produce lead-poisoning if it has lead in it. At a recent session of the Société médicale des hôpitaux de Paris, Dr. Apert reported a case of lead-poisoning due to the use of tin tableware in which there was 10 per cent. of lead. This is the proportion employed in tin measures of capacity, and the composition parts with its lead if the food or drink contained in the vessel has any solvent agencies in it such as vinegar, condiments and acid fruits. This shows that the law ought to be as severe for tin vessels as for metal-lined kitchen-utensils, into the composition of which lead enters only in the proportion of 0.5 per cent.

### Garbage Disposal

Experiments are being carried on in Paris on vehicles which are to be used in *arrondissements* for the removal of domestic refuse. The old open, dirty, insanitary wagons are to be replaced by low, air-tight, covered electric vehicles. The energy employed will be produced by the burning of the refuse collected the day before. The cleanliness of the city will be improved by the fact that the collection of refuse will be finished by 5 a. m. so that hereafter the streets may be swept and sprinkled after, and not before, the removal of this refuse.

### Disguised Advertisements

For some time one of our largest daily papers has been publishing once a week a department of "scientific therapeutics." Under this pompous heading are given announcements of certain therapeutic specialties. The intention, according to the journal, is to present a number of specialties worthy to be recommended, with a brief explanation of their properties and indications. The journal declares that it has a rule to permit the insertion only of products experimented on in hospitals after they have been submitted to a double control, medical and pharmaceutical, but it refrains from saying of what this control consists, and by whom it is exercised.

### Patents and Medical Apparatus

An interesting decision has just been given concerning the patenting of medical apparatus. A physician had devised an improvement on the apparatus employed for protection from venereal diseases. Use of the apparatus would necessarily contribute toward depopulation. When he asked for a patent the minister of commerce refused it, alleging that the invention was contrary to morals and that consequently no patent could be given. The Council of State has just annulled this decision on the ground that according to the law, patents are given without examination, at the risk of the applicant and without guarantee. The actual character of the patent is often misunderstood. It is not a guarantee of an invention by the government. It is merely a certificate of registration delivered without any guarantee in the interests of the inventor, who has a right during a certain time to the full and entire enjoyment of his discovery, and in the interest of society, after the cessation of this privilege. The minister is bound to issue the patent which is applied for, whatever the nature or character of the invention. Nevertheless, this principle of non-examination in the matter of a patent has a necessary corollary in the power of the courts to annul the patent in cases provided by law, among which is the case that the courts decide that the invention is contrary to morals. The Minister of Commerce is not the judge of this question, and thus without investigation whether or not the invention was contrary to morals, the council of state annulled the decision.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, March 28, 1913.

### Personal

Professor Hedinger of Basel has been appointed director of the Königsberg Institute of Pathologic Anatomy, succeeding Professor Henke who has been called to Breslau.

### University in Dresden

Since the foundation of a university at Hamburg, in spite of the great opposition, seems likely to be carried out, Dresden also wants a university, and prominent men are at work on the propaganda. The mayor of Dresden has published a pamphlet in which the plan for the foundation of the university is described more in detail. The university is to be combined with the already existing technical and veterinary colleges. The city is to appropriate $2,500,000 (10,000,000 marks) for this purpose, and the state a single sum of $75,000 (300,000 marks) for the erection of the university, and annually a sum to defray the expenses of the scientific departments.

### Petition for Improved Birth Registration

The League for the Protection of Mothers (Bund für Mutterschutz) has addressed a petition to the imperial government demanding that the present German birth-rate statistics—from which it is impossible to learn the details as to the distribution of births among the different parts of the country, the different families, etc.—be amplified according to the French system, so that the causes of the birth-rate reduction in Germany may be recognized. According to this system the births will be recorded with mention of the age of the father and mother, the length of marriage, the miscarriages, and any severe illnesses of the husband and wife; further, the proportion of births to the number of married child-bearing women will be classified with reference to the different groups of population according to provinces, city and country, social standing and occupation of the parents, the nationality of the parents, income of the family, etc. It goes without saying that a much better insight into the conditions affecting births could be gained with such specialization of statistics. The question now remains whether the government will feel justified, in view of the results to be gained in this way, in appropriating so large a sum as such statistics would necessarily require.

### Endowments in Connection with the Emperor's Anniversary

In accordance with the wishes of the emperor that he receive no personal gifts in connection with the twenty-fifth anniversary of his accession to the throne, June 15, but rather that endowments for philanthropic purposes be established, many communities are already occupied in collecting such funds. The number of these anniversary foundations, so far as published to date, amounts to over three thousand. The money thus contributed totals over $750,000 (3,000,000 marks).

The funds have been appropriated for the establishment of 473 juvenile homes, 1,153 playgrounds and gymnasiums, 73 public baths, and 73 funds to enable children of poor parents, on leaving school, to learn a trade. Further endowments have been made for the establishment of homes for the aged, homes for infants, fresh-air vacation colonies, etc. The emperor has already given his permission that a number of these foundations may be named after him.

### Conference on Infant Welfare Work

About a dozen national and international medical congresses were held the last week in March in the capital of Germany. In future letters I shall report the essential features of several of these congresses. One of the first meetings was the conference of the Prussian Central Association for the Protection of Infants, called together by the Prussian Landeszentrale. Dr. Rott, of the Kaiserin Augusta Institution for the Reduction of Infant Mortality, delivered the first lecture, on the development and the present status of aid to nursing mothers. After a historical review of the nursing premiums, which were introduced into Germany—according to the French system—for the first time in Dresden in 1904, he discussed the two kinds of nursing premiums, awarded either in money or in provisions. Money premiums have been distributed in 152 communities. They were given either all at one time, or were continued, increasing or decreasing in amount, according to the length of the time of nursing. In many instances the payment of premiums was not begun until several weeks after the birth, and it was higher in summer than in winter. Premiums consisting of food have been awarded in 171 communities; milk was the most frequently called for. The awarding of premiums is conditioned on the mother's regularly visiting the infant consultations and advice-to-mothers stations. Individual communities have also provided eating-houses and nurseries for nursing mothers; these are annexed to factories in fifteen communities. The total expense borne by the 248 communities for the nursing premiums amounted to $177,175 (708,700 marks), of which $45,000 (180,000 marks) was distributed in Berlin alone.

#### THE MAGDEBURG SYSTEM

City Councilor Paul described the arrangements in Magdeburg. Money premiums of 25 cents (1 mark) per week are given from the fifth to the fifteenth week after the birth; in summer the premium is paid up to the completion of the sixth month. These premiums are awarded to single women, and to married women whose husbands earn not more than $262.50 (1,050 marks), who nurse their children and who are willing to be under the supervision of the protection stations. In order to bring mothers to the attention of the association for infant protection, the registration bureau notifies the infant protection bureau of all illegitimate births, while legitimate children are usually reported by the parents or by midwives, who receive for each case 6 cents (25 pf.). The speaker then gave details as to the arrangements at Magdeburg, its suburbs and in the province of Saxony, and recommended the establishment of the Magdeburg system, with paid physicians and nurses, for all cities with over 25,000 population, while in the smaller communities such activity should be carried on without any compensation, merely as an honorary office.

Professor Thiemich of Magdeburg, who has been appointed director of the Leipsic pediatric clinic to succeed Soltmann, discussed, in view of the results so far gained, the function of the physician in connection with the systematized assistance of nursing mothers. He made a distinction between the inducement or propaganda premiums, and the supporting premiums. The inducement premiums should be for the purpose of enlightening women generally as to the value of nursing, and especially to guard them against too early weaning when difficulties in nursing arise and it is not certain that the child can be safely weaned. The cooperation of the physician is essential for granting these premiums, so that he may help mother and child with his professional advice. The support premiums, which must be higher in amount than the inducement premiums, should be so attractive as to induce the mother to nurse her child longer. Although this support actually oversteps the boundary of what is understood by infant protection, it cannot be dispensed with in order to guard against too early weaning on account of economic reasons. In cases of support premiums, the cooperation of the physician is limited, provided the mother and child are healthy, to his evidence that the mother is actually nursing.

#### WELFARE WORK FOR YOUNG CHILDREN

Further organizations for the protection of small children were discussed. The first speaker, Dr. Freund, director of the infant protection association in Breslau, discussed the medical aspects. He based his statements on the fact that examination of children entering school disclosed a large number of physically defective children, which proves that the effects of infant protection—which not only tends to preserve infants but also ensures to them better and stronger vitality—are lost before the child is ready to enter school. This deterioration of the physical condition is to be accounted for by the considerable morbidity resulting from acute and chronic diseases (exudative diathesis, rachitis, tuberculosis). To this may be added the many social evils such as bad housing conditions, deficient nutrition, and lack of care and attention caused by the ignorance of the mother. Freund demanded in the first place, aside from the development of private protection, the extension of public protection for small children by transforming the infant protection stations into places for welfare work for young children in general. The accommodations of the day nurseries and kindergartens must be increased and modified according to hygienic principles, although it must not be overlooked that they are merely an emergency evolved from social conditions and occasion a temporary separation of mother and child. Weak, backward and chronically affected children must be cared for by special institutions (asylums, health resorts and seashore sanatoriums). The success of the protection of small children will manifest itself through the increasing better results of examinations of children on entering school. It is necessary, however, that these examinations be carried on according to uniform rules.

#### CHILD WELFARE WORK AT CHARLOTTENBURG

City Councilor Gottstein of Charlottenburg spoke of the organization in communities, basing his report on the experience gained during the last two years in Charlottenburg. The stations for the protection of small children are combined with those for infant protection, and stand also in close connection with orphan homes; orphans from these homes are under the regular supervision of the stations. The expenses are not great, as the provision of milk, food, etc., is mostly unnecessary, and only the personal, additional expenses for physicians and nurses need be considered. The most important thing is to instruct mothers how to bring up children hygienically, and especially to note predisposition to disease and the beginning of sickness when the children are brought to the station, which occurs every four weeks, and in the intervals between these visits to secure the supervision of the children by visiting nurses. If children become ill they are referred for treatment to their physician. In case of need they are sent to public school dental clinics, tuebreulosis sanatoriums, etc. Each child receives a record sheet which contains information as to the conditions during infancy, the system of feeding, beginning to walk, teething, etc., and here are recorded all observations as to growth, physical and mental development, diseases, etc. On entering school this record sheet is referred to the proper physician. The first year 1,500 children were taken care of in this way, and it was Gottstein's impression that good results had been obtained. He hopes that other communities will follow the example set by Charlottenburg.

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, March 25, 1913.

### Rapid Increase in the Number of Medical Students

The representatives of the medical associations intend to issue a statement calling the attention of the population to the rapid increase in the number of medical students in Austria within the last ten years. In 1903 2,509 men matriculated in the medical faculties of this empire; next year the figure was 2,622; one year later it rose to 2,872; in 1906 it stood at 3,715; in 1907 it reached 4,036; 1908 it was 4,324; in 1909 there were 4,888 medical students (including females); in 1910 the figure was 5,319; in 1911, 5,640; in 1912 there were 6,939 medical students, 2,505 of whom studied in Vienna alone. While the increase last year was 19 per cent., it was over 150 per cent. within the last decade. Altogether there were 422 female medical students (in Vienna 152) last year, while ten years ago only 36 were admitted. The enormous overcrowding of this occupation has thus prompted the medical associations to consider the means for preventing further influx of students; the managing boards of the higher schools (gymnasia) will also be asked to inform their graduates and undergraduates of the overcrowding evinced by these figures. Although the profession is just now engaged in a violent fight for

improvement of its conditions of existence (sick clubs, contract practice), and although there is a lack of practitioners in the country, an increase of doctors is nevertheless an object of utmost importance, as long as it is in accordance with the natural increase of the population (about 2 per cent. yearly). The expected increase of doctors, however, will average about five times that number. This is the danger threatening the position of our profession.

## Miscellany

**Theory of Muscle Degeneration and Rigidity in Pulmonary Tuberculosis.**—J. L. Pomeroy summarizes his paper (*Interstate Med. Jour.*, St. Louis, October, 1912) as follows: In pulmonary tuberculosis certain definite neurologic signs and symptoms occur. These disturbances produce phenomena in the sensory, motor and autonomic centers, in several ways: (1) in a mechanical way, through intrathoracic anatomic changes; (2) through a direct effect of the circulating tubercle poison (and its accompanying enzymes) on the nerve tissues; (3) through the sympathetic pathways to the spinal segments according to Head's theory. It does not appear to be known definitely whether the symptoms in some instances of neuralgia, paresis of the muscles, etc., are the result of simple nutritional or functional disturbances in the nerves or muscles, or whether a distinct neuritis is the causative factor. Anatomic investigations of the peripheral nerves abundantly show degenerative changes in the nerves, not only of the extremities, but also in the vagus, the phrenic, the spinal nerve-roots and in some instances in the spinal cord itself. In many instances loss of reflexes, changed electrical reaction and paralysis or atrophy give the distinct picture of a neurologic basis for the clinical symptoms. Furthermore, post-mortem examination showed that in many cases the neuritis was latent—there were no clinical symptoms before death. Furthermore, the frequent occurrence of hyperalgesia and other disturbances of sensation in the skin over the chest-wall, based on Head's segmental theory, leads us to believe that practically in every case symptoms of such conditions exist. While in many instances the etiology is not clear, there being previous history of alcohol, syphilis and other conditions, Pomeroy does not conclude that these are necessary causative factors. Many similar observations have been made when such influences were absent. The same may be said in regard to a neurotic or hysteric basis for these neurologic findings. Therefore it is Pomeroy's belief that pulmonary tuberculosis causes distinct symptoms in the sensory, motor and sympathetic systems; that these symptoms are specific for that particular case in that they result from the tuberculosis lesion, either mechanically or as a circulating poison; and that further, to a more or less degree, one will observe these signs in every case, and the more closely one observes the more frequently they will be demonstrated.

**The Ear in Typhoid.**—In a communication on this subject in the *Revue hebd. de laryngologie*, 1912, xxxiii, 369, Vergues states that he found the ear affected in 7.4 per cent. of 295 cases of typhoid at the Cherbourg Marine Hospital from 1900 to 1907, and in 8.07 per cent. of 395 later cases. The severity or mildness of the typhoid did not seem to influence the development of the ear affection, the condition of the nasopharynx being the main point. He never found the typhoid bacillus in the pus from the middle ear, and there is a possibility that the otitis is not due directly to the typhoid bacillus. Treatment should be by prophylaxis, by striving to disinfect the nasopharynx, by keeping the mouth clean, by sprays and gargles, and by treating energetically any lesions that may develop in the throat. Once present, the otitis should be treated the same as under other conditions. Vergues warns that intractable ear disease in later life is frequently traceable to a neglected ear complication of some apparently mild acute infection in childhood. The ears should be examined with as much care as the heart, kidneys and lungs in all acute infectious diseases. The internal ear was affected in only one of his last series of 359 typhoid cases. Simple hyperemia and slight serous suffusion of the internal ear may subside without leaving a trace, but the hearing is generally permanently lost when there is hemorrhage in the labyrinth or even a large serous effusion. Local treatment of the throat is of no use in preventing involvement of the internal ear in typhoid, but quinin and salicylates should be avoided or suspended as their elective action on the auditory nerve may weaken it and thus render it more sensitive to infection brought by the blood. Mercury and iodid and possibly subcutaneous injection of pilocarpin have been recommended by Hill when the internal ear shows signs of trouble.

**The Ultimate Catastrophe.**—Some years ago a theory was enunciated that at the birth of organic life on the earth there was no free oxygen in the atmosphere, while there was a large amount of carbon dioxid. The elaboration of this idea gives us a feasible explanation of the course of life on this planet. The flight of weighty reptiles like pterodactyls, which were cold-blooded, slow to move, and clumsier to look at than Cody's "cathedral" would imply an atmospheric density greater than that of to-day. The plants of the carboniferous age split up the carbon dioxid, assimilated the carbon and freed the oxygen for the use of animals. If the plants ultimately gave up their carbon we would have a balance of animal and vegetable life, but large quantities of carbon are buried with the dead plants, and have become incorporated with the crust of the earth. The carbon content of the air is decreasing and plant life is on the down grade, too. The great beasts that fed on the plants are gone. Increased oxygen produces more active animals, who can search a wider field for vegetable food, but the steady carbonic drain continues. Ultimately there will not be enough food for the most actively oxygenated vegetarian, and unless one of the other of the factors for life's extinction gets busy first the races of the earth will slowly starve. Our days are literally as grass.—*Med. Press and Circ.*

## Marriages

HOWARD FITZGERALD CLARK, M.D., Syracuse, N. Y., to Miss Lillian Belle Bronson of Camden, N. Y., March 26.

OTTO LESLIE CASTLE, M.D., to Miss Blanche Louise Rosencrans Blades, both of Kansas City, Mo., April 10.

HAWKINS D. WESTMORELAND, M.D., Huntsville, Ala., to Miss Maude Mathis, at Nashville, Tenn., March 31.

CLAUDE R. G. FORRESTER, M.D., to Miss Georgia Sang Post, both of Chicago, at Los Angeles, Cal., April 5.

JOSEPH BIRD COWHERD, M.D., Kansas City, Mo., to Miss Leila Price Grant of Danville, Ky., April 15.

GEORGE HAY, M.D., Johnstown, Pa., to Miss Mary Louise Austin of Oak Lane, Philadelphia, April 12.

EDWARD WADSWORTH PETERSON, M.D., to Miss Mary E. Fletcher, both of New York City, March 2.

JOHN D. STEWART, M.D., Indianapolis, Ind., to Miss Olga Petrova at Kansas City, Mo., March 31.

WILLIAM CLYDE ROBERTS, M.D., Dundee, Ill., to Miss Theodosia Harrison of Ottumwa, Ia., April 2.

ALFRED CHARLES RADLOFF, M.D., to Miss Florence Ethel Hamilton, both of Milwaukee, April 1.

HARDIE LYNCH, M.D., Salt Lake City, to Miss Mattis Moffett of Philadelphia, at Denver, April 5.

GEORGE J. MCCHESNEY, M.D., to Miss Katherine McGeein, both of San Francisco, March 27.

ANDREW WADE MORTON, M.D., to ADA SCOTT-CONNER, M.D., both of San Francisco, March 31.

FRANK MILLER TRIMMER, M.D., Chicago, to Miss Gertrude Jones of Knoxville, Ia., March 7.

THADDEUS EDGAR TABB, M.D., to Miss Allie Blanche Stewart, both of Lorena, Tex., April 16.

GEORGE ALFRED AIKEN, M.D., to Miss Daisy Franklin, both of Malta Bend, Mo., April 2.

ROBERT ALFRED BLACK, M.D., to Miss Mary Cleland, both of Chicago, April 16.

# Deaths

**Julian Augustus Mead, M.D.** Harvard Medical School, 1881; acting assistant surgeon, U. S. Army; a member of the American Medical Association and Association of Military Surgeons of the United States; for several years surgeon of the Fifth Infantry, M. V. M.; a member of the Massachusetts State Board of Health since 1890; post surgeon at the Watertown Arsenal and visiting physician to the Perkins Institution for the Blind; for six years chairman of the Watertown school board and a trustee of the public library, and for many years president of the Watertown Savings Bank; for three terms medical examiner for the Seventh Middlesex District; died at his home in Watertown, March 30, from heart disease, aged 56. As a tribute to his memory, all the public offices of Watertown were closed on the day of his funeral.

**D. Rankin Stubblefield, M.D.** Vanderbilt University, Nashville, Tenn., 1879; University of Nashville, Tenn., 1879; professor of anatomy and physiology in Vanderbilt University for several years; since 1883 a dentist and for more than thirty years a member of the faculty, and later emeritus professor and dean of the dental department of Vanderbilt University; died at his home in Nashville, March 12, aged 56.

**Warren R. King** (license, Indiana, 1897); a practitioner since 1864; formerly a member of the American Medical Association; a member of the Indiana State Medical Association; a veteran of the Civil War; from 1908 to 1911 chief surgeon of the Indiana State Soldiers' Home, Lafayette; formerly national medical director of the Grand Army of the Republic; died at his home in Greenfield, March 30, aged 70.

**Joseph Coddington Young, Jr., M.D.** College of Physicians and Surgeons, New York City, 1873; a member of the Medical Society of New Jersey; at one time a member of the staff of St. Michael's Hospital, Newark; for many years chief medical examiner of the Mutual Benefit Life Insurance Company; died at his home in Newark, March 26, aged 62.

**Gustav W. Barck** (license, Minnesota, act of 1887); a practitioner for more than fifty years; for two years president of the Freeborn County Medical Society; for fourteen years a member of the Albert Lea Board of Health; a surgeon of volunteers during the Civil War; died suddenly on a street in Albert Lea, March 27, aged 80.

**Frank Little, M.D.** University of Wooster, Cleveland, 1881; a member of the American Medical Association and American Electrotherapeutic Association; for several years a member of the visiting staff of Kings County Hospital and of the Spear Sanitarium, Brooklyn; died at his home in that city, April 4, from heart disease, aged 57.

**Henry Cundell-Juler, M.D.** London, Eng., 1847; F. R. C. S., 1853; formerly surgeon to the Aberdeen Royal Infirmary, Scotland; a resident of Covington, Ky., and Cincinnati since 1866; a graduate of the Cincinnati Law School in 1875; died at the home of his nephew in Cincinnati, April 3, from senile debility, aged 86.

**R. C. Pierce, M.D.** Indiana Central Medical College, Greencastle, 1848; a practitioner of Indiana until 1882 when he moved to Kansas and later, after several years, to Missouri; a licensed preacher of the Methodist Church; died at his home in Gallatin, Mo., March 13, from senile debility, aged 85.

**John Jay Craig, M.D.** Jefferson Medical College, 1901; formerly a member of the American Medical Association and at one time a member of the staff of White Haven (Pa.) Sanatorium for Tubercuiosis; died at his home in Columbia, Pa., April 8, from pulmonary tuberculosis, aged 36.

**Evert Evertson Tracy, M.D.** Albany (N. Y.) Medical College, 1891; a member of the Illinois State Medical Society and Association of Military Surgeons of the United States; captain M. C., Illinois National Guard; died at his home in Prairie View, Ill., April 9, from nephritis, aged 43.

**John Edwards, M.D.** College of Physicians and Surgeons, New York City, 1869; a member of the Medical Society of the State of New York; for many years health officer of Gloversville; died at his home, April 4, from heart disease, aged 66.

**Clarence Smith Rether, M.D.** Jefferson Medical College, 1884; of Biglerville, Pa.; was found unconscious on the road near Gettysburg, Pa., April 27, and died a few hours later, from exposure, aged 58.

**Charles M. Paynter, M.D.** University of Louisville, Ky., 1881; of Lawrenceburg, Ky.; for several terms a member of the house of representatives; died in a hospital in Lexington, April 2, aged 58.

**David R. Rust, M.D.** College of Physicians and Surgeons of St. Joseph, Mo., 1886; a member of the Iowa State Medical Society, aged 63; died at his home in Whiting, as the result of injuries received a year before when he was struck by a trolley car in Omaha.

**Norman Keachie MacLeod, M.D.** University of Toronto, 1903; a member of the Medical Society of the State of New York; pathologist to the German, Columbus and Children's hospitals, Buffalo; died at his home in that city, April 3, from pneumonia, aged 34.

**George H. Vastine, M.D.** University of Pennsylvania, Philadelphia, 1891; a member of the Medical Society of the State of Pennsylvania; for sixteen years a practitioner of Catawissa; died at his home, March 30, from uremia, aged 45.

**William Zoller, M.D.** Hahnemann Medical College, Philadelphia, 1878; supervisor, health officer and president of the village of Fort Plain, N. Y., at various times; died at his home, April 3, from cerebral hemorrhage, aged 66.

**William R. Brayton, M.D.** Starling Medical College, Columbus, O., 1873; died at his home in Geneva, Ind., March 27, from the effects of chloroform, self-administered, it is believed, with suicidal intent, while despondent, aged 63.

**Granville R. Lewis, M.D.** Medical College of Virginia, Richmond, 1856; assistant surgeon in the Confederate service during the Civil War; died at his home in Lynchburg, Va., March 27, from cerebral hemorrhage, aged 78.

**Henry William Kern, M.D.** Northwestern University Medical School, Chicago, 1909; of Kankakee, Ill.; formerly an intern in Cook County Hospital; died at home of his parents in Dwight, Ill., March 29, aged 27.

**John Howe Winch, M.D.** University of Vermont, Burlington, 1880; of Northfield, Vt.; at one time a representative in the State legislature; died in the Heaton Hospital, Montpelier, March 28, aged 57.

**George W. Johnson, M.D.** Bennett Medical College, Chicago, 1879; for many years a practitioner of Lewistown, Ill.; died at the home of his daughter in Kansas City, Mo., April 3, aged 79.

**Albert Sweeney Weir, M.D.** Nashville, Tenn.; for twenty-five years disabled by reason of paralysis; died at his home in Collinwood, Cleveland, O., March 8, from rheumatism, aged 57.

**Lucien V. Weathers, M.D.** Jefferson Medical College, 1866; formerly of San Antonio, Tex., but for the last six years a resident of Fort Worth; died at his home, March 31, aged 67.

**Joseph De Weese Stevens, M.D.** Jefferson Medical College, 1883; a member of the Kansas Medical Society; died at his home in Peru, March 9, from cerebral hemorrhage, aged 79.

**David E. Harding** (license, Missouri, 1883); of Aurora; a practitioner for forty years; died at his winter home in Bradentown, Fla., March 17, from cerebral hemorrhage, aged 70.

**James S. Blair, M.D.** Eclectic Medical Institute, Cincinnati, 1875; a member of the Indiana State Medical Association; died at his home in Lynn, March 31, from nephritis, aged 62.

**Ziba Hazard Potter, M.D.** Geneva (N. Y.) Medical College, 1857; formerly a member of the faculty of Cornell University; died at his home in Bethlehem, Pa., April 1, aged 76.

**Richard R. Trotter, M.D.** Boston University, 1876; consulting physician to the Yonkers (N. Y.) Homeopathic Hospital; died at his home in that city, March 28, aged 63.

**Abel P. Phillips, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1867; died at his home in Bear Lake, Pa., February 17, from senile debility, aged 80.

**Charles A. King, M.D.** Graffenburg Institute, Dadeville, Ala., 1858; of Hot Springs, Ark.; died in a church in that city, March 31, from cerebral hemorrhage, aged 69.

**Lorne Campbell, M.D.** McGill University, Montreal, 1882; formerly of Montreal; died at his home in Peaton, Dumbartonshire, Scotland, March 26, aged 57.

**William Henry Shimer** (license, DeWitt Co., Tex.); a practitioner of Meyersville, since 1895; died at his home, March 6, from locomotor ataxia, aged 48.

**Mary A. Ingersoll, M.D.** Denver College of Physicians and Surgeons, 1909; died at her home in Denver, March 23, from heart disease, aged 63.

**Lewis Smith Pendleton, M.D.** Medical College of Virginia, Richmond, 1860; died at his home in Fredericks Hall, Va., March 28, aged 75.

**George B. Hall, M.D.** University of Pennsylvania, Philadelphia, 1891; died suddenly at his home in Shawmut, Pa., March 30, aged 46.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## THE "CLINICAL REPORTS" FALLACY

A signed editorial by Dr. W. A. Pusey appears in the current issue of *The Journal of Cutaneous Diseases* entitled: "Proprietary Remedies and the Dermatologist." It is an excellent and thought-provoking editorial. Here is the closing paragraph:

"Hippocrates said 2,400 years ago, in words which Osler is fond of quoting, that 'Experience is fallacious and judgment difficult,' and it is an aphorism that one may well ponder when he is about to be carried away by clinical impressions in the estimation of the value of some new therapeutic agent. This country is sown with old indorsements of proprietary remedies based on clinical impressions that still come back to plague their authors. There is a proprietary vegetable alterative for syphilis of large sale, whose first credential is the testimonial given by one of America's greatest medical men on the basis of clinical impressions in the days of forty or fifty years ago, when 'alterative' was a conception to conjure with like 'radioactivity' is now. There is a lithia water for dissolving uric acid stones to whose efficacy one of America's ablest and best physicians gave written testimony. If there is anything that the history of clinical therapeutics proves, it is that experience is fallacious and judgment difficult."

## THE CUNNINGHAM MAIL-ORDER SCHOOL

### Three Depilatories That Are Being Sold by Cunningham Graduates

Most of THE JOURNAL'S readers remember its exposure of an impudent mail-order fraud known as "Marjorie Hamilton's Obesity Cure." This concern was operated by one Walter C. Cunningham, a man of unsavory reputation. Following THE JOURNAL'S exposure, the federal authorities took a hand and Cunningham and his wife were indicted by the federal grand jury and placed under arrest. The papers at the time stated that the court records showed that Cunningham had already served a jail term in Minneapolis and that he had at one time been connected with the Neal-Adkin syndicate of frauds at Rochester, N. Y.

When the selling of fraudulent obesity cures became somewhat risky, Cunningham turned his attention to another line of business. He started his "mail-order school" for teaching the mail-order business. His first series of advertisements stated:

"With $100 and an idea, I built a business that brought me $650,000 in eighteen months."

Any man who has cut his business eye-teeth knows that if Cunningham is telling the truth in this advertisement, he must have been conducting a fraud, for it is evident that no legitimate business could pay such returns in that length of time. Nevertheless, some highly respectable newspapers accepted the Cunningham advertisement. Those people who answered the advertisement received a series of follow-up letters from Cunningham written in his most engaging style. Briefly, the offer was this: Send $15 cash and promise to pay an additional $85 at the end of six months, if "you are entirely satisfied with your profits." For this Cunningham offers to "furnish you thousands of names of my customers from my books," as soon as he receives the initial $15. Presumably these names are those of victims who have answered the advertisements of his previous mail-order frauds.

To show his prospective customers how easy it is to swindle the public through mail-order schemes, Cunningham describes a case in which a woman "started a mail-order business with a beauty cream costing her 5 cents a jar, which she is now selling for $5 a jar." Says Cunningham, with more eloquence than accuracy:

"'There is a Time and Tide in the Affairs of Men which taken at its Ebb Leads on to Fortune.'"

When selling the Marjorie Hamilton Obesity Cure Cunningham first asked $15, but to those who were slow nibbling his bait, he would finally sell it for $1. So in his mail-order school while he first asks $100, payable $15 cash and $85 in six months' time, you can get it at a marked reduction, if you wait long enough. The third or fourth follow-up letter says:

"Send only $10 for everything complete and we will forget the balance. . . ."

And if you still hold off, he comes down a month later to $5.

"Now, if you can make up your mind that you really want to be independent for life and go into the mail-order business in deep, determined, dead earnest, and accept my offer of a Complete Course of Twenty Money-Getting Plans for Swift and Sure Mail Order Success, with all these wonderful plans, including absolutely free a full year's Advice, Ideas, Suggestions and General Business and Advertising Assistance from me personally, I will be willing to accept your remittance right now of Five Dollars for it all, and send you the Combined Mail Order Course and all the wonderful benefits that go with it."

That cupidity and ignorance may be appealed to by the Cunningham advertisements has recently been proved. A Chicago paper contained in its Sunday issue three classified advertisements all worded alike but emanating from different addresses. These advertisements read:

FREE TO LADIES—The greatest superfluous hair remover treatment known: positively eradicates superfluous hair growths quickly. Liberal sample sent prepaid. Write quickly and beautify your face immediately. Address .....

The three addresses to which the readers were directed to write were:

Mrs. Arthur Everett, Providence, Rhode Island.
D. W. McNeal, Chicago, Illinois.
The Home Supply Company, Kokomo, Indiana.

Those who answered these advertisements received letters in imitation typewriting all worded alike except that the name of the product was different. Mrs. Everett, for instance, referred to her stuff as "Everett's Hair Foe;" D. W. McNeal had christened it "McNeal's Velvet Skin Depilatory;" while the Home Supply Company referred to it as "Our Velvit Skin Depilatory." One other minor difference was found in the letters. The Home Supply Company offers the stuff for $2.50, McNeal wanted $3, while Mrs. Everett requires $5.

In each case, samples were received—and the samples were all alike. The depilatory is a pale yellow powder having an odor of hydrogen sulphid. The instructions are to make a paste of the powder with a small amount of water and apply the paste to the hair that is to be removed. The powder was examined in the Association's chemical laboratory and found to consist of barium sulphid and starch.

Commercial barium sulphid is an inexpensive product and one wonders whether Mr. Cunningham had this particular fake in mind when he wrote the following, which appears in the booklet "How to Achieve Mail-Order Success," sent to those who answer his advertisements:

"Let us suppose for instance just as an illustration, that when you get my Mail Order Course you decide to offer a certain preparation desired by millions of women. . . . Now, for example, we will assume you have selected the preparation I speak of. My Course will show you how and where to buy two pounds of this delightful preparation for about twenty-five cents. That will give you two pounds of the material ready for use. It takes two ounces of the preparation to make a complete outfit, or a complete treatment, which would last the customer one month. That two ounces you would sell for $5.00 (that is about the price that these special articles are sold for by mail)."

## REXALL ORDERLIES AND OTHER REXALL PRODUCTS

Dr. John G. W. Knowlton, Exeter, N. H., asks for the formula of Rexall Orderlies. They were examined by the Kansas State Board of Health[1] and found to contain phenolphthalein as their essential constituent. The exploitation of phenolphthalein in the form of proprietary nostrums was discussed in THE JOUR-

1. Bulletin 10, October, 1911, vii, 187.

NAL, April 30, 1910, p. 1458, and a list of such products was given.

The Rexall products are sold by the United Drug Company. This organization, like the American Druggists Syndicate ("A. D. S."), consists chiefly of druggists who, not content with the profits derived from the sale of "patent medicines," started a cooperative organization for their manufacture and exploitation. Something in regard to this firm's methods of exploitation was said in THE JOURNAL, March 23, 1912, p. 876. Some of the Rexall products will be found mentioned in the second edition of "Nostrums and Quackery." "Rexall Headache Wafers," for instance, are referred to in connection with the federal prosecution of the United Drug Company on the charge of misbranding, and the fine which this company had to pay. "Rexall Sarsaparilla Tonic" was declared misbranded in the annual report of the Connecticut State Agricultural Experiment Station.

### ANTIMERISTEM-SCHMIDT

Readers continue to send in circulars they have received in regard to a serum for cancer called Antimeristem-Schmidt. These circulars seem to have been rather well distributed over the country. Physicians should be warned that it is useless to send abroad for this serum at present, because under the government rule requiring a license before serums or allied products can be imported into this country, it will not be admitted to this country. According to our latest information, Antimeristem-Schmidt has no license. The manufacturers who are sending these circulars to the United States seem to have overlooked this fact.

This serum was discussed at some length in this department, March 8, 1913, p. 776, and to that discussion we refer those who desire further information.

## *Correspondence*

### Encouragement of Medical Research

*To the Editor:*—The communication of Professor Hoskins in *Science* (A Plan for the Encouragement of Medical Research, *Science*, Feb. 21, 1913, p. 303), and your editorial (The Encouragement of Medical Research, THE JOURNAL, March 22, 1913, p. 906) suggest a means of aiding medical research which is generally neglected.

We have in this country a large number of funds, controlled by medical schools, societies or hospitals, which were established for the purpose of offering prizes for essays, dissertations or theses on various phases of effort in medicine. These are awarded, almost without exception, to the successful one of a group of persons who have submitted essays. Occasionally the essays represent definite and valuable research work, but for the most part the award goes to a man who has submitted an essay based only on a digest of the literature of the subject in question, or occasionally with also a perfunctory outline of experimental work or an analysis of a few clinical cases. Certain notable exceptions might be quoted, but the usual decision of the committee indicates that the object of the founders of these various prizes, if it was the encouragement of research work, is not as a rule attained.

That more representative investigative work is not offered for these prizes is due in all probability to the fact that in these days of rapid progress immediate publication is essential, and few active workers are willing to submit to the delays demanded by the rules of the various prize committees; this is especially the case if the latter dictate the place and method of publication, and, as sometimes happens, demand that expense of publication be defrayed from the prize money.

Two ways of overcoming the present difficulties are apparent. One is somewhat in line with the suggestion of Hoskins. Let each committee that is not hampered by the original conditions of the deed of gift on which the prize is founded give up the idea of the submission of a thesis, and instead award the prize to the one who, irrespective of locality, has published during the preceding year an investigation which they consider most meritorious in the field of endeavor represented by its prize, with the understanding that the money is to be used in defraying the expenses of the investigation in question or of a future investigation. Thus would worthy effort be recognized and encouraged, the better type of research fostered and financial aid, which is most important, would be given where it is most deserved.

Another method is that adopted by the Committee on Scientific Research and that on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association, the Rockefeller Institute, and the Elizabeth Thompson Science Fund; this is the issuing of grants to individuals for the prosecution of definitely specified work. In the hands of these organizations this method has given excellent results and has been adopted, I understand, by one of the prize committees of the New York Academy of Medicine. I believe that it is possible to apply this method to all the prize funds controlled by our various medical organizations. In some instances the conditions of the original endowment might prevent the adoption of this method, but in most instances, with the consent of the heirs of the original donor, the change could be made.

To establish either or both of these methods satisfactorily it would be necessary, however, for some central body to tabulate and systematize our knowledge of the available prizes or grants, so that investigators in need of financial assistance could apply to this central authority and state their problem and needs. This body could then refer the applicant to the local committee most likely to offer assistance.

The subject is one which might well be referred to the Committee on Scientific Research of the American Medical Association, which body, if cooperation appeared eventually to be possible, might act as the central bureau for the distribution of information concerning the various funds available for research. RICHARD M. PEARCE, M.D., Philadelphia.

### The Indian Medical Service

*To the Editor:*—In your editorial "Health of the American Indian" (March 15, 1913, p. 832), you state that "the Indian medical service . . . is totally unable in its present status to cope with existing conditions successfully." It may interest you to know what is the present status of the individual physician.

He is directly subject to the superintendent, a layman who may or may not agree with his recommendations concerning sanitary measures. It is the superintendent who renders the department a report on the physician's "efficiency."

The physician in the Indian service is a "health officer" who in most instances is not furnished with a microscope, stains, etc., unless he wishes to purchase them out of his meager salary.

He must be careful not to request any favored employees to do anything that is distasteful to them.

Maybe he did not come from the "best class of candidates;" but let us hope a government check will not be his only reward for his work, for he can say of the American Indian:

> I have eaten your bread and salt;
> I have drunk your water and wine;
> The deaths ye have died I have watched beside,
> And the lives that ye led were mine.

AN AGENCY PHYSICIAN.

### Another Method of Making Buttermilk

*To the Editor:*—Ever since Metchnikoff called attention to the health-conserving and life-prolonging properties of the Bulgarian bacillus, various preparations of this bacillus, real or pretended, have been used to make sour milk. As many housewives, however, dislike to add these germ-containing tablets to the milk, and as they are quite expensive and not everywhere available, sour milk is not nearly so extensively used as it should be. I was interested in Dr. Alexander Armstrong's suggestion (THE JOURNAL, March 29, 1913, p. 1015) to use a small glass churn to make buttermilk when needed. My wife

originated a plan five or six years ago that is much simpler and more easily carried out than the churn. She makes the sour milk as follows:

Take sweet milk; let it stand for from twelve to twenty-four hours; skim off the cream and add 2 tablespoonfuls of previously soured milk to each quart of the skimmed milk; let it stand in a moderately warm place until it sours or thickens just enough so that it separates from the side of the containing vessel but not enough for the whey to separate; then set it in an ice-chest or other cold place until wanted for use (if preferred warm, it can be used immediately). Put the part to be used in a pail, small crock or other suitable vessel, and by means of a revolving egg-beater thoroughly mix or agitate it for two or three minutes, and you will have an aerated, foamy milk far superior to ordinary buttermilk. If a richer milk be desired, fresh milk, cream and all, can be treated in the same way. Save a small amount of the thickened milk each day to set up fermentation in the next day's supply. We have used this the greater part of the year for five or six years in our family and find it satisfactory.

E. STUVER, M.D., Fort Collins, Colo.

### Using Health Cartoons Without Credit

*To the Editor:*—On page 1090 of THE JOURNAL, April 5, 1913, you speak approvingly of the illustration which appears on page 7 of the *Bulletin* of the Rhode Island State Board of Health for January, 1913, giving instructions for the making of a sanitary drinking-cup from a sheet of paper.

Permit me to invite your attention to the fact that the illustration in question was published in the *Bulletin* of the Chicago School of Sanitary Instruction, July 1, 1911.

G. B. YOUNG, M.D., Chicago,
Commissioner of Health.

### Safety-Razor to Cut Thiersch Grafts

*To the Editor:*—Since several physicians are reporting their use of the safety-razor as a knife, I wish to report my early use of it as a section-cutter for Thiersch grafts. In this it excels Thiersch's planoconcave razor or any other instrument I ever used. To make the safety-razor practical it is best prepared by grinding about one-eighth inch off the comb or guard. Then one can cut to the right angle, and the length of the graft is limited only by the size of the part from which it is taken. I first used the safety-razor in this way Aug. 20, 1909, to graft after a scald of buttock and thigh.

E. F. CONYNGHAM, M.D., Bonner, Mont.

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### LITERATURE ON MENTALLY DEFECTIVE CHILDREN

*To the Editor:*—Please give references to works dealing with the examination of mentally defective children, factors causing such defects, diagnosis and educational treatment.

G. H. HUMPHREYS, M.D., New York.

ANSWER.—The following references include some good material on these subjects. First are given articles from periodicals, and then books.

Clark, L. P., and Atwood, C. E.: A Study of the Significance of the Habit-Movements in Mental Defectives, THE JOURNAL, March 23, 1912, p. 838.
The Problem of the Feeble-Minded, editorial, THE JOURNAL, March 16, 1912, p. 785.
The Care of the Feeble-Minded, London Letter, THE JOURNAL, June 22, 1912, p. 1956.
The Elimination of Feeble-Minded Strains, editorial, THE JOURNAL, Nov. 16, 1912, p. 1801.
A Natural Object-Lesson in Heredity, editorial, THE JOURNAL, Oct. 26, 1912, p. 1545.
New York Aid for the Feeble-Minded, *Survey*, March 23, 1912, p. 1950.
Our Most Conspicuous Failure, *Survey*, March 2, 1912, p. 1819.
Bannister, M.: Classification, Education and Medical Treatment of Feeble-Minded, *Jour. Iowa State Med. Soc.*, March, 1912.
Brewster, E. T.: Scientific Study of Fools, *McClure's Magazine*, July, 1912, p. 328.
Clark, L. P.: Idiocy and Laboratory Research, *Survey*, March 2, 1912, p. 1857.
Davenport, C. B.: Origin and Control of Mental Defectiveness, *Popular Sc.*, January, 1912, p. 87; Nams: The Feeble-Minded Country Dwellers, *Survey*, March 2, 1912, p. 1844.
Davis, K. B.: Feeble-Minded Women in Reformatory Institutions, *Survey*, March 2, 1912, p. 1849.
Edson: Education and Training of Feeble-Minded Children in Public Schools, *New York Med. Jour.*, Dec. 7, 1912.
Edson, Van Sickle and McCready: How Far Shall the Public-School System Care for Feeble-Minded? *Bull. Am. Acad. Med.*, August, 1912.
Fernald, W. E.: Templeton Farm Colony for the Feeble-Minded, *Survey*, March 2, 1912, p. 1873.
Goddard, H. H.: Elimination of Feeble-Mindedness, *Ann. Am. Acad. Politic. and Soc. Sc.*, March, 1911; Basis for State Policy. Social Investigation and Prevention, *Survey*, March 2, 1912, p. 1852; Joint Meeting on Feeble-Minded and Epileptic, *ibid.*, June 15, 1912, p. 446.
Harris, J.: Degenerates. *Westminster Magazine*, June, p. 624.
Hedger, Caroline: Physical Examination of Below-Grade Children, *Illinois Med. Jour.*, June, 1909.
Johnson, E. H.: Feeble-Minded as City Dwellers; Mental Classification in the School, *Survey*, March 2, 1912, p. 1840.
Johnstone, E. R.: The Prevention of Feeble-Mindedness, *Jour. Am. Pub. Health Assn.*, February, 1911; Public Provision for the Feeble-Minded, *Survey*, March 2, 1912, p. 1864.
Kirkbride, F. B.: Right to be Well-Born, *Survey*, March 2, 1912, p. 1838.
Kite, E. S.: Two Brothers, *Survey*, March 2, 1912, p. 1861.
Little, C. S.: Letchworth Village Institution for the Feeble-Minded and Epileptic, *Survey*, March 2, 1912, p. 1869.
MacPherson, J.: Problem of Feeble-Minded, *Glasgow Med. Jour.*, May, 1912.
Philipps, E. M.: Treatment of Feeble-Minded Children, *Nineteenth Century and After*, May, 1912, p. 930.
Sloss, R.: State and the Fool, *Harper's Weekly*, Feb. 3, 1912, p. 17.
Schlapp, N. G.: Feeble-Minded Boys and Crime, *Survey*, March 2, 1912, p. 1846.
Williams, Tom A.: Psychoprophylaxis in Childhood, *Pacific Med. Jour.*, February, 1910; Genesis of Hysteric States in Childhood, and Their Relation to Fears and Obsessions, *Brit. Jour. Child. Dis.*, February, 1911.
Ayers, Leonard P.: Laggards in Our Schools, Charities Publishing Company, New York.
Barr, Martin W.: Mental Defectives, P. Blakiston's Son & Co., Philadelphia, 1904, $4.
Binet, A., and Simon, T.: A Method of Measuring the Development of the Intelligence of Young Children, Courier Company, Lincoln, Ill., $1.
Dugdall, Robert L.: The Jukes, Edition 4, G. P. Putnam's Sons, New York, 1910, $1.50.
Goddard, H. H.: The Kallikak Family: A Study in the Heredity of Feeble-Mindedness, Macmillan Company, New York, 1912, $1.50.
Lapage, C. Paget: Feeble-Mindedness in Children of School Age, Longmans, Green & Co., New York, $1.60.
Tredgold, William A. F.: Mental Deficiency, Wood & Co., 1908, $4.

### DESTRUCTION OF MOSQUITOES

*To the Editor:*—I am anxious to obtain some data regarding the elimination of mosquitoes in our neighborhood. I especially want to know the answer to the following questions:

1. The formula, or formulas, of the larvicide, other than oil, used in the Canal Zone; how to make it, dilute it, etc.; the method of use.
2. Is it (*a*) poisonous to animals drinking water in pools or streams containing it, (*b*) destructive to vegetable life, plants, flowers, grass, etc., among which it is used, (*c*) poisonous to fish in streams?
3. Is it possible to use safely copper sulphate solution for destroying mosquito larvae without injury to plant life? If so, how often should it be used, in what strength and what is the best method of application?
4. Can you suggest any method in a country neighborhood (suburban) which would be inexpensive and effectual and which the people would be apt to use?

J. P. LAIRD, M.D., Devon, Pa.

ANSWER.—1. The larvicide used in the Canal Zone is prepared as follows: Crude carbolic acid, containing about 15 per cent. of phenol, is heated to 212 F., finely pulverized resin is added, and the mixture kept boiling until the resin is all dissolved. Caustic soda is then added, and the solution kept at 212 F. for about ten minutes, or until a perfectly dark emulsion without sediment is obtained. The mixture is thoroughly stirred from the time the resin is added until the end. As the composition of crude carbolic acid varies greatly, the proportion of ingredients of the larvicide will vary, and it is necessary to have small experimental lots made in the laboratory and tested before the batch of larvicide for use in the field is manufactured. The average mixture is about as follows: 300 gallons crude carbolic acid; 200 pounds resin; 30 pounds caustic soda. The larvicide costs about 14 cents a gallon.

One part of this larvicide in eight thousand parts of water will kill the larvae in thirty minutes. As a mosquito larvicide it is used by spraying an aqueous emulsion (one part of the larvicide to five of water) over the surface and along the margins of pools and ponds or other mosquito breeding-places, so

that the resulting dilution of the larvicide has a thin, milky opalescence representing approximately a dilution of 1:5,000.

2. (*a*) Yes. (*b*) We find no statement with regard to its effect on vegetable life. Probably in the strength in which it is used it would not materially affect vegetation. (*c*) Yes.

3. We find no references to copper sulphate in the works treating of mosquito destruction.

4. Efforts to destroy mosquitoes should be directed primarily to the drainage of their breeding-places; if practicable, the banks of streams should be cleared of vegetation. Small bodies of water likely to be infested should be covered with a thin layer of crude petroleum.

The following literature may be consulted for details with reference to the destruction of mosquitoes:

Le Prince, J. A.: Mosquito Destruction in the Tropics, THE JOURNAL, Dec. 26, 1908, p. 2203.
Darling, S. T.: Mosquito Larvicide—Disinfectant and Methods of Its Standardization, *Am. Jour. Pub. Health*, February, 1912; abstr., THE JOURNAL, April 13, 1912, p. 1148.
Mosquito Extermination, THE JOURNAL, editorial, June 8, 1912, p. 1758.
Gorgas, W. C.: A Few General Directions with Regard to Destroying Mosquitoes, Washington, Government Printing Office, 1904.
Goldberger, J.: Prevention and Destruction of Mosquitoes, *Pub. Health Rep.*, U. S. Public Health Service, July 17, 1908.
Howard, L. O.: Remedies and Prevention Against Mosquitoes, *Farmers' Bull.*, 444, U. S. Dept. of Agriculture.
Doane: Insects and Diseases, H. Holt, 34 West Thirty-Third Street, New York, $1.50.
Ross: Mosquito Brigades and How to Organize Them, Longmans, Greene & Co., 443 Fourth Avenue, New York, $0.90.
Ross: Prevention of Malaria, E. P. Dutton & Co., 31 West Twenty-Third Street, New York, $5.

## EXCESSIVE LEUKODERMA IN MULATTO

*To the Editor:*—There has recently come to my notice an almost total loss of pigment in a mulatto that might be of interest if reported.

James R., mulatto, farm laborer, aged 49, health good, had scarlet fever at the age of 14 and was in bed eighteen months. The patient gradually recovered, with loss of coloring-matter in the skin over the entire body except the face and hands, which show splotches of white. The covered portion of the body is perfectly clear, and the veins show blue and clear through the skin.

1. What caused this perverted metabolic action, or was it desquamation?
2. Does desquamation following scarlet fever in negroes commonly cause such phenomena?
3. Could the coloring be restored by any method of treatment?

ROBERT C. LOWRY, M.D., Shaw, Miss.

ANSWER.—This patient is evidently suffering from excessive leukoderma. This condition consists in complete loss of pigment in affected areas. It may become universal, but usually in the most excessive cases there are still some spots that contain pigment. The condition is not a very rare occurrence in the dark races. Its occurrence is the explanation of cases which are occasionally reported in the newspapers of negroes who are turning white. We know practically nothing of the internal influences that control pigment formation in the skin, and nothing, therefore, is known of the essential cause of this condition.

To answer specifically the questions asked by the correspondent:

1. The cause of this "perverted metabolic action" is not known. It is not desquamation.
2. Desquamation following scarlet fever in negroes does not cause this phenomenon.
3. There is no treatment that is effective in restoring the pigment in the whitened areas in this condition.

## LIGATION FOR LOST POWER OF ERECTION

*To the Editor:*—Can you give me any data on the ligation of the dorsal vein of the penis for lost power of erection?

J. S. GATLIN, M.D., Laurel, Miss.

ANSWER.—The mechanism of erection of the penis is supposed to be as follows: There is a vasodilatation of the arteries in the penis, accompanied by shutting off of the return-flow of blood through the dorsal vein of the penis, by the contraction of the erector penis muscle. Naturally it was considered logical to treat men with impotence by an obstruction to, or even a ligation of, the dorsal vein of the penis. The operation some years ago was rather in vogue, but the ultimate results have not been favorable. In some cases after ligation of the dorsal vein, there is practically no change in the erectile power of the penis, the blood escaping from the penis through the superficial veins; in other patients the immediate result is a complete erection lasting from a few days to several months, usually accompanied by pain, which gradually subsides as the collateral circulation is established through the superficial veins, and then the patient is in the same condition as before.

Constriction of the root of the penis by a rubber ring or band just before intercourse will do all that ligation will do, and is not subject to the dangers of ligation. As this ring can be put on and taken off when desired, at present the operation of ligation of the dorsal vein of the penis for impotence should be performed rarely, if at all.

## POISONING BY SULPHUR DIOXID FUMES

*To the Editor:*—1. Please inform me as to the proper procedure in case of poisoning by sulphur dioxid fumes.

2. What is the chemical change taking place in the blood?
3. Are there liable to be any after-effects that are permanent?

HOWARD A. GALLUP, M.D., El Segundo, Cal.

ANSWER.—In your query you do not state whether you refer to acute or chronic poisoning. There is practically no treatment for sulphur dioxid poisoning, except thorough ventilation and removal from the source of the gas. In chronic cases arising among workmen who have to breathe these fumes, masks containing a wet sponge may be provided. In the use of sulphur dioxid for preservation of food or drink, the quantity should be greatly restricted. Mild alkalies, such as sodium bicarbonate, serve as antidotes.

2. These fumes tend to give an acid reaction to the blood. The hemoglobin is changed first through the loss of oxygen and then by decomposition to hematin, as with mineral acids. The respiratory tract has a catarrhal or even croupous aspect due to the action of the acids. The lungs are partly edematous. Sulphur dioxid is an active reducing agent, and in the processes becomes oxidized to form sulphuric acid.

3. The breathing of small quantities of sulphur dioxid does not seem to produce any serious effects. It is stated that from 1 to 3 per cent. can be respired without ill effects. Both men and animals may be habituated to its inhalation.

## ARTICLES ON COMPOUND FRACTURES

*To the Editor:*—Please furnish me references to compound fractures and their treatment.

E. N. ROBERTS, M.D., Pocatello, Idaho.

ANSWER.—Following are recent articles on this subject:

Crawford, W. W.: Management of Complicated Compound Fractures, abstr., THE JOURNAL, June 1, 1912, p. 1715.
Blickensderfer, Charles H.: Treatment of Compound Fractures, abstr., THE JOURNAL, Oct. 26, 1912, p. 1563.
Beck, C.: Treatment of Compound Fractures, *Surg., Gynec. and Obst.*, August, 1911.
Berry, V.: Treatment of Compound Fractures and Lacerated Wounds, *Jour. Oklahoma State Med. Assn.*, December, 1912.
Adams, B. S.: Compound Fractures, *Journal-Lancet*, July 15, 1912.
Miller, S. R.: Treatment of Compound Fractures of Long Bones, *Jour. Tennessee State Med. Assn.*, September, 1912.
Barnes, B. F.: Operative Management of Compound Fractures, *Ohio State Med. Jour.*, February, 1913.

## RATTLESNAKE VENOM IN EPILEPSY

*To the Editor:*—What is the status of rattlesnake venom as treatment for epilepsy? Is it harmless if used carefully? Does it offer enough chance of good to be worth a trial in idiopathic cases?

A. B. SMITH, M.D., Elyria, Ohio.

ANSWER.—This correspondent, and many others, will find these questions answered in this department, March 15, 1913, and further in an editorial, March 29, 1913.

*To the Editor:*—With reference to your editorial, "The Rattlesnake-Venom Treatment of Epilepsy" (THE JOURNAL, March 29, 1913, p. 1001), it strikes one who has a mortal fear of these snakes that both you and Spangler miss the point in the case of the Texan who was cured by a bite. It was psychic. Instead of "being scared into fits," the fits were scared out of him.

M. B. HUTCHINS, M.D., Atlanta, Ga.

## ASYLUM WANTED FOR ONE DEMENTED

*To the Editor:*—Can you tell me of some institution where I can place my father, who has had an acute attack of dementia? He has recovered, but still has enough vagaries to make it unpractical to let him go at large. He is 77 years of age, and expert advice is to the effect that he will be all right and give no indication of senile dementia so long as he is under control, but that he would probably relapse if uncontrolled. Most of the institutions charge $35 a week and up, and this is more than I can afford. Can you give me any advice? B. R. N., M.D.

ANSWER.—We shall be glad to forward to Dr. B. R. N. advice as to available institutions which any of our readers may be kind enough to supply.

### THE GOLDSCHMIDT ENDOSCOPE—TECHNIC OF THE WEIL TEST

*To the Editor:*—1. Kindly describe the method of using the Goldschmidt distending irrigating endoscope.

2. Please give the technic of the Weil test for syphilis with cobra venom.

CHARLES IVOH, Atlanta, Ga.

ANSWER.—1. Goldschmidt's endoscope is a modification of Nitze's cystoscope, the principle involved in its use being the distention of the urethra by means of water. The lamp is placed beyond the visual field so that the lesion is illuminated from behind. The hydraulic pressure by causing dilatation of the canal amplifies the field of vision. Two instruments are used, one for the anterior and the other for the posterior urethra.

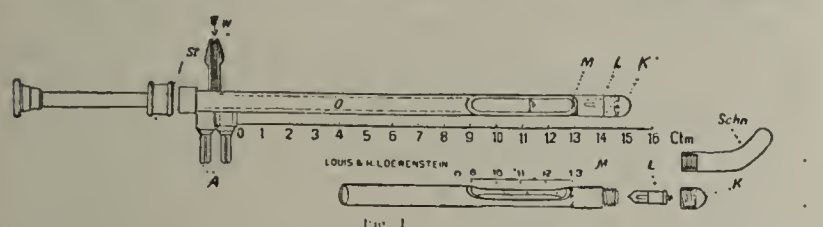



FIG. 1

Goldschmidt's endoscope. *W*, water intake; *A*, light connections; *O*, vision tube; *St*, water jacket; *M*, reflector; *L*, lamp; *K*, tip used to examine anterior urethra; *Schn*, tip for posterior urethra.

The instrument is passed into the urethra to the desired depth and then the canal is distended with a cold boric acid solution. Only a moderate pressure is needed to distend the anterior urethra. To distend the posterior urethra the solution container must be elevated about 6 feet above the patient's pelvis. The examination is made in exactly the same manner as when any one of the many urethroscopes and cystoscopes are used, the only difference in this case being that the tissues are viewed through water medium and not air medium. The patient is placed in the lithotomy position. The urethra is anesthetized with a 2 per cent. cocain or novocain solution. The tube is well lubricated and introduced slowly down to the bottom of the anterior canal. The obturator is then withdrawn, the solution allowed to flow into the tube and the light turned on. The observation is made as the tube is withdrawn slowly.

2. The technic of the Weil test for syphilis with cobra venom is given as follows by C. R. Bell (*Ill. Med. Jour.*, August, 1912): A small amount of blood is collected from a vein into a test-tube containing 5 c.c. of a 2 per cent. solution of sodium citrate in physiologic salt solution. This is allowed to stand in an ice-chest for about twenty-four hours. The cells are then washed four times with the salt solution, and a 4 per cent. suspension of the corpuscles in this physiologic salt solution is made. As the cobra venom solutions tend to deteriorate on standing, they must be made fresh. A small quantity of 0.05 per cent. solution in physiologic salt is made up from the dry venom, and from this the higher dilutions of 1:10,000, 1:20,000, 1:30.000, and 1:40,000 are made. One c.c. of the corpuscle suspension is added to 1 c.c. each of the four solutions of venom, and the test-tubes shaken and incubated at 37 C. (98.6 F.) for one hour; they are then shaken, placed in the ice-chest and allowed to remain over night, again thoroughly shaken after being taken out next day and the readings made one hour later. The cells which do not hemolyze in the 1:10,000 solution are considered strongly positive. Those which do not hemolyze or show incomplete hemolysis in the 1:20,000 solution are positive. Complete hemolysis in the 1:10,000 and 1:20,000 solutions are considered negative, and whether the reaction is positive or negative depends on these results. As a rule the positive or negative result of this test is definite and clear-cut and no difficulty is found in determining which reaction is present.

---

### MUCH GRANULES

*To the Editor:*—1. What are the Much granules?

2. Are they merely débris of distintegrated bacilli, the envelope of which may have been destroyed or digested by the immunizing substances in the blood?

3. What is their significance in diagnosis, and how can they be demonstrated?

4. Who is Much?

A. U. DESJARDINS, M.D., Waterville, Maine.

ANSWER.—1. Much describes bodies having the form of granules and also rods, found in tuberculosis sputum, which do not stain by the ordinary processes for acid-fast bacilli. These granules and rods can be demonstrated by other means, and the sputum containing them gives rise to tuberculosis when injected into animals. There is a good reason therefore to believe that they are forms of the tubercle bacilli.

2. It is believed that the reason for the acid-fast character of the tubercle bacillus is that it is surrounded by a waxy envelope which takes up stains very slowly, but retains them in spite of the acid decolorizing agents. This envelope is believed to be absent in the Much rods and granules. As to the reason for its absence, the one stated by the correspondent is merely a hypothesis, and in the opinion of Much these rods and granules are in reality more infective than the bacilli which are acid-fast.

3. According to the opinion of Much and others, these granules and rods indicate a tuberculous origin, and consequently it is very important to determine whether or not they are present in cases suspected of tuberculosis. They are demonstrated by means of the Gram stain; that is, they are Gram-positive. Their tuberculous nature cannot be determined by this method of staining, since there are other organisms which are also Gram-positive.

4. Much is a physician in charge of the Eppendorf Hospital at Hamburg.

---

### ARTICLES ON WOOD-ALCOHOL POISONING

*To the Editor:*—Please give references on deaths and accidents from wood-alcohol poisoning. I am chairman of the Committee on Public Health . . . and am much interested in means to lessen the numerous accidents that happen through ignorant people using wood alcohol as grain alcohol, because they do not know the poisonous character of the wood alcohol.

J. W. L.

ANSWER.—See editorial, this issue, p. 1231. Following is a list of recent articles:

Natanson, A.: Blindness from Adulteration of Medicines with Wood Alcohol, *Deutsch. med. Wchnschr.*, Nov. 11, 1909; abstr., THE JOURNAL, Jan. 1, 1910, p. 86.

Koller, C.: A Remarkable Case of Methyl-Alcohol Poisoning, THE JOURNAL, June 4, 1910, p. 1866.

Wood, C. A., and Buller, F.: Poisoning by Wood Alcohol. THE JOURNAL, Oct. 1, 1904, p. 972; article was continued in four consecutive issues.

Lazarus, P.: Toxicity of Methyl Alcohol, *Deutsch. med. Wchnschr.*, Feb. 22, 1912; abstr., THE JOURNAL, March 30, 1912, p. 981.

Warning Against Methyl Alcohol in External Application, Berlin Letter, THE JOURNAL, March 23, 1912, p. 871.

Wood Alcohol Prohibited in Austria in Foods and Drugs, Vienna Letter, THE JOURNAL, Feb. 10, 1912, p. 423.

Wood, C. A.: Death and Blindness from Methyl- or Wood-Alcohol Poisoning, THE JOURNAL, Nov. 30, 1912, p. 1962.

Methyl Alcohol as a Poison, THE JOURNAL, editorial, Nov. 30, 1912, p. 1974.

The Case of Methyl Alcohol, editorial. THE JOURNAL, Dec. 7, 1912, p. 2075.

Gruening, E.: Methyl-Alcohol Amblyopia, *Arch. Ophthal.*, July, 1910.

Ziegler, S. L.: Total Blindness from the Toxic Action of Wood Alcohol, with Recovery of Vision Under Electricity, *Pennsylvania Med. Jour.*, May, 1911.

Methyl-Alcohol Poisoning at Berlin Municipal Shelter, Foreign News, Jan. 13, 1912, p. 125; Berlin Letters in THE JOURNAL, Jan. 27 and Feb. 3, 1912.

Stadelmann, E.: The Poisonings at the Berlin Municipal Shelter, *Berl. klin. Wchnschr.*, Jan. 29, 1912; Abstr. THE JOURNAL, March 9, 1912, p. 740.

Epidemic of Methyl-Alcohol Poisoning at Berlin, *Med. Press and Circular*, Feb. 21, 1912.

Schlichting, R.: Fatal Methyl-Alcohol Poisoning, *Med. Klinik*, Aug. 11, 1912.

Harnack, E.: Acute Blindness from Methyl Alcohol, *Münchn. med. Wchnschr.*, Sept. 3, 1912.

---

### THE PRACTICE OF MEDICINE IN MEXICO

*To the Editor:*—Please inform me of the law governing practice in Mexico, or tell me how to obtain such information.

WALTER G. HATHAWAY, M.D., Pooleville, Okla.

ANSWER.—Graduates of legally chartered medical colleges of the United States can secure licenses to practice medicine in any part of the republic of Mexico by having their diplomas registered with the proper authorities and proving their identity. In the state of Vera Cruz and in the city of Mexico an examination in the Spanish language must also be passed. The proper procedure is as follows:

1. The applicant must obtain from the secretary of the state wherein his diploma was issued a certificate stating that the medical college is legally chartered and that the diploma is legally issued and signed by the proper officials of the college.

2. This certificate from the secretary of state must be certified to and the signature of the secretary of state verified by the nearest Mexican consul, the fee for which is about $4.

3. The documents are then forwarded by the Mexican consul to the Mexican embassy at Washington whence they are sent to the secretary of state at Mexico City.

4. After the documents are approved by the minister of foreign affairs at Mexico City, they are returned to the applicant to be presented to the local Mexican authorities at the place where he wishes to practice. The local fees vary in different states but are said to be moderate. No examination is required except in Mexico City and in the state of Vera Cruz.

CARDS FOR CASE RECORDS

In connection with a correspondent's query which we published March 1, 1913, p. 689, we asked our readers to send us samples of cards and blanks they use for records of cases, accounts, etc. We wish to thank the large number who have responded with various sorts of record sheets, cards, blanks, and details as to their use. We hope later to make use of some of these in an article on the subject. Meanwhile if any other readers will send in two samples of any that they use, we shall appreciate the favor.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Association of American Physicians, Washington, May 6-7.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
South Dakota State Medical Association, Vermilion, May 27-29.
Texas State Medical Association, San Antonio, May 6-8.
West Virginia State Medical Association, Charleston, May 21-23.

## TENNESSEE STATE MEDICAL ASSOCIATION

*Eighteenth Annual Meeting, held at Nashville, April 8-10, 1913*

The President, DR. O. DULANEY, Dyersburg, in the Chair

### Multilocular Cystoma of the Lower Jaw

DR. P. H. FAUCETT, Columbia, reported a case of cystoma, which involved the lower jaw.

DISCUSSION

DR. JERE L. CROOK, Jackson: I operated in a similar case about a month ago, in which the tumor involved the upper jaw. The vast majority of tumors around the jaw eventually become malignant; even at the time these patients present themselves for operation the tumors are frequently malignant, and to remove a malignant growth successfully, it is necessary to do a thorough operation with as little mutilation as possible.

DR. J. W. BRANDAU, Clarksville: We ought to educate our patients to have these tumors of the jaw removed early, before they become malignant and before they become so large that mutilating operations are necessary.

### Intracranial Hemorrhage

DR. ROBERT MANN, Memphis: All intracranial hemorrhagic phenomena are based on pressure and anemia, except the severe traumatism which may result from the rupturing of a high-tension blood-vessel in the delicate brain substance. The characteristic symptomatic manifestations in any form of intracranial hemorrhage will depend on the location and the amount. Small circumscribed hemorrhages can usually be located, except when situated over a slight area causing no manifest disturbance, or in the bulbar region, and causing symptoms of general pressure. Large circumscribed hemorrhages may cause distinct focal symptoms at first, and later exert pressure sufficient to produce anemia of the brain-stem with its characteristic slow pulse, high blood-pressure, irregular breathing, etc.; but by carefully comparing the extent of the disturbance on both sides of the body, the location of the clot can usually be ascertained after the pressure has become general. By gently elevating the temporal lobes the bloody cerebrospinal fluid may be evacuated. If bleeding continues, incision should be made. If, after operating in this manner on one side, the pressure symptoms are not relieved, a similar operation on the opposite side should be performed.

The after-treatment consists of the application of an ice-cap, and supportive and symptomatic procedures. The outcome of these cases is not always gratifying, but operative methods offer the best at our disposal.

DISCUSSION

DR. PAUL F. EVE, Nashville: There is a time when the surgeon should act promptly, and there is also a time when he should await results. We are able to locate a number of areas of the brain, and when hemorrhage results in any of these areas, with precision we can trephine and remove the clot and save the patient's life. Unfortunately, there are cases of hemorrhage in the cerebrum that we are unable to check, and such a case I had some months ago.

DR. MANN: There is danger in putting off operation too long. The intense pressure is apt to cause irreparable damage to the centers of respiration and circulation. They will have become so damaged that the shock of the operation is apt to terminate the life of the patient.

### Treatment with Brown's Modification of Hodgen's Splint

DR. W. M. MCCABE and DR. JOSEPH GALLAGHER, Nashville, contributed a joint paper in which they reported eighteen cases treated, ten of which were fractures of the shaft, not compound. Of these ten there was no shortening in seven, or 70 per cent. In two there was shortening of ¼ inch, or 20 per cent. As one patient had but one limb, the amount of shortening could not be determined. There was one compound fracture with destruction of bone, with ¼ inch shortening. There were six cases of fracture of the neck treated, and of these one patient died. Four have shortening of ½ inch, and one shortening of ¼ inch. One patient with simple fracture of the shaft was discharged before the treatment was completed.

DISCUSSION

DR. DUNCAN EVE, JR., Nashville: As a rule, I use the Hodgen splint for the first one or two weeks, and then put the limb in a plaster cast, which is an ideal dressing, because after that time the patient can get up, take nourishment, read, etc.

DR. JERE L. CROOK, Jackson: I have used a combination of both the plaster cast and Buck's extension, and have been able to obtain satisfactory results in cases of compound fracture.

DR. J. N. COWDEN, Nashville: The idea of the Brown splint is to get traction; Buck's extension is a very unpleasant thing in the majority of cases. I believe after ten days you have obtained all the benefit you can from traction. By putting the limb in a neatly fitting plaster cast you get better immobilization and quicker results.

DR. J. A. CRISLER, Memphis: My assistant and I have been using a splint, the name of which I cannot recall. We put the patient on the table and apply plaster from the armpits down to the knee in a flexed position, so that the patient is actually put in the sitting position. This splint permits you to get many of these patients out of bed in ten hours, as soon as the plaster hardens. You can put the patient in a roller chair, one of the great conveniences of which is that the patient is able to go to stool in the normal way. Since July 1 we have had five of these cases in patients whose ages ranged from 62 to 74, one woman and four men, and they are all well and are walking normally.

DR. R. E. FORT, Nashville: The splint referred to by Dr. Crisler is undoubtedly the Van Arsdale. I have used it many times in fracture of the femur in children with great comfort.

### Bacteriology and Pathology of Cerebrospinal Meningitis

DR. WILLIAM LITTERER, Nashville: From our experiments we were unable to grow on the various mediums the meningococci in dried sputum, pus or nasal secretion derived from meningitic patients, convalescents or healthy carriers. The meningococcus is of so short viability and is so fragile an organism outside its natural habitat (the human body), that it leads to the inference that direct transmission (droplet infection, etc.), is probably the only means of conveying the disease. In institutional epidemics the wisest procedure is the prompt isolation of all patients, the search for carriers and their detention, together with the general use of the spray. There is apparently no known means at our command in which the persistent carrier can with any degree of regularity be rendered free from the carrier state.

### The After-Treatment of Surgical Cases

DR. L. E. BURCH, Nashville: There is no indication in the average surgical case to evacuate the bowels before the third or the fourth day, and this is best done by the use of an enema, injected low, using a small tube with a moderate amount of fluid. Many patients are very sensitive, and the ordinary long rectal tube causes intense pain. In addition to this the long tube will coil on itself, adding to the misery of the patient, and at the same time deceives the attendant into the belief that a high enema is being used. The daily use of purgatives is contra-indicated for the reason that it makes the patient quite uncomfortable until the bowels act, frequently producing nausea and vomiting. Kelly of Baltimore and Boldt of New York have been the principal advocates of early rising after section, and they have many leaders of the profession as followers. I have tried both methods and have never been able to convince myself of the advantages of early rising. In the first place, no wound is sufficiently strong at the end of five or seven days to permit walking about with safety. I grant you that we can suture them so that it may be done in many cases without accident, but at the same time we should remember that it takes a round cell twenty-one days to become a fibrous cell. I am firmly convinced that those cases in women who have had long-standing pelvic disease with unstable nervous systems can be restored to perfect health only by a prolonged rest after operation. The most difficult assertion to controvert is that early rising lessens the danger of thrombus, and I believe that this is true; but this may be accomplished by daily massage, without taking the other added risks.

#### DISCUSSION

DR. JOHN A. WITHERSPOON, Nashville: I have noticed a tendency on the part of surgeons to get their laparotomized patients up entirely too soon. There is nothing to be gained, in my judgment, by sending a patient out after an operation for appendicitis or a gastro-enterostomy before the conditions incident to the operation have been organized for safety.

### Paroxysmal Tachycardia

DR. F. J. RUNYON, Clarksville, reported a case of paroxysmal tachycardia, and said: Ultimately it may be found that the attacks are precipitated by a change in the chemistry of the blood, thus causing a change in the condition of the nerves, probably the removal of some quieting substance.

#### DISCUSSION

DR. JOHN A. WITHERSPOON, Nashville: My experience has been that these paroxysmal attacks are usually neurotic. It is absolutely necessary to differentiate between the possibility of a neurosis and a chronic myocarditis. If you have an atheromatous change in the coronary arteries, you may have a local ischemia, a local point in which the heart muscle is deficiently supplied with blood and produces this condition of a dangerous character. In patients who die with tachycardia the trouble is usually associated with coronary atheroma.

DR. W. B. ST. JOHN, Bristol: Sometimes these cases are the result of auto-intoxication, the toxin being selective in its action and affecting the vagus. I can recall seeing several such cases, and pregnancy would suggest the idea that that was the cause of it.

DR. W. K. SHEDDAN, Williamsport: Were not these patients constipated in their habits and consumers of large quantities of proteins?

DR. RUNYON: One patient suffered constantly from diarrhea. She was on a very restricted diet, which consisted largely of beef-juice. Only one of the cases occurred during pregnancy.

### President's Address: The Necessity for a Full Organization of the Medical Profession

DR. O. DULANEY, Dyersburg: The contrast of medicine and its purposes at the time of the founding of the American Medical Association and at the present time is startling, and shows the height to which humanity can rise. Quite a few of its members are laboring and showing wonderful zeal in its success. You can occasionally hear some remark that the results claimed by the American Medical Association are exaggerated, but this is done solely from ignorance, for no intelligent man can make such a statement. To make the American Medical Association a success, let me again emphasize that the state and local societies are the essential factors for educating and training, and the place to get rid of the practical difficulties which so commonly occur among the physicians. A well-growing membership is an inspiration to any medical society. It is necessary for the officers to attend regularly to keep themselves in close touch with their work, and if they cannot do this, they should resign, for, as stated before, their failure to do their duty necessarily leads to the cessation of life in the society.

The hospital facilities throughout the South are rapidly increasing; laboratories of different kinds are increasing. Quite a good deal of research work has been done by Southern men in the past few years, and this alone should stimulate Southern interests as never before. We have problems that concern the South and the South alone, and some of the diseases can be better mastered by Southern men.

We should encourage our state boards of medical examiners in the great work that they are doing toward establishing reciprocity between the different states, for they certainly have done much toward elevating the standard of medicine.

The progress of medical science has kept pace with the progress of invention, and within recent years has startled the world with knowledge that seems superhuman. The physician who does not fully appreciate the tremendous responsibilities of his high calling is unmindful of the serious fact that he is identified with a body of men who are the peers of any class of men in the world. The physician is a benediction to mankind. The movement now must be to elevate still higher the rank and file of the society and seek men who will live up to its exalted standards. My wish is for our steady advancement in all good endeavors.

### A Few of the Therapeutic Physical Agents

DR. J. M. KING, Nashville: The Roentgen ray may be applied for three purposes in cancerous conditions: (1) as a destructive and curative agent in superficial epitheliomas; (2) to retard the growth of inoperable cancers, either sarcoma or carcinoma; (3) to prevent the return of cancerous development on the surface, after excision. With reference to the treatment of the first group, I think I can say without fear of contradiction that practically all superficial epitheliomas without glandular involvement will yield to the Roentgen ray by the proper management, with the exception of those on the mucous membrane of the lip, glans penis, and mucous membrane of other areas. In the treatment of inoperable cases and recurrent cases of the breast, the Roentgen ray is better adapted than radium on account of the large surface usually involved. The Roentgen ray is better adapted to the immediate after-treatment of cancer of the breast than radium and also after removal of superficial sarcoma. I think every case of cancer of the breast should have a thorough after-treatment

with the Roentgen ray. In conclusion and with reference only to the local application of these agents, it may be stated that all of them are eminently useful and practical, and that one may be substituted in a way for another, but that radium is practically displaced by the Roentgen ray and carbon dioxid snow. The Finsen light has taken the place of the Roentgen ray in lupus. The high-frequency spark is an excellent stimulant to chronic ulcers and to indolent acne vulgaris. Carbon dioxid snow takes the place of the electric needle in the removal of selected nevi and moles.

DISCUSSION

DR. C. G. SAVAGE, Nashville: In radium we have an agent that has a decided advantage over the Roentgen ray in malignancy of the mucous membrane. I have seen malignant troubles of the eyelid melt away rapidly under the application of radium. I recall the case of a young man who had a sarcoma of the nasopharynx. He was not expected to live after the removal of the sarcomatous mass, but after its removal radium was used at longer and shorter intervals with the result that the man is well to-day, seven years having elapsed since the operation.

DR. E. T. NEWELL, Chattanooga: With regard to the high-frequency current in reducing blood-pressure, when we have a case of interstitial nephritis and cannot lower the blood-pressure, when the patient cannot sleep, and we feel as though we have to do something for him before he ruptures a blood-vessel, if we can possibly lower the blood-pressure 50 or 30 points with the high-frequency current, then it is certainly a valuable therapeutic agent. I have used the Roentgen ray extensively and have seen good results from it in cases of acne and epitheliomatous growths, combined with the use of the bacterins. I do not think there is anything better than the Roentgen ray in such cases.

DR. KING: It is the consensus of opinion of those who have used radium and the Roentgen ray that neither of these agents will take hold thoroughly of the mucous membrane. As regards radium doing more than the Roentgen ray, I will say that radium is more easily applied to the nose, to the rectum or to the nasopharynx, but that the Roentgen ray will accomplish everything radium does.

### Submucous Resection of the Nasal Septum

DR. HILLIARD WOOD, Nashville, presented a summary of eighty cases in which he had resorted to submucous resection. Of the patients, 56 were males and 24 females. The deviation was on the right side in 37, and on the left in 33, with no record in 10. The youngest patient was 9 years of age, the oldest 58, and the number of perforations was 3.

DISCUSSION

DR. RICHMOND MCKINNEY, Memphis: Most of the obstruction in these cases is cartilaginous. We have to take away the bony deviation. The essayist spoke of making a long primary incision. If you make a small incision, you must enlarge it afterward. Anesthesia is important. I prefer the Ballinger method.

DR. W. J. BROYLES, Johnson City: If there is any inequality in the nostrils, Nature tries to remedy it by enlarging the lower turbinate on that side or the middle turbinate. Nature attempts to have the two sides of the nostril about equal, and if there is any inequality, it will bring about trouble in the throat or middle ear.

DR. J. MCCHESNEY HOGSHEAD, Chattanooga: The anesthetic is one of the most important things in connection with this work. For the past two years I have been using novocain, and like it far better than cocain. The operation is not so hard if you get the patient anesthetized, and you can control hemorrhage.

DR. C. B. WYLIE, Chattanooga: The operation described is the most important operative procedure in intranasal surgery, and gives us better results than any measure we have heretofore tried.

DR. J. H. CARTER, Memphis: There is great danger attending cocain anesthesia. I would like to ask the author of the paper whether he has had or knows of any deaths following cocain anesthesia?

DR. J. W. MOORE, Nashville: The greatest objection raised to resection of the nasal septum for the relief of deflections has been that perforation frequently results, and it is therefore important how the initial incision is made, particularly the incision through the cartilage.

DR. J. P. CRAWFORD, Nashville: In the past three or four years I have been accustomed in this work of resection of the nasal septum to use a spray of quinin urea, and afterward use cocain, and have done so with satisfactory results.

DR. WOOD: I have had one death from cocain anesthesia, but it was not after a submucous resection operation.

### Incision and Cure in Three Cases of Prolonged General Suppurative Peritonitis Pointing at the Umbilicus

DR. W. D. HAGGARD, Nashville: All the cases of abdominal peritonitis which had undergone suppuration that I have observed have been of the localized type, and have all ended fatally in spite of irrigation and every other means. These cases, therefore, form a peculiarly distinct group and are not reported as a triumph of surgery, but simply to show what Nature can and will do. While operation was demanded and was curative in all, yet the real battle had been waged and won by the patient. All that remained was to open the pointing umbilicus in each case, as one would a gum-boil and allow the enormous quantity of pus to escape. They probably would have perforated themselves in a few days more and the same results would have been obtained.

DISCUSSION

DR. J. HUGH CARTER, Memphis: In one case I opened through the umbilicus under local anesthesia, and a great deal of seropurulent fluid escaped. After several days the patient seemed to be almost well and ready to go home. The next morning the patient got worse, and five or six days later an abscess formed over the appendix. At the second operation the appendix was found entirely destroyed. After the abscess was opened and drained, the patient recovered.

DR. ROBERT MANN, Memphis: I was impressed with the importance of what Dr. Haggard said of not trying to do too much in peritoneal abscesses. A simple incision is generally all that will be indicated.

### Officers Elected

The following officers were elected for the ensuing year: president, Dr. W. D. Haggard, Nashville; vice-presidents: For Middle Tennessee, Dr. E. M. Holmes, Readyville; for West Tennessee, Dr. Robert Mann, Memphis; for East Tennessee, Dr. H. P. Larimore, Chattanooga; secretary, Dr. Perry Bromberg, Nashville; delegate to American Medical Association: Dr. Jere L. Crook, Jackson; alternate, Dr. John B. Steele, Chattanooga. Place of next meeting, Memphis, April 14, 1914.

---

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

*Meeting held March 24, 1913*

The President, DR. BROOKS H. WELLS, in the Chair

### SYMPOSIUM ON CANCER

### Problem of Cancer

DR. FRANCIS CARTER WOOD: The problem of cancer may be examined from several points of view: 1. From the purely clinical side, using human material entirely and disregarding as of little importance the results of the experimental method when applied to animals or human beings, the object of the quest being the discovery of a cure, without reference to the cause of origin of the various neoplasms. 2. As a phase of experimental pathology in which the human tumor is all-important and the general question of interest only in so far as it explains or amplifies the data obtained from the clinical and laboratory study of human tumors. 3. As a phase of general biology, in which instance the cancer of the mouse is as interesting as that of man. From whatever direction approached the fundamental problem is simple. It is only why

one cell grows without observing the rules limiting tissue proliferation in adults, while other cells do not. Inversely, an equally important and difficult question is why the normal adult cells do not grow wild, but remain in fixed anatomic regions. The primary etiologic question is, therefore, why a cell grows.

A summary of the results of animal experimentation brings out the following facts, which may be regarded as proved: 1. Carcinoma in animals is not contagious. 2. Carcinoma in animals is not due to a parasite. 3. The morphology of carcinoma throughout a long series of propagations remains much the same. 4. In the transplantation of carcinoma from one animal to another the new tumor is produced entirely from the cells transplanted, and no transplantation will occur if the cells are crushed or their individuality is in any way destroyed. 5. Occasionally in the course of a transplantation of a carcinoma, a sarcomatous change may be induced in the connective-tissue elements of either the stroma of the tumor or the connective tissue of the animal in which the new tumor developed, so that a sarcoma is produced that may overgrow the carcinomatous portion, and the resulting tumor continue as a sarcoma. This phenomenon corresponds with the observation occasionally made in human beings, of a mixed carcinoma and sarcoma; but no proofs of the permanence of the carcinomatous elements have been obtained because of the impossibility of inoculation experiments in human beings. 6. The microscopic structure of a tumor is no certain guide as to its malignancy. With certain reservations this applies quite as well to human beings. Mechanical conditions seem to play just as important a part in the malignancy of a tumor as its purely morphologic cell structure. 7. There is a marked difference in susceptibility to tumor inoculation in animals of the same species under different conditions of stock, climate and nutrition. This shows how delicate is the balance between tumor and host, and gives a reasonable basis for hope that by the modification of conditions of living the incidence of carcinoma may be somewhat decreased. The rarity of malignant tumors in certain human races points also along this line. 8. From the study of immunity and therapeutics the conclusion has been reached that it is impossible to transfer tumors from one species to another. 9. Apparently no general immune reaction to carcinoma is produced in the fluids of the body; that is, when live cancer cells are introduced into an animal they do not act as do bacteria or foreign proteins by the production of antibodies, but healing if it occurs is due to local tissue resistance. 10. Finally, autolytic products, or the expressed juices or crushed or ground cells of tumors have no capacity to induce immunity to carcinoma in animals; on the contrary, such material may often produce an increased sensitiveness to tumor growth. Only growing uninjured cells have the capacity to induce immunity, and this immunizing power is inherent not only in the tumor cells but also in normal tissue cells, such as blood-corpuscles or the cells of the liver, kidney, skin or spleen from animals of the same species. While immunity to the inoculation of carcinoma can be obtained by some of the before-mentioned means, no cure can be effected after the graft has taken. Radium and the Roentgen ray are the only agents which regularly produce regression of an inoculated tumor, but unfortunately they have little influence on a carcinoma developing spontaneously in an animal.

The use of animals offers a convenient experimental material of reduced virulence by which we may try out various therapeutic measures under the best conditions; the animal, not having developed its own tumor, offers the optimum opportunity for positive therapeutic results. The lines of attack for the future are then for the biologist to learn as much as possible of the methods of influencing the growth of the normal cell, and he must show us why normal cells are incapable and tumor cells capable of indefinite propagation. The nature of the immunity following the inoculation of living cells must be examined with the greatest care. The serologist must be called in to settle the disputed question of serum reactions following the inoculation of living cells and the question of the presence or absence of immune substances in the blood. The possibility that the great group of human diseases including myeloma, sarcoma, lymphosarcoma, chloroma and leukemia may be due to an infectious agent, and the close relationship of these conditions to Hodgkin's disease, are extremely suggestive.

### Surgical Pathology of Cancer

DR. THOMAS S. CULLEN, Baltimore: The importance of cooperation between the surgeon and the laboratory worker should be emphasized. I believe that in the future all surgeons will be trained laboratory men. This training will enable them to determine whether or not an operation is feasible for the complete relief of the patient. While many investigators are trying to discover the cause of cancer, there are many who are endeavoring to reach an early diagnosis. Cancer of the skin and lips must be differentiated from papillary growths. If the milky patches on the tongues of smokers are removed at once no further trouble will result; if one waits for some time without interference, carcinoma will develop. In cases of carcinoma of the lip, if the radical operation is performed, the chances of complete cure are good. In carcinoma of the stomach, surgical pathology does not help us much, because if we wait for the stomach washings of the characteristic lesions in order to make a diagnosis of carcinoma of the stomach, it is too late to save the patient. The only thing to do is to make an exploratory operation to learn whether or not we are dealing with cancer of the stomach, cancer of the duodenum, or ulcer of either of these organs. The surgeon as well as the pathologist is aided by a fluoroscopic examination, and this is destined to play an important rôle in making early diagnoses. If one has to deal with carcinoma of the intestine, signs of obstruction appear fairly early, and more and more cases are now apparently cured by early operation. The pathology here is quite characteristic. By means of the proctoscope we are now able to detect cancer of the rectum and lower sigmoid at an early stage.

Two or three years ago I diagnosed what I thought was a malignant growth of the ovary, but which I could not understand. The histologic examination of the stroma showed carcinomatous tissue, while other parts of the organ showed sarcoma. There seemed to be two growths present in the ovary independent of each other. This patient was followed up carefully, and died in one year; the local return was sarcoma. Cancer of the breast in the early stage may be beneath the skin, and there may be no adhesions or puckering; but as the disease advances there is the characteristic puckering of the skin. If one cuts into the growth and takes out a local area, the removed portion can be recognized immediately; if it is pronounced cancerous, then the complete radical operation should be done with the removal of the axillary lymph-nodes.

When it comes to the surgical pathology of the uterus, the pathologist acts as the supreme court and decides whether or not cancer exists; and it depends on him whether the patient is subjected to a dangerous operation or not. Here, again, I take advantage of the opportunity to point out the close connection between the laboratory worker and the surgeon—between the pathologic and the clinical side—and it is very fortunate if the two are combined in one man.

### General Principles of the Surgical Treatment of Cancer

DR. JOHN A. HARTWELL, New York: The hope that is aroused by the many experimental studies on cancer must not obscure the fact that at present the only treatment of cancer which is effective is an operative procedure. The fact of prime importance is that in its incipiency cancer is a local lesion. In the early stages the growth is entirely by continuity. Hence there must be a time in its life history when every cancer is amenable to complete eradication, unless it is so placed that it is inaccessible technically. Sooner or later the disease ceases to be a localized lesion, and when this stage is reached its complete eradication is impossible. This statement ignores the rare instances in which the cancer cells seem to find a host sufficiently resistant to destroy them. Fortunately, cancer attacks with greatest frequency the stomach, the uterus, the rectum, the large and small intestine, the female breast, and the structures in and around the mouth, in about the order named as far as frequency is concerned. It is comparatively

rare as a primary lesion in the pancreas, the liver, the brain and the lung.

Four causes are responsible for the enormous and apparently increasing death-rate from cancer: 1. Carelessness and ignorance of the medical profession. 2. Carelessness and ignorance of the laity. 3. The inherent difficulties in diagnosing many cancers in the early stage, even by the greatest care of the best-trained observer. 4. The fact that surgery has yet much to learn concerning the overcoming of difficulties which surround the complete eradication of disease.

The importance of the first two causes is illustrated by the report of the Pennsylvania Cancer Commission, which shows that throughout the state superficial cancer has been apparent on an average of eighteen months before the case came to a surgeon. Eleven months has elapsed from the time a physician had been consulted until the date of the operation. In deep cancers this time was one year. About one case in thirty of breast-cancer was not even examined by the first physician who saw the case; in one case in six, salves, ointments, etc., were prescribed with advice to temporize. Only 68 per cent. of superficial cancers and 48 per cent. of deep-seated cancers are operable when they come to the surgeon. Records from our large city hospitals show that this community is equally open to criticism. Records in one hospital show that in a series of fifty-four cases of cancer of the pylorus only three were really proper cases for the application of the only curative treatment for cancer which is at present known, and in these cases the diagnosis was in doubt. There is no justification for temporizing with a disease that inevitably proves fatal if left alone.

Every patient who presents symptoms which make the diagnosis of a deep-seated cancer seriously to be considered is entitled to and should have urged on him the exploratory operation. A review of the statistical results of the operation of gastrectomy make it little less than criminal that in a city like New York only one patient out of thirty, admitted to a general hospital, reaches the surgeon's care early enough to allow of his being permanently helped. The causes at work are difficulties in diagnosis and carelessness. The campaign inaugurated by the recent surgical congress for education on the subject of cancer is a step in the right direction. This campaign must be energetic and continuous, and must primarily be directed toward an improved condition of affairs in our own ranks. Every diagnostic aid for the early recognition of cancer, including the exploratory operation, if need be, should be employed.

A second principle rests on the fact that certain lesions may be transformed from a benign to a malignant character. The Pennsylvania Commission found that 39 per cent. of superficial and 40 per cent. of deep-seated cancers were the result of such a transformation. If the physician will learn this pathologic lesson and explain to the patient that surgery in a much more dreadful form is the outcome of the waiting policy, I venture to affirm that a much larger number than at present will elect to have the early operation. In many instances a precancerous condition exists, and this term with a definite knowledge of its significance should become one in general daily use by the clinician. The term "precancerous" is used because cancer in its general clinical meaning is not yet present, but will inevitably follow if nothing is done to stop it.

The operative principles which must guide the surgeon in the management of cancer are based on the fact that growth from the original focus of the tumor follows definite lines in individual localities, and on the fact that cancer-cells have an inherent vitality which makes them capable of growth when planted in favorable environment. Experience has taught what lines in general will be taken, but there is a great dearth of knowledge as to which type of tumor is most active in rapid and wide dissemination. The result is that often a needlessly mutilating operation is done, or an insufficient removal is followed by a rapid recurrence. Only a very careful correlation of the clinical history, the operative procedure, the exact morphology of the tumor, and the ultimate outcome of the individual case will ever solve this problem.

After a decision has been made in the individual case as to what must be the extent of the operation, it is imperative that the removal begin at the most distant points, and proceed in an orderly manner toward the most advanced points, always avoiding any exposure of parts already involved. Rough handling must be guarded against to prevent the mechanical extension of cells to new fields, and care must be exercised in making examinations, removing fragments for microscopic examination, etc. Cancer-cells are active entities with great potentialities for evil, and should be treated in such a way as to limit their extent when once they have found a place in the human body.

### Problem in Local Recurrent Breast-Cancer

DR. C. W. STROBELL, Rutland, Vt.: Recurrence is of far greater concern to the surgeon than primary extirpation. Whatever has been accomplished in the direction of cure and the prevention of recurrence cannot be credited to either the accuracy or the utility of Cohnheim's theory of the embryonic origin of tumors, as applied to malignant disease. This theory must be discarded as far as the origin of malignant tumors is concerned. Malignant tumors recur and metastasize, and these attributes are characteristic of pathogenic infection. The rapidity of a recurrence depends on many conditions, none of which is definite or absolute, so that in even the most carefully selected cases operated on under ideal conditions there may be primary recurrence within two or three months, while again recurrence may be surprisingly delayed, as notably in scirrhus conditions.

Recurrence following radical extirpation is almost universally regarded as an external evidence of internal metastases. It should not be so regarded. It simply means the perceptible evidence of renewed activity of surviving specific pathologic organisms. If internal metastasis to an abdominal or pelvic viscus existed at the time of the recurrence, it so existed independently of the latter. Metastasis dating from a local recurrence is only by continuity through the chest wall to the pleura and lung, and thence to the general system. Whenever metastasis to any part of the abdominal or pelvic viscera manifests itself prior to or coincident with the recurrence, it is certain that the primary operation was done too late. This cannot be known at the time of the operation.

To-day, for the first time in medical history, there is apparently something tangible on which to hang our hopes. This is mainly the obvious fact of infection by a specific pathogenic organism, and the apparently corroborative results of the new chemical surgery. This chemical surgery is based on the previously assumed facts and on scientific principles, and it questions altogether the expediency or safety of extirpation by excision through presumably healthy adjacent tissue. The foregoing facts should be accentuated in connection with the speedy and most radical secondary operation on the earliest indication of recurrence. When unaccompanied by internal metastasis, recurrence is a curable condition.

### How We May Reduce the Mortality from Cancer of the Uterus

This paper, by DR. HERMAN J. BOLDT, was published in full in THE JOURNAL, March 29, 1913, p. 968.

### Resection of the Middle Portion of the Esophagus for Carcinoma

DR. FRANZ J. A. TOREK: This is the first case in which this operation has been done successfully. The patient was a man aged 67, with a tumor just below the arch of the aorta. He was operated on, March 14, 1913. The incision was carried through the whole length of the left seventh intercostal space, from the posterior end of which the incision was continued upward, cutting through the seventh, sixth and fourth ribs at their angles. This is simpler and gives a better exposure than any of the other methods of access. To reach the parts behind the arch of the aorta a number of its thoracic branches were divided and the aorta was lifted forward. To do away with the danger of leakage from the upper stump of the esophagus, which has been the cause of many deaths, I dissected the whole esophagus free and brought it out through an incision at the anterior border of the left sternocleidomastoid muscle. The patient made a satisfactory recovery. Success in these cases depends largely on early diagnosis.

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

## PUBLIC HEALTH PAMPHLETS

The amount of popular literature on health topics is constantly increasing in quantity and improving in character. Publicity for educational purposes has become a recognized qualification for the successful health officer, whether state or municipal. It is becoming recognized more and more that the principal causes of disease are based on social conditions, and that the prevention of disease is therefore a social rather than a scientific or medical problem. Science must, of course, discover the specific cause of each disease, its life-history and growth, its method of transmission and its manner of entrance into the human body, and the most effective means of preventing the disease; but after the cause, the method of transmission and the manner of protection have been fully and accurately worked out, the disease ceases to be a problem from a scientific point of view. Though it is then a solved puzzle, the knowledge which has thus been gained still remains for organized society to apply; and the application of it is the most difficult part. As it is beyond the control of the medical profession, it consequently becomes a public duty. The performance of a public duty by the average citizen requires an overwhelming sense of obligation, and this in turn requires knowledge and understanding. The result is that the education of the public regarding preventable diseases is no longer a debatable question. It is absolutely necessary for further progress.

These general principles are at once recognized as soon as we apply them specifically. In tuberculosis, for instance, we know all about the specific cause of the disease, its life-history, its manner of entrance into the body, and the means of preventing transmission from one person to another; but the application of these methods of prevention involves such complex social problems as nutrition, environment, sanitation of houses, factories, workshops and schoolrooms, regulation of hours of labor, compensation, etc. In the same way we know all about the specific organism of typhoid; where it comes from, how it gets into the human body and how typhoid infection can be prevented; but the actual prevention involves inspection and control of water-supply and milk-supply, the extermination of flies, the proper disposal of sewage, and other complex social problems. In order to secure action on these questions, practically all of which are matters of public policy determined ultimately by the people, it is necessary to show the relation between insanitary factories or tenements and consumption, or between flies and typhoid fever. This change of attitude on the part of physicians, not only toward disease itself but also toward the public's relation to disease and its prevention, is of the utmost significance and cannot fail to exert profound influence on the social responsibilities of the medical profession in the future.

The enormous quantities of pamphlets now being printed and distributed both by state and local health departments, and by philanthropic organizations, is the best evidence of the public interest on these subjects. A number of pamphlets recently received about the same time from widely separated sources all prove, on examination, to be prepared and distributed for the same purpose, namely, that of instructing the public as to disease and its prevention.

Five numbers of the *Bulletin* of the State Board of Health of Alabama (the Medical Association of the State of Alabama), carry information on a variety of topics. The first issue of the *Bulletin*, dated October, 1912, contains the semi-annual report of the State Board on births, deaths, marriages and divorces. It opens with the following significant statements: "The first duty of the state is to conserve the health of its citizens. The superstructure of preventive medicine is built on vital statistics."

After giving the vital record of the state by counties, the *Bulletin* gives seven reasons why births and deaths should be registered.

The second or November number contains additional data and the story of a child that lost its inheritance through failure on the part of the doctor to register its birth. Other numbers of the *Bulletin* contain items on fresh air, cerebrospinal meningitis, press notices for newspapers, etc. A special bulletin on the house-fly appeared in January. This is a little eight-page pamphlet, containing a readable and comprehensive story about flies and why they should be destroyed.

The United States Public Health Service in Reprint 115 has issued a four-page article by Dr. Charles Wardell Stiles of the Hygienic Laboratory on "Hospital Relief for Rural Districts," discussing the value of hospital trains in furnishing needed medical and surgical aid for those living at a distance from properly equipped hospitals. The lack of proper hospital accommodations in the rural districts is one of the crying evils of the day. Whether the solution of this problem will be found in hospital trains, as suggested by Dr. Stiles, or in properly equipped county hospitals to take the place of the present disgraceful system of county institutions is an interesting speculation.

The Virginia State Board of Health can always be relied on to present something that is novel, timely and interesting. The *Virginia Health Bulletin* for March, contains a catechism on public health for use in the elementary grades of the public and private schools of Virginia. The catechism is divided into three parts: 1. The Germ Theory of Disease. 2. Specific Germ Diseases. 3. General Sanitation. In six pages of questions and answers in simple words is condensed a large amount of valuable information which every schoolchild should have.

Senate Document 1000, printed at the request of Senator Owen, contains the mortality statistics of Pennsylvania, as given in a letter from H. L. Hosford, secretary of the Department of Health of Pennsylvania, and also an outline of the organization of the Pennsylvania State Department of Health. Under the title "Buying Human Life in Pennsylvania," Mr. Hosford shows that in seven years the death-rate in Pennsylvania has been lowered from 16 per thousand to 14 per 1,000, "which means that had the death-rate of 1906 prevailed in 1912, 15,938 people would have died in Pennsylvania this year who are now growling about the high cost of living," and that if the ratio of 1906 had been maintained during the entire seven years, there would have been 51,000 more deaths in the state than have occurred; as at the lowest calculation there are ten cases of illness to every death, 510,000 cases of sickness have been prevented. The work of the State Department of Health has prevented 17,000 people from dying in Pennsylvania from communicable diseases, which means that 170,000 cases of illness with their accompanying economic losses have been prevented. Mr. Hosford naturally concludes that the people of Pennsylvania will regard the money spent for this purpose as a good investment. The pamphlet contains facts which are interesting. In 1911, 35,016 children died under 2 years of age. Of these 28,377 were less than a year old. The majority of these babies died from disorders of nutrition. One-sixth, or nearly 6,000 babies, died through neglect of proper personal hygiene. This pamphlet constitutes one of the strongest possible arguments for proper state health organization.

Bulletin R of the Department of Recreation of the Russell Sage Foundation contains an outline of its recreation department, a list of pamphlets on general recreation, and a list of the education material which this department lends to those interested. This includes a large number of lantern-slides on school playgrounds, park and municipal playgrounds, athletic fields, swimming-pools, recreation centers, gardens, and practically every side of the recreation question.

Among life insurance companies doing conservation work, the Postal Life is conspicuous for the character of its educational material. Health Bulletin 10, issued by the company's Policyholders' Health Bureau, contains an interesting conversation between a cold-blooded scientist and a visitor from Mars on the cost of modern living and the low cost of moderate liv-

ing. A short article on "How to Avoid Spring Tonics" endeavors to point out to the policy-holder the absurdity of old ideas of sarsaparilla and other "spring-cleaning medicines" which the average citizen has long considered necessary to cool or thin his blood, which was supposed to become both thick and hot during the winter. At the bottom of the pamphlet is printed in red ink the following suggestions to policy-holders: "Write your senator to vote for the Owen bill for a consolidation of federal health-activities. This bill will not interfere with personal liberty, but will simply bring about a more rapid dissemination of information regarding disease-prevention." Evidently the managers of the Postal Life Insurance Company and of all the other large insurance companies of the country, like the hard-headed business men that they are, are in sympathy with the diabolical scheme to deliver the country over to the "Doctors' Trust." Or, on the other hand, it is barely possible that the big financial men in this country have discernment enough to see that preventable disease is a waste and a dead loss, and that coordination of public-health activities is the only way by which such a loss can be prevented. It is daily becoming more and more apparent that disease is due to inefficient management and poor business sense, and that the good manager will seek to abolish it.

The pamphlets mentioned are only a few of those which are constantly being sent out by organizations other than the American Medical Association. The student of public-health questions cannot disregard the effectiveness of this method of education, while the results from such wide-spread efforts at enlightenment cannot fail to be beneficial.

## Medical Education and State Boards of Registration

### COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

FLORIDA: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

GEORGIA: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

ILLINOIS: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

LOUISIANA: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

MASSACHUSETTS: State House, Boston. May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee.

### Vermont February Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the special examination held at Montpelier, Feb. 18-20, 1913. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 3, of whom 1 passed and 2 failed. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| George Washington University | (1911) | 87.1 |
| FAILED | | |
| Columbia University, College of Physicians and Surgeons | (1904) | 69.8 |
| University of Naples, Italy | (1904) | 62.3 |

### Connecticut March Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written examination held at New Haven, March 11-12, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 22, of whom 16 passed and 6 failed. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| Yale Medical School | (1911) 80.8; (1912) 79.2, 79.7, 79.9, 81.1, 82, 83.7, 88.4. | |
| Georgetown University | (1912) | 78.5 |
| Johns Hopkins University | (1911) 76.8; (1912) | 77.8 |
| College of Physicians and Surgeons, Baltimore | (1912) | 78.2 |
| University and Bellevue Hospital Medical College | (1909) | 78.7 |
| Columbia University College of Physicians and Surgeons | (1905) | 83.2 |
| Woman's Medical College of Pennsylvania | (1912) | 75.9 |
| Jefferson Medical College | (1912) | 80.2 |
| FAILED | | |
| Georgetown University | (1912) | 74.6 |
| University of Maryland | (1912) | 68.8 |
| Maryland Medical College | (1911) | 65.5 |
| College of Physicians and Surgeons, Baltimore | (1911) | 69.4 |
| College of Physicians and Surgeons, Boston | (1908) | 61.1 |
| University of Vermont | (1912) | 67.2 |

## Book Notices

THE DISEASES OF THE SKIN. By Willmott Evans, M.D., B.S., F.R.C.S., Surgeon to the Royal Free Hospital, London. London Medical Publications. Cloth. Price, $3.75. Pp. 375, with 32 illustrations. New York: Oxford University Press, 1912.

While this volume contains 375 pages, large octavo, it is really a small book, for the type is large, the spacing wide, and the paragraphs short. It is a pleasing book to the eye, but after saying this we sadly confess that we find little else to commend. The work is a conventional short handbook of skin diseases, so sketchy as to give no satisfactory consideration of anything, and without personal color. There are many surprising statements to be found, as for example: water is readily absorbed by the skin; urticaria is most commonly produced by fish; the diagnosis of xanthoma diabeticorum from xanthoma simplex depends mainly on the discovery of glycosuria; excision is the best treatment for large pigmented nevi and elevated vascular nevi.

As evidence of the author's looseness of style (and thought?), the definitions are illustrative: Erythema multiforme is "an acute inflammatory disease of the skin with erythematous and other lesions"; syphilis is "a chronic, specific, contagious disease, with numerous forms of eruptions." If such meaningless definitions are to take up space at the head of every chapter, it would be better to lump the whole thing and say in the preface or in a foot-note at the beginning of the book that all skin diseases are "rashes" and let it go at that. A few of the illustrations are good; most of them are from photographs out of focus; some are reproductions of old illustrations of Erasmus Wilson's, and remind one of the old woodcuts of one's early childhood. The chapter on diseases of the nails consists of twenty-two lines and contains 209 words.

PATHOLOGY AND TREATMENT OF DISEASES OF WOMEN. Fourth Edition, Rewritten by A. Martin, Professor und Direktor der Universitäts-Frauenklinik in Greifswald, and Ph. Jung, Professor und Oberarzt der Universitäts-Frauenklinik in Greifswald. Only Authorized English Translation. Written and Edited by Henry Schmitz, M.D., Professor of Gynecology, Chicago College of Medicine and Surgery. Cloth. Price, $5. Pp. 475, with 187 illustrations. New York: Rebman Company, 1912.

This volume represents the fourth German edition of Martin and Jung's widely known "Pathologie und Therapie der Frauenkrankheiten," which has stood for some years as an example of clearness and conciseness, remarkably free from discussion of theories and from repetition. While not comprehensive in scope, being limited to consideration of pathology and treatment, it fulfils its purpose as a practical work for the practitioner and student. Without going into elaborate exposition, the authors follow a logical classification of the subject-matter. Pathologic histology of each of the pelvic viscera is reviewed, and illustrations from original slides containing sections of typical lesions are profuse. This forms one of the most valuable features of the book. In this connection it is interesting to note that dysmenorrhea membranosa is classed as a form of

endometritis, and that the old classification of endometritis is followed. The various steps of the different operations are concisely and clearly described, but not so well illustrated as we have come to expect. Curettage is represented as an operation *per se;* the Hegar-Freund technic is followed in plastic work on the perineum, and both the abdominal and the vaginal radical extirpation for uterine carcinoma are described in detail. The final chapters on diseases of the pelvic connective tissue and of the pelvic peritoneum show most extensive revision. The translator has been fortunate for the most part in his rendition from the orginal. He has been content to translate Martin and Jung, and for this those who wish to read the work of these foreign authors in English should be thankful.

ARBEITEN AUS DEM KAISERLICHEN GESUNDHEITSAMTE, Volume 41. Denkschrift über die seit dem Jahre 1903 unter Mitwirkung des Reichs erfolgte systematische Typhusbekämpfung im südwesten Deutschlands. Paper. Price, 26.40 marks. Pp. 604, with 26 illustrations. Berlin: Julius Springer, 1912.

In this volume are recorded the results, scientific and practical, of the systematic efforts to stamp out typhoid fever that have been conducted in southwestern Germany since 1903. During the time since then numerous special typhoid stations have been established, and an immense amount of valuable work has been conducted by the bacteriologists and epidemiologists attached to them. We owe to this undertaking the perfection of the bacteriologic diagnosis of typhoid, the discovery of the typhoid carrier, the rôle of the bile in maintaining the carrier state, and a fuller recognition than before of the importance of the patient as the source of infection and as a means of spreading it. The principles underlying this, the most thorough and advanced effort to control typhoid fever, were formulated by Robert Koch, the central idea being that the most dangerous source of typhoid is the infected person. There are in this volume twenty or more extended articles dealing with the various phases of this organized struggle against typhoid, all written by investigators whose names are familiar from the results they have accomplished, and the outcome is an invaluable source of information to all who are directly concerned with the stamping out of typhoid fever.

FORTPFLANZUNG: VERERBUNG: RASSENHYGIENE. Illustrierter Führer durch die Gruppe Rassenhygiene der Internationalen Hygiene-Ausstellung 1911 in Dresden. Herausgegeben von Prof. Dr. Max von Gruber und Dr. Ernst Rüdin. Second Edition. Paper. Price, 7 marks. Pp. 191, with 230 illustrations. Munich: Lehmanns, 1911.

At the Dresden hygiene exposition the facts concerning propagation, heredity and race hygiene were collected and so classified as to be of great value in the study of these subjects, which are now attracting so much attention among scientific students and students of social and economic problems. Over sixty teachers in the schools of Europe and America cooperated in the collection of specimens, illustrations and books. This profusely illustrated catalogue, prepared by Gruber and Rüdin, gives a clear idea of all this material, and is an index to the present state of knowledge in this field. The data are presented in chapters on propagation, variation, selection and mutation, inheritance of acquired characteristics, mendelian law, inheritance in the human race, degeneration, race hygiene and neomalthusianism.

ELÉMENTS DE SÉMÉIOLOGIE ET CLINIQUE MENTALES. Par le Dr. Ph. Chaslin, Médecin de la Salpêtrière. Cloth. Price, 18 francs. Pp. 956. Paris: Asselin et Houzeau, Place de l'Ecole-de-Médecine, 1912.

The author takes up the semeiology of mental diseases in a manner best calculated to imprint vividly the principles of the entire subject on the student's mind. Each symptom or symptom-complex is illustrated by an actual case citation. By means of over 350 case histories, described in simple language, psychiatry is taught as the clinician does when he demonstrates his patients in the clinical arena. So vividly are the cases pictured that he who reads may diagnose.

Paying little or no heed to the newer classifications, the author has adopted one of his own, which best suits his clinical needs and enables him to paint life-like portraits of disease. Like Charcot's "Leçons du mardi" in neurology, this book consists of a series of lessons on mental diseases from the clinical side only. In the first section of about 290 pages individual signs and syndromes are discussed. The second section of 557 pages constitutes the main portion of the volume and treats of each individual disease as a whole, profusely illustrated by case records. The third and fourth sections are devoted to the examination of patients and their treatment, the latter of which may as well have been omitted, so meagerly has it been treated. The last section deals with the subject of commitment—of no interest to Americans. While this book is primarily intended for beginners, the advanced student and teacher of psychiatry will find in it much of value. It is a valuable addition to the leading modern text-books on mental diseases.

TEXT-BOOK OF GENERAL AND SPECIAL PATHOLOGY FOR STUDENTS AND PRACTITIONERS. By Henry T. Brooks, M.D., Consulting Pathologist to Beth-Israel, New York City. Cloth. Price, $6 net. Pp. 1127, with 525 illustrations. Philadelphia: F. A. Davis Company, 1912.

This book seems to be a combination of translation, compilation and a minimum of original work. The work was originally started as a translation of Langerhans but was expanded by including reference to the extensive developments in the field of pathology since his death. The chapters on immunity and the eye are by collaborators. The numerous illustrations are practically all copied from Langerhans or other published works, mostly German; many are in color. The subject of pathology is such a large one that an attempt to treat it in one ordinary-sized volume results in most instances in a mere enumeration of conditions with little explanation, and could not perhaps result in a work that would greatly enlighten either the student or the general practitioner, for whom the work is intended, on the subject of general or special pathology. The last statement is not so much a criticism of this particular book as it is of any attempt to treat such an immense subject in a few pages.

GENITO-URINARY DISEASES AND SYPHILIS. Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital. Third Edition. Cloth. Price, $5 net. Pp. 605, with 275 illustrations. Philadelphia: F. A. Davis Co., 1912.

In this edition the book has been revised completely, and many chapters have been rewritten to conform to present-day knowledge on such subjects as the treatment of bladder tumors by the high-frequency current and extensive resection. The author has kept pace with the advances made in genito-urinary surgery in the past five years, and besides recording these, he includes his personal observations. The book is well written and contains a wealth of information in comparatively few words. The many heads and subheads make easily accessible any portion of the text, and the latter is, as it should be, a clear and concise, but none the less complete presentation of the best in genito-urinary surgery. The illustrations really illustrate the text, which is more than can be said of most pictures. We wish to commend especially the diagrammatic drawings showing the anatomy of the prostate and the details of the technic of prostatectomy.

AN ATLAS OF THE DIFFERENTIAL DIAGNOSIS OF THE DISEASES OF THE NERVOUS SYSTEM. By Henry Hun, M.D., Professor of the Diseases of the Nervous System in the Albany Medical College. Cloth. Price, $4. Pp. 290, with analytical and semeiologic neurologic charts. New York: The Southworth Company, 1913.

While we do not agree with the author of this atlas that the perusal of it will give to the student or physician a key by which, in a comparatively easy manner, from one or more important symptoms he can arrive at a diagnosis, we believe that the careful study of it will contribute largely to this result. It is an excellent book, and in some respects quite unique. The differential diagnosis tables are complete and up to date. Especially praiseworthy are those on insanity, ataxia and coma. Cerebral and spinal localization have been adequately presented. On the whole, this book is a valuable addition to neurologic literature and will be of immense assistance to those preparing for examinations.

Clinical Pathology of Syphilis and Parasyphilis and Its Value for Diagnosis and Controlling Treatment. Hugh Wansey Bayly, M.A., M.R.C.S., L.R.C.P., Pathologist to the London Lock Hospitals. Cloth. Price, $2.25 net. Pp. 191, with illustrations. New York: William Wood & Co., 1912.

This is a little book, less than an inch thick, with pages about 4½ by 7 inches, printed in large type, and with a bright red cloth binding; altogether it suggests in its appearance an unassuming little volume of short stories or something of that sort. We emphasize the physical characters of the volume because in their modesty they are so at variance with the worth of the contents, which comprise the most useful statement of the newer facts of syphilis that has yet appeared. The whole of the newer syphilis is presented and presented well. The author has the happy faculty of giving essentials without overloading them with accessories and bibliographic embellishments. The book is recommended to every one who is in need of knowledge of its subject—and that includes all of us.

Text-Book of Ophthalmology. In the Form of Clinical Lectures. By Dr. Paul Roemer, Professor of Ophthalmology at Greifswald. Translated by Dr. Matthias Lanckton Foster. Volumes 2 and 3. Cloth. Price, each $2.50 net. Pp. 896, with 199 illustrations; also to be bound in one volume, cloth, price $7.50. New York: Rebman Company, 1913.

We reviewed the first volume of Roemer's work a year ago. Now that the second and third volumes have appeared, we find the promise of a very complete treatise on ophthalmology fulfilled. The illustrations, however, leave much to be desired, being neither so large nor so numerous as we now consider necessary in a text-book. In spite of the well-written text and the efficient services of Dr. Foster, the translator, it would seem that there is no great need for a work of this sort in view of the many similar publications already in the market.

Diagnostik der Farbensinnstörungen. Eine Einführung für Sanitätsoffiziere, beamtete Aerzte, Bahnärzte und Studierende. Von Professor Dr. Stargardt, Privatdozent an der Universität zu Kiel, and Professor Dr. Oloff, Marine-Oberstabsarzt zu Kiel. Boards. Price, 1.80 marks. Pp. 45. Berlin: Julius Springer, 1912.

The authors treat the question of color-blindness from the practical points of view of army, marine and railway requirements. After discussing the theories of the color sense and classifying color disturbances, they describe a variety of tests, emphasizing the necessity of using several tests to avoid errors. Nagel's and Stillings' methods are recommended especially.

Die Krankheiten der Mundhöle, des Rachens und der Nase. Von Dr. L. Grünwald. Third Edition. Part 1: Lehrbuch. Lehmann's Medizinische Handatlanten. Volume 4, Part 1. Cloth. Price, 18 marks. Pp. 801, with 230 illustrations. Munich: J. F. Lehmann, 1912.

Although this is the third edition, the rapid advancements which have been made in the special subjects under discussion since the second edition have made it necessary almost to rewrite the entire volume. Much new matter has been added, so that the size of the volume has been increased considerably. A special feature of the work, as of all Lehmann's atlases, are the illustrations, of which ten are in color. Deserving of particular mention are the chapters on the development, anatomy and physiology of the mouth, throat and nose, subjects which in most works are usually slighted. An elaborate bibliography and a good index complete the work.

Die klinische Stellung der Sogenannten Genuinen Epilepsie. Referate, Erstattet auf der Tagung der Gesellschaft deutscher Nervenärzte in Hamburg, 1912. Von Prof. Dr. E. Redlich and Geh.-Rat Prof. Dr. O. Binswanger. Paper. Price, 6 marks. Pp. 146. Berlin: Julius Springer, 1913.

This paper, by two competent observers, on the clinical position of so-called "genuine" epilepsy constitutes interesting reading. It is to be regretted, however, that after reading this critical material, we have learned nothing new. The fact is that though prizes have been awarded and much labor has been spent in elucidating the problem of epilepsy, we are no nearer its solution than Hughlings Jackson and Gowers were when they spoke of explosions of nervous energy. At the same time the brochure before us is proof of great activity and of an earnest attempt to correlate all that has so far been done in this perhaps the most obscure chapter in neuropathology.

The History of the Prison Psychoses. By Drs. Paul Nitsche and Karl Wilmanns. Authorized Translation by Francis M. Barnes, Jr., M.D., Senior Assistant Physician, Government Hospital for the Insane, Washington, D. C., and Bernard Glueck, M.D., Senior Assistant Physician, Government Hospital for the Insane, Washington, D. C. With an Introduction by William A. White, M.D. Nervous and Mental Disease Monograph Series No. 13. Paper. Price, $1.25. Pp. 84. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912.

The excellent historical review of the prison psychoses, of which this is a translation, covers the period from the pioneer publication of Delbrück down to the present. It cannot fail to attract the attention of penologists and psychiatrists throughout the country, as the important relation of crime to the psyche is daily becoming more evident. Dr. William A. White in the introduction to this monograph states as his opinion that "the present volume should serve a distinct purpose in helping to fix attention on those concepts and methods that make for a better understanding of the criminal and for more intelligent methods of dealing with the many difficult problems that surround him." While this monograph is purely historical in content, its perusal by state's attorneys and judges might lead to some practical reforms.

# Medicolegal

## Constitutionality of Law Imposing License Tax and Exempting Ex-Confederate Soldiers

(*McLendon vs. State (Ala.), 60 So. R. 392; 406*)

The Supreme Court of Alabama holds constitutional section 33½ of the revenue law of that state in so far as it provides that any person engaged in the practice of medicine or other named professions "having a place of business and charging for his services shall pay an annual license for the state only of five dollars; provided . . . that no person shall be required to pay this tax until after he has practiced his profession for one year." But it holds unconstitutional that portion of the section which provides that "ex-Confederate soldiers who are entitled to practice any of these professions in Alabama shall not be required to pay this tax."

The court says that it is unable to see clearly that the exemption of Confederate veterans from the payment of this occupation tax, as here provided for, is inconsistent with the principle of equality and uniformity in the imposition of the tax, or in violation of any of the general provisions of the Bill of Rights. Furthermore, three members of the court are of the opinion that the fourteenth amendment to the federal constitution is not offended by said section 33½; but three members think that the immunity granted to Confederate veterans by its proviso clause is offensive to that amendment, and that the entire section is thereby rendered invalid, while the seventh member, casting the decisive vote forming the decision of the court, holds that the proviso clause is invalid, but that the rest of the section is valid with the proviso stricken out. There is no natural distinction between such veterans and other citizens which can legitimately mark them for favor in the unrestricted and unburdened pursuit of occupations which all citizens have an equal right to follow under equally favorable conditions.

## Explanation of Provision to Secure Hygienic Schoolhouses

(*Lunn vs. City of Auburn (Me.), 85 Atl. R. 893*)

The Supreme Judicial Court of Maine says that before section 2 of chapter 88 of the public laws of that state of 1909 was enacted, the statute, for over fifty years, had required the approval of the plans of schoolhouses by the school committee. This was undoubtedly based on the presumption that approval would embrace the important features of "heating, lighting, ventilating and the hygienic conditions of such buildings." But the presumption became a myth in the progress of sanitation; consequently section 2 was enacted to make imperative what

before was presumed, the section providing that "Where the plans and specifications prepared by the state superintendent are not used, all superintending school committees of towns in which new school houses are to be erected shall make suitable provision for the heating, lighting, ventilating and hygienic conditions of such buildings, and all plans and specifications for any such proposed school building shall be submitted to and approved by the state superintendent of public schools and the state board of health before the same shall be accepted by the superintending school committee or school building committee of the town in which it is proposed to erect such building."

"Hygienic conditions" have become, under modern requirements of sanitation, vital and indispensable features of plans and specifications intended for the erection of a school house at the present time. The legislature insisted by the language used that they should be. The word "hygienic" takes the work of the committee into the domain of medical science. Hygiene is defined: "A system of principles or rules designed for the promotion of health." "Hygienic: Pertaining to health or the science of health." Century Dictionary. To insure efficient action the plans must be approved, not only by the state superintendent, but by the board of health, composed partly of medical men. Thus important did the legislature wisely regard the care and health of the school children.

### Loss of Examiners' Decision and Failure to Send Notice

*(State ex rel. Stanley vs. Witter et al. (Wash.), 123 Pac. R. 471)*

The Supreme Court of Washington says that the statute of that state provides that, in case of a refusal of a license by the medical board, the board shall file a brief and concise statement of the grounds and reasons for such refusal in the office of its secretary, "which statement, together with the decision of said board in writing, shall remain of record in said office." But when the secretary of the board at the time testifies that a formal decision was prepared by the board and filed the fact that it seems subsequently to have been lost or misplaced does not entitle the applicant in the case for a license to have the board act on his license as if in the first instance. If his rights are in any way jeopardized by the destruction of the paper, he possibly could by proper procedure have the same restored; but the destruction of the paper does not entitle him to have the board act anew on his application.

The relator complained that no notice of the rejection of his application was sent to him, and, conceding that he received no such notice, although the secretary of the board disputed his contention to that effect, the fact did not affect the issuance of a writ of mandamus to compel the board of medical examiners to act on his application for a license. He is not now entitled to have further action on his application by the board simply because no notice was sent to him of its original action. If notice was necessary to start the running of the time within which he must appeal from the decision of the board, failure to give the notice would simply extend indefinitely that time; it would not entitle him to force the board to rehear his application.

### Practice Without License—Registration of Osteopath's Diploma Not Enough—State Need Not Prove Practice by Any System or Method

*(Collins vs. State (Tex.), 152 S. W. R. 1047)*

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Collins of unlawfully practicing medicine without a license, for which he was fined $200 and one day's confinement in jail. The court says that it is clearly of the opinion that no honest jury could have found a verdict from the evidence and law in this case other than that of conviction. This evidence, without doubt and without contradiction, showed that the defendant was a doctor of the school of osteopathy, called himself an osteopath, and that he practiced such at the time and place and on the person charged in the complaint and information; that he did treat one Fouch for a disease of his hand, claiming that he could cure it or any other disease; and that he charged and was paid therefor. Fouch testified that he went to the defendant for the purpose of having him treat his hand, which had been hurt something like three months previously, and that the defendant treated him by rubbing his back, pulling his legs and arms, and twisting his head and neck around in different ways; that he treated him in that manner five times in all, for which he paid $2 a treatment; that the treatment did his hand no good, but appeared to make it worse. The complaint and information stated that the disease of the hand was blood-poison.

The court holds that, after the state made the proof it did, it clearly devolved on the defendant to prove, if it was true, that he had a license, whether it was an original one issued to him by the board of medical examiners on examination, or a verification certificate or license based on a diploma. The state even went further than it was required to go at all by showing affirmatively that he had no license registered, either an original issued to him by the board of medical examiners, or a verification license issued to him by said board based on any diploma he may have had. Clearly, under the Texas law, although he had a diploma from the school of osteopathy, which he introduced and which evidently was the one that he had registered, did not entitle him to practice his profession without standing an examination and getting a regular license from the board of examiners, or producing his diploma or other documents before said board and getting from it a verification certificate or license, and, whichever he had, properly registering it with the necessary affidavit made by him.

The main contention of the defendant seemed to be that it was incumbent on the state to prove that he practiced, either generally or on this particular patient, by some particular "system or method," and, as the state had not so proved that he practiced by some particular "system or method," that therefore his conviction was erroneous. The court does not so understand the statute. It was not incumbent on the state to show that his practice was by any system or method, but simply and solely that he treated a disease or disorder, mental or physical, and charged therefor, whether that treatment was by any system or method or not. In other words, the law, as the court understands it, does not permit any one to treat any disease or disorder and charge therefor, without first getting a license or a certification license and having it properly registered in the district clerk's office of his residence, whatever his method or system of treatment, or whether he has any method or system or not.

### No Appeal from Board's Decision Under Reciprocity Act—Revocability of Reciprocity Licenses

*(Williams vs. Minnesota State Board of Medical Examiners (Minn.), 139 N. W. R. 500)*

The Supreme Court of Minnesota holds that the action of the State Board of Medical Examiners in refusing, on any ground whatsoever, to grant a license to a physician licensed in another state, and who makes application for a license in Minnesota, under the so-called "reciprocity act," chapter 236 of the general laws of 1905, is not reviewable by appeal to the district court. The court says it thinks that from a review of the statutes it is apparent that the legislature in recent years has had in mind two methods of admission to practice medicine in the state, namely: (1) By examination; and (2) in the case of foreign physicians, with or without examination, in the discretion of the board—the former provision for admission on diploma having expired Jan. 1, 1899, by express limitation fixed by chapter 89 of the general laws of 1895. Furthermore, it appears that section 2296 of the revised laws of 1905 applies to all persons, whether residents or otherwise, not authorized to practice in the state, who desire such admission on examination and the payment of a fee of $10; examination not only being a condition precedent, but the predominant feature of the act. On the other hand, the reciprocity act contemplates a wholly different procedure. It is plainly a limited statutory application of the doctrine of comity, and is, on this account and by the express provisions of the act, essentially different from the provisions conferring the absolute right to admission to practice medicine on the specified conditions as to examinations, etc. The board is authorized to admit

a foreign physician, either with or without examination, which, of necessity vests the board with a certain discretion, and if it sees fit to require an examination the fee therefor is $50; the statute in both of these particulars being widely variant from the general act. Moreover, the two methods of admission referred to have always been made the subject of separate and distinct enactments. The reciprocity act contains no provision concerning appeals, and while the court may not, perhaps, be required to search for a reason for this omission, it might be attributed to the reciprocal nature of the act, in which connection it may be suggested that it does not appear that appeals are allowed in such cases in other states. Reciprocity and comity import the granting of a favor, which conception of itself would seem to negative the right to complain of its denial, except where such right is clearly given.

The right of appeal is purely statutory. The reciprocity act, as stated, contains no provision for appeal. To sustain the appellant's contention, the court would have to ignore the distinction between the act under which the appellant claimed admission and section 2296, and likewise the reciprocity features of the former, and also would have to assume that the legislature, by the act of 1909, which purports to amend only section 2296, intended to confer the right to appeal on persons not otherwise within its provisions, and whose sole claims in the premises are based on another and distinct act.

In reaching the conclusion that the action of the board in refusing a license applied for under chapter 236 of the general laws of 1905, as amended, is not appealable, the court has not overlooked the suggestion that the result reached would necessarily involve a holding that the board would be powerless to revoke a license granted under the reciprocity act. While such question is a proper one to be considered in determining the legislative intent here involved, its determination in accordance with the appellant's suggestion should not affect the court's conclusion on the question before it; nor does the court pass on it. The court will say, however, that it thinks that such a result does not necessarily follow; but, as there may be some doubt about this, it thinks that it is a matter which should be given legislative attention.

### Amounts Paid for Proper Services Not Recoverable for County

*(Commonwealth, for Use of Hickman County, vs. Scarborough (Ky.), 147 S. W. R. 31)*

The Court of Appeals of Kentucky affirms a judgment sustaining a demurrer to and dismissing the commonwealth's petition to recover from the defendant money alleged to have been improperly paid to him for sevices rendered while a member of the board of health of Hickman County. The court says that he was appointed such member some time in 1903; that he became the secretary of the board and continued in that position for about ten years; that the fiscal court allowed him for his services certain sums altogether amounting to something over $900. It was alleged that the fiscal court made these allowances after the defendant filed a written statement of his account for the year in which his services were rendered. The accounts were itemized. They gave the names of the persons treated for contagious diseases, the names of the persons and families quarantined, and the dwellings fumigated. But it was alleged that, as neither the county board of health nor the State Board of Health had directed the treatment, fumigation and quarantining of the particular persons and places named in the itemized account, the defendant was not authorized to charge for his services, and the court made void orders in allowing him the claims as presented. However, the statute authorizes payment to persons who perform such services as did the defendant. According to the petition, he was a health officer of the county and the secretary of the board, and he performed the services for which he was paid. The error was, according to the petition, that he had not performed same under the orders of the board; that he used his own judgment in the performance thereof. This would have probably been a good defense to his claim, but was not a sufficient reason to require him to refund the money after he had received it under an allowance by the fiscal court.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Albany (N. Y.) Medical Annals

*March, XXXIV, No. 3, pp. 125-188*

1 *Two Cases Exhibiting Lesions of Special Interest for Localization of Aphasic Disorders. L. Archambault, Albany.
2 Mental Hygiene in Widening Sphere of Preventive Medicine. T. W. Salmon, Washington, D. C.
3 Periodicity of Inebriety. T. D. Crothers, Harford, Conn.
4 M-Shaped Colon. J. H. Gutmann, Albany, N. Y.

1. **Localization of Aphasic Disorders.**—The brains of two individuals who were carefully observed clinically were examined by Archambault and a detailed report on his findings is given.

### American Journal of Medical Sciences, Philadelphia

*April, CXLV, No. 4, pp. 469-624*

5 A Year's Work in Hysterectomy. J. B. Deaver, Philadelphia.
6 *Diabetic Standards. E. P. Joslin, Boston.
7 *High Arterial Pressure: High Pressure Hypertrophy of Heart. D. Riesman, Philadelphia.
8 Clinical Study of Coagulation Time of Blood. R. I. Lee and P. D. White, Boston.
9 *Value of Massage in Treatment of Various Disorders in Children. J. Phillips, Cleveland.
10 *Some Hematologic Findings in Pellagra. O. S. Hillman, New York.
11 *Complete Heart-Block with Rapid Irregular Ventricular Activity. S. Neuhof, New York.
12 *Acute Effects of Caisson Disease on Aeropathy. S. Erdman, New York.
13 Late Manifestations of Caisson Disease. P. Bassoe, Chicago.
14 Persistent Ductus Botalli and Its Diagnosis by Orthodiagraph. H. Wessler and M. H. Bass, New York.
15 Empyema, with Special Reference to Feasibility and Importance of Dependent Drainage. T. T. Thomas.
16 Effects of Exposure to Intense Heat on Working Organism. C. N. Fiske, U. S. Navy.

6. **Diabetic Standards.**—The treatment of eight patients, whose histories Joslin offers, had as its main object the removal of sugar from the urine by dietetic measures, provided weight and strength could be maintained. Usually a diet containing 150 to 100 grams carbohydrate was given at the start, and gradually the carbohydrates were lowered until the sugar disappeared from the urine. Vegetable days were freely employed and occasionally oatmeal days. The preliminary diet often was as follows: strict diet, meat limited to 300 grams, 3 eggs; vegetables in the 5, 6, 10 per cent. groups; cream, 250 c.c. (½ pint); three small oranges or grape fruit; oatmeal, 36 grams (1 gill—dry); bread made with water and without sugar, 100 grams; milk, 500 c.c. Changes in the diet were made by the omission of milk, bread and finally by the simultaneous reduction of oatmeal and fruit. Even before cream was thus reached, however, the quantity of meat would be reduced to about 200 grams and fat increased. When acidosis was present alkali was administered in the form of sodium bicarbonate or sodium citrate. Twelve to twenty-four grams daily represented the usual dose. It is Joslin's present plan to prescribe a restricted diet one day in the week and gradually to increase the carbohydrate on the others up to 70 grams daily, repeating the cycle weekly.

7. **High Pressure Hypertrophy of Heart.**—The symptoms of the condition which Riesman terms high-pressure hypertrophy of the heart are said to be usually respiratory or gastric in nature; rarely such as to direct attention to the heart and vessels. One-half to two-thirds of the patients complain of indigestion and bloating after meals. A majority of the remainder notice shortness of breath on exertion, which they are inclined to ascribe to distention with gas. A few are first troubled with vertigo, with numbness and tingling of the extremities, or with ringing in the ears. The women have interested Riesman particularly because in few of them had the real nature of the affection been suspected. They had usually been treated for stomach trouble—flatulent dyspepsia or nervous indigestion. The men are usually overweight, with large and solid-looking chests. They have an air of youthfulness and often much

vitality. The women are large and have heavy, pendulous breasts.

The heart is found enlarged, often far beyond what one would expect from either the symptoms or the physical appearance and capacity of the patient. The radials are either soft as in youth or a trifle thickened, like a thin-walled rubber tube. The temporals, which are rarely conspicuous in women, may not be abnormal. An arcus senilis is often present. The urine may not show anything of importance except a slight increase in quantity. The specific gravity will not vary much from the normal, but there is one factor of importance, namely, that these patients pass much larger amounts of urine during the night than in the daytime. The blood-pressure will be found high—from 190 to 260 or even more—far beyond what would be expected from an examination of the arteries.

The hypertrophy of the heart, which is always present, is not due to valvular disease. There are no endocardial murmurs, except, perhaps, late in the course, when through loss of compensation the heart dilates and a mitral systolic murmur appears. Usually, indeed, almost without exception, the second aortic sound is much accentuated, and the first sound at the apex dull and heavy. The heart is generally regular.

Riesman states that this type of hypertrophy is frequently overlooked, because many examiners fail to palpate and to percuss the heart. Not rarely there is a systolic murmur at the aortic area without concomitant signs of aortic stenosis.

As to treatment, all that may safely be attempted is to lower the blood-pressure when it is excessively high to a point where symptoms cease and to keep it there. First and foremost is rest, mental rest being more important than physical rest, although the latter has its place. The diet is of importance, but more from the point of view of quantity than of quality. A valuable admonition is that the patient should eat a small evening meal; he will rest much better. Tobacco, alcohol, tea or coffee are not good for these patients, a fact they often discover for themselves. The bowels must be kept open. No one remedy or measure can be employed for all cases.

As for drugs, nitroglycerin, sodium nitrite, erythrol tetranitrate may be used to relieve symptoms, but the continued use of the nitrites is of doubtful utility unless the pressure is rising, or there is angina pectoris, or marked dyspnea. In such cases they may be given over a long period in large doses. The iodids Riesman gives routinely. He prefers the sodium salt given two hours after meals, in water or milk. Many patients who are suffering from dyspnea and even from vertigo do well on small doses of digitalis. Riesman prefers either the tincture in from 5 to 10 mm. doses three times a day, or the powdered leaves (¼ to 1 grain). There is one more measure in the value of which he has an abiding faith—namely, venesection. It is safe to abstract in such cases up to a pint of blood, and if the pressure instrument is kept on the arm and the pressure controlled, one may take off 20 to 24 ounces.

9. **Massage in Various Disorders in Children.**—Phillips calls attention to the value of massage in the treatment of malnutrition, rickets and various other disorders in children.

10. **Hematologic Findings in Pellagra.**—According to Hillman there occasionally exists in pellagra a variable degree of chloranemia, which, however, is not a prominent feature of the attack. The disease, apparently, may be present for some time without leading to any anemic changes. Whether the anemia is due to the actual existence of pellagra, or is the result of an indefinite train of antecedent conditions extending over a period of time before the inception of the disease, is difficult to say. On the other hand, many patients are perfectly well up to the onset of the attack. One of the most noteworthy features in connection with the leukocytes is the not infrequent presence of a leukocytosis, which appears to be inexplicable in the light of our present knowledge of the disease. This might suggest the possibility of an infectious etiology of obscure origin, or may be due to complicating disturbances. The lymphocytosis is interesting and is probably in accordance with the general cachectic condition of most pellagrins who are also often the subjects of gastro-intestinal disorders. Hillman's investigation seems to indicate that there are no characteristic or constant variations in the large mononuclear leukocytes and eosinophils.

11. **Heart-Block with Ventricular Activity.**—A case of complete heart-block with rapid arrhythmic ventricular action is recorded by Neuhof. Atropin was administered on two occasions. The first time the block was probably relieved; at the second it was not. The rate of both auricles and ventricles was increased. The electrical complexes of all the ventricular cycles, long and short, were identical. Neuhof concludes therefore that ventricular arrhythmia not due to ectopic ventricular contractions may occur in heart-block, assuming the block to be complete.

12. **Acute Effects of Caisson Disease.**—Erdman reports what he believes to be the first analysis ever made of the gases found in the right heart of a man who died from the effects of this disease. Nov. 19, 1907, he collected 3.1 c.c. of gas by aspiration from the right heart at the autopsy, fourteen hours post mortem, of a man who died in one hour after a seventeen-minute decompression, following eight hours' exposure to +30 pounds pressure. On analysis this gas yielded nitrogen 80 per cent., $CO_2$ 20 per cent., which percentages are in accord with analyses made in animal experiments by various writers on this subject.

## Archives of Internal Medicine, Chicago

*March 15, XI, No. 3, pp. 249-364*

17 Complement Fixation Test for Syphilis with Cadaver Serum. R. L. Cecil and A. R. Lamb, New York.
18 *Renal Function in Renal, Cardiorenal and Cardiac Diseases. L. G. Rowntree and R. Fitz, Baltimore.
19 *Experimental Observations on Effects of Administration of Iodin in Three Cases of Thyroid Carcinoma (Two Human and One Canine). D. Marine and A. A. Johnson, Cleveland.
20 Hemolysins in Stool Extracts. A. H. Hopkins, Philadelphia.
21 Experimental Observations on Coagulation of Oxalated Plasma, with Cases of Purpura. J. H. Austin and O. H. P. Pepper, Philadelphia.
22 Primary Carcinoma of Larger Bronchi. C. V. Weller, Ann Arbor, Mich.
23 *Localization of Impulse Initiation and Conduction in Heart. J. Erlanger, St. Louis.

18. **Renal Function in Renal, Cardiorenal and Cardiac Diseases.**—The renal function was studied by Rowntree and Fitz in fifty-seven patients, the cases including pure nephritis, cardiac and cardiorenal diseases, the tests used being phenolsulphonephthalein, lactose, salt, water, potassium iodid and the accumulation in the blood of uncoagulable nitrogen. In certain cases, the excretion of indigo carmin and rosanilin was studied, as was also the glycosuria following the injection of phloridzin. They conclude that the functional condition of the kidney can unquestionably be determined much more accurately by the use of these tests than through ordinary clinical studies alone. The phthalein test is of great diagnostic and prognostic value. For general use it is of more value prognostically than any other single test; diagnostically, also, it is of value in cardiorenal disease for determining the relative responsibility of the heart or kidney for the clinical condition. The lactose test is of great value diagnostically in determining the existence of abnormal renal function. The significance of its delayed excretion is obscure. The suppression of the excretion of lactose may be of considerable value prognostically. The salt test if considered alone is of no value, since it is subjected to so many extra-renal factors. When considered in conjunction with clinical and other functional studies, it may prove of some value diagnostically and prognostically. The amount of water excreted in cases of pure nephritis in response to sodium chlorid stimulation may be of diagnostic value. The potassium iodid test is of little value diagnostically or prognostically. The marked accumulation in the blood of incoagulable nitrogen, in cases of nephritis when present, is of considerable prognostic value.

It is possible in cases of cardiorenal disease with varying degrees of chronic passive congestion and nephritis to determine which factor is of greater importance in the causation of the clinical picture encountered. This can be done most readily by repeated phthalein tests, while the determination of incoagulable nitrogen in the blood may also be of value. The lac-

tose and iodid tests are of no value in this respect. It is possible by these tests to diagnosticate the presence or absence of impairment of renal function in cases in which clinically nephritis is suggested. In this respect the lactose and phthalein tests are of most value. Before feeling convinced of the justifiability of drawing conclusions relative to the involvement of the vascular or tubular functions under pathologic conditions, they feel that a much deeper knowledge concerning the physiology of the excretion of these various substances studied is necessary.

19. **Iodin in Thyroid Carcinoma.**—The principle data of Case 1 are: Patient was under observation 168 days—23 days before and 145 days after operative removal of part of the thyroid tumor. Metastases were without doubt present before the patient came under observation. The thyroid contained several adenomas of the fetal type and while it is impossible to state from what portion of the thyroid the carcinoma originated, Marine and Johnson have come to the conclusion from the tumor pattern that it probably originated from an adenoma. The whole course of the disease was, as far as could be determined, one of uncomplicated thyroid cancer. Seventeen c.c. of syrup of ferrous iodid was given before operation and 12 gm. of sodium iodid, and 198 c.c. of the syrup of ferrous iodid were given after operation—iodin having been continuously administered from Nov. 14, 1911, to April 15, 1912, with the exception of eighteen days from Dec. 20, 1911.

Patient 2 was in the hospital until death—235 days. She was admitted for and had active pulmonary tuberculosis. Thyroid carcinoma was not definitely recognized until December 3, when, owing to tracheal stenosis, a palliative operation was advised. The tuberculosis doubtless hastened death. The tumor though metastasizing was of slower growth than that in Case 1. The carcinoma and the tuberculosis were joint factors and the individual importance of each cannot be estimated. In this case also there was one typical adenoma in the right lobe and the general type of tumor led the authors to look on this carcinoma as also originating in an adenoma. No iodin was given prior to the operation. Following the operation iodin was given continuously until April 25, 1912—eight days before death—with the exception of fifty-two days following Jan. 5, 1912. She received a total of 13 gm. of sodium iodid and 119 c.c. of syrup of ferrous iodid.

In Case 3 a dog was under observation for approximately seven months. Carcinoma was suspectetd after the fifth month. Small doses of Lugol's solution were administered by mouth with slight interruptions from October until May 8. The total amount of iodin used could not be obtained. In these three cases, therefore, it seems that cancer tissue exhibits practically no capacity for iodin retention, contrasted with the non-tumor thyroid, which has a marked capacity for storing iodin; and with benign epithelial tumors (adenomas), all of which in some phase of their existence have some capacity for iodin, thyroid cancer exhibits the least—in these three cases probably no capacity for iodin.

23. **Localization of Impulse Initiation and Conduction in Heart.**—The first conclusion which Erlanger says one is apt to draw from a review of the work that has been done in the effort to localize the site of impulse initiation and conduction is that the former subject at least is in a state of hopeless confusion. Erlanger predicts, however, that when the last word has been said, the structure and function of the mammalian heart will be found to be almost identical with the structure and function of the heart of cold-blooded animals, of which the heart of the eel, owing to its simplicity and to the ease with which it has been studied, may serve as a type. The normal sequence of the eel's heart differs in no wise from that in other hearts, sinus, auricles and ventricles contracting in the order given, which is also the order of the rhythm of these parts when isolated. Under the eye it can be seen that the contraction begins in the venous part of the sinus. It passes from the sinus directly into the nearest part of the auricle and then spreads over the auricular tissue, whence it passes into the auricular canal through which it finally involves the central fibers of the ventricle. "The rhythmic power of each segment of the heart varies inversely as does the distance from the sinus." The auricular canal, which might almost be regarded as a prolongation of the sinus tissue, possesses a much higher rhythmic power than the auricles. Therefore, in the mammalian heart we should expect the rhythmicity of the sinoventricular bundle to be exceeded only by that of the sinus region, and this seems to be the case. In the eel's heart the impulse normally reaches the ventricle by way of the auricle, but it can reach the ventricle directly by way of the auricular canal also. In the latter event the auricles do not contract. The anatomic possibility of this path has been all but worked out in the mammalian heart. It is believed that the finding of such a path would help materially toward accounting for the appearance of nodal rhythm following excision of the upper part of the sinus region as well as for many other of the phenomena noted in this paper. In any event, Erlanger says, we cannot afford, in the interpretation of the functions of the heart of man, to ignore the results of investigation in the field of comparative physiology.

## Archives of Pediatrics, New York

*March, XXX, No. 3, pp. 161-240*

24 Some Practical Points in Management of Breast-Feeding. E. Pritchard, London.
25 Case of Abnormal Physical and Sexual Development in Infant of Two Years, Probably Due to Tumor of Pineal Gland. J. L. Morse, Boston.
26 Effect of Moderately High Temperature on Infant. J. H. M. Knox, Baltimore.
27 Need of Psychologic Clinics in Connection with Public Schools. L. P. Clark, New York.
28 Mental Defective and Society. W. L. Stowell, New York.

## Arkansas Medical Society Journal, Little Rock

*March, IX, No. 10, pp. 229-253*

29 Acute Suppurative Otitis Media. W. T. McCurry, Little Rock.
30 The Obstetrician and the Perineum—His Care of During and After Labor. A. E. Cox, Helena.
31 Justification of Animal Experimentation. S. B. Hinkle, Little Rock.
32 Importance of Oral Hygiene to Physician. E. Stewart, Little Rock.

## Boston Medical and Surgical Journal

*April 3, CLXVIII, No. 14, pp. 485-524*

33 *Some Factors Which Influence Excretion of Formalin in Urine of Children and Infants Taking Hexamethylenamin. F. B. Talbot and W. R. Sisson, Boston.
34 Coxa Vara: With Spontaneous Recovery from This Deformity. J. W. Sever, Boston.
35 Results of Wassermann Test in Two Hundred Consecutive Admissions to Danvers State Hospital. H. L. Paine, Hathorne, Mass.
36 Etiology of Hay Fever. A. Coolidge, Boston.
37 Idem. T. Smith, Boston.

33. **Excretion of Formalin in Urine of Children Taking Hexamethylenamin.**—From their observations, the authors conclude that all children are capable of breaking down hexamethylenamin, and that they all consequently excrete formaldehyd, although relatively large doses are often necessary before the excretion of formaldehyd takes place. They agree with Jordan that the more acid the urine the greater is the decomposition of hexamethylenamin and excretion of formaldehyd. Since it has been shown by other observers that the antiseptic power of hexamethylenamin is dependent, not on the hexamethylenamin, but on the presence of free formaldehyd. Hence it should not be given with drugs that cause the urine to turn alkaline to insure the efficacy of the drug, specimens of urine after the administration of hexamethylenamin should always be examined for the presence of free formaldehyd.

## Journal of Experimental Medicine, Lancaster, Pa.

*April, XVII, No. 4, pp. 373-497*

38 Selective Bactericidal Action of Stains Closely Allied to Gentian Violet. J. W. Churchman, New Haven, Conn.
39 Metamorphosis of Endostyle (Thyroid) of Ammocoetes Branchialis (Larval Land-Locked Petromyzon Marinus (Jordan) or Petromyzon Dorsatus (Wilder). D. Marine, Ithaca, N. Y.
40 Possible Importance of Colloidal Protection in Certain Phases of Precipitin Reaction. H. Zinsser and S. W. Young, Palo Alto, Cal.
41 *Relation of Leukocytic Bacteriolysin to Body Fluids. W. H. Manwaring, New York.

42 *Reaction of Lungs to Intrabronchial Insufflation of Killed Virulent Pneumococci and of Plain Sterile Bouillon. W. Wollstein and S. J. Meltzer, New York.
43 Influence of Vagus Nerves on Faradized Auricles in Dog's Heart. G. C. Robinson, New York.
44 *Chemistry of Blood-Serum. A. A. Epstein, New York.
45 *Studies in Ferment Action. VII. Toxic Split Products of Bacillus Typhosus. J. W. Jobling and C. G. Bull, Chicago.
46 *Transplantable New Growth of Fowl, Producing Cartilage and Bone. W. H. Tytler, New York.
47 *Transplantability of Tissues to Embryo of Foreign Species. Jas. B. Murphy, New York.
48 False Transitions Between Normal and Cancerous Epithelium. P. Rous, New York.

41. **Leukocytic Bacteriolysin and Body Fluids.**—The bacteriolysin studied by Manwaring was obtained from horse leukocytes, according to the technic described in his previous communication. This extract had been heated to 57 C. for thirty minutes, had been dialyzed free from diffusible products, and then evaporated to dryness *in vacuo* at 45 C. It was tested after having been stored in a vacuum at 4 C. for about six months. The tests were made at room temperature. He found that an extract of horse leukocytes is strongly bactericidal when dissolved in distilled water; it has considerable bactericidal power when dissolved in physiologic saline; but it loses its bactericidal properties when mixed with blood-serum or with normal or pathologic tissue fluids. About half the antibactericidal action of blood-serum is due to the serum colloids, about a quarter to the neutral serum crystalloids, and a quarter to the diffusible alkalies. Diffusible acids have no antibactericidal action. The addition of boric acid to an inactive mixture of leukocytic extract and serum or other body fluid occasionally restores part of the original bactericidal power, but never more than a small fraction of that power.

42. **Reaction of Lungs to Insufflation of Killed Pneumococci.**—The experiments of Wollstein and Meltzer show that intrabronchial insufflation of a culture of virulent pneumococcus killed by heat and still containing stainable organisms produces an inextensive, mild, patchy, superficial inflammation of the lung tissue bearing no similarity to the lesions produced by the living pneumococcus, and that insufflation of sterile bouillon causes a prolonged congestion of the lung tissue with which it comes in contact, sometimes lasting for forty-eight hours.

44. **Chemistry of Blood-Serum.**—Since his last publication on the subject, Epstein has had the opportunity of examining a number of other blood-serums from cases of genito-urinary disease. The particular object aimed at in the study of these cases was to ascertain to what extent localized renal affections react on the composition of the blood, especially on the protein content of the serum. In the minor surgical cases (considered normal) the chemical composition of the blood-serum agrees, as far as its proteins are concerned, with the usual standard values. When examined at different times, the serum of such cases shows no variation in the total protein content or in its individual fractions. The incoagulable nitrogen, however, varies considerably in the total amount in the different cases, as well as in its percentage relations to the other constituents of the serum. Cases of prostatic hypertrophy, with or without chronic interstitial nephritis, show no change from the normal in the character of the protein composition of the serum, nor in the ratio which the individual fractions bear to each other. On the other hand, the incoagulable and non-protein nitrogen of the serum showed marked fluctuations, some of which correspond to the degree of functional deficiency of the kidneys.

In cases of localized infections of the kidneys, the changes in the blood-serum are twofold. One concerns the proteins, and is traceable to the infection; and the other concerns the non-protein nitrogen, results from functional impairment, and varies with the amount of destruction of the kidney substance. Thus an increase in the globulins is observed in these serums similar to that occurring in infections in other localities; the non-protein content increases apparently in direct proportion to the degree of deficiency of the kidney, and becomes diminished when the function of the kidneys improves.

45. **Studies in Ferment Action.**—The authors found that a single intravenous injection into dogs of a sufficient number of freshly washed typhoid bacteria produces the symptoms and pathology that characterize anaphylaxis in these animals. These effects are not produced by the coagulable protein-free filtrate from a fresh emulsion, while a similar filtrate from an emulsion digested with leukoprotease is very potent, the toxic portion of the bacterial bodies being changed from a coagulable to a non-coagulable state. The symptoms and pathology described are not specific, since they can be produced by substances other than typhoid toxins. Digestion with leukoprotease furnishes a method of liberating toxic substances from typhoid bacteria resembling the processes of nature more closely than the methods heretofore used. The toxic substances thus liberated are not destroyed by a heat and acid precipitation of the coagulable proteins, and are of the nature of primary proteoses.

46. **Transplantable New Growth of Fowl.**—The tumor which forms the subject of this paper is an osteochondrosarcoma. Its cells regularly undergo a process of metaplasia and differentiation to form cartilage and bone; and the growth is transmissible, like the spindle-celled sarcoma of Rous, by an agent separable from the tumor tissue and filterable through Berkefeld filters. The filtrate, when brought into contact with connective tissue under suitable circumstances, gives rise to the characteristic growth in which is laid down cartilage, followed often by bone. The tumor has been transplanted successfully to seven successive series of hosts. The original growth contained bone and cartilage, was attached to the sternal keel of an otherwise healthy chicken, and appeared to have arisen from this structure. In the growths derived from its transplantation cartilage is regularly laid down, followed later by bone in case the host lives long enough. The prechondral tissue consists of spindle-shaped or multipolar cells of the fibroblast type. The histologic character and the behavior of this prechondral tissue show that it is sarcomatous, a fact further proven by one recent case in which the tumor has metastasized. The secondary growth in this instance consisted of prechondral tissue in which a cartilaginous change was taking place.

The tumor could not be transferred to pigeons, the one foreign species tested, but grew readily in chickens of two alien breeds. Reinoculation experiments suggest the occurrence of a natural, individual immunity, and of a certain degree of acquired resistance. In one fowl visceral growths developed following an intravenous injection of tumor emulsion, although whether they were due to this cause or were secondary to the large implantation growths in the muscles is uncertain. Recently the tumor has been transmitted by means of the filtrate from a Berkefeld filter.

47. **Transplantability of Tissues to Embryo.**—Murphy found that inoculation of the Jensen rat sarcoma into the developing chick embryo gives a rapidly growing tumor at the site of inoculation, whether in the membranes or in the body of the chick itself. These tumors by transfer from embryo to embryo can be kept going for as long as forty-six days, and perhaps indefinitely in the foreign species. The rat cells show no morphologic change even after a very long dependence. Their biologic characters are also retained, as is shown by the fact that the cells when replanted in the rat, after a prolonged sojourn in the chick, will produce rapidly growing sarcoma of the Jensen type. These rat tissues grown for long periods in the chick show no adaptation to the new species, being destroyed even more rapidly when placed in the adult chicken than cells taken directly from the rat. Morphologically the cells retain a close resemblance to those in the original tumor. Other tissues grown in chick embryo are various embryonic cells from the chicken, mouse and rat, Ehrlich sarcoma and chondroma of the mouse, a mammary carcinoma of the mouse, the Flexner-Jobling adenocarcinoma of the rat, and a human sarcoma.

### Kentucky Medical Journal, Bowling Green

*April 1, VI, No. 7, pp. 267-306*

49 Alcohol, Its Therapeutic Uses and Limitations. W. F. Boggess, Louisville.
50 General Therapeutics of Diseases of Infancy and Childhood B. J. O'Connor, Louisville.
51 Differences Between Therapeutist and the "Master Hand" of the Surgeon. M. C. Kash, Salyersville.
52 Surgical Aspect of Appendicitis. G. P. Grigsby, Louisville.

53 Diagnosis of Surgical Diseases of Kidney. G. P. Grigsby, Louisville.
54 Systematic Factors in Etiology of Progressive Deafness. J. A. Stucky, Lexington.
55 Necessity and Means for Early Diagnosis in Malignant Disease. W. E. Senour, Bellevue.
56 Advancement in Treatment of Infectious Diseases. H. J. Farbach, Louisville.
57 Belladonna. J. T. Dixon, Owensboro.
58 Nitrous Oxid and Oxygen Anesthesia. J. R. Boone, Bardstown.

## Medical Record, New York

*April 5, LXXXIII, No. 14, pp. 599-644*

59 Summary of Origins, Transformations and Present-Day Trends of Paranoia Concept. S. E. Jelliffe, New York.
60 Surgical Conditions of Abdomen in Their Relation to Life Expectation. M. B. Miller, Philadelphia.
61 Vapor Anesthesia and Its Advantages. H. C. Falk, New York.
62 Differential Diagnosis of Lobar Pneumonia. C. E. Nammack, New York.
63 Blunders Made by Nature. A. Maverick, San Antonio, Texas.
64 *Celloidin-Paraffin Method for Embedding and Handling Tissue. H. M. Francisco, New York.
65 Surgical Tuberculosis. L. Sexton, New Orleans.

64. **Celloidin-Paraffin Method for Embedding and Handling Tissue.**—The method devised by Francisco embodies the following steps: 1. Fix and harden the select tissue in the usual way, i. e., Orth's fluid, 5 days; Glia-Beiz, 7 days, etc. 2. Wash in running water 12-24 hours. Wash over night in a good stream of tap water. Then cut your sections in the forms and sizes indicated. Keep them about 1½ cm. by ½ cm. thick. 3. Pass the blocks through 50 per cent. alcohol, 3 hours; 70 per cent. alcohol, 3 hours; 90 per cent. alcohol, 3 hours; then 96 per cent. alcohol over night. 4. Absolute alcohol 10-12 hours or during the next day. One can keep this absolute by keeping a layer of anhydrous copper sulphate with a piece of filter paper covering it in the bottom of the bottle or jar used. 5. Absolute alcohol and ether over night. 6. Thin celloidin, 24 to 48 hours, the longer period the better. 7. Thick celloidin, 24 to 72 hours, the longer period the better. 8. Pure chloroform, 6 hours. 9. Xylol, 1 hour. 10. No. 1 xylol-paraffin, over night, 12 hours. This is a half-saturated solution of 52-54 C. paraffin. 11. No. 2 xylol-paraffin, 12-24 hours. This is a saturated solution at room temperature. 12. Melted 52-56 C. paraffin for 6 hours in the oven at even temperature at 55 C., not over. 13. Orient face down and block with melted paraffin in paper boats properly labeled, and cool rapidly by floating in ice water. 14. When hard trim down specimen to proper size, record label and sketch shape and size of specimen if necessary. Mount on paraffin holder with warmed spatula, or file away until ready to be cut. 15. Cut sections the desired thickness. Francisco finds that they apparently cut and can be handled best at 10 micra with a dry knife, as for paraffin sections. Or if sections are larger they may be cut on a celloidin microtome dry with a slanting knife. 16. Carry cut specimens from the knife into xylol to dissolve out paraffin. 17. Carry over into chloroform, to wash out the xylol. This also helps to remove paraffin and straightens the sections somewhat. 18. Carry over into 80 per cent. alcohol. Here they may remain until needed for use or one can put them into small bottles of 70 per cent. alcohol for preservation or transportation. 19. Carry over into water and straighten out. If one has many sections he can here discard those of no use before staining. Steps Nos. 16, 17, 18, 19 can be performed with single sections or upward to 100 collectively, using a glass lifter and draining each loopful as carried over.

## New Mexico Medical Journal, Las Cruces

*March, IX, No. 6, pp. 135-156*

66 Municipal Hygiene. C. M. Mayes, Roswell.
67 Surgery of Head. W. J. Jolly, Oklahoma City.
68 Gastro-Intestinal Auto-Intoxication. E. C. Prentiss, El Paso, Texas.
69 Malnutrition in Breast-Fed Infants. M. Cartwright, Albuquerque.

## New York Medical Journal

*April 5, XCVII, No. 14, pp. 689-740*

70 Adventure in Practice. J. G. Mumford, Clifton Springs, N. Y.
71 Postgraduate Work in Vienna. A. Maverick, San Antonio, Texas.
72 Developmental Alexia. B. Chauce, Philadelphia.
73 Treatment of Epilepsy with Hypodermic Injections of Crotalin. R. H. Spangler, Philadelphia.
74 Infection with Entameba Tetragena. W. M. James, Ancon, Canal Zone.
75 Tabes Dorsalis Without Lymphocytosis. T. A. Williams, Washington, D. C.
76 Hypertrichosis. A. Brand, New York.
77 Diagnosis of Pulmonary Tuberculosis. H. S. Goodall, Lake Kushaqua, N. Y.
78 Comparison of Types of Continued Fever. W. Allan, Charlotte, N. C.
79 Multiple Neuritis in Child. J. M. Wallfield, New York.
80 Case of Psoriasis. J. Epstein, New York.
81 Tetanus Successfully Treated with Antitetanic Serum. L. J. Friedman, New York.

## Northwest Medicine, Seattle, Wash.

*March, V, No. 3, pp. 59-88*

82 Treatment of Fracture. J. C. Landenberger, Salt Lake City.
83 Long Bone Fractures. A. A. Matthews, Spokane, Wash.
84 Ununited Fracture Treated Twice Unsuccessfully by Lane Plate Method and Successfully by Insertion of Tibial Bone Plate. T. W. Huntington, San Francisco.
85 Clinical Significance of Blood-Pressure. W. E. Whalen, Ogden, Utah.
86 Apoplexy and Blood-Pressure. W. House, Portland, Ore.
87 Municipal Control of Tuberculosis. R. M. Smith, Seattle, Wash.
88 Urethra and Bladder Irrigation. H. W. Howard, Portland, Ore.

## Surgery, Gynecology and Obstetrics, Chicago

*March, XVI, No. 3, pp. 233-340*

89 *Surgery of Spleen. W. J. Mayo, Rochester, Minn.
90 Pathology of Splenomegaly: Study of Operative and Autopsy Material from Mayo Clinic. L. B. Wilson, Rochester, Minn.
91 *Extended Abdominal Radical Operation for Cancer of Uterus. W. Weibel, Vienna.
92 *Radical Abdominal Operation for Cancer of Uterus. J. C. Clark, Philadelphia.
93 *Radical Operation for Cancer of Uterus. T. S. Cullen, Baltimore.
94 *Cautery in Radical Treatment of Cancer of Cervix. X. O. Werder, Pittsburgh.
95 Extended Vaginal Operation for Cancer of Cervix Uteri. G. Gellhorn, St. Louis.
96 *Results After Wertheim Operation for Carcinoma of Cervix of Uterus. J. C. Neel, Baltimore.
97 *Intratracheal Ether Anesthesia. S. Robinson, Clifton Springs, N. Y.
98 Seminal Calculi Simulating Nephrolithiasis. C. S. James and J. W. Shuman, Centerville, Iowa.
99 *Results of Radical Abdominal Operation for Cancer of Uterine Cervix. J. A. Sampson, Albany, N. Y.
100 Skiagraphic Demonstration of Vesical Tumors. H. A. Kelly and R. M. Lewis, Baltimore.
101 General Plastic Peritonitis. W. R. Cubbins and W. J. Marvel, Chicago.
102 *Relation Between Sarcoma and Myoma of Uterus and Its Bearing on Roentgenotherapy of Uterine Myomas. J. R. Miller, Hartford, Conn.
103 *Two Cases of Cervical Rib and Operative Measure to Prevent Recurrence of Symptoms. C. H. McKenna, Chicago.
104 Lateral Intestinal Anastomosis; Modification of Ferguson-Grant Method. R. C. Turck, Jacksonville, Fla.
105 *New Obstetric Rubber Dilating Bag. F. L. Good, Boston.
106 Rupture of Uterus. B. C. Hirst, Philadelphia.
107 After-Treatment of Suprapubic Prostatectomy. G. Kolischer, Chicago.
108 Treatment of Tuberculous Joints. J. L. Porter, Chicago.

89. **Surgery of Spleen.**—In twenty-seven cases of splenectomy done by the Mayos there were two operative deaths (splenic anemia). The clinical diagnoses were: splenic anemia (5 showing Banti's syndrome), 18 cases; wandering spleen (recovered), 2 cases; tuberculosis (died in four months), pernicious anemia (?) (unimproved 2½ years) and cirrhosis of liver (death within six months, ascites), 1 case each; infectious (?) splenomegaly 4 cases. Pathologic findings in cases of splenic anemia: lymphoid hyperplasia (lymphoma (?) 1; lymphosarcoma 1), 2 cases; endothelial proliferation (Gaucher type), 3 cases; chronic diffuse splenitis, 13 cases.

91. **Operation for Cancer of Uterus.**—Of 675 patients, 380 are now, at the end of five or more years since the operation, available for criticism of the value of Wertheim's method. During the same time 863 patients with cervix cancer were examined, of which thirty-six refused the proposed operation, 447 were inoperable and 380 were subjected to the radical operation. Eight of these 380 died from intercurrent diseases, and 160 were well and free from recurrence at the end of five years. With these results, Weibel says that the radical abdominal operation for cancer of the uterus cured permanently a

fifth of all the patients examined in the clinic; it cured permanently 43 per cent. of all operated and 53 per cent. of all patients surviving the operation. In the last 175 operations they have been able to reduce the primary mortality to 9 per cent.

92. **Idem.**—From a review of the literature and from personal experience, Clark believes that the radical operation in expert hands, notwithstanding its high primary mortality, has given the greatest percentage of permanent cures of any therapeutic procedure thus far suggested for cancer of the cervix. While this conclusion is true, the general adoption of the operation, in view of its dangers and difficulties, is not advised by Clark until the primary mortality can be reduced to a much lower percentage by a simplification or perfection of details. The abandonment of the extensive glandular dissection is justified, he says, because this detail adds to the hazards and does not sufficiently raise the percentage of permanent cures. The cardinal advantage of the operation lies, first and above all, in the excision of an extensive cuff of vagina and the widest possible removal of the parametrial tissue. There is no middle-of-the-road policy in cancer of the cervix. The surgeon would better perform a simple vaginal hysterectomy or a high amputation of the cervix with extensive cauterization than to attempt the radical operation if he is not prepared effectively to execute its details. The earnest endeavor by many specialists, with the improved ultimate cures in a few hands, offers the hope that a further simplification and perfection of details in this operation may yet make it more generally available.

93. **Idem.**—Having a vivid recollection of the numerous immediate deaths he had encountered following the Wertheim operation, Cullen says he hesitated long before he could make up his mind to attempt to locate the patients that had left the hospital. But when, finally, the work was commenced, and it was found that some patients had enjoyed comparative comfort for one, two or three, or even six years, he felt that the operation had been worth while. And when seven letters came back saying that the patients were well at periods varying from six to thirteen years, and expressing the most profound thanks for what had been done for them, he could not help feeling that the radical abdominal operation is the one destined to yield the best results. This is an operation, however, he concludes, that cannot be lightly undertaken, as it requires the very best efforts of the surgeon.

94. **Cautery in Treatment of Cancer of Cervix.**—Werder reports as at present living and well thirteen patients, 33⅓ per cent., of these, three have lived eight years and more since the operation; three, seven years and more; two, over six years, and five, five years and over. Nine of the survivals were cases of vaginal igni-extirpation, and four combined. This leaves twenty-one patients whose death occurred within five years of operation, including two operative deaths. Of the nineteen patients who survived the operation twelve are known to have had a recurrence, the seat of recurrence being local in two, and in the inguinal, iliac and lumbar glands in ten. Two deaths were due to intercurrent diseases and in five patients cause of death is unknown. Death occurred within one year in seven, in two years in four, in three years in five, in four years in three. Eleven patients were less than forty years of age; of these only one is living at present.

96. **Carcinoma of Cervix of Uterus.**—From a study of sixty-seven cases operated by this method at the Johns Hopkins Hospital, the following conclusions are drawn by Neel: The extensive abdominal removal of all uterine cervical carcinomas is justified where there is any hope of complete excision. An exploratory laparotomy is often necessary to determine whether or not a case is operable. The preliminary catheterization of the ureters is a valuable aid, especially in fat patients, and does not necessarily increase the probability of fistulas or secondary infection of the urinary tract. Preliminary cauterization and disinfection of the primary growth is advisable in all cases. A horizontal lipectomy in obese patients decreases the depth of the field of operation and shortens the time necessary for its completion. All patients should be kept in the Fowler position for several days, unless this is otherwise contra-indicated by symptoms of surgical shock. By improvements in the technic of the operation, the primary mortality has been decreased from 28.5 per cent. for the first seven years to 11.7 per cent. for the last five years. Aside from the discovery of the etiologic factor of carcinoma of the cervix of the uterus and its successful elimination, the greatest hope lies in the early recognition and wide excision of the primary growth.

97. **Intratracheal Ether Anesthesia.**—An analysis of 1402 operations in which intratracheal anesthesia was employed prompts Robinson to say that it is a safe method; it is the anesthesia of choice in operations about the head and neck and thorax. The mortality from such operations should be reduced by the use of intratracheal ether. There is no contra-indication at present to its employment in any surgical operation. There are sufficient reasons for stating that operative shock is diminished and that the postoperative recovery is rendered less exhausting in all operations. All recorded forms of apparatus and the several methods of intubation are successful and require but little technical skill for their employment.

99. **Operation for Cancer of Uterine Cervix.**—Basing his views on his own experience, Sampson believes that metastases are present in from one-third to one-half of the operable cases, and that while lymph-nodes which are not readily accessible may be involved as well as accessible ones, the latter are the ones which are most frequently involved, and sometimes the only ones (especially the iliac vessels). Sampson therefore believes that these nodes should be removed when the condition of the patient will permit, and especially in the early cases in which the operative technic is easy and the resistance of the patient is unusually good.

102. **Sarcoma and Myoma of Uterus.**—Sarcoma, Miller says, may occur in about 2 per cent. of all myomatous uteri. The primary mortality of the operative myoma therapy is still about 4 to 5 per cent. A lasting cure of sarcoma of the uterus by the operative treatment can only be expected in 25 per cent. of the cases at most. Considering the advantages of the Roentgen-ray over the operative treatment in regard to assured freedom from fatality, mistakes in the diagnosis of sarcoma amounting to 0.8 per cent. make little difference. When the public learns that not every tumor of the uterus demands operation, but that there are also efficient conservative methods, Miller says, we shall certainly be in a position to get hold of more malignant growths in the curable stage. In view of these facts, he believes there can be no further doubt that a routine operative treatment of myoma of the uterus, for fear of sarcomatous degeneration, need not be carried out.

103. **Two Cases of Cervical Rib.**—McKenna employs a portion of the scalenius medius muscle to cover the upper surface of the denuded first rib, thereby forming a cushion for the brachial plexus and subclavian vessels.

105. **New Obstetric Rubber Dilating Bag.**—Good's bag is mushroom-shaped and has two separate compartments, one for cervical pressure and one for pressure on the lower uterine segment. The compartments are so joined that they give the appearance of but one bag. Each compartment is filled separately.

## Tennessee State Medical Association Journal, Nashville

*April, V, No. 12, pp. 477-516*

109 Transplantation and Grafting of Bone. R. Caldwell, Nashville.
110 Present Status of Cancer. B. B. Cates, Knoxville.
111 Pleurisy. J. C. Overall, Lascassas.
112 Rheumatism. W. A. Oughterson, Nashville.

## Vermont Medical Monthly, Burlington

*March 15, XIX, No. 3, pp. 53-78*

113 Prevention of Measles and Whooping-Cough. C. S. Caverly, Rutland.
114 Death Due to Hemorrhage Into Cystic Cavity from Carcinomatous Degeneration of Cystic Tumor. L. H. Gillette, Springfield.
115 Rôle of Insects in Spread of Infectious Diseases. E. H. Buttles, Burlington.
116 Two Cases of Intestinal Obstruction. M. R. Crain, Rutland.
117 Homosexuality: An Attempt at Seduction; Example of Acquired Homosexuality in Prison; Commentary on Prevalence of Inversion in Germany. D. C. McMurtrie.

### Washington Medical Annals, Washington, D. C.

*March, XII, No. 2, pp. 73-159*

118 Another Hypothesis (Spermatic Infection) as to Origin and Prevention of Cancer. A. F. A. King, Washington, D. C.
119 Value of Sklagraphy in Diagnosis of Aneurysm of Abdominal Aorta. C. A. Pfender, Washington, D. C.
120 Perforating Ulcer of Duodenum. D. S. Lamb, Washington, D. C.
121 Luetin Reaction in Syphilis. C. A. Simpson, Washington, D. C.
122 Localization of Intracranial Neoplasm after Decompression. T. A. Williams, Washington, D. C.
123 *Vaccine Treatment of Typhoid: Report of Cases. B. M. Randolph, Washington, D. C.

123. **Vaccine Treatment of Typhoid.**—Six patients with severe typhoid were treated by Randolph by increasing doses of killed cultures of typhoid bacilli. They became afebrile in from nine to eighteen days from the institution of the treatment. The dosage employed was from 200 million to 1,000 million bacilli; the interval three days, in one case two days. Two desperate advanced cases, one with double pneumonia, were uninfluenced by the treatment, and the patients died. One patient in whom vaccine was begun, began to defervesce and on suspension of treatment suffered a relapse. The relapse quickly terminated on resumption of the treatment. One case illustrates an ordinary relapse cut short by the vaccine. The author has the impression that the vaccine, as used above, has a beneficial effect in typhoid, and that this effect is the better the earlier its use is begun. An important fact, determined by this investigation, is that patients suffer less local and constitutional reaction in the height of the disease than in the defervescence. Routine blood-culture is recommended to replace the Widal test as a means of early diagnosis.

### Wisconsin Medical Journal, Milwaukee

*March, XI, No. 10, pp. 307-338*

124 Treatment of Paralysis and Deformities Following Infantile Paralysis. F. J. Gaenslen, Milwaukee.
125 Case of Paralysis with Focal Symptoms. A. Sauthoff, Mendota.
126 Duodenal Motility. P. Eisen, Milwaukee.
127 Christian Science—a Protest. A. N. Kerr, Martell.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### Australasian Medical Gazette, Sydney

*February 15, XXXIII, No. 7, pp. 143-170*

1 Business Side of Public Health Work. J. S. C. Elkington.
2 Organization of Medical Profession. W. B. Dight.

*February 22, No. 8, pp. 171-190*

3 Case of Hydatid in Scar and in Lung. C. Hall.
4 Splenic Anemia and Splenectomy. T. Ambrose.

*March 1, No. 9, pp. 191-210*

5 Some Experiences with Salvarsan. J. D. Buchanan.
6 Acute Hydronephrosis of Pregnancy. S. H. Harris.

### British Medical Journal, London

*March 22, I, No. 2725, pp. 593-644*

7 Glycosuria. G. Rankin.
8 *Action of Salicylic Acid and Chemically Allied Bodies in Rheumatic Fever. R. Stockman.
9 *Death by Electric Currents and by Lightning A. J. Jex-Blake.
10 Food Requirements of Children. C. Watson.
11 Patients Treated by Radium in Royal Infirmary Edinburgh, During 1912. D. Turner.

8. **Action of Salicylic Acid in Rheumatic Fever.**—The real efficiency of the numerous compounds which have been recommended by manufacturing chemists in rheumatic affections, according to Stockman, depends solely on the amount of salicylic acid which they contain or develop in the body. Methyl salicylate, he says, develops salicylic acid in the body and retains the specific action, while dimethyl-salicylic acid, which does not do so, is inert, and the same holds true in the case of other salicylic compounds.

9. **Death by Lightning.**—Jex-Blake states that persons struck and apparently killed by lightning should at once be given plenty of fresh air, their clothes should be loosened and artificial respiration by Schafer's or Sylvester's method should be applied and should be continued until either recovery occurs or cooling of the body and rigor mortis show conclusively that death has taken place.

### Clinical Journal, London

*March 5, XLI, No. 22, pp. 337-352*

12 Mucocele of Gall-Bladder. W. M. Eccles.
13 Relief of Sick and Wounded in War. F. M. Sandwith.

*March 12, No. 23, pp. 353-368*

14 Angina Pectoris. R. O. Moon.
15 Pharyngeal Phlebitis. W. Stuart-Low.
16 Relief of Sick and Wounded in War. F. M. Sandwith.

*March 19, No. 24, pp. 369-384*

17 Treatment of Scoliosis. E. M. Little.
18 Cancer of Tongue. C. Rowntree.
19 Causes and Avoidance of Abdominal Rigidity Under Anesthesia. J. D. Mortimer.
20 Relief of Sick and Wounded in War. F. M. Sandwith.

### Dublin Journal of Medical Science

*March, III, No. 495, pp. 161-235*

21 Mental Deficiency Bill and Its Proposed Extension to Ireland. W. R. Dawson.
22 Case of Juvenile Tabes. T. G. Moorhead.
23 Rheumatism in Children. J. H. Crane.

### Journal of Obstetrics and Gynecology of British Empire, London

*March XXIII, No. 3, pp. 129-192*

24 *Red Degeneration of Uterine Fibromyomas. J. L. Smith and W. F. Shaw.
25 Nature of So-Called Ligaments of Mackenrodt. M. Moritz.
26 Endothelioma of Undescended Testis in Male Pseudohermaphrodite. T. Wilson.
27 Case of Pseudohermaphroditism. C. Martin.
28 Case of Fibrosarcoma of Ovary. G. Fitzgibbon.
29 Early Case of Sarcoma Uteri. B. Whitehouse.
30 Fibromyoma of Uterus Presenting Unusual Characters. B. Whitehouse.
31 Torsion of Spleen Simulating Ovarian Tumor: Splenectomy: Recovery. B. Whitehouse.

24. **Uterine Fibromyomas.**—The authors make the following points in their paper: Uterine fibromyomas of a red color are divided pathologically into two classes—thrombotic and angiomatous. The thrombotic are of a deep red color which is not lost in Kaiserling solution, nor is there any free blood on a cut surface nor in the tissues. The thrombotic exhibit various degrees of thrombosis; the early ones showing only a collection of thin threads around the walls of a few vessels, while the late ones have all the vessels plugged with them. The thrombotic have clinical symptoms of abdominal pain, tender tumor, rapid enlargement of the tumor, general ill-health, rise of temperature and pulse-rate; these symptoms may occur singly or in combination. All the thrombotic fibromyomas contain a large quantity of fat due to the retardation of the circulation by the thrombosis of the blood-vessels. The red color of the tumors is due to the hemoglobin staining associated with the action of the accumulated lipoids. The majority of the specimens in this group contain a large number of thin-walled vessels; in this respect the two groups are similar. The angiomatous group contain large numbers of thin-walled vessels. These vessels are filled with red blood-corpuscles; in some specimens the congestion is further advanced and free blood is found in the tissues (hemorrhage). The color of these specimens is bright red and tends to fade in the preservative fluid; it is due entirely to the large amount of blood in the tissues and not to hemolysis and hemoglobin staining. The patients do not have any clinical symptoms other than bleeding and a feeling of weight due to the presence of the tumor.

### Journal of Tropical Medicine and Hygiene, London

*March 15, XVI, No. 6, pp. 81-96*

32 *Sleeping Sickness in Portuguese Congo: Apparent Cures. M. Gamble.
33 Contribution to Study of Bilharziasis. I. Bandi.

32. **Sleeping Sickness in Portuguese Congo.**—During the nine months, December, 1908, to August, 1909, Gamble had forty-one unselected patients under treatment for trypanosomiasis,

in whom the diagnosis was made from the microscopic examination of fresh gland juice, and the main treatment consisted in no fewer than 100 gr. of atoxyl, which was given subcutaneously in the forearms, usually in doses of 4 gr. daily. Nineteen patients are alive and well. Thirty-five patients had no more atoxyl after August, 1909, but three had secondary treatment till December, 1909. Nineteen are dead, though one died after two years of good health, and possibly from other causes. Sixteen are alive and well. Six patients had no treatment from August, 1909, to October, 1910. The subsequent main treatment consisted of atoxyl, 7½ gr., twice weekly, in the gluteal region.

### Lancet, London

*March 22, I, No. 4673, pp. 803-868*

34 Intrathoracic Aneurysm. F. de H. Hall.
35 *Genital Functions of Dustless Glands in Female. W. B. Bell.
36 *Bastedo's Sign: Symptom of Chronic Appendicitis. A. F. Hertz.
37 Patients Treated by Radium in Royal Infirmary, Edinburgh, During 1912. D. F. D. Turner.
38 Hyperextension and "Back-Fire" Injuries of Wrist. C. S. Wallace.
39 *Ionic Medication in Herpes Zoster Ophthalmicus. A. Macnab.

35. **Genital Functions of Female Ductless Glands.**—The facts Bell brings forward in this lecture illustrate the influence of the ovaries on the uterus, on the general metabolism, and on the rest of the principal organs of internal secretion. With regard to the influence of the ovary on the uterus he shows that to some extent the implantation of the fertilized ovum is assisted—possibly by the secretion of the corpus luteum. Further, the activity of the uterus is maintained and regular contractions are promoted, probably by the secretion of the interstitial cells. In the general metabolism the total ovarian secretion appears to promote the excretion of calcium and the retention of phosphorus. And lastly, total ovarian insufficiency arouses increased activity in most if not in all the other remaining ductless glands.

36. **Bastedo's Sign.**—Bastedo's test depends on the production of pain and tenderness in the right iliac fossa on inflation of the colon with air. For this purpose Hertz uses an ordinary rubber rectal flatus tube, which is connected by a short piece of glass to a pump, such as that used with the sigmoidoscope. Bastedo recommends that the tube should be inserted 11 or 12 inches into the rectum, but, as the experiments of Goodhart, Hertz and others have shown that a tube can very rarely be passed beyond the pelvi-rectal flexure, which is never more than 6 inches from the anus, there is no advantage in introducing it further than just within the ampulla of the rectum—about an inch and a half from the anus. After the tube has been inserted the patient lies flat on his back, and the pump is brought up between his legs. On now slowly pumping air through the tube the colon is seen to gradually distend, and after a certain quantity has been introduced an individual who is not suffering from appendicitis feels a diffuse discomfort in the lower part of the abdomen, but there is no pain unless an excessive quantity of air is introduced, in which case it is not more marked on one side than the other. There is also no tenderness.

Patients suffering from appendicitis, however, generally experience pain in the right iliac fossa, even if the pain has hitherto been confined to the epigastrium or the neighborhood of the umbilicus. In one of Hertz's cases, in which a diseased appendix was subsequently removed, pain was only felt some hours later. Whenever pain is produced, and in some cases in which no pain has been felt, well-marked tenderness is found in the neighborhood of McBurney's point. When tenderness has already been observed in this situation it is always much increased by inflation, but it is also found in cases in which no tenderness has hitherto been noticed in spite of frequent examinations. In a number of instances Hertz has observed a further exceedingly characteristic symptom; the pain is referred to the epigastrium when pressure is exerted in the right iliac fossa after inflation, the epigastric pain being identical in character with that which formed the chief symptom of which the patient complained.

Hertz has only obtained a positive Bastedo's sign in appendicitis, the appendix having always been found diseased at the subsequent operation. In numerous cases in which the colon has been inflated and no pain or tenderness produced, the appendix has later been found to be healthy, and in some cases disease has been discovered in the female pelvic organs, the gall-bladder, or the kidney. Hertz has only employed the test in cases of suspected chronic appendicitis and in patients who have recently recovered from a doubtful attack of acute appendicitis.

39. **Ionic Medication in Herpes Zoster Ophthalmicus.**—The drug used by Macnab has been sulphate of quinin, applied by means of the positive current over the whole area affected, for fifteen to thirty minutes, with a current of 1-1.5 milliamperes per square inch of surface. In general two applications at an interval of from seven to ten days were made to the skin area, and the conjunctiva was treated separately for a shorter time and with less current. The results have been that the neuralgic pains and the disturbed sensibility of the part have cleared up almost at once. The iritis disappeared and the sensation of the cornea and conjunctiva returned. As there is in every case some destruction of tissue, Macnab points out that a complete return to the normal cannot be expected, but so far as such appeared possible this form of treatment seems to provide a cure for this distressing affection.

### Medical Press and Circular, London

*March 5, XCV, No. 3852, pp. 241-266*

40 Efficient Ambulance Service for Accidents and Other Casualties in Streets and Public Places in London. W. J. Collins.
41 Mental Deficiency Bill and Its Proposed Extension to Ireland. W. R. Dawson.
42 *Frequency of Perforation in Duodenal Ulcer: Report of Seven Cases. A. J. Evans.
43 Diagnosis of Acute Abdominal Conditions in Children. E. Cautley.

*March 12, No. 3853, pp. 267-296*

44 Pneumonia and Empyema in Children. J. W. Carr.
45 Allyl Sulphid in Treatment of Tuberculosis. W. C. Minchin.
46 Detrimental Effect of Present System of Hospital Administration on Interests of Medical Profession. J. H. Dauber.
47 Man's Posture: Its Evolution and Diseases. A. Keith.

*March 19, No. 3854, pp. 297-320*

48 Presbyopia and Its Treatment. E. Clarke.
49 Case of Primary Fibrosarcoma of Ovary. G. Fitzgibbon.
50 Physiology of Milk Secretion. E. A. Schäfer.
51 Carcinoma of Rectum. F. M. Caird.
52 Man's Posture: Its Evolution and Diseases. A. Keith.

42. **Frequency of Perforation in Duodenal Ulcer.**—During a period of twelve months Evans operated on seven patients with perforation in well-marked duodenal ulcer, all of them males of ages varying from 23 to 42. Six of the cases were of the acute perforating type, while the seventh should be classed as sub-acute perforation. In three cases free lavage was employed. In these the abdominal cavity was grossly contaminated by stomach contents, i. e., particles of undigested and decomposing food; the abdomen, in each case, was systematically douched out with warm saline after counter-openings had been made above the pubes and in the loins. In the other cases the infected area was gently wiped out with dry sterile gauze, and the peritoneum left to perform its own toilet. Murphy's method of proctoclysis was used in all during the after-treatment, and the Fowler position adopted. Whether gastro-enterostomy is justifiable in addition to closure of the perforation, Evans believes, is a matter of debate. Personally, he does not think it justifiable except in cases of sub-acute perforation, or when following the invagination of the ulcer.

The objections given to performing gastro-enterostomy are: 1. The presence of perforative peritonitis possibly interfering with the healing of the anastomotic junction between stomach and intestine. 2. The danger of infecting the lesser peritoneal sac, which is necessarily opened in performing the posterior operation. 3. The additional shock to a patient in an already collapsed condition. 4. Post-operative or anesthetic pneumonia is more likely to occur after the prolonged operation. The ideal method in Evans' opinion is to postpone gastro-enterostomy until a later date. The difficulty, however, is to persuade the patient when feeling in good health that gastro-

enterostomy is a safeguard for the future. The invagination alone seems to cure the ulcer completely, and in most cases to restore the patient to robust health.

### Archives Générales de Chirurgie, Paris

*February, VII, No. 2, pp. 129-256*

53 Teratomas on Back of Head. (Les tératomes de la région occipitale.) J. P. Tourneux.
54 *Polyneuritis of the Legs Following Tubal Abortion and Local Ischemia in the Legs. E. Duhot, R. Pierret and E. Verhaeghe.
55 *Autoplastic Restoration of Cheek. (Sur l'autoplastie de la région génienne.) H. Lefèvre.

54. **Polyneuritis From Local Disturbance in Blood-Supply.**—In the case reported the polyneuritis developed in both legs with trophic changes in consequence of interference with the circulation in the legs during measures to keep the spark of life alive in a previously healthy woman of 24 almost moribund from the hemorrhage of a tubal abortion. The operation was brief but she ceased to breathe as she was replaced in bed. The assistants lifted up the arms and legs and this drained the blood back into the trunk and respiration started up spontaneously. The limbs were kept raised, lying loose in padded splints, to maintain this autotransfusion. The patient complained of numbness in her legs but as the toes were warm no importance was paid to her complaints. The splints were gradually lowered and were discarded the fifth day. Two days later severe pains developed in both feet and both legs were paralyzed below the knees. The intense general anemia, local isehemia and low blood-pressure easily explain the injury to the nerve terminals. It was not severe enough to entail gangrene, and the patient gradually recovered the use of her legs although four months later she is still unable to walk without support, her feet being still crippled.

55. **Autoplastic Operation on the Cheek.**—Lefèvre states that Chavannaz had extremely satisfactory results in two cases in which he restored the cheek after an extensive mutilating operation for cancer. He drew up a flap from the neck, keeping the raw surface inside. The dreaded suppuration and retraction did not occur, and Lefèvre has repeated the operation on a number of dogs to confirm its practicability. The dogs now open their mouths, eat and bark, apparently normally, so that no one would suspect they had been operated on. The raw surface healed over in from sixteen to thirty days. He gives twenty-five illustrations of the technic and results.

### Bulletin de l'Académie de Médecine, Paris

*March 4, LXXVII, No. 8, pp. 137-168*

56 Epidemic of Diphtheria Traced to Bread Supply. (Epidémie de diphtérie propagée par le pain.) Mosny.
57 Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. Achard.
58 From the Seat of War. (La chirurgie dans la guerre des Balkans.) Mouprofit.

### Bulletins de la Société de Pédiatrie, Paris

*February, XV, No. 2, pp. 41-105*

59 Sweetened Condensed Milk Arrests Infants' Vomiting; Twenty Cases. (Etude des propriétés anti-émétiques du lait condensé sucré.) G. Variot, Lavaille and Rousselot.
60 Serotherapy by the Rectum Occasionally Effectual. Guinon.
61 *Thirteen Years of Thyroid Treatment in a Case of Myxedema. Zuber.
62 *Adrenal Origin of Periodical Vomiting. (Sur l'origine surrénale des vomissements dits acétonémiques.) E. Terrien.
63 Severe Anaphylactic Shock from Diphtheria Antitoxin. Hallé and M. Bloch.
64 Hemophilic Arthritis Simulating Osteomyelitis. (2 cas d'hémophilie familiale.) H. Méry, H. Salin and A. Wilborts.

61. **Thyroid Treatment of Myxedema.**—Zuber reports the case of a young man who has taken thyroid treatment systematically for thirteen years. At the age of 8 he was the size of a child of 2, and although under the influence of the thyroid treatment then instituted he has developed both physically and mentally, he has never regained those six years he lost, his size and mental standing now being those of a normal, diffident youth of 15. In the discussion that followed his report, Ausset commented on the way in which the myxedematous improve to a certain extent under thyroid treatment and then seem to reach a stationary stage. At this point he has found it useful to combine the extract of other glands with the thyroid treatment; improvement progresses rapidly under the addition of hypophysis extract. Lesné adds epinephrin also, the arterial pressure being generally low in myxedema.

62. **Cyclic Vomiting in Children.**—Terrien has noticed various signs of insufficiency on the part of the adrenals in children presenting uncontrollable periodical vomiting of the so-called acetonemic type. He analyzes three cases of this kind. In the first a child under 4 had had several attacks of the acetonemic vomiting. In the last one from the first the prostration was extreme and after five or six days there was great emaciation but no fever and nothing to suggest meningeal derangement. The pulse was small, the abdomen hollowed in and supple. The child complained of pain in the abdomen and limbs without exact localization; the breath smelt quite strongly of acetone, and the child died suddenly as it made a slight effort. Necropsy showed no traces of appendicitis but the liver was rather large and slightly fat. The adrenals were not examined. The second patient was a child of 3 and an attack of incessant vomiting was accompanied by the acetone odor, apathy and small, rapid pulse. The adrenal "white line" was pronounced. Ten drops of epinephrin, 1/1,000, were given in an enema and the child stopped vomiting at once. Two months later the child had bronchitis but was still lively when the odor of acetone became perceptible and the "white line" was found pronounced again but there was no lassitude. The next day vomiting came on with much depression but all symptoms subsided promptly under epinephrin enemas. In a third case a child of 8 has had for two years recurring attacks of incessant vomiting for two or three days about every three months, with great depression and odor of acetone. The "white line" was occasionally manifest but not at every attack. No measures were able to ward off these attacks until during the last six months a little epinephrin has been given systematically twice every month in prophylaxis. Since this has been done there has been no recurrence of the vomiting. The features of the cyclic vomiting which suggest the participation of the adrenals are in particular the marked asthenia from the first, the "white line" and the tendency to sudden death. Griffith, Myers, Holt and Langmead have reported sudden death in cases of periodical vomiting, and the latter found a hemorrhagic focus in one adrenal in his case. Sergent and Khoury also reported last year the success of epinephrin in arresting uncontrollable vomiting of pregnancy and in typhoid fever. Guinon called attention in 1907 to adrenal pseudoperitonitis, the manifestations of the adrenal insufficiency simulating acute appendicitis with peritonitis.

### Journal de Médecine de Bordeaux

*March 9, XLIII, No. 10, pp. 147-158*

65 Antitoxin in Treatment of Diphtheria. (Quelques réflexions sur la pratique de la sérothérapie antidiphthérique.) A. Franklin.

### Lyon Médical, Lyons

*March 2, XLV, No. 9, pp. 434-492*

66 *Chronic Jaundice from Old Tuberculous Peritonitis. F. Mouisset and J. Gaté.

*March 9, No. 10, pp. 493-540*

67 Physiology of Speech. (Existe-t-il à proprement parler des images motrices d'articulation?) J. Froment and O. Monod.

*March 16, No. 11, pp. 541-604*

68 *Lesions of the Intestines with Tuberculosis of the Ovary or Tube. (Rôle des lésions intestinales dans le pronostic opératoire des annexites tuberculeuses—lésions du grêle surtout.) L. Desgouttes and R. Olivier.
69 Operation Bestowing Vision on Child Born Blind. (Histoire de la guérison d'un aveugle-né.) Moreau. Commenced in No. 9.

66. **Chronic Jaundice Caused by Tuberculous Peritonitis.**—Mouisset and Gaté describe a case of jaundice persisting for fifteen months. The symptoms caused them to hesitate between cancer and lithiasis and an operation was performed which showed neither, but demonstrated the presence of extensive peritoneal adhesions with contraction almost to the point of obliteration of the bile ducts. Careful study of the case convinced them that this was due to an old tuberculous peritonitis, in which the inflammatory process had involved the bile ducts. It is described as illustrating the necessity of extreme care in diagnosing similar conditions.

68. **The Importance of Intestinal Lesions in the Prognosis of Pelvic Tuberculosis.**—The prognosis in operation for tuberculosis of the tubes and ovaries depends almost entirely on the extent to which the intestines have become involved. Where there are no intestinal adhesions, the operation is comparatively simple and safe. Where only the large intestine, rectum and sigmoid flexure are involved, all adhesions both to the pelvic organs and to the peritoneum should be freed with the greatest care and vaginal drainage established. If the small intestine is involved the whole mass should simply be freed from the pelvic organs and the latter removed, no attempt being made to separate the small and large intestine, unless there is evidence of mechanical interference with intestinal function. If there is, the part of the intestine involved should be resected.

### Presse Médicale, Paris

*March 12, XXI, No. 21, pp. 197-204*

70 Variations in Cholesterin Content of Blood Under Vaccination Against Typhoid. (Variations de la cholestérinémie au cours de la vaccination anti-typhoique.) Rouzaud and Cabanis.

### Semaine Médicale, Paris

*March 19, XXXIII, No. 12, pp. 133-144*

71 Comparison of the Pulsation in the Esophagus and in the Jugular Veiu in a Case of Primary Tumor of the Left Auricle. L. Bard.

### Beiträge zur Klinik der Tuberkulose, Würzburg

*XXVI, No. 2, pp. 124-243. Last indexed March 22, p. 948*

72 *Displacement of Heart with Pulmonary Tuberculosis. (Herzverschiebung bei Lungentuberkulose.) F. Oeri.
73 *Roentgenoscopy of Primary Focus in Lung. (Ueber den röntgenographischen Nachweis des primären Lungenherdes bei der Bronchialdrüsentuberkulose.) G. Simon.
74 *Determination of Tubercle Bacilli in Dust. (Nachweis von Tuberkelbazillen im aspirablen Staub.) L. Engelhardt.
75 *Gastric Tuberculosis. (Zur Pathologie der Magentuberkulose.) L. Melchior.
76 *Mechanical Predisposition of Lung to Tuberculosis. (Anomalien des ersten Rippenringes und Lungentuberkulose.) W. H. Schultze.
77 Changes in the Kidneys in the Tuberculous. (Nierenveränderungen bei Tuberkulösen.) F. Leichtweiss.

72. **Displacement of Heart with Pulmonary Tuberculosis.**—Oeri has examined 559 patients in the last three years to determine the influence on the heart of a tuberculous process in the lungs. Omitting the children and those whose tuberculosis was equally advanced on both sides and others whose pulmonary process proved to be of non-tuberculous origin, he tabulates the findings in 413 cases as determined by means within the reach of every physician, thus intentionally refraining from roentgenoscopy and other laboratory methods. He found that the heart was almost invariably drawn up toward the diseased side when the process had reached the shriveling stage. This was particularly marked with a process in the left lung, the heart being more readily movable on the left side. In all but 3 per cent. of the left-sided processes the heart was displaced toward the left while the displacement toward the right with a process in the right lung occurred only in 70 per cent. With cicatricial changes the lung invariably shrinks in size but collapse occurs only when special conditions invite it. Shriveling occurs more readily in the left than in the right lung as the diaphragm and the heart are more movable here; the liver and the attachments of the heart render conditions more stable on the right side. Displacement of the heart occurs so regularly that exact determination of the position of the heart may aid in locating the pulmonary process. Next in frequency of the signs of shriveling of the lung comes the narrowing of the apex-beat field. The lower margin of the lung may be unusually high, possibly fastened. This always drags the heart out of place. With a process in the right lung the heart becomes displaced at first by twisting on its vertical and sagittal axes, and it seems to spread toward both sides or only toward the right while the apex-beat is farther outward and upward or becomes entirely lost. Later the entire mass of the heart becomes displaced and the heart outline moves toward the right. With traction from the left lung the entire mass of the heart becomes displaced from the start and the diameter of the area of dulness remains the same. The displacement is often combined with a twisting on the vertical axis so that the apex beat may still fall within the nipple line. The accentuation of the second pulmonal sound is often the consequence merely of a mechanical hindrance in the pulmonary artery, the result of dragging on the artery by the shriveling lung or of kinking from the torsion of the heart. It should not be regarded as a sign of hypertrophy of the right ventricle in tuberculous patients. During sanatorium treatment, possibly as a result of it, all the signs of shriveling of the lung become more pronounced. In his measurements Oeri used finger-breadths, and urges others to study the signs of shriveling of the lung as an important aid in the estimation of the case. He knows of only one similar study of the effect of pulmonary processes on the heart (Pottenger).

73. **Roentgenoscopy of Primary Focus in Lung.**—Simon gives roentgenograms which show a small, sharply outlined focus in one lung in three cases of tuberculous bronchial lymph-nodes. He is convinced that this focus in the lung was the source of the glandular disease.

74. **Tubercle Bacilli in Dust.**—Engelhardt has worked out a practical method for determining the presence and numbers of tubercle bacilli in aspirable dust. The dust is taken up in a vacuum cleaner with a filter which retains in water the aspirable dust; the dust is then treated with antiformin to kill off all other germs and the sediment is injected into the abdominal cavity of guinea-pigs.

75. **Tuberculosis of the Stomach.**—Melchior examined the stomach for tuberculous lesions in 1,459 cadavers, including 848 adult consumptives, and found ulcerative tuberculous processes in the stomach of six of this latter group. There had been no symptoms of the stomach involvement during life in any of the six. The stomach lesions were of an acute nature in all.

76. **Mechanical Predisposition to Pulmonary Tuberculosis.**—Seven years have passed since Hart's work appeared on the mechanical predisposition to tuberculosis afforded by congenital anomalies in the upper aperture of the thorax, after Freund had called attention to this factor and proposed to modify the shape of the thorax by chondrotomy. Schultze has examined recently 105 cadavers of consumptives and has been surprised to find that very few of them had any traces of the mechanical conditions which Freund and Hart regard as predisposing to and almost inevitable with pulmonary tuberculosis. He devotes eight pages to tabulation of the details in 100 cases, his conclusions being all negative in regard to the importance of these mechanical conditions as having anything to do with the development of tuberculosis in the lungs.

### Berliner klinische Wochenschrift

*March 10, L, No. 10, pp. 429-476*

78 *Importance of Bovine Bacilli for Human Beings. (Ueber die Bedeutung der Rinderbacillen für den Menschen.) J. Orth.
79 *Treatment of Inoperable Cancer or After Operations. (Die nichtoperativen Behandlungsmethoden der bösartigen Neubildungen.) R. Werner.
80 *Protracted Endocarditis. (Beitrag zur Endocarditis lenta an der Hand von 3 Fällen.) J. Lewinski.
81 Technic for Salvarsan Injections. (Ueber Aqua destillata zur Salvarsanbereitung.) R. Schramm.
82 Influenza 855 A. D. (Die älteste Influenza-Epidemie in Persien und Mesopotamien.) E. Mittwoch.

78. **Importance of Bovine Bacilli for Human Beings.**—Orth here gives his reasons for the "Oho" with which he greeted Klemperer's statement that bovine bacilli are harmless for human beings in the same way as human bacilli are harmless for cattle. The incident occurred in the discussion following Friedmann's report on his turtle-bacilli method of treating tuberculosis. Orth says that the problem of the origin of phthisis is the problem of the development of the first tuberculous focus in the lung. Tubercle bacilli bearing the characters of the bovine type are found in about 10 per cent. of all tuberculous children—less frequently in adults—not only in the mild and local but in the severe local and generalized, sometimes fatal, types of tuberculosis. Orth continues that in consequence of the variability of the bacilli we must reckon with the possibility that the apparently human type may be traced back to the bovine type, and thus the circle of action of the bovine bacilli may be much more extensive than has hitherto been deemed probable. We must also reckon with the possibility—which there is much evidence to sustain—that a bovine

infection in early childhood entails a predisposition to pulmonary phthisis later, when new infection occurs. He adds that although this increase in the importance of bovine bacilli in these last two directions may be regarded as more or less hypothetical, yet it certainly sustains the view which the relative frequency of bovine tuberculosis in man suggests, namely, that measures to eradicate bovine tuberculosis must not be neglected. Although human tuberculosis could never be exterminated by extermination of bovine tuberculosis alone, yet it is beyond any question of doubt that tuberculosis among human beings can never disappear as long as new bovine tubercle bacilli can be transmitted from animals to man. He emphasizes that the fight against bovine tubercle bacilli must not be left to the veterinarians, stock raisers and cattle owners, for the matter affects not only live stock but also humanity, and care for the health of human beings is the physician's task. Public health officials should take the necessary general measures for prophylaxis of infection of man from cattle, but every family physician should also watch over the family to protect its members against this danger, especially the children. The campaign should be directed mainly against human tubercle bacilli, but the danger from bovine bacilli should never be overlooked. (For discussion on above, see Berlin Letter in The Journal, April 12, p. 1167.)

79. **Treatment of Inoperable or Recurring Cancer.**—Werner writes from the cancer hospital at Heidelberg where all kinds of treatment have been given extended trials to emphasize the advantages of combining various measures in treatment of inoperable or recurring cancer and in prophylaxis of recurrence. Arsenic to act on the general condition is commended as an adjuvant that should never be neglected whatever other treatment is applied, but it can not be relied on alone to cure malignant disease. The tumor may retrogress surprisingly under some preparation of arsenic, but with the dosage practicable in the clinic there is always a dangerous focus left. The best tested and the most reliable method of treatment to date is radiotherapy, especially a combination of Roentgen exposures and radio-active substances. This sometimes transforms an inoperable tumor so that its removal becomes possible. This is most liable to happen with mammary carcinoma, superficial cancers, malignant lymphomas and superficially located fascia sarcomas. The best results with these growths have been obtained by two series of Roentgen exposures, as intensive as possible, in the course of three or four weeks. If the tumor retrogresses under this it should be removed at once. If not, then the case is not adapted for this method of treatment. Roentgen exposures are liable to ward off recurrence when applied after the operation, especially when the rays can be applied to the open wound. Radio-active substances can be applied to the surface or be introduced into the throat, vagina or rectum or into the depths of the tumor. Intravenous injection of the radio-active substances seeks to follow on the trail of eventual metastases and exert radio-active influence on the tumor itself by way of the blood. Werner's experience has shown that lengthening the course with smaller doses is not equivalent to intensive dosage even over a short period. Many cases of failure can be ascribed to inadequate dosage. In 171 cases of inoperable or recurring cancer under treatment during the last half of 1912, 12 per cent. of the patients were essentially and 16 per cent. considerably improved. The 122 others derived no appreciable benefit or have been lost trace of. Werner warns that certain combinations of methods of treatment may do direct harm, especially when each method has a tendency to induce fever and collapse. Forewarned against this, however, until something better is discovered, the best prospects lie in the combination of several methods of treatment, radiotherapy, chemotherapy and immunotherapy, supplemented by cautious toxin or ferment treatment.

80 and 95. **Protracted Endocarditis.**—Lewinski reports three cases of Schottmüller's endocarditis lenta. Two of the patients had had acute articular rheumatism and all were very anemic and growing constantly weaker. All had mitral insufficiency and there was nephritis toward the last in one case. The patients were women between 22 and 30. Other features of the cases were occasional development of numerous petechiae and slight swelling of the joints which never went on to suppuration. Retinal hemorrhages were noticed in one patient. There were no cerebral symptoms, and scarcely any indication of chills or septic fever, the temperature keeping merely slightly febrile. The diagnosis was confirmed by discovery of the *Streptococcus viridans* in the blood. No case of recovery is known, but vaccine treatment has given material improvement in some cases, and if instituted early enough might transform the clinical picture.

Lossen also reports three cases but his patients were males, two boys of 15 and a man of 32. All had had acute articular rheumatism leaving a valvular defect. The endocarditis developed insidiously, the symptoms suggesting for weeks merely long continued influenza, not confining the patients to the house. When they finally apply to a physician and he orders them to stay in bed, the subjective symptoms generally subside but the fever keeps up for months. The temperature may be normal mornings and go up in the afternoon or evening. Enlargement of the spleen with the symptoms on the part of the heart should suggest this form of endocarditis, especially when the pulse is accelerated out of proportion to the fever. Hidden suppuration or a tuberculous focus somewhere is generally thought of first when examining such patients. No treatment has proved effectual but much can be done to relieve by symptomatic measures, keeping up the strength and tiding the heart along.

### Deutsche medizinische Wochenschrift, Berlin

*March 13, XXX, No. 11, pp. 489-536*


83 *The Hyomandibular Fistula. (Eine neue Form der angeborenen Halsfistel.) H. Küttner.
84 Isolation of the Active Substance of the Hypophysis. H. Fuhner.
85 *The Incubation Period with Acute Poliomyelitis. (Die Länge der Inkubationszeit bei der akuten Kinderlähmung—Heine-Medinschen Krankheit.) C. Schoug.
86 *Phosphorus in Treatment of Epilepsy. P. Leubuscher.
87 *The Lymphatic Diathesis Predisposes to Gastric Ulcer. (Ulcus rotundum ventriculi und Lymphatismus.) E. Stoerk.
88 Tubercle Bacilli in the Urine with Tuberculosis of the Testicle. E. Löwenstein.
89 Total Gastrectomy. (Ueber totale Entfernung des Magens.) E. Unger.
90 Staining Technic for Diphtheria Bacilli. H. A. Gins.
91 Copper in Treatment of External Tuberculosis. (Zur Kupferbehandlung der äusseren Tuberkulose.) A. Strauss.
92 Psoriasis a True Skin Disease. (Ist die Psoriasis ein Hautsymptom konstitutionell-bakterieller Erkrankungen oder eine echte Hautkrankheit?) H. Huber.
93 Reinfection with Syphilis after Salvarsan; Seven Cases. Antoni.
94 Roentgen Dermatitis from Standpoint of General Practitioner. (Was soll der Nicht-Röntgenarzt über das X-Erythem wissen?) P. F. Becker.


83. **Hyomandibular Fistula.**—The patient was a girl of 8 and the fistula was of congenital origin. It opened 2 cm. below the ear, the other end opening into the outer ear, and it was successfully excised.

85. **Incubation of Acute Poliomyelitis.**—Schoug's experience does not sustain the assumption of insect transmission of this disease. Direct infection from the mouth or nasal secretions seemed more probable. The incubation period in nine cases reported in detail was four days in some, in others up to the tenth day. The occurrence of the disease in winter when insects are less common is a special argument against insect transmission.

86. **Phosphorus in Epilepsy.**—Leubuscher thinks that it is now established beyond question that auto-intoxication, originating in the intestines, is the main factor in bringing on an epileptic seizure. After this factor has received due attention, he advocates giving phosphorus as this has such a marked effect in tetany. He has been giving it systematically since early in 1911, in 10,000 parts oil. He gives the details of the nine very severe cases of old epilepsy in which he has applied this method of treatment. The patients had long been in his charge and the number of seizures was reduced by 30 or 40 per cent. in three cases, and by about 65 per cent. in two others. In three others the improvement was less striking and in one patient the number increased from about twelve to

fourteen seizures a month. The patients were between 17 and 30 and the epilepsy dated from childhood in most. The greatest benefit seemed to be realized in the severer cases; in one the seizures dropped from 119 to 73. The phosphorus was given for fifteen months in six cases.

87. **Predisposition to Gastric Ulcer.**—Stoerck comments on the facts—which he regards as well established—that constitutional factors are involved in the development of gastric ulcers, and that these ulcers are of more frequent occurrence than hitherto recognized, as necropsy often reveals traces of old ulcers of this kind with no history of clinical manifestations during life. His experience and research have shown further a distinct connection between the lymphatic constitution and the development of a gastric ulcer. He has encountered this connection in thirty cases and relates the details of some of them here. By the term lymphatism he means the status thymicolymphaticus, among the principal characteristics of which are the atypical growths of hair on head and body, the length of the limbs in comparison to the body, hypertrophy of tonsils and adenoid tissue, and possibly of all the palpable lymph-nodes, small heart, narrow arteries, low blood-pressure, nervous and psychic instability and a high voice. The lymphatics in the stomach share in the general tendency to hypertrophy and to respond to certain irritations by mammillation. The protruding follicles and the mammillated surface produce mechanical conditions inviting ulceration as particles of food are detained by the rough surface and become a source of irritation. The circulation in the gastric mucosa above suffers also. An additional factor is afforded by the peculiar lack of resistance to bacterial invasion. Persons of this lymphatic temperament are exceptionally prone to tonsillitis, etc., and typhoid and pneumonia are inclined to run an unfavorable course. Any ulceration in the stomach of mechanical origin is thus particularly liable to become complicated with secondary infection. Constitutional inferiority of the autonomous nervous system, especially the vagus, seems to afford a predisposition for gastric ulcer, judging from Yzeren's experimental work. Still another factor is the characteristic narrow lumen of the vessels and the consequent defective nourishment of the parenchyma. There seems to be little doubt that this constitutional anomaly of lymphatism in many, if not in most, cases prevents the healing of a casual gastric ulcer, so that it is kept up as a chronic lesion, when in a normal organism the defensive forces would rally and the ulcer soon heal under their influence.

### Medizinische Klinik, Berlin

*March 9, IX, No. 10, pp. 357-396*

95 *Protracted Septic Endocarditis. Lossen.
96 Scarlet Fever. (Vom Scharlach) R. Fischl. Commenced in No. 9.
97 Heredity and Insanity. P. Jolly.
98 Symptoms Suggesting Heart Block After Tropacocain Spinal Anesthesia. (Eine Beobachtung von herzblockähnlichen Erscheinungen nach der Lumbalanästhesie.) K. Vogel and A. Kraemer.
99 Physiologic Study of Effect of High Altitudes. (Ueber eine Beziehung zwischen Muskeltonus, Aufmerksamkeit und erschwertem Einschlafen im Hochgebirge.) R. v. Heuss.
100 Special Diets in Hospitals. (Ueber Verpflegung und Diätverordnungen in Krankenhäusern.) N. v. Jagic.
101 Test Apparatus for the Hearing. (Eine neue Methode zur Prüfung des Hörvermögens.) R. Sondermann.
102 Hemolytic Properties of Blood-Serum in Syphilis, Tabes and General Paresis. V. Kafka.
103 Necessity for Specific Treatment for Syphilitics Contemplating Matrimony if the Wassermann Reaction is Positive. (Ueber den Heiratskonsens bei Geschlechtskranken.) E. Brodfeld.

95. See Abstract 80.

### Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

*March, XXVII, No. 3, pp. 289-416*

104 Technics for Artificial Delivery. (Stellung der verschiedenen Kunst-Geburten inbezug aufeinander.) P. C. T. v. d. Hoeven.
105 *Disturbances of Carbohydrate Metabolism in Pregnancy and Eclampsia. (Zur Frage der Leberinsuffizienz.) W. Benthin.
106 Pseudomyxoma in the Peritoneum Involving Ovaries and Appendix. B. Rathe.
107 Roentgenotherapy in Gynecology. F. Helmann.
108 *Research on the Symptoms of the Menopause. (Klinische und experimentelle Beiträge zur Frage der sogen. Ausfallserscheinungen.) E. Mosbacher and E. Meyer.

105. **Disturbances of Carbohydrate Metabolism in Pregnancy and Eclampsia.**—Carbohydrate metabolism is as a rule very little altered in normal pregnancy. The only condition in which it is noticeably disturbed is in eclampsia, and here it is manifested by a decided increase in the sugar content of the blood. Benthin believes, however, that this increase is due to the convulsions and not to abnormal liver function. In so far as it cannot be attributed to the convulsions, he believes that the ductless glands are at fault, rather than the liver, as it is well known that hyperfunction of the adrenals causes glycosuria.

108. **Artificial Menopause.**—Mosbacher and Meyer studied sixty-seven cases before and after operation to determine the effect of removal of the ovaries in producing the nervous phenomena of the menopause. They also recorded the effect on blood-pressure and adrenalin glycosuria. They found that none of these effects was produced with any constancy by ovariectomy. Many of the cases which showed nervous symptoms after operation had had them before, and in some cases there was pronounced improvement in the nervous condition after operation.

### Münchener medizinische Wochenschrift

*March 11, LX, No. 10, pp. 505-568*

109 Syphilitic Disease of the Aorta. S. Oberndorfer.
110 Advantages of the Phenolsulphonephthalein Test for Kidney Functioning. (Funktionelle Nierenprüfung nach Rowntree und Geraghty.) F. Erne.
111 *Diphtheria Bacilli in Secretions of Nose and Throat in Infants with Nutritional Disturbances. (Vorkommen von Diphtheriebazillen im Nasen und Rachensekret ernährungsgestörter Säuglinge.) E. Conradi.
112 General Principles for Treatment of Hernia. (Allgemeines über Bruchbehandlung und bes. Riesenbruch.) O. Witzel.
113 *Autoserotherapy. (Zur therapeutischen Verwendung des Eigenserums.) B. Spiethoff.
114 *Importance of Examination of Liver Functioning Before General Anesthesia. (Chloroformnarkose und Leberkrankheiten.) W. Hildebrandt.
115 Removal of Brain Tumor Under Local Anesthesia. (Exstirpation eines kleinfaustgrossen Hirnhauttumors in Lokalanästhesie.) H. Andree.
116 *Lead Poisoning in Workers on Brass; Two Cases. (Bleivergiftung in der Messingindustrie.) H. Althoff.
117 The Cerebrospinal Fluid in Latent Syphilis and Under Salvarsan. (Salvarsan und Liquor cerebrospinalis bei Frühsyphilis nebst ergänzenden Liquoruntersuchungen in der Latenzzeit.) K. Altmaun and G. L. Dreyfus. Commenced in No. 9.

111. **Diphtheria Bacilli in the Nasal Secretions of Infants Free From Diphtheria.**—Conradi states that in his service at Cologne he found in the course of about a year that ten infants under treatment for digestive disturbances had diphtheria bacilli in the throat (two) or nasal (eight) secretions and yet they had no signs of diphtheria and no case of diphtheria developed in connection. The children with positive findings were always those in the poorest general condition in the service. The bacilli lingered in the secretions for two, three or four months in some of the infants, but they never seemed to display specific pathogenic properties.

113. **Autoserotherapy.**—The excellent results obtained in various skin affections by injections of serum from pregnant women or other sources encouraged Spiethoff to try the effect of reinjecting the patient's own serum. The outcome was quite encouraging so that he urges others in obstinate skin affections, rebellious to external measures, to apply this method. He drew 50 or 100 c.c. of blood from a vein in the forearm, and reinjected from 10 to 25 c.c. of the serum from it into a vein. He could see no difference when the serum had been inactivated by heating to 55 or 56 C. for half an hour or when this was omitted. The procedure was repeated two or three times a week to a total of six times. The reactions to the autoserum were the same as those observed with alien serum. The general and focal reaction seemed to be the impetus needed to start the affection on the road to a cure. In some cases he alternated or combined the patient's own serum with an alien serum. Among the affections favorably influenced were pruritus, psoriasis, and Hebra's prurigo and herpetiform dermatitis. The number of cases is too small for a decided opinion as to the value of the method, but they confirm the assumption of Freund, Abderhalden and others as to the pres-

ence in the serum of some non-specific substance which has a direct modifying action. The results observed cannot be ascribed to the effect of the venesection alone as other patients treated with venesection failed to show the general and focal reactions.

114. **General Anesthesia and the Liver.**—Hildebrandt insists that the liver functioning should be systematically tested before giving a general anesthetic, as a previously unsound liver will of course suffer more from the toxic action of the anesthetic.

116. **Lead Colic in Workers on Brass.**—Althoff describes two severe cases and calls attention to the prompt benefit derived from a suppository with 0.0005 gm. atropin, suggesting the use of one or two such suppositories in all cases of lead colic. The poisoning in his cases occurred from years of breathing minute amounts of lead in working with emery and on brass which contained 1 per cent. lead.

### Virchows Archiv, Berlin

*February, CCXI, No. 2, pp. 161-320*

118 Epidermoid Cholesteatoma of the Brain. W. R. Meyer.
119 Giant Cells in Thyroid and Prostate. Wilke.
120 Stellate Inclusions in Giant Cells. (Ueber strahlige Einschlüsse in Riesenzellen.) E. Hummel.
121 *The Endosteum. M. A. Ssamoylenko.
122 Histogenesis of Toxic Changes in the Myocardium. N. Anitschkow.
123 Atherosclerosis of the Atrioventricular Valves. S. Sato.
124 Cystic Kidney. (Zur Zystennierenfrage.) O. Berner.
125 Plasma Cells in the Kidneys. W. Ceelen.
126 History of the Methyl Green-Pyronin Section Stain. A. Pappenheim.
127 Nodular Hyperplasia of the Liver Associated with Lesions in the Brain. Y. Yakoyama and W. Fischer.

*March, No. 3, pp. 321-476*

128 Importance of Langerhans' Islands in the Human Pancreas. K. Koch.
129 Syphilitic Aortitis. (Ueber die pathologische Histologie der syphilitischen Aortitis mit bes. Berücksichtigung des Vorkommens von Plasmazellen.) M. Fukushi.
130 Case of Recklinghausen's Disease with Hypernephroma. Saalmann.
131 Case of Total Inversion of the Viscera. A. Krokiewicz.
132 Congenital Bulging or Depression of the Skull with Spina Bifida and Encephalocele. Y. Kato.
133 The Mechanics of Embolism. R. Geigel.
134 Pathologic Anatomy of Paratyphoid. S. Saltykow.

121. **The Endosteum.**—Ssamoylenko made a detailed histological study of the endosteum, the membrane lining the marrow cavity surface of the bones, in twenty-two human beings varying in age from embryonic life to over 80 years. His conclusions are interesting as affecting the much discussed question of bone transplantation. He finds that the endosteum is a connective-tissue formation having the same function as the periosteum, namely, that of bone formation and bone absorption. The endosteum is an entirely different form of tissue from the bone marrow, and in fact forms a connective-tissue framework for the latter. The marrow does not share in bone regeneration and cannot exist independently from the endosteum, while the endosteum can live without any connection with the marrow.

### Wiener klinische Wochenschrift, Vienna

*February 27, XXVI, No. 9, pp. 317-356*

135 Action of Epinephrin in Experimental Kidney Disease. (Ueber die Wirkung von Adrenalin bei akuten experimentellen Nephropathien.) L. Hess and J. Wiesel.
136 Bacteriolytic Differentiation of Lepra Bacilli. (Zur Frage der Bakteriolyse säurefester Bakterien.) R. Kraus, G. Hofer and Ishiwara.
137 From the Seat of War. (Feldärztliche Erfahrungen in der vordersten Hilfszone.) J. Steiner.
138 Correction of Spinal Anomalies in Orthostatic Albuminuria. (Wirkung neuer Korrektiousversuche der Wirbelsäule bei der orthotischen Albuminurie.) L. Jehle.
139 "March Hemoglobinuria." (Zur sogenannten Marschhämoglobinurie.) L. Jehle.
140 Diagnosis of Acute Pancreatitis. S. Nagy.
141 The Cammidge Reaction in Diagnosis of Pancreas Disease. E. Langer.

*March 6, No. 10, pp. 357-400*

142 *Action of Benzol on Leukemic Process. S. Klein.
143 *Benzol in Leukemia. S. Stern.
144 Cholera at Seat of War. (Erfahrungen über die Cholera in Ostrumelien während des Balkankrieges 1912.) K. J. Schopper.
145 The Cell Reaction in Rats. (Experimentelle Studien über die Zellreaktion nach Freund-Kaminer bei Ratten.) K. Ishiwara.
146 Pathogenesis of Hebra's Herpetiform Impetigo. R. Marek.
147 Specific Prophylaxis of Tuberculosis. A. Kutschera.
148 Chronic Asthma in Rachitis. M. Kassowitz.
149 Digestion and Absorption in Light of Modern Serology. W. Buettner.

142-143. **Benzol in Leukemia.**—Klein reports his experiences with benzol treatment during the last six months in twenty-two cases of leukemia. He gives full details of twelve cases and states that the best results were obtained when the benzol treatment had been preceded by a course of roentgen exposures. The benzol seems then to act much more intensively and more rapidly on the organs and on the blood than either the radiotherapy or the benzol alone. He advocates this combination treatment in all cases of leukemia, especially for those with very high leukocyte count; in one of his cases the leukocytes numbered nearly a million. In one case of myeloid leukemia in a woman of 60, the leukocytes numbered 598,000. Under benzol for one month the spleen and liver became reduced in size but the blood picture could not be brought to approximate normal even with five months' benzol treatment. He was unable to detect any difference in the effect between the various forms of leukemia, and although his results were not so encouraging as those reported by Kiralyfi and Koranyi he still thinks that benzol is destined to play an important rôle in the treatment of leukemia. He did not give as large doses as others as a rule, finding that the results were equally good with less than 4 gm. per day. Doses up to 5 gm. in a few cases sometimes had an unfavorable influence on the red corpuscles. In one case showing particularly good results he gave a total of 100 gm. in thirty days. Most of the patients were given the benzol mixed with olive oil and dropped into milk or taken in a capsule. He has recently been injecting the benzol subcutaneously, mixed with equal parts of olive oil, 1 gm. once a day. In none of his cases were there any signs of irritation in the urinary apparatus. The action of the benzol seems to be restricted to the blood-forming organs.

Stern reports a case in which the leukemia had just developed. Under the benzol treatment the leukocytes dropped from 264,000 to 13,300, while the reds climbed up from over three to over five million and the patient seems now in excellent health after two months of benzol treatment.

### Zentralblatt für Chirurgie, Leipsic

*March 15, XL, No. 11, pp. 377-416*

150 *Local Anesthesia for Joint Operations. (Gelenkanästhesie.) C. Deutschländer.
151 *Successful Suture of Artery in Infected Wound. (Sind Wundinfektion und langdauernde Abschnürung Gegenindikationen gegen die Gefässnaht bei Verletzungen?) W. Danielsen.
152 Six Gastrotomies on One Woman for Swallowed Spoons and Toothbrushes. Wolff.

150. **Local Anesthesia for Operations on Joints.**—Deutschländer found that it was difficult to ensure local anesthesia for an operation on a joint unless the blood had been previously expelled from the limb. He followed the technic for Bier's vein anesthesia to ensure that the blood was properly expelled, and then the anesthetic was injected directly into the joint. Unless the blood has been expelled, the synovialis absorbs the anesthetic so rapidly that its effect is soon lost and sensitiveness returns. For a large joint he injects the anesthetic at two points. If the synovialis is destroyed to such an extent that it is unable to absorb the anesthetic, there is little if any anesthesia. Consequently if the interior of the joint is totally destroyed there is no chance of success with this method of direct anesthetization. It is not applicable to joints, like the shoulder and hip, from which it is impossible to expel the blood effectually. Separate anesthetization is also necessary for the skin, in order to reach the joint. But once past the skin, the most extensive operations can be done absolutely painlessly.

151. **Suture of Artery in Infected Wound.**—The stab in the shoulder wound was not only infected but a rubber tube had been wound around the shoulder to arrest the bleeding from the axillary artery and this constriction had been maintained for five hours. The arm was livid and of a corpse-like cold-

ness, but notwithstanding this treatment and the suppuration of the wound, the young man had soon completely recovered, the suture of the artery having saved the arm.

### Zentralblatt für Gynäkologie, Leipsic

*March 15, XXXVII, No. 11, pp. 369-408*

153 *No Benefit from Magnesium Sulphate in Eclampsia: Two Cases. (Zur Eklampsiebehandlung durch Injektionen in den Rückenmarkskanal.) Guggisberg.
154 Histologic Examination of the Placenta Not a Reliable Index of Duration of Pregnancy. Peters.
155 Interstitial Pregnancy. Siefart.
156 Difficulties of Lumbar Puncture with Rachitic Pelvis. (Technische Schwierigkeiten bei der Punktion des Sakralkanals rachitischer Becken.) W. Rübsamen.
157 Unreliability and By-Effects of Scopolamin-Pantopon "Exploratory Twilight Sleep." (Gestattet der "Probedämmerschlaf" eine Bestimmung der Toleranz für Skopolamin-Pantopon bei der nachfolgenden Operation?) H. Hölder.

153. **Magnesium Sulphate in Eclampsia.**—Guggisberg was disappointed with the outcome in the two cases of eclampsia in which he applied Meltzer's intraspinal magnesium sulphate treatment. When the action of the drug is restricted to the lower portion of the spinal cord, the therapeutic action is inadequate. But when the drug is sent to the upper part of the spinal cord—by raising the lower part of the body—the drug effectually reduces the tendency to convulsions but the method ceases then to be harmless. Disturbances in breathing may be anticipated. The method should not be attempted outside of an institution where medical supervision is possible all the time. The magnesium sulphate acts only on the convulsions; the injury of the parenchymatous organs from the eclampsia is not affected by this drug.

### Zentralblatt für innere Medizin, Leipsic

*March 15, XXXIV, No. 11, pp. 265-296*

158 Technic for Determining Small Amounts of Indol. (Quantitative Bestimmungsmethode geringer Indolmengen.) E. Herzfeld and J. Baur.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*March 6, XXXIV, No. 28, pp. 289-296*

159 *Quantitative Test for Free Hydrochloric Acid in Stomach Content. E. U. Fittipaldi.

*March 9, No. 29, pp. 297-312*

160 *Congenital Megacolon. M. Fago.

*March 11, No. 30, pp. 313-320*

161 *Serious Hemorrhage After Tonsillectomy. (Qualche caso di emorragie gravi dopo ablazione delle tonsille palatine.) A. Malan.

*March 13, No. 31, pp. 321-328*

162 Serodiagnosis of Echinococcus Disease and Helminthiasis in General. (Dopo sette anni di sieroreazione diagnostiche delle elmintiasi.) G. Ghedini.

*March 16, No. 32, pp. 323-344*

163 Recurring Diphtheria; Three Attacks in Eight Months. (Recidive di difterite e trattamento dei portatori di bacilli difterici.) A. Montefusco.

159. **Test for Free Acid in Stomach Content.**—Fittipaldi has modified the tropeolin test to serve for quantitative estimation of the free hydrochloric acid in the stomach content. Instead of mixing the stomach content and the reagent, he drops a row of drops of the tropeolin solution on a porcelain dish. A minute drop of stomach content is then deposited in contact with a drop of the stain. At the zone of contact there will be a color reaction, the tint ranging from purple with little or no acid to a decided lilac. The degree of acidity is expressed in terms of the decinormal soda solution, adding five to ten drops at a time and then testing again with the glass rod, taking up the droplet of stomach solution and depositing it on the cold stain. The standard for the test is the concentration when there is no further immediate color reaction on addition of the drop of stomach content. A tardy color reaction is not to be regarded. The advantages of this technic are that the same stain serves for both the qualitative and quantitative tests. It shows free acid even when the Günzburg and Danilewsky tests give a negative response. Heating the stain for the Günzburg technic gives a useful control test. The drop method he advocates can be applied by artificial light, and it is particularly instructive when there are very small amounts of free acid present. It is exact enough for practical purposes, while the technic is extremely simple. The Töpfer and Summer-Fischer methods give misleading findings as the presence of lactic acid interferes with the results. He gives tables showing the parallel findings with this and various tests.

160. **Congenital Megacolon.**—Fago reviews the various types of congenital idiopathic dilatation of the colon and the history of the anomaly, remarking that long before Hirschsprung reported his four cases of obstipation from this cause, Favalli in Italy, in 1846, had published an account of a case; Porro had operated for the condition about 1876 and Jacobi had happened on the condition in operating for supposed atresia of the anus. Fago discusses the condition as it develops, the symptoms and complications, differentiation and treatment. Plication of the colon, proposed by Parlavecchio in 1904 and successfully carried out by P. Bastianelli soon afterward, seems the ideal procedure. In his case the patient was in perfect health when reexamined nearly four years later. This technic answers the desired purpose of reducing the size of the colon while it makes comparatively little demands on the patient's endurance. On dogs it gave always excellent results. Megacolon is liable to prove fatal from auto-intoxication, from inflammatory processes in the colon, from perforation peritonitis, from ileus and from cachexia. In his compilation of 111 cases, sixty-four of the patients died, the known mortality thus being 57.7 per cent. In reality it is probably much higher as the ultimate outcome is not known in a large proportion of the cases. Separating the operative from the non-operative cases, he shows that the mortality in the latter group was 75.8 per cent. while in the forty-four operative cases it was only 38.8 per cent. Of the nineteen patients under a year old, 78 per cent. succumbed, and 58 per cent. of the thirty-one under 10. In the 104 cases of which the sex is mentioned, 75.6 per cent. were males.

161. **To Reduce Danger of Hemorrhage After Tonsillectomy.**—Malan found that systematic administration of calcium salts before a contemplated tonsillectomy seemed to aid in warding off danger of hemorrhage—at least he has had no serious hemorrhage since he has made a practice of this. He had no trouble even in a partial tonsillectomy in a hemophiliac who had always previously had severe hemorrhages on the slightest excuse. He advises further to insist on a preliminary purge, and states that another physician has told him of a case in which the severe hemorrhage kept up until the patient's rather tight belt was loosened, when the bleeding stopped at once. Compression with the fingers proved successful in one case after failure of all other measures to arrest the hemorrhage. Two fingers wrapped in gauze were applied directly to the raw surface of the tonsils with the thumbs pressing at the same time on the carotid. But this is extremely fatiguing for the physician and distressing for the patient. Escat ties the anterior and posterior pillars together, and this can also be done with metal clips. If all measures fail, the external carotid may be ligated, but this is liable to fail also on account of the numerous anastomoses. The site of the hemorrhage can be tamponed, providing for respiration and feeding with Kuhn's flexible peroral tube or other device. As adjuvants, all measures to reduce the blood-pressure and increase the coagulability of the blood are in order, including morphin, epinephrin, ergot and gelatin, not forgetting serotherapy. Nolf has had good results in menacing cases from subcutaneous injection of a 5 per cent. solution of peptone (Witte).

### Policlinico, Rome

*March 9, XX, No. 10, pp. 329-364*

164 Lumbar Nephropexy; Technic and Experimental and Clinical Experiences. O. Tenani.

*March 16, No. 11, pp. 365-400*

165 Anachlorhydria with Liver Disease. (Osservazioni cliniche e ricerche sperimentali sull'anacloridria nelle affezioni epatiche.) A. S. Puglisi.
166 Magnesium Sulphate in Treatment of Chorea. (Cura della corea con le iniezioni endospinali di solfato di magnesio.) F. Feliziani.

*March, Medical Section No. 3, pp. 97-144*

167 Effect of Splenectomy on Acquired Hemolytic Jaundice with Anemia of the Pernicious Type. G. Antoncelli. To be continued.
168 Experimental Research on Presence of Toxins in Expired Air. (Sulla presenza di antropotossine nell'aria espirata.) C. Farmachidis.

169 Oxaluria of Bacterial Origin. (Sul Bacillus oxalatigenes n. sp. L'ossaluria puo essere di origine batterica?) D. de Sandro.

### Riforma Medica, Naples

*March 1, XXIX, No. 9, pp. 225-252*

170 *The Adrenals in Health and Disease. (Fisiopatologia delle capsule surrenali in rapporto al morbo di Addison ed alle sindromi surrenaliche.) P. Castellino. Concluded in No. 10.

171 Aberrant Goiter. (Caso di struma aberrante della loggia sottomascellare.) C. Crowther.

172 *Arteriosclerosis of the Stomach. (L'arterosclerosi gastrica—e sopra un caso di ematemesi arterosclerotica.) G. Dal Lago.

*March 8, No. 10, pp. 253-280*

173 Blood Diseases. (Scorbuto, emofilia ed anemia perniciosa progressiva.) E. De Renzi.

174 Acid-Fast Bacilli in the Blood-Stream. (Osservazioni e considerazioni sulla presenza di bacilli acido-resistenti nel sangue circolante.) A. Fagiuoli. To be continued.

170. **The Adrenals.**—Castellino reviews the history and present status of our knowledge regarding the adrenals and epinephrin, emphasizing anew the fact that research on the pathology of any organ must be based on thorough study of its physiology. Only when its normal conditions and functioning are known can we appreciate the shades of difference in morbid conditions.

172. **Arteriosclerosis of the Stomach.**—Dal Lago has found only about fifteen cases on record and adds another to the list. The gastric arterioselerosis is generally part of a general arteriosclerosis affecting the viscera. It may entail dyspeptic disturbances or pain or may lead to hemorrhage. The dyspepsia is of the flatulent, hyposthenic type, the discomfort coming on soon after the meal, with drowsiness, painful distention of the stomach, difficulty in breathing and occasionally nausea and vomiting. The epigastrium is distended and tender. Belching relieves and the symptoms may then subside until after the next meal. The appetite keeps good and functional tests of the stomach give negative findings. In the gastralgic form there may be a sudden pain in the stomach with sense of distention and cramps for a few minutes; the pain may radiate to the back and scapula with nausea, belching and regurgitation, relieved by vomiting. These attacks may be accompanied by salivation, sweating, etc., and there may be a more or less complete syndrome suggesting angina pectoris, sometimes accompanied by symptoms on the part of the heart, abnormally rapid, slow or irregular pulse. In the hemorrhagic form there may or may not be vague symptoms on the part of the stomach before the gastric hemorrhage occurs. The hematemesis may be the first symptom to call attention to the organ. This form may affect comparatively young persons. The hemorrhage generally occurs from an eroded vessel but it is also possible by diapedesis. The dyspeptic and gastralgic forms generally are accompanied by signs of arteriosclerosis elsewhere. He reviews the cases on record, calling attention in particular to Bitot's case in which a man of 61 had digestive disturbances for a year with acid regurgitation and then five or six hemorrhages from the stomach in 1900. After a few months of anemia and emaciation a gastro-enterostomy restored comparatively normal conditions and the patient was in good health for seven years when the gastric hemorrhages recurred and although they were kept under control for two years, the patient succumbed to hematemesis in 1909. No signs of a tumor or cicatrix were found in the stomach but there was hemorrhagic suffusion at two points, resembling post-mortem lesions. Dal Lago's own patient was a sailor of 58 with a tendency to obesity, arthritis and excesses in eating and drinking. The stomach was obliged to do extra work, explaining the localization of the arteriosclerosis in this organ. The hematemesis in this case had been ascribed to an ulcer during life as there were no signs of cirrhosis of the liver, nephritis or cancer of the stomach. The presumptive diagnosis of arterioselerotic gastrorrhagia should be suggested by discovery of signs of arteriosclerosis elsewhere in such cases. As it is liable to occur in the young, Boas' term "senile gastrorrhagia" is not appropriate. Raulin called attention four years ago to the fact that theobromin and strophanthus are liable to benefit in these cases of arteriosclerosis of the stomach while they have no action in cases of ulcer, and hence may prove useful in differentiation. A gastro-enterostomy may put an end to the spasm of the pylorus from irritation by passing food and thus help to restore normal conditions in the circulation. Bitot's success mentioned above should encourage further attempts in this line.

### Semana Medica, Buenos Aires

*February 13, XX, No. 7, pp. 369-432*

175 Vaccine Treatment of Gonorrheal Arthritis. (Sobre algunos casos de artritis blenorragica tratados con la nucleo-protina gonococcica.) V. Fossati.

176 Infant Hygiene. (Necesidad de la enseñanza de la higiene infantil a la mujer argentina.) P. Rueda.

177 The Campaign Against Tuberculosis in Spain. (La lucha antituberculosa y los dispensarios.) J. C. Castellvi.

178 Colloids in Living Tissues. (El estado coloide en la materia viva.) J. R. Carracido.

179 The Teething Period. (La denticion y la baba.) M. G. Alvarez.

*February 20, No. 8, pp. 433-496*

180 Hygiene in Schools and Colleges. (La enseñanza y la practica de la higiene en los establecimientos de enseñanza secundaria.) P. J. Garcia.

181 Physiology of the Sexual Glands. (Las glandulas sexuales del hombre y su nueva fisiologia.) D. N. Serralach.

182 Universal Biology. (Plasmogenia.) A. S. Nuñez.

183 *Resonant Percussion. (Nota sobre un nuevo metodo de percusion.) M. Gil.

184 *Sounds in the Ears. (Estudio de los ruidos de oidos percibidos objetivamente.) E. Botella.

185 Demonstration of Carbon Monoxid in the Blood. (La demonstracion del oxido de carbono en la sangre.) A. de Dominicis.

186 Present Status of Radiotherapy. (La radioactividad.) M. Bertolotti.

183. **Resonant Percussion.**—Gil calls attention to the valuable information that may be derived from comparing the percussion findings when the patient stands in the center of a room or against the wall. The difference is sometimes surprising, when the sounds heard are reenforced by the resonance from the wall. He comments on the general disregard of the principles of acoustics when percussion is applied. The findings are apt to be misleading on this account, especially when percussion is applied to a patient in bed. The bedclothes deaden the findings and the wall on one side of the bed renders conditions in regard to resonance asymmetrical. He percusses with the patient standing, the trunk bare, the head held carefully in the median line, not bent away from the side being percussed, the arms hanging loose down. The opposite side (chest or back) should be parallel to the wall and not quite four inches from it (10 cm.). He sometimes has his patient stand between the opened doors of a wardrobe or apparatus case, the percussor completing the square formed by the patient's body and the two open, parallel doors. By opening or closing the doors a trifle more it is possible to reenforce the percussion findings at will.

184. **Subjective-Objective Sounds in the Ears.**—Botella has found about forty cases on record in which a rhythmic sound originating in the blood-vessels or muscles was perceived by the patient and was audible also to others. In a case in his own practice a child of 6 was anemic but otherwise normal. The parents noticed a moaning sound in the mastoid region, synchronous with the pulse and disappearing on compression of the carotid artery. Under cod liver oil the anemia improved and the sound ceased to be heard, disproving the first assumption that it was due to some aneurysm. The anemia alone must have produced it. In another case a man of 32 had complained of sounds in his ear for three months. They ceased only when he bent his head over to that side. The sounds were audible to others and seemed to be located in the internal carotid. They disappeared permanently after catheterization of the eustachian tube although the tube had not been obstructed.

### Hospitalstidende, Copenhagen

*March 12, LVI, No. 11, pp. 273-296*

187 Anemic States with Chronic Gastric Achylia. K. Faber.

### Ugeskrift for Læger, Copenhagen

*March 13, LXXV, No. 11, pp. 439-486*

188 History of the Mastoid Operation. (Documentum humanum til Belysning af Mastoidaloperationens Historie.) E. Schmiegelow.

189 Resection of the Stomach. (Om Resektion af Ventriklen.) A. Pers.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX. NO. 17 CHICAGO, ILLINOIS APRIL 26, 1913


## THE DANGER AND PREVENTION OF SEVERE CARDIAC STRAIN DURING ANESTHESIA *


W. D. GATCH, M.D.
DEWELL GANN, A.B., AND F. C. MANN, A.B.
INDIANAPOLIS


We started the investigation which is here reported to determine the effects of the Trendelenburg position on the circulation and respiration, and to formulate rules for its safe employment. We had become convinced from cases observed by ourselves, and from communications from a large number of surgeons and anesthetists, that this posture may at times endanger the life of the patient during anesthesia. Our experiments, checked by clinical observations, have demonstrated, to our own satisfaction at least, that this conclusion is correct. But they have also shown that the Trendelenburg position is only one of several agencies which act in the same manner, namely, by increasing to a dangerous extent the flow of the blood to the heart. A study of cases of death during anesthesia under present-day conditions of surgery will show, we think, that more fatalities result from this cause than from its opposite — diminished supply brought about by hemorrhage or so-called surgical shock. The most important of the agencies of which we are speaking are the Trendelenburg position, forcible pressure on the abdominal viscera and struggling.

In operations on man these causes frequently act together, but in our experiments we have sought to study the effects of each separately. The danger of an overfilling of the right side of the heart is greatly increased by asphyxia. Hence we have considered the effect of obstructed or arrested breathing on each of the conditions just enumerated.

### THE TRENDELENBURG POSITION

A gynecologist of wide experience once stated to us that he knew of no more certain way to kill a fat woman than to leave her for some time in the high Trendelenburg position. Our own observation has been that the head-down position is badly borne by patients with cardiac disease, or by those with obstruction to the breathing. The two cases reported below illustrate the effect of the position in such cases. We could report several others of a similar kind.

CASE 1.—The patient[1] was a man with aortic and mitral insufficiency and a pericardial effusion first discovered at autopsy. While lying flat he was anesthetized with gas-oxygen and ether, and then placed in the lithotomy position with his pelvis well elevated. The anesthetist reported that the patient's condition was excellent until he was placed in this position. His color at once became cyanotic and his breathing poor. He died before it was possible to remove him from the table.

Death was probably due to overdistention of the right side of the heart, complicated, perhaps, by some interference with the respiration.

CASE 2.—A man of 65, very fat, but with a circulatory apparatus apparently in good condition, was etherized and placed in the high lithotomy position described above. His breathing, somewhat obstructed from the start, became poor, his color cyanotic and his pulse rapid and weak. He was immediately taken from the table and placed flat on a stretcher. His condition at once improved. He was etherized somewhat more deeply and again placed on the table, but this time with very slight elevation of the pelvis. The operation was then completed without further trouble. In this case also the cardiac strain was increased by asphyxia.

The literature in clinical journals on the effects of the head-down position is rather meager. Kraske[2] reports two cases of suprapubic cystotomy, in both of which there were postoperative intestinal obstructions. One patient recovered without operative interference, the other required operation and came to autopsy. The omentum was found incarcerated in the upper part of the abdomen, obstructing the transverse colon and pressing on the gastric and portal veins. Hematemesis had been present, and gastric ulcers were found which were supposed to be due to the obstructed veins.

Kraske attributed the trouble in both of these cases to displacement of a fatty omentum produced by the Trendelenburg position during operation. So far as we can discover no cases similar to these have been reported. Kraske in the same paper also reports two cases of postoperative heart failure, which he thinks was caused by overdistention of the heart, produced by the head-down position.

Franz,[3] from observation on fifteen patients while they were in the Trendelenburg position, doubts that this posture causes any noteworthy changes in the circulation, but thinks that it interferes markedly with the ventilation of the lungs He states that the decreased oxidation caused by the head-down position must, if long continued, cause serious damage to the entire organism, and most of all probably to the central nervous system. He observed that the patient always showed a marked decrease in respiration if suddenly placed in the head-down posture, and cautions against doing this.

Joyle[4] attributes the danger of the position to the excessive strain which it throws on the heart.

Leonard Hill was the first to investigate in a thorough-going manner the effects of gravity on the circulation

* From the Laboratory of Experimental Surgery of Indiana University School of Medicine.

1. This is the patient whose death was reported as Fatality 2 by W. D. Gatch, The Use of Rebreathing in the Administration of Anesthetics, THE JOURNAL A. M. A., Nov. 11, 1911, p. 1593.

2. Kraske: Beckenhochlagerung und ihre Gefahren, Arch. f klin. Chir. (Langenbeck's), 1903, lxxi, 453.

3. Franz: Nachteile den Beckenhochlagerung, Zentralbl. f. Gynäk., 1903, xxvii, 969.

4. Joyle: La mort et les accidents provoqués par la position déclive en chirurgie abdominale, Presse méd., September, 1903, p. 158.

and respiration.[5] His conclusions have been generally accepted and our experiments served to verify them in every particular. Using morphin to anesthetize the animals, he found that in the dog and cat the blood-pressure falls in the carotid artery under the influence of gravity in the head-up posture, and rises in the feet-up posture; that compensation for these effects takes place more or less in normal animals by vasoconstriction in the splanchnic area in the head-down position, with cardiac acceleration in some cases, and by cardiac inhibition and by vasodilatation in the feet-up position. Salathé, quoted by Hill, found that rabbits are killed by the feet-down position in from fifteen minutes to two hours, the animals practically bleeding to death into their splanchnic veins. Hill also showed that when the vasomotor tone is abolished, the respiratory movements can still compensate to some extent for the effect of gravity on the circulation. This compensation is accomplished in the feet-down position by a contraction of the abdominal muscles, which serves to compress the splanchnic vessels, and by deep thoracic inspirations which serve to aspirate blood into the heart. In the feet-up position it is brought about by a relaxation of the abdominal muscles, and by diaphragmatic inspiration, this type of inspiration favoring the accumulation of blood within the abdomen and thus protecting the heart against overdilatation. In the monkey, Hill found that the effect of the vertical position under morphin is to raise the blood-pressure. This effect is due to the more highly developed vasomotor mechanism of this animal. When, however, the monkey's vasomotor tone is abolished, this animal is affected in the same manner as the dog or cat. Such abolition of vasomotor tone is quickly brought about by chloroform anesthesia, and much less rapidly by ether anesthesia.

Hill demonstrated that in the approximately normal animal the head-down position can be maintained for hours without ill effects. This, we shall show, is not the case if the animal is anesthetized with ether.

### EXPERIMENTS ON THE EFFECTS OF THE TRENDELENBURG POSITION

Our experiments were performed on dogs. Ether without any morphin was used to anesthetize them. The ether was given by means of a can, through a hole in the side of which ether could be added drop by drop. This method in the hands of the same anesthetist who gave the ether in these experiments has been used in the laboratory for a long time and with very few fatalities under ordinary conditions. A record was taken of the respiration and blood-pressure with the animal in the horizontal position. The dog was then placed in a Trendelenburg position of from 45° to 50° and a continuous record taken throughout the remainder of the experiment. The effects of the head-down position were positive and startling, and at first we were at a loss to explain them. Only four of fifteen dogs lived in this position more than an hour and a half unless revived by artificial respiration. One dog died in three minutes, another in five minutes. The average time of survival for the entire series was about twenty minutes. The animals which showed the greatest resistance were all young. It was noteworthy that nearly all the dogs died while very lightly etherized; many of them when the ether had been entirely removed. The records showed almost invariably the same results. The change to the head-down position caused a slight rise in blood-pressure, a slight increase in the pulse-rate, and little or no change in the rate of respiration. The breathing became more labored, however, and assumed a diaphragmatic character. The abdominal muscles were relaxed. While the animal remained in the abnormal position its pulse and blood-pressure showed practically no change till the respiration failed. This invariably occurred sooner or later. After marked variations

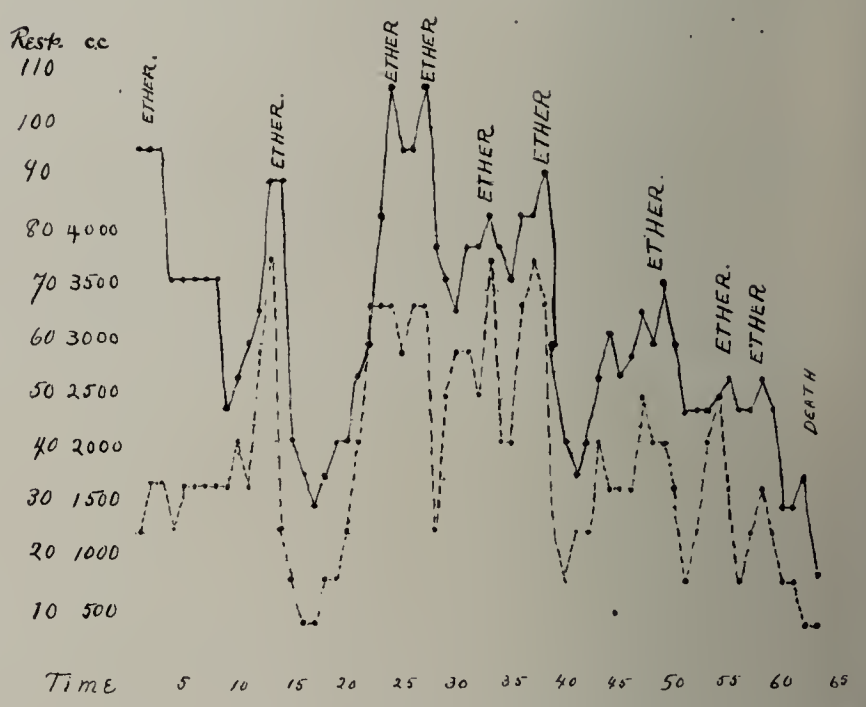



Fig. 1.—Chart showing rate of respiration (solid line) and amount of air inspired per minute (broken line) by a dog under light ether anesthesia. The ether was given in very small amounts. Note the enormous decrease in pulmonary ventilation after each administration. For the first ten minutes the dog was in the horizontal position, for the remainder of the experiment in a Trendelenburg position of 45 degrees.

the breathing would weaken and gradually cease. When this occurred the heart would always continue to act normally for a time, and the blood-pressure would rise or remain at the same level, but at the end would abruptly sink to the base-line, death taking place in from one to two minutes after the respiration had ceased. If the dog were lowered and given artificial respiration as soon as the blood-pressure began to fall, it could usually be revived. We succeeded in bringing around a few animals without lowering, by artificial respiration alone, begun as soon as natural breathing ceased. As soon as it started to breathe its blood-pressure would quickly rise to the former level, and the dog's condition would become perfectly normal. The animal could now be placed a second time in the Trendelenburg position, when an exactly similar series of results would occur.

What is the cause of death in these experiments? We can safely conclude that it is primarily failure of the respiration, for the heart-action remains good and the blood-pressure high until after the breathing has ceased. But what causes the respiration to fail? At first thought this would seem to be brought about by fatigue of the diaphragm, which in the Trendelenburg position has to lift the abdominal viscera at each inspiration. But this explanation is excluded by the fact that a dog under morphin narcosis will live for hours in the head-down position without any sign of fatigue of the diaphragm — a fact demonstrated by Hill and verified by ourselves. We are driven to the conclusion that the failure of the respiration is in some way caused by the ether, since it does not occur when morphin is used instead, and furthermore that it is due to some action on the respira-

5. Hill: The Influence of the Force of Gravity on the Circulation of the Blood, Jour. Physiol., 1895, xviii, 15. Hill and Barnard: Jour. Physiol., 1897, xxi, 323. Hill: Advances in Physiology, chapter on Vascular System and Blood-Pressure, Edward-Arnold, London, 1909

tory center. We can derive no evidence from our experiments for the belief that respiratory failure in dogs under ether is more common in the Trendelenburg position than in the horizontal position. But we have found, we believe, conclusive proof for the opinion that a partial or complete failure of the respiration is made much more dangerous by the head-down position.

Dogs under ether administered with a free supply of air show enormous variations from minute to minute in the amount of their pulmonary ventilation, and are extremely liable to sudden complete arrest of breathing. This fact is shown by the chart (Fig. 1), the curves of which represent the rate of respiration and amount of air inspired per minute by a dog under light ether anesthesia. From four experiments of this kind we have found that the pulmonary ventilation is just as good in the Trendelenburg as in the horizontal posture.

This sensitiveness of the dog's respiratory center to the action of ether affords, we believe, the explanation of the death of our animals. As long as the dog's breathing is good it withstands the head-down posture without ill effects. Whenever the breathing fails, partially or completely, the position greatly increases the danger. Then the heart, poorly supplied with oxygen, has to pump a supply of blood, made much greater than normal by the action of gravity, against a blood-pressure elevated by asphyxia. If the heart is weak even a partial failure of the breathing, which in the horizontal position would pass unnoticed, may prove fatal in the Trendelenburg position. Several of our records show a failure of the heart while slight respiratory movements were still being recorded.

The record shown in Figure 2 was obtained from a dog in the horizontal position by pushing the ether till respiration ceased. The ether was then removed and the dog resumed spontaneous breathing. The ether was then given again, and this time was not removed when respiration ceased; but the heart continued to beat normally for nine minutes. In the control experiment with the dog in the Trendelenburg position the ether was pushed until the breathing ceased and was then removed. The heart failed and the dog died in less than two minutes. In over thirty failures of the respiration in sixteen dogs in the head-down position we observed only once a spontaneous recovery.

If the ill effects of the head-down position in dogs are due primarily to failure of the respiration, they should be obviated if the respiration is kept stimulated by hypercapnia. This we found to be true. Furthermore, we find that a hypercapnia protects the animal to a surprising degree against respiratory failure from an excessive dose of ether. The curves of the tracing (Fig. 3) were obtained by making a dog rebreathe into a closed bag to which from time to time limited amounts of fresh air were supplied. When the breathing had been stimulated to the maximum extent the dog was overwhelmed with ether by immersing an ether bottle connected to the bag by rubber tubing in boiling water. The breathing was stopped even by this means with some difficulty and was quickly resumed when the bag was disconnected from the animal's trachea. The animal then breathed very rapidly for a time and recovered its reflexes in three minutes. This shows the effect of increased pulmonary ventilation in ridding the blood of ether.

In some dogs under ether the diaphragmatic breathing stops while thoracic breathing is continued. The mediastinal septum of the dog is so lax that as soon as its diaphragm ceases to contract when the animal is in the head-down posture all its abdominal organs sink into its thorax. The effect, therefore, of breathing of this type in the Trendelenburg position must be to aspirate the abdominal viscera into the chest, and partially to prevent the ingress of air.

We found that as a rule dogs whose phrenic nerves had been cut quickly succumb in the head-down posi-

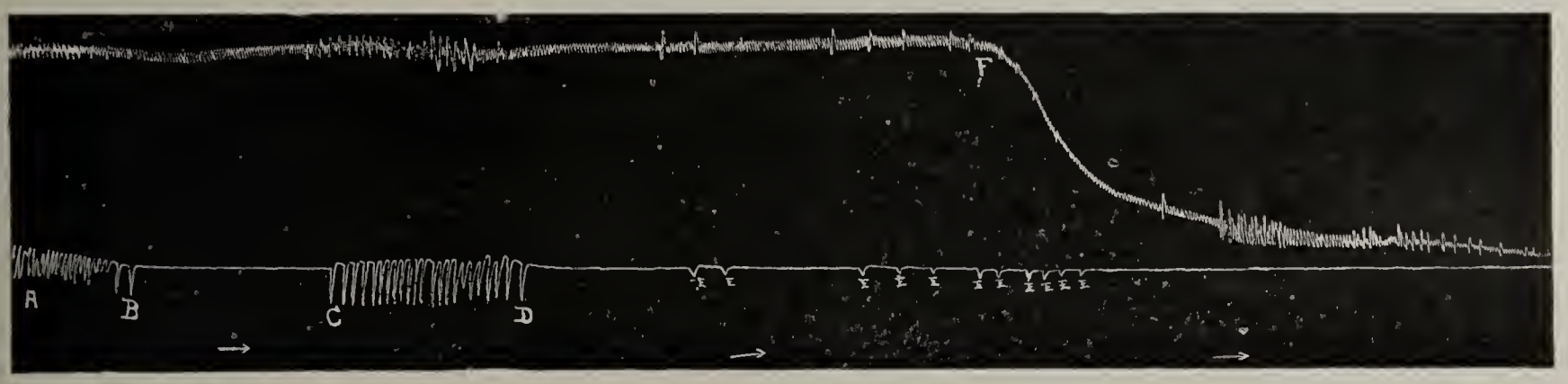



Fig. 2.—Record taken on revolving drum of the blood-pressure in the carotid artery. The upper line in the tracing records the blood-pressure, the lower line the respiration of a dog in the horizontal position under ether anesthesia. At *A* the ether was being forced. At *B* the breathing ceased and the ether was taken away. At *C* spontaneous breathing began and the ether was again forced. At *D* the breathing failed a second time and the ether was not removed. *E*, *E* represent slight respiratory efforts. At *F* the heart first began to fail. Note the extreme length of time—nine minutes—during which the heart continued to beat after the breathing had failed at *D*. In the control dog in the Trendelenburg position the ether was forced until breathing ceased and was then removed. The heart failed in less than two minutes and before spontaneous breathing was resumed.

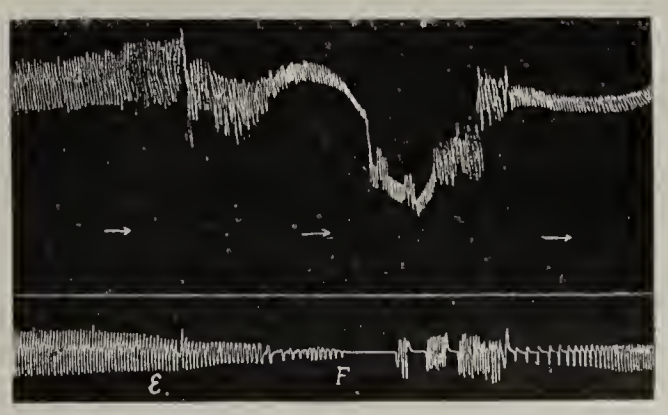



Fig. 3.—Tracing showing the effect of rebreathing in protecting against respiratory failure from an excessive dose of ether. The upper line records the blood-pressure in the carotid artery, the lower line the respiration. The dog's trachea was connected with a rubber bag into which it rebreathed until its respiration was greatly stimulated. At *E* the animal was given a tremendous dose of ether by immersing an ether bottle, connected with the rubber bag by tubing, in boiling water. At *F* the breathing failed and the bag was disconnected from the trachea. Note the fall of blood-pressure at this point and the rapid recovery of respiration and blood-pressure after the removal of the ether.

tion, the time of survival in four experiments being 12½, 10½, 5 and 12 minutes, respectively. One dog, however, lived an hour and twenty minutes in the Trendelenburg position with both phrenics cut. This animal, however, had just given birth to pups and perhaps this fact may account in some way for its survival.

In man a cessation of the action of the diaphragm in the course of anesthesia is not infrequently observed. Hewitt speaks of it as a sign of impending danger. In the Trendelenburg position it must be doubly dangerous, but probably not so perilous to man as to the dog, since the human mediastinum is a much more rigid structure than that of the dog, and must therefore prevent the abdominal organs from sinking so deeply into the thorax. As a further control of the results we performed the following experiment:

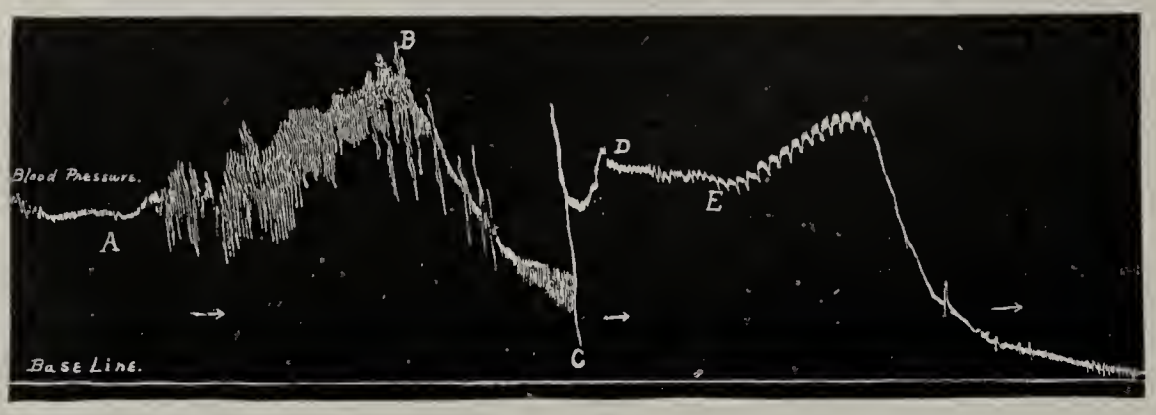



Fig. 4.—A tracing of the carotid blood-pressure obtained from a dog under deep ether anesthesia, with its thorax open and its respiration maintained by means of a bellows connected with its trachea. At *A* the bellows was stopped. Note the rise of the blood-pressure and the long powerful beats of the heart. At *B* the blood-pressure began to fall and at *C* had almost reached the base line. The heart at this time was greatly dilated. The long vertical line at *C* represents the time during which the drum was at rest and the heart was being revived by massage and renewed ventilation of the lungs. At *D* the heart was acting well and the blood-pressure was at its normal level. At *E* the bellows was stopped a second time. Contrast the rapid failure of the heart which then occurred with the slow failure during the first period of asphyxia after *A*.

A dog was well etherized and its thorax opened widely so that the heart could be observed, while artificial respiration was given by means of a bellows. The animal was then placed in the head-down position, the artificial respiration stopped, and the time required to bring the heart to a standstill noted. This for four different dogs was as follows: 2¾, 4½, 3½ and 4¾ minutes, an average of 3 9/10 minutes. The same experiment was tried on three dogs in the horizontal position. The results in this series were 9 minutes, 6½ minutes and 8 minutes, an average of 7 8/10 minutes. These results clearly show that during asphyxia, when there has been no loss of blood, the head-down position is injurious to the heart.

In these experiments the lungs were always well ventilated just before the artificial respiration was stopped. This accounts for the fact that the heart was able to hold out for so long a time. In the experiments described previous to these there was a partial degree of asphyxia before the breathing ceased entirely.

In all the dogs of this series we were able to revive the heart by massaging it and starting the artificial respiration. But although its condition, as shown by direct observation of its contraction and by the level of the blood-pressure, was apparently normal, unmistakable evidence that it had been seriously injured by the overdilatation and asphyxia was obtained. After revival, if the artificial respiration was stopped a second time, the heart, instead of giving the long forceful beats which it gave during the first period of asphyxia, gave rapid incomplete contractions and, greatly dilated, ceased to act in less than two minutes. Here we have proof of the truth of the belief that a period of serious cardiac strain during anesthesia may temporarily at least, and probably permanently, injure the heart. The following case, related to us by an anesthetist, is instructive in this connection:

> A middle-aged woman in rather poor health but with no apparent cardiac disease was etherized for a pelvic operation. She was placed in the Trendelenburg position and her intestines, packed off with gauze pads, were firmly retracted upward. Some difficulty in obtaining muscular relaxation was experienced so that the ether had to be forced. The patient ceased suddenly to breathe in the early part of the operation and her pulse became imperceptible at the wrist. She was revived by artificial respiration and the operation completed. The patient was then returned to her room in what was regarded as a fair condition. Six hours later, however, she suddenly died of acute cardiac failure.

### THE EFFECT OF STRUGGLING

We have investigated this in the following manner: A dog's thorax was opened under the conditions described, except that the animal was anesthetized so lightly that during asphyxia it would struggle, although the anesthesia was deep enough to prevent pain. With each forcible contraction of the abdominal muscles the right auricle and ventricle could be seen to balloon out to great size, showing to what extent the blood in the abdominal veins was being squeezed into the thorax. Under the dreadful strain the heart would quickly become overdilated and cease to contract (Fig. 4). In no one of the four dogs on which this experiment was tried did the heart continue to act for more than one minute. Besides overdilating the heart in this manner, muscular contractions by using up the oxygen in the blood rapidly increase the degree of asphyxia. A patient with a powerful muscular system is prone during anesthesia to reflex spasms of the respiratory muscles accompanied by violent struggling — particularly the conditions investigated in our experiments.

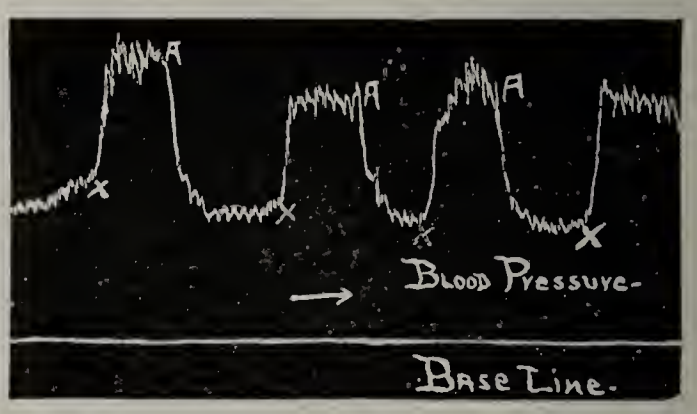



Fig. 5.—Tracing showing the effect of compression of the abdominal viscera on the blood-pressure. At the points marked *X* the intestines were compressed by the hand within the abdomen, and at the points marked *A* the pressure was released.

### THE EFFECT OF PRESSURE ON THE ABDOMINAL VISCERA

Roy and Adami[6] found that compression of the abdomen increases the output of the heart 29.6 per

6. Roy and Adami. Brit. Med. Jour., December, 1888.

cent. The abdominal veins can contain all the blood of the body. When, therefore, the intestines are packed off with gauze and retracted upward, as in the case reported above, it is reasonable to suppose that the heart has to handle a greatly increased amount of blood. The effect of this procedure on the blood-pressure of a dog is shown in Figure 5.

### INTERPRETATION OF RESULTS

Physiologists generally recognize the importance of muscular movement in maintaining the circulation. It is especially important in man because of his upright posture. The matter is thus stated by Hill:[5]

> The function of the heart is to drive the blood into the capillary bed, the function of the arterioles is to regulate the distribution and switch the current on to one or other part of the capillary bed and limit the pooling of the blood under the stress of gravity; the function of the skeletal muscles and respiratory pump, aided by the valves in the veins, is to drive the blood back from the capillary bed to the heart, to prevent hypostatic congestion, and to act as a pump to the vascular system of no less importance than the heart. The respiratory pump may even drive the blood through the right heart and lungs.

Under the conditions of normal life the actions of the heart and of the vasomotor and respiratory mechanisms and their muscles are so nicely correlated that the circulation is maintained without subjecting the heart to any undue strain, even by violent exercise or the head-down position. When a man hangs head downward the blood-pressure in his brachial artery is but slightly elevated above its level in the recumbent posture, although the hydrostatic pressure of a column of blood reacting from the foot to the heart of a man 6 feet tall is almost equal to his normal blood-pressure. The compensation in this case is brought about by vasodilatation and by lessened cardiac output (Hill), and we may add that by muscular relaxation the increased flow of blood to the heart caused by gravity is reduced to the least possible amount. The dilatation of the arterioles allows the blood to accumulate in the capillaries, especially in the capillaries of the abdominal organs. The muscular relaxation prevents compression of the sponge-like capillary network which would force an increased quantity of blood to the heart. We have already pointed out that the abdominal walls are relaxed in the head-down position. Before the days of anesthetics patients were rendered unconscious during short operations by first holding them head downward and then suddenly reversing this position. The effect of the head-down position is to relax the arteries and to accumulate the blood in the capillaries of the abdomen and legs. If when this has occurred the position is suddenly reversed, the capillaries cannot give up their blood rapidly enough to the veins to supply the heart. Hence a brief period of cerebral anemia and unconsciousness results.

During muscular exercise the vasomotor mechanism switches an increased supply of blood into the muscles, while their contractions pump the blood rapidly into the veins and to the heart. Meanwhile the increased respiration keeps the blood well supplied with oxygen and removes the waste products from it.

From a consideration of the facts just stated we are in a position to explain the phenomena noted in our experiments and observed at times in the course of anesthesia in man. In normal men or animals under anesthesia the head-down position has no ill effects provided the respiration is adequate and the muscles at rest. When, however, the breathing becomes insufficient the entire mechanism, wherewith the body compensates for the effects of gravity on the circulation, is deranged. The asphyxia injures the cardiac muscle and raises the blood-pressure. The head-down position at the same time insures that every drop of blood which passes through the capillaries of the abdomen and legs will quickly return to the heart — a condition not present when the asphyxia occurs with the body in the horizontal or upright position. The heart then has to pump a supply of blood at least normal against an increased arterial pressure, at a time when it is poorly able to respond to the increased strain. If the patient at this time struggles, or if pressure is made on his intestines, the state of affairs is rendered much worse.

### PRACTICAL APPLICATIONS

We are concerned in this paper primarily with the return of blood to the heart. We have shown that this return may at times be so excessive as to subject the heart to an undue strain. The common agencies whereby this is brought about are the head-down position, pressure on the abdominal viscera, and struggling. The action of these is rendered much more harmful by asphyxia. In fact, we are probably safe in saying that in the entire absence of asphyxia these agencies cannot injure a normal human heart. The problem of practical anesthesia is to reduce to a minimum the harmful influences under discussion. Trusting that the evidence presented has been sufficient justification for our conclusions, we shall now state the means whereby in our opinion this can be accomplished.

It will be sufficient to consider three classes of patients who are peculiarly liable to be injured in the course of anesthesia by overdistention of the heart: those with a well-developed muscular system, those who are alcoholic, and those who have disease of the circulatory apparatus. Patients of all these classes should be given from 1/6 to ¼ grain of morphin and 1/100 grain of atropin half an hour before operation. Kocher advises that alcoholics be given whisky or brandy shortly before taking their anesthetic. We have found this a great aid in anesthetizing them. The preliminary use of morphin and alcohol does a great deal to allay struggling in the early stage of anesthesia.

It is all too common a practice to try to anesthetize a robust or alcoholic man without the aid of any foregoing medication. Attempts of this kind are responsible for not a few deaths — of which we have personally seen one. The trouble in these cases arises from the liability to prolonged spasm of the respiratory muscles, and to the struggling. We have already discussed sufficiently the dangerous character of this combination. If after a long fight during which the patient is constantly cyanotic he is finally "put under," it may be at the expense of a serious injury to his heart. In view of our experiments on overdilatation of the heart during asphyxia, it is not unreasonable to attribute many cases of sudden postoperative death to injury of the heart during anesthesia. It is a rule which should never be departed from that a patient during anesthesia must not be allowed to become cyanotic. It is better to spend half an hour etherizing a man of the type we are discussing and put him to sleep without cyanosis, and if this is impossible even to defer the operation, than to anesthetize him at the cost of a deep cyanosis of two minutes' duration — a degree of asphyxia which under the circumstances may be sufficient to stop his heart.

We have never seen a patient who, with proper preparation, could not be etherized without cyanosis.

Patients with cardiac disease by their own behavior in the conscious state furnish us a clue to their management under anesthesia. They prefer a sitting posture and keep very quiet. The sitting posture diminishes the pulmonary congestion, aids the breathing and prevents pressure of the abdominal organs on the heart, and any rush of blood from the engorged splanchnic veins to the heart. The quiet condition of the muscles reduces oxidation and hence the need of the body for arterial blood to a minimum. We should therefore anesthetize patients who are known or suspected to have cardiac or vascular disease while they are in a semirecumbent or sitting posture, and every precaution should be taken by means of a preliminary dose of morphin, and cautious, slow administration of the anesthetic, to put them to sleep without the least struggle. To do this is the main problem in their management. The depth of anesthesia should be enough to produce a moderate degree of muscular relaxation. This will prevent any reflex movement or reflex stoppage of the respiration. Patients of this class should never be placed in the Trendelenberg position.

Patients with exophthalmic goiter, on account of their cardiovascular disturbances, should be considered here. The pain and excitement of operation under local anesthesia renders this, in our opinion, more dangerous to them than a carefully given general anesthetic. The administration should be managed as in other cardiac cases. The practice of operating on them under ether anesthesia so light that they will respond to questions works well, it is true, in many cases; but it is fraught with danger because of the liability of the patient to retch and struggle. A fatal asphyxia may occur while vomitus is being removed from the patient's throat.

We have already written of the advantage of rebreathing in the anesthetization of cardiac patients. This can best be secured by the use of some simple form of gas-oxygen-ether apparatus like that of Gwathmey, Flint or our own; or if this is not at hand, by the use of a drop-ether mask which will prevent a too ready exchange of air.

Patients with pneumonia or empyema should be managed in the same manner as patients with cardiac disease.

### CONCLUSIONS

1. The Trendelenburg position is harmless for patients with normal hearts, provided their respiration is free and unobstructed. In case of partial or complete failure or obstruction of the respiration, the patient should at once be placed in the horizontal or semirecumbent posture.

2. The Trendelenburg position should be used only with the most extreme caution in cases of cardiac disease.

3. To prevent a too sudden inflow of blood to the heart the patient should be placed gradually in the Trendelenburg position, and to prevent a sudden failure of the circulation the patient should be gradually lowered.

4. The effect of struggling and of pressure on the abdominal viscera is to increase greatly the strain on the heart. These agencies also are harmless to injure patients with normal hearts and arteries, provided the breathing is adequate to prevent cyanosis.

5. During asphyxia all of the three agencies considered tend to produce a rapid dilatation of the right side of the heart. A heart once overdilated while in a state of asphyxia is temporarily, and possibly permanently, injured. This is suggested as a possible explanation of certain cases of sudden postoperative death.

6. Robust patients should be given morphin, and alcoholic patients morphin and alcohol before operation, and should be anesthetized without being permitted to become cyanotic.

7. Patients with cardiac disease, pneumonia or empyema should be given morphin before operation and should be anesthetized cautiously and slowly in the sitting or semirecumbent posture.

8. The production of a hypercapnia protects to a marked degree from respiratory failure during anesthesia, and hence from the harmful effects of the agencies which promote a free supply of blood to the heart. Under ether certainly, and probably under nitrous oxid, cardiac failure is always secondary to asphyxia.

9. Morphin and moderate ether narcosis does not impair vasomotor tone in man. Hence in the absence of hemorrhage the semiupright posture is not harmful to man under this form of anesthesia.

---

## A CASE OF CONGENITAL HEART DISEASE*

GEORGE E. EBRIGHT, M.D.
Instructor of Medicine, University of California, Medical Department
SAN FRANCISCO

The presentation of this case of congenital heart disease is possibly of academic rather than practical interest:

*History.*—Mr. G. R., aged 35, was admitted to the University of California service in the San Francisco Hospital, for varicose ulcers of both legs. His father had varicose ulcers and veins at the age of 30, and one brother has varicose ulcers. According to the patient's mother, he was born at full term and was black until he was 6 weeks old, after which his complexion cleared. Clubbing of his fingers was first noticed when he was 8 or 10 years old. He has had measles, whooping-cough, and about fifteen years ago had "quinsy sore throat" during two or three winters. About a year ago he had facial erysipelas.

The patient has been spasmodically a heavy drinker. He has noticed that the condition on his legs is worse when he drinks, and that also under the same condition he sometimes expectorates blood.

*Examination.*—The patient's hands and face have a cyanotic duskiness. His fingers and toes are markedly clubbed, his chest is of a peculiar emphysematous type (Fig. 1), not like the barrel chest which is usually seen with advancing years, but one with a short vertical dimension and with a peculiar round cross-section, as if his thorax had remained of the infantile type and had become fixed in the position of deep inspiration while he was still very young.

In various places on the skin there are capillary nevi which show dilated capillaries radiating from a prominent center and making round reddened areas from 5 mm. to 3 cm. (1/5 to 1 1/5 inch) in diameter, on the chest, right shoulder, left arm and back of left ear. The left pupil is larger than the right, both reacting properly to light and distance. The retinas show nothing abnormal.

On examination of the heart it is seen that the precordial area bulges perceptibly; no cardiac movements are visible, and no thrill is palpable. On percussion and *x*-ray examination there is increased size of the heart to the right of the sternum in a moderate degree. The apex is rather acute than blunt, the left margin extending in the fifth interspace ¼ inch outside left nipple line. There is a systolic murmur heard with maximal intensity over the apex just inside left border of the

* Read before the San Francisco County Medical Society, Nov. 5 1912.

heart in the fourth and fifth interspaces and transmitted into the axillae and also toward the sternum, diminishing in intensity to a point 2½ inches to the right of the apex. A systolic murmur is heard in the second left interspace close to the sternum, and is also heard in the first space with equal intensity at the right and left of the sternum. This murmur can be followed down the left border of the sternum to the tricuspid area.

*Diagnosis.*—While the physical signs of congenital heart lesions are notoriously erratic, one would appear to be justified in this case in making the diagnosis of open interventricular septum for the following reasons: In the first place the



Fig. 1.—Emphysematous chest occurring in patient with congenital heart disease.

classical signs of congenital heart disease are present. The patient was a blue baby; he still retains some cyanosis; there is pronounced clubbing of the fingers (Fig. 2), and the heart is more enlarged than would be expected from the mitral valve lesion present. There is a murmur heard over the heart particularly at the base, as well as one at the apex which is presumed to be due to mitral valvulitis. In addition to these the peculiar type of chest, the varicose ulcers of the legs, the enlarged veins on the chest and the stellate nevi indicate circulatory interference.

The most characteristic signs of a persistent ductus arteriosus are a thrill with a loud systolic murmur of greatest intensity at the base of the heart not associated with hypertrophy of either ventricle. There may be also a murmur running into or through the diastole. The cap does not fit here, as in this patient there is absence of thrill and there is enlargement of the heart. Nor does he seem to have pulmonary stenosis, which would be likely to be manifested by a systolic thrill and murmur at the base with a diminished second pulmonary sound or a diastolic murmur. By exclusion, then, the question of open foramen ovale or interventricular septum remains. Quoting Cabot, "patency of the foramen ovale, if unassociated with other defects, does not usually produce any murmur or other signs by which it can be recognized during life and causes no symptoms of any kind."

It is not to be denied, however, that under certain conditions there may be a systolic murmur in open foramen ovale; particularly might this be true with a mitral valve leak. A distinction should be made between the terms "open" and "patent." If the pressure during auricular systole differs sufficiently in the two auricles a presystolic murmur may be expected as in a case (without post-mortem) described by Babcock in which there was a loud, distinct, systolic bruit in the third left interspace close to the septum with a very short presystolic portion. In favor of the view that this patient has a defect in the ventricular septum, it may be remembered that a loud systolic murmur is usually produced by the rush of blood through an opening between the ventricles and is heard as a rule over the whole precordium. Its greatest intensity differs in different instances, but it is usually over the body of the heart, not at the apex. Hypertrophy of both ventricles may or may not be present. The most important diagnostic point is the absence of a palpable thrill. These signs are present in this patient. Moreover, patency of the interventricular septum, according to Carpenter, who has written extensively on this subject, is the most frequent congenital defect, whether it is due to development or to inflammatory causes. It is frequently associated with other lesions, stenosis and atresia of the pulmonary artery, transposition of the great vessels and occlusion of the



Fig. 2.—Chronic osteoarthropathy in this patient due to cardiac defect.

tricuspid orifice. The combination of pulmonary stenosis, deviation of the aortic to the right and patent septum ventriculorum is one of the most usual combinations. It is not possible to say that there is not also in this patient an open foramen ovale.

In conclusion a word may be said regarding prognosis. Most patients with congenital heart disease, of course, die young and it is rather infrequent that such conditions are observed in adult life. Some degree of deficiency is not incompatible either with life or with hard muscular work.

A negro reported by Worcester, quoted by Babcock, dying at the age of 57 of general paralysis, showed post mortem a patent foramen ovale with a small interventricular defect. He had served through the Civil War. The patient, the subject of this paper, has been able to walk from 4 to 8 miles after his day's work was over without any inconvenience.

209 Post Street.

---

# REPORT OF A CASE OF BRAIN TUMOR

E. E. MORRISON, M.D.
GREAT BEND, KAN.

*Patient.*—Woman; aged 59; had never had a severe illness of any kind; family history good excepting that mother died of carcinoma of breast.

*Clinical Course.*—Somnolence: About May, 1911, it was observed by her family that frequently, while seated in a chair and conversing with those about her, she went to sleep. When aroused she resumed her conversation and carried it on in her usual manner, often going to sleep again. Throughout the course of the disease drowsiness of varying degree and irregular sleep was noticeable.

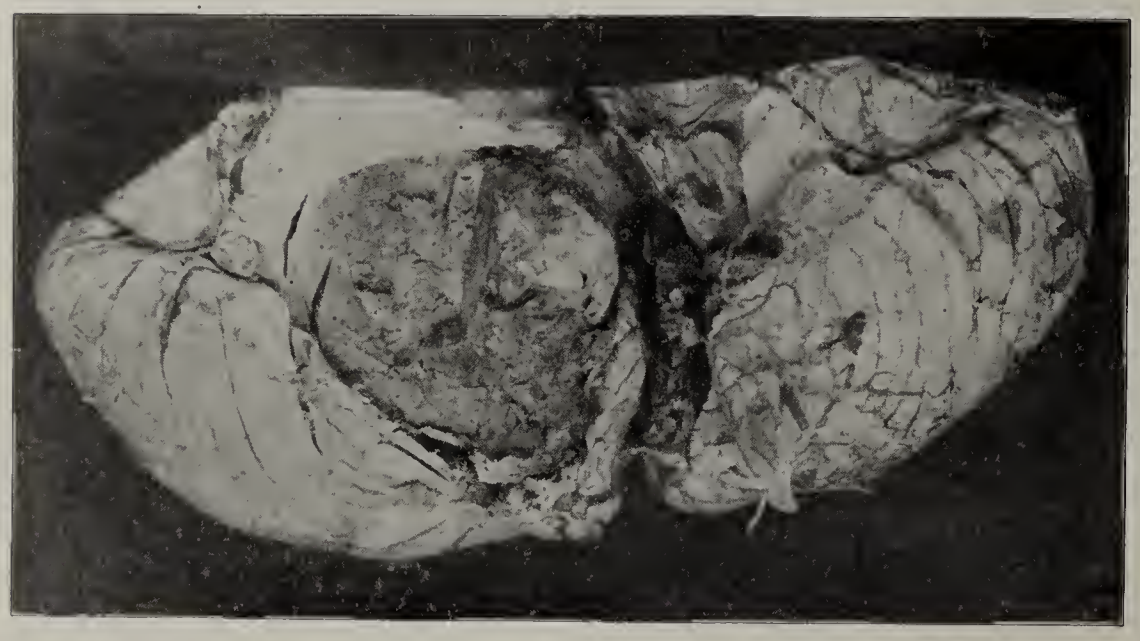


Fig. 1.—Front view of cerebellum. The tumor is to the left of the center of the illustration.

Headache: Some time during May, 1911, headaches of considerable severity appeared in the occipital region and extended to the top of the head in a diminished degree. These headaches were a prominent feature of the case until the end. During the months of September and October, 1911, they improved. In the following November they again became severe. They varied in intensity, but remained constant.

Vomiting: Two or three weeks after somnolence was first observed and at about the time the headaches appeared, vomiting began. This was preceded by nausea and required some effort. It occurred daily and was frequently repeated many times during the course of the day. The material ejected from the stomach was food in various stages of digestion and after prolonged emesis consisted of bile. This symptom continued without much variation until some time in August, 1911, when it began to improve. During September and October it was very much improved, but never disappeared. In November it became more severe and assumed the projective type. From this time until the end it was more or less troublesome all the time.

Defective Vision: A short time after the initial symptom, patient complained that she could not see so well as usual. She could not read through her glasses, which had been satisfactory until that time. Her distant vision was likewise disturbed. This symptom improved at the same time that the headache and vomiting improved. It returned at about the same time they did and became progressively worse, until patient was unable to distinguish persons or teams as they passed on the road about 100 yards away.

Vertigo: A moderate degree of vertigo occurred near the beginning and persisted to the end.

Hebetude: Patient, normally bright and intelligent, early developed an indifference to her surroundings and became mentally sluggish and dull. When addressed, it was some time before she replied. In her conversation she failed to hold to and follow out an idea. Her process of thought was slow and interrupted.

Delusions: In July, 1911, patient asked why changes had been made in the plumbing in one of the rooms of her home. There never had been any plumbing in this particular room. She insisted that there had always been water-pipes in the room and that they had recently been changed. At the same time she talked of changes that had been made in the lighting system of her home. The system had never been disturbed. In January she had delusions concerning the visit of an absent son.

Hallucinations: In July, 1911, she talked of hearing workmen about the house. There had been no sounds that could have been misinterpreted. In January, 1912, she spoke of hearing the voice of an absent son.

Paresthesia: From Sept. 1, 1911, to the middle of the following October patient complained of burning and tingling sensations of the feet.

Paralysis: In December, 1911, the left lower limb became partially paralyzed. Patient, when assisted to walk, dragged the member along on the floor after the manner of a hemiplegiac. Good use of the right hand was lost in September, 1911.

Ataxia: At about the same time that paralysis occurred in the left lower limb, ataxia developed in the right. In walking, patient threw foot out sidewise or too far ahead, seeming to have neither control over its direction nor idea as to where it would come in contact with the floor.

Disorientation: This symptom appeared in January, 1912. Patient was unable to locate pieces of furniture about the room, and was unable to decide whether they were near or far. When led to a chair, she never knew when she was near enough to sit down. At about the same time she became confused as to time and did not remember whether it was morning or evening, whether an event occurred yesterday or a week ago.

Physical Examination: In the early part of July, 1911, physical examination revealed moderate emaciation; normal heart and lungs, normal area of liver dulness; normal position of kidneys; normal position and size of stomach; neither epigastric nor abdominal distention nor tenderness; no disorder of uterus or appendages; no areas of anesthesia, hyperesthesia or paresthesia; pupillary reflex sluggish; pectoral, abdominal, patellar and plantar reflexes normal; elbow and Achilles jerks normal. All of the cranial nerves, excepting the second and third, were properly performing their functions. Stomach contents were normal; urine was normal. Blood-examination revealed a slight reduction of hemoglobin. The ophthalmoscope revealed a choked disk.

Dr. Ethel Page Westwood, who examined the eyes early in November, 1911, has kindly given me the following information: Perimetric examination of each eye revealed a contracted field. In the very center of the field, yellow was the only color distinguished. The other fields were reversed in order and contracted as well. The edges of the optic disk were blurred.

Ten days before death, patient passed into a semiconscious condition from which she roused with great difficulty and to which she immediately returned. The muscles of her neck

and arms became rigid. She lay with her face turned to the left. A few days before death she became unable to swallow. Rapid respiration and a rapid heart action developed. Death occurred Feb. 20, 1912, about ten months after the initial symptoms of the disease.

*Autopsy.*—Each hemisphere of the cerebrum was normal in appearance except that on each side of the longitudinal fissure from a point near the occipital lobe to a point on the paracentral lobule, there extended a thin seminodular tissue formation of a pearly white color, having the gross appearance of an endothelial formation. At the paracentral lobule, the dura was adherent to the foreign tissue.

In the right hemisphere of the cerebellum in its lower and anterior portion, behind the wall of the fourth ventricle, pressing on the pons, encroaching on the space normally occupied by the vermis and extending across the cerebellar notch nearly one-half inch, was a round, dark-colored tumor about the size of an English walnut, apparently encapsulated and having about the consistency of the normal brain.

For the following pathologic report I am under obligations to Dr. A. E. Hertzler:

On cross-section the tumor is light gray with many punctiform areas of a darker color. These are spheroidal, for the most part ill-defined from the gray part surrounding. In

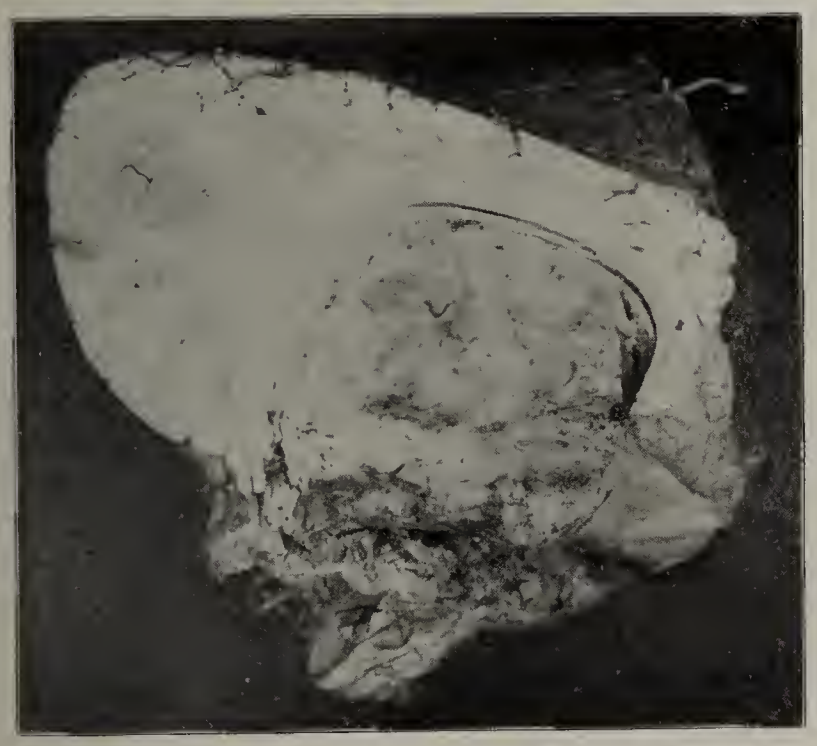


Fig. 2.—Lateral view. Section through middle of tumor.

some of these darker areas lumina can be made out, and about their border the deeper color is suffused. At the deeper part of the tumor the transition from the structure just described into the substance of the cerebellum is gradual and a line of demarcation can nowhere be made out.

Microscopic sections show a cellular structure abundantly punctuated with blood-vessels. The vessels contain distinct walls except in some of the smaller areas where vessel walls and cell masses are indistinctly separated. The cellular area is made up in some areas of large cells with large ovoid reticulated nuclei with rather an abundant protoplasm. In some areas small cells with round nuclei which occupy nearly the entire cell predominate. In the deeper portion these small cells form a prominent portion of the tumor, while in the free part of the tumor the large cells make up the bulk of the tumor. These large cells are in close association with the vessel walls and in some regions cannot be distinguished from their walls. In the surface of the tumor some of the large cells are distinctly elongated.

Malignant tumors of the brain have not yet been classified in a manner satisfactory to all pathologists. There is a disposition to place all malignant connective tissue tumors of the brain under the head of malignant gliomas. The problem is as involved here as the problem in tumors of the uterus. The small cells here are obviously the glia cells and correspond to the myoma cells in the uterine tumors, and it is a matter of election, so far as present knowledge goes, if we call malignant tumors resulting, malignant gliomas, gliosarcomas or simply sarcomas. This view assumes that the larger cells represent a metamorphosed small cell, a matter not beyond controversy. Their possible origin from the blood-vessel or from cells derived from the blood-stream cannot be excluded with certainty. The partial encapsulation suggests a vascular origin as a matter of fact. This relation of the tumor to the surrounding tissue would seem to speak against a glial origin of the tumor, inasmuch as gliomas are above all tumors the most exquisitely infiltrating. It is well known, however, that when gliomas undergo rapid development a pseudo-encapsulation is produced. This apparently is what has taken place here. When all these factors are taken into consideration, this tumor aligns itself most readily with the gliosarcomas according to Oppenheim's classification, though perhaps a more accurate designation would be malignant glioma as suggested by a number of recent writers.

---

# LARGE URETHRAL CARUNCLE IN A GIRL OF NINE YEARS

## A PRELIMINARY NOTE, WITH A SUMMARY OF THE SUBJECT*

COLEMAN G. BUFORD, M.D.
CHICAGO

*Patient.*—Bertha K., aged 9, admitted to the Children's Memorial Hospital, May 31, 1911. Previous history unimportant; fell down stairs in the spring (1910) while on roller-skates. Two days later the mother discovered that there had been bleeding from about the vulva and, on examination, found a mass about the size of the end of her thumb protruding from the labia in the region of urethra. When the patient was admitted to the hospital the size of the growth had not been reduced, although it had been treated by a number of physicians. No operative treatment had thus far been undertaken. A purulent discharge was always present. There was no itching and no discomfort on urination.

*Local Examination.*—A tumor was seen at the external meatus, extending about a quarter of an inch upward into the urethra. Its base was spread over almost the entire circumference of the urethral canal and meatus and was thrown into a vertical fold as it protruded. When the labia minora lay in their normal relationship, they compressed the tumor laterally. The tumor surface was not eroded; an 18 French sound passed easily. There was no foreign body in the bladder; no pus could be expressed from the Skene or Bartholinian glands; hymen was intact; there was no vaginal discharge. A purulent discharge from the urethra kept the parts about the tumor moist. Vaginal smears contained no gram-negative intracellular diplococci, but they were found later.

*Operation.*—The tumor was excised well outside of its borders and the surrounding skin drawn into the meatus with horsehair sutures, uniting it to the urethral borders. Primary union took place. Microscopic examination of specimen showed chronic granuloma. There was no recurrence of the caruncle up to November, 1912, when examination showed the meatus relatively smooth with no contractures. Gonococci were still present in vaginal smear.

Dr. Clarence Webster, of the consulting staff, saw the patient with me and suggested that, while urethral caruncle was not at all uncommon in girls, one of so large

*From the Children's Memorial Hospital, Surgical Department.

a size was unusual and that I ought to photograph the lesion and publish a report of the case. In reflecting over my rather limited experience with this affection and the circumstances under which these few patients had come under my care, it occurred to me that really the true nature of the trouble must frequently be overlooked and painful and harmful treatments often applied, and that many of these patients did not reach the channels for proper treatment.

On looking over the current literature, I find that this subject is far less commonly discussed than its frequency and the suffering that it causes would seem to justify. I do not wish it to be understood, however, that urethral caruncle has not been both early and thoroughly discussed in the literature. The earliest writers were Samuel Sharp in 1750 and Morgagni later in the same year. J. Y. Simpson dealt with the subject at some length in 1863, and Newberger in 1894 threw new light on it; but perhaps the most recent and thoroughly classical paper was published by M. Lange in 1902. Williamson and Alter[1] give a complete bibliography to date and a thorough review of the literature.



Fig. 1.—Urethral caruncle before operation.

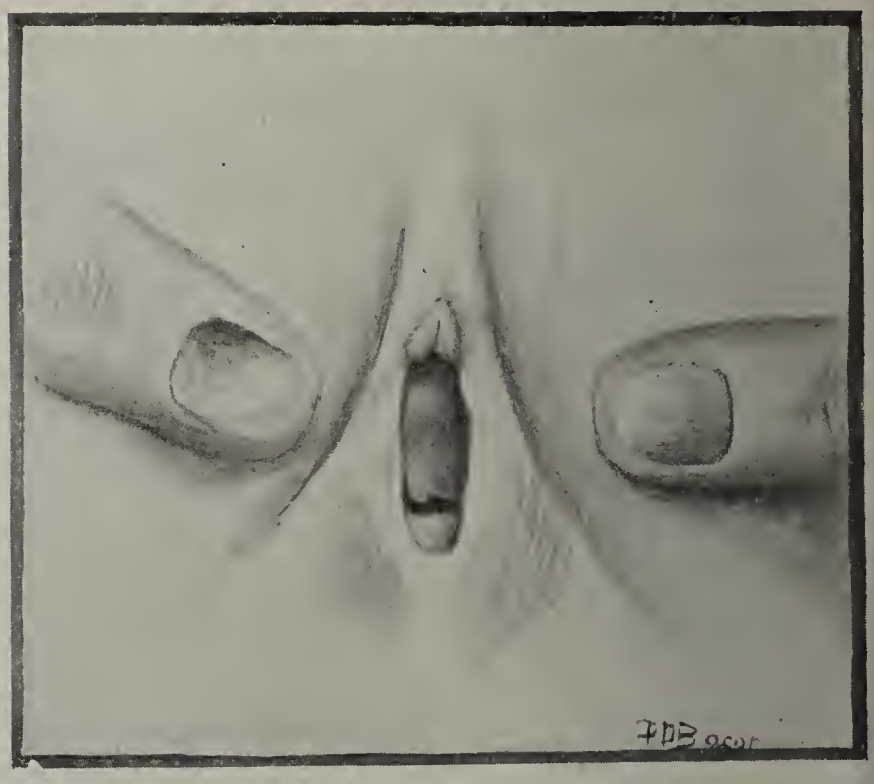


Fig. 2.—Site of urethral caruncle, about one year after operation. The slight elevations on anterior border of urethra resemble the former tumor. They are not a recurrence

Urethral caruncles are growths covered by epithelium, unless eroded, appearing at the external urinary meatus of women and girls. Their size varies from a pin-head elevation to many times that size. I should say that the average caruncle is in volume less than the size of a half-pea. Some have small pedicles with relatively large bodies, while others are more flattened and have very broad bases. They are usually located on the lower half of the meatus and their bases often extend upward into the urethral canal. They usually vary from dark to light red in color and if pendulous are compressed laterally by the labia. Those with broad bases extending into the urethra are thrown into folds within it, usually taking the long axis. They are frequently seen in women, especially multiparae, less frequently in young girls, in whom they do not often attain large size. Some are painless, others associated with frequent but painless micturition, and others with varying degrees of painful urination. Howard Kelly quotes J. Y. Simpson's case, in which a married woman living in the country went far from the house so that her moaning and screaming on micturating might not be heard; others, more favorably situated, have been relieved only by the use of a catheter, while it was necessary to catheterize others under anesthesia over surprisingly long periods of time.

The etiology has been much discussed but remains unsettled and offers splendid opportunities for investigation. Neither neisserian infection nor the chemistry of the urine are probably universal etiologic factors. In 1894, Newberger studied twelve consecutive cases in which gonorrhea was endemic, a strong argument in favor of its gonorrheal origin. Retention of droplets of urine in the urethral canal or beneath long or closely folded labia minora and likewise the retention of normal or abnormal secretions between the labia or folds of the meatal mucosa should be given serious consideration, acting, as they do, as sources of constant irritation and thus inducing tissue changes.

The term "papillary polypus" was given to these growths by Simon in 1850. In 1855 Verneuil described their extreme vascularity. "Urethral hemorrhoid" was the term used by Richet in 1872 and also by Hutchinson in 1874. Virchow pointed out that in many instances they differed from telangiectasis in that the lumen was not dilated nor the walls thickened. Skene in 1889 recognized marked differences in structure and proposed to classify them into six different groups accordingly.

Of the recent articles that of Lange seems to be the most generally acceptable as to classification. Between 1898 and 1901 Lange examined 1,000 women and found fifty-eight caruncles of which thirty-nine were new growths and nineteen were granulomas. Williamson and Alter examined fifteen consecutive cases and found the following:

I. Granulomas, undoubtedly of inflammatory origin.
II. Innocent new growths of much more doubtful origin and varying histologic characteristics.
a. Epithelial covering.

1. Williamson and Alter: Jour. Obst. and Gynec. Brit. Empire, November, 1904, p. 365.

b. Basis of connective tissue in which were embedded
1. Glands having the characteristics of periurethral glands and
2. Large and numerous vascular spaces.

J. Y. Simpson's report of Dr. John Reed's finding of a rich distribution of nerve filaments in a painful carnncle has not been verified by other observers.

It is apparent that a fairly definite classification of the histopathology of caruncles is now established and it should be emphasized that not all caruncles will belong to the same class when submitted to microscopic examination.

The results of annoyances from caruncles deserve much consideration. Loss of sleep from frequent urination, urethral tenesmus and multiple vague pains may destroy the health of an otherwise healthy woman "and in her desperation she submits to anything offering relief." The condition is usually mistaken for urethritis or cystitis. I have had one patient referred to me who had been operated on for urethral fissure, one with a diagnosis of epithelioma of the meatus, and a third with a laboratory diagnosis of small-celled sarcoma, the slide being sent in with the patient. All the growths were quite small caruncles.

Treatment is not that of irrigation of the bladder, dilatation of the urethra, or use of caustics. Temporary remissions come not from these treatments but in spite of them. Complete excision well outside and under the tumor should be performed and the wound closed so as to leave the least possible cicatrix and a wide external meatus, thus providing against stricture. When the distal portion of the urethra is excised in a circular way it should not be allowed to retract; the skin of the vestibule should be drawn in and united to the urethra by horsehair sutures. When caruncles are not completely removed they recur. Instances are recorded of primary carcinoma occurring in the urethra or periurethral glands from which caruncles had been excised.

122 South Michigan Avenue.

---

# EARLY DIAGNOSIS OF CANCER OF THE ESOPHAGUS

## A NEW TECHNIC OF X-RAY EXAMINATION

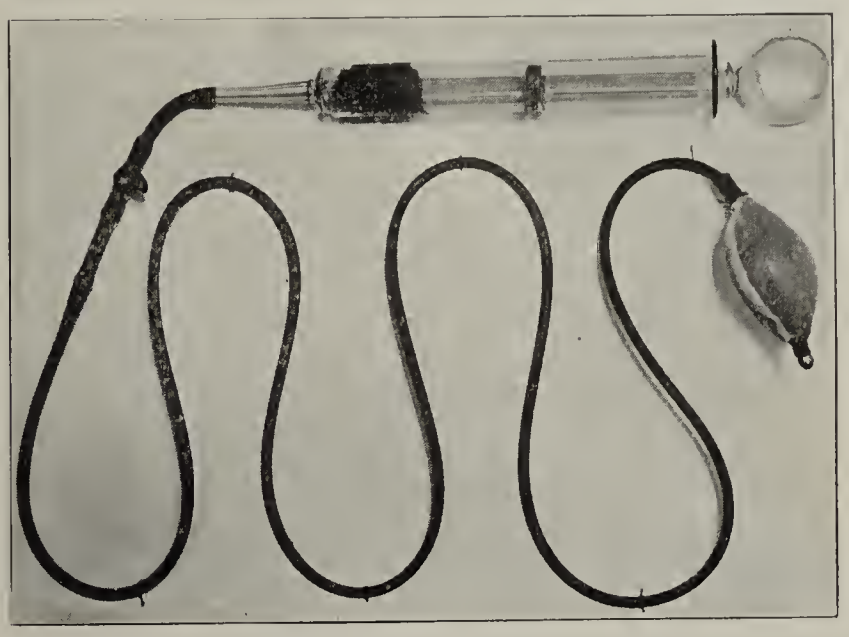
ANTHONY BASSLER, M.D.

Professor of Clinical Medicine, New York Polyclinic Medical School and Hospital; Visiting Physician, New York Polyclinic Hospital; Chief Gastro-Enterologist, German Poliklinik; Visiting Gastro-Enterologist, People's Hospital

NEW YORK

It is with the hope of adding something of practical value to the diagnosis of early cancer of the gullet that I have instituted the practice of a new form of radiographic examination of it. My object was to hold the bismuth in the esophagus so that a sharper outline of it could be obtained, such as is observed when plates of the stomach are made in which the pylorus shuts on the stomach contents, allowing the bismuth to distribute itself through the entire organ, thus outlining the curvatures sharply. Since in the normal individual as well as in those who have only a small degree of cancer formation, fluids reach the cardiac end of the gullet in from five to ten seconds, and solids in about twice that length of time, it seemed to me important to plug in some way the lower end of the tube so that the bismuth introduced could fill the gullet and give a sharp outline of its walls. such for instance, as is produced when a cardiospasm is present or a stenosis which holds the bismuth above them.

For this purpose, after experimenting with several methods, I concluded to use a simple apparatus made by George Tiemann and Company, which may be described as follows: To a 120 cm. (4-foot) length of rubber tubing 4 mm. in diameter, is attached a rubber bag covered with a reinforcement of silk, and having a brass tip at its lower end to give it weight. At the upper end of the tube is a cock. An ordinary surgical syringe of about 60 c.c. (2-ounce) capacity containing water is used to distend the bag, which, when distended, is fusiform in shape and measures about 10 cm. in its circumference. The tube is lubricated with glycerin and passed in the usual manner of a stomach-tube, or a mandrin may be employed to assist in its introduction. It is allowed to go down to beyond a mark made on the tube about 40 cm. (15¾ inches) from the upper end of the bag. The bag is then in the stomach, after which it is filled with water by means of the syringe. When this is done, the cock is closed and the tube is pulled on so that the bag is drawn tightly into the funnel-shaped



Bassler's cardia plugger.

cardiac orifice of the stomach. The patient is now told to exhale completely so as to raise the dome of the diaphragm to a high level, and the external tube is held tightly at this point. It is then fastened about the forehead of the patient, a double knot being employed to hold it, or in some instances it may be fastened around the neck. This is decided according to whether the patients have an opening in the teeth line, because it is desirable to have the tube rest on the gum rather than over the sharp edges of the teeth. In most instances, for comfort and quick work, an external weight may be employed to hold the bag tightly against the cardia (this is now my preference). Any weight of from one-half to one pound answers for the purpose There is no danger of the tube breaking because there is a silk string inside the tube to keep it from stretching too far. At the same time, the length of the string within the tube is such as to permit the first 40 cm. to stretch 2 inches, this being made so as to allow for the excursion of the diaphragm in ordinary respiration which is about 2 inches at this part of it. When this has been accomplished, a mixture of bismuth, acacia and water is run into the gullet from an irrigating jar by means of an ordinary urethral catheter, preference being given to one

of large size in order to have a stiffness for ready introduction.

A study of a number of cardiospasm plates wherein there is only a slight degree of dilatation of the esophagus shows that the diameter of the gullet throughout its entire course runs about 3 cm., and the length of the normal gullet is about 23 cm. This capacity may be taken as a high standard for size, and represents about 160 c.c. It is wise to fill the gullet for an examination. Therefore 150 c.c. of suspension are placed in the irrigating jar and allowed to flow in until the bismuth mixture appears in the mouth, when one knows that the gullet is filled. With the patient standing, radiographs are then taken in the lateral dorsal position with the left back to the plate. These plates may be stereoscoped. Such plates then show the outline of the gullet and its normal narrowings as well as any changes present.

It is evident that by this method of examination irregularities of the walls of the gullet can be observed, and also it is rendered possible to make a diagnosis of carcinoma of the gullet long before stenosis appears. After the plates are taken, the tube is untied or the weight taken off and the relaxation of tension permits the bismuth mixture to flow into the stomach. The cock is then opened and the water siphons out of the bag, particularly when it is drawn into the gullet a little to encourage its collapse. Following this, fluoroscopic observations or plates of the stomach may be made. The regular employment of this method of examining the esophagus in *x*-ray examination of the alimentary tract is recommended as a routine. When stenosis is present it is not practical and is unnecessary for diagnosis.

126 East Sixtieth Street.

---

## SIMPLIFIED TRANSFUSION *

SAXTON POPE, M.D.
SAN FRANCISCO

The transfusion of blood is of undoubted benefit in several diseases, and in surgery it holds a well-established position, with an increasing field of utility. But the technical difficulties of this rather delicate operation interfere with its more frequent employment. The usual methods, those of the Carrel suture and the Crile and Elsberg cannulas, require considerable experience, and the first attempts of the surgeon are often unsuccessful.

The Brewer tube is much simpler and apparently serves quite as well as the first-named methods. Even with this, as with the cannula and suture, the difficulty lies in the fact that the limbs of the donor and recipient maintain a position which interferes materially with the surgeon's work, and at the critical moment any slight movement may disturb the anastomosis or prevent a perfect transfusion.

To obviate this, for some time past in the research laboratory, we have used a rubber tube with small glass tips as a connecting medium. The interior of this tube is coated with a mixture of petrolatum and paraffin.

Such a method, of course, is not new. Guerin in 1875 used rubber tubing to perform transfusion and earlier experimenters used similar appliances. But since Carrel has shown that glass tubes coated with paraffin may remain in the aorta for months, and that similarly treated rubber tubing may be used to replace resected portions of an artery, without the production of thrombosis, the failure of earlier methods of this character may be overcome.

Our cannula is made of a piece of rubber catheter. The tips are easily drawn from glass tubing, over a Bunsen flame, and may be of various calibers. They should be slightly flared at the point and smooth at each end. The connected tube and tips should be boiled in equal parts of white petrolatum and paraffin. Great caution should be observed that this coating be evenly distributed, and that no bare surfaces occur in the cannula. The usual technic of transfusion may then be followed.

Under surgical asepsis, and novocain anesthesia, about an inch of radial artery of the donor is exposed, its lateral branches ligated, cleaned of adventitia, smeared with sterile petrolatum and ligated below. A clamp is gently applied above, and the vessel cut diagonally upward, half across. A mosquito hemostat is attached to the triangular bit of artery thus formed. This renders the introduction of the cannula easy. It may now be introduced and a ligature put about it. A short section of median basilic or median cephalic vein of the recipient is then exposed, cleaned, coated with petrolatum,



Author's cannula for blood transfusion.

ligated below, clamped above and cut as was the artery. The arms of donor and recipient are laid side by side and the arterial clamp released sufficiently to allow the tube to fill with blood. The free tip of the cannula is then introduced into the vein, and ligated in position. The clamp is removed from the vein, then from the artery and the transfusion started. During the active transference of blood, the tube can be seen and felt to pulsate vigorously.

Usually in ten or fifteen minutes sufficient blood is transfused for all purposes. Much depends, however, on the relative size of the two subjects, the needs of one and the strength of the other. Hemoglobin tests should be made, but clinical judgment is at present our best guide. In our work on dogs, reciprocal transfusion has been maintained by this tube for periods over half an hour, with no evidence of clotting. In the human being, after fifteen minutes of active transfusion, spurting still occurred from the cannula when disconnected from the vein. Should thrombosis supervene, as it may in any method with imperfect technic, it would be highly injudicious to attempt to dislodge the clot without first disconnecting the cannula.

With this advice, a blood transfusion is hardly more difficult than any intravenous injection.

* From the Research Laboratory of the Medical Department of the University of California.

## TWO NEW CIRCULAR BONE-SAWS

FRED. C. ZAPFFE, M.D.
CHICAGO

These two saws are exceedingly useful in bone-cutting work. One (Fig. 1) was designed by me for the purpose of removing the transplant from the crest of the tibia in accordance with the technic of Dr. J. B. Murphy. It is a circular cross-cut saw, 1 inch in diameter and one-sixteenth inch thick, with a shank about 4 inches in length adapted to the Neff Victor motor handle (Fig. 2). The guard (Fig. 2, A), which is attached to the handle, carries at right angles to it a short movable rod (Fig. 2, B), which is adjustable (1) so that the size of the transplant can be regulated, (2) to steady the saw and prevent it from injuring the soft tissues, and (3) to keep it in a straight line. It cuts the bone rapidly, saving time and energy. The diameter and thickness of the saw depend on the character of the work to be done.

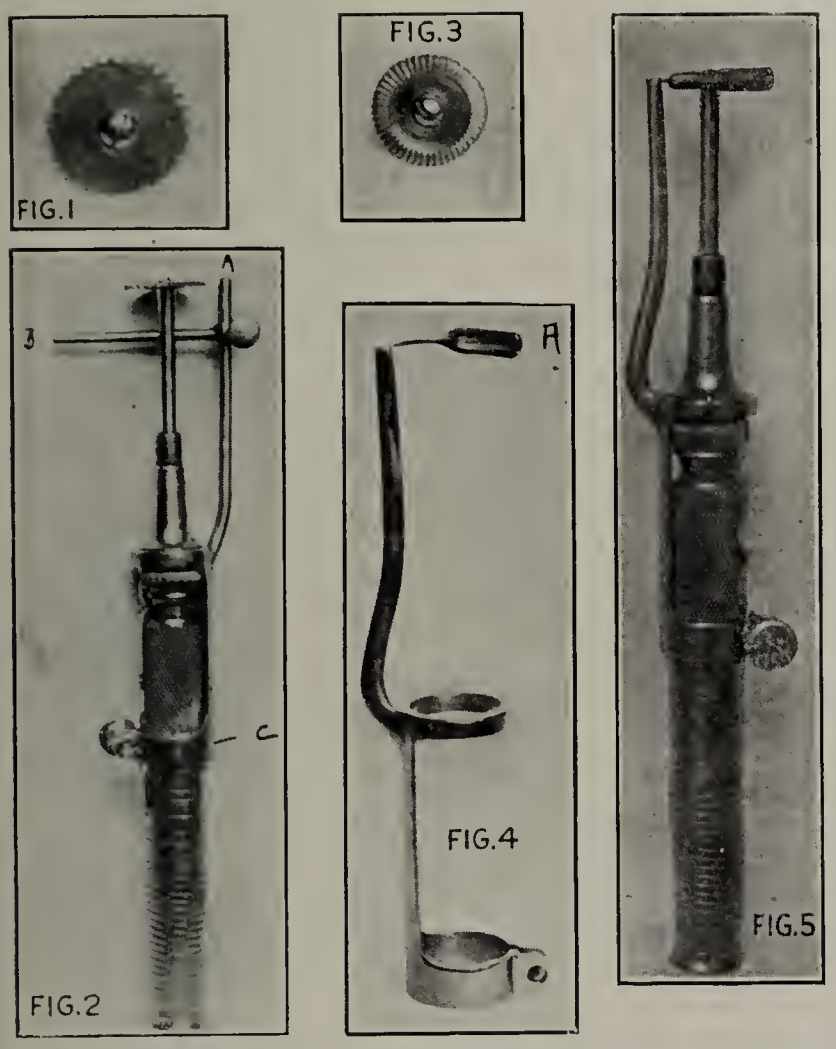



Fig. 1.—Face view of ordinary bone-saw. This and the saw shown in Figure 3 are slightly smaller than the ones now in use, but may be made of any size. They are attached to the shank by means of the screws.

Fig. 2.—Bone-saw set up in electric Victor drill handle, with guard (A, B, C) attached.

Fig. 3.—Face view of skull or osteal flap saw.

Fig. 4.—The dura guard. By reference to Figure 3, it is seen that the saw is just over the groove in the outrigger A, which is placed into the trephine hole and pushes the dura away from the bone as the saw advances.

Fig. 5.—The osteal flap saw set up in electric motor-drill handle with dura guard in place.

The second saw (Fig. 3) is used for removing the bone flap in skull work. It differs from the first saw described in that it has heavy overhanging cutting edges and it is not cross-cut. The side cutting edges permit of making a bone flap 1 inch in diameter, much smaller than is necessary in most cases.

The dura guard (Fig. 4, A) which is used with this saw absolutely fulfils all the requirements. A trephine opening is made in the skull, and then the dura guard is slipped into it. It pushes the dura away from the skull and protects it from injury by the saw. A bone flap of any size can be made with this saw in less than a minute. It makes a clean cut 3/16 of an inch wide. The width of the saw may be increased or diminished, thus regulating the width of the cut. These saws and guards are not expensive; they are simple in construction and easily handled. They can be driven by electric, foot or hand power.

I am indebted to Sharp and Smith for their assistance in working out these instruments.

32 North State Street.

---

## RETROCECAL APPENDICITIS

JABEZ N. JACKSON, A.M., M.D.
KANSAS CITY, MO.

In the voluminous literature on appendicitis one finds but little particular attention paid to the peculiar characteristics and sequences of inflammation of this organ when of the retrocecal or retroperitoneal type in anatomic location. And yet anatomic observations have shown that in about 20 per cent. of all subjects this position of the appendix is found. I have had a rather large proportion of cases of retrocecal appendicitis. and have been impressed with certain features which affect the diagnosis, prognosis and treatment to such an extent that it has seemed worthy of more attention than has usually been accorded.

In the more normal anatomic type the appendix from the base of the cecum passes more or less downward or downward and inward, and becomes an organ more or less associated with the large peritoneal fossae. In consequence, when it becomes the seat of an acute inflammation we have associated a greater or less degree of diffuse peritonitis involving both the contiguous viscera of the greater cavity and the anterior parietes. And it is this associated peritonitis which is responsible for those most marked symptoms which make its picture characteristic and its diagnosis relatively easy. We to-day recognize the fact that in the earlier stages of appendicitis the symptoms are largely referred to the epigastrium or stomach, and are represented by clinical signs, epigastric pain and vomiting. When the infection has progressed further and reaches the peritoneal envelope these epigastric symptoms largely give way, and in their stead the local pain, tenderness and rectus rigidity resultant from peritoneal irritation or inflammation manifest themselves and become the final diagnostic signs. These signs vary in rather important ratio with the extent of peritoneum involved; hence it is that, after all, our index to ordinary diagnosis is the attendant peritonitis rather than the appendicitis itself. Particularly is this true of the peritonitis which involves the parietal wall, for from this source we recognize to-day the principal symptoms, local pain and rigidity, arise.

In the retrocecal type of appendix, the anatomic relation of the appendix to the general peritoneum is quite different, and in consequence the sequelae of infection are in a measure quite distinctive. The term "retrocecal appendix" refers in general to that type of appendix which from its origin at the base of the cecum runs more or less directly upward or slightly outward and upward and is placed either directly behind the cecum and ascending colon or at least under cover of their overlap on the outer side. I have found indeed four

rather separate anatomic subvarieties of the general postcecal type:

1. The appendix, possessing its usual mesentery, is distinctive only in the fact that it runs upward along the outer side of the colon, which overhangs and confines it in the limited peritoneal space external to the colon (Fig. 1).

2. In another type the appendix runs upward external to the colon under cover of the peritoneum of the posterior parietes, which forms its investment usually incomplete on its posterior circumference, and even though complete not furnishing a mesentery proper (Fig. 2).

3. Again we have found the appendix running up along the external wall of the colon itself and invested by its proper tunic and likewise without mesentery (Fig. 3).

4. In the fourth type the appendix runs upward directly behind the colon, beneath which it is buried in connective tissue entirely and has no direct peritoneal investment whatsoever (Fig. 4)

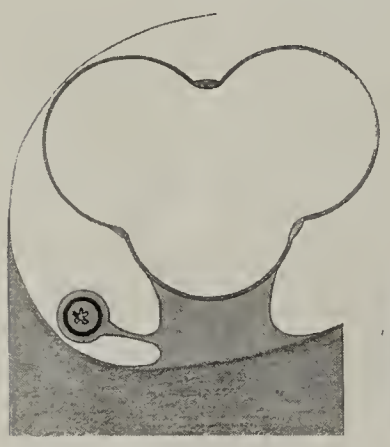


Fig. 1.—Type 1 of retrocecal appendix with mesentery

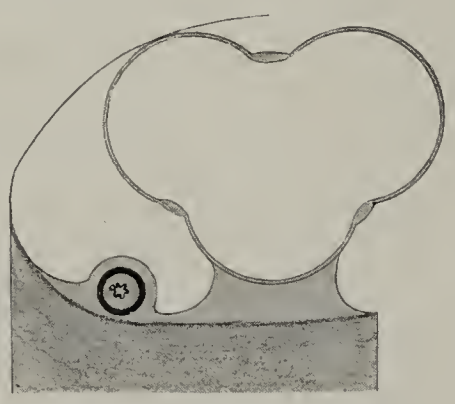


Fig. 2.—Type 2 of retrocecal appendix beneath, but only partly invested by parietal peritoneum.

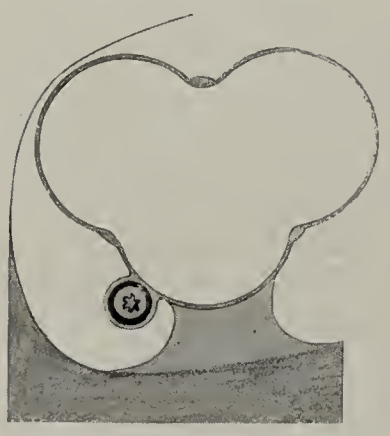


Fig. 3.—Type 3 of retrocecal appendix running alongside of colon and invested in part by the peritoneum of the colon itself.

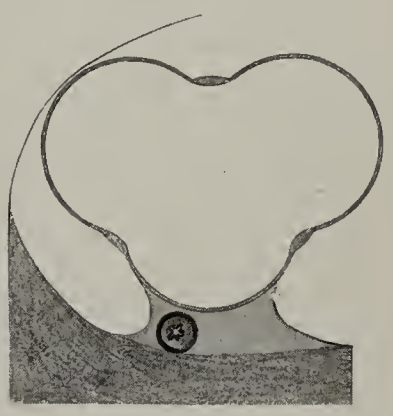


Fig. 4.—Type 4 of retrocecal appendix entirely behind the colon with no peritoneal envelope.

In the first of these varieties therefore we have an intraperitoneal appendix with mesentery; in the second and third varieties we have rather a subperitoneal appendix; while in the fourth we have truly a retroperitoneal or extraperitoneal appendix A recognition of these anatomic types of the retrocecal appendix will prove interesting in the observation of certain sequences of infection of the organ.

In the chronic or subacute varieties of appendicitis, the retrocecal type will present no particular significance, except that the tenderness incident thereto is situated rather far out, extends upward and backward toward the kidney and posterior under surface of the liver, often presents a particular spot of tenderness on pressure above the crest of ilium behind, and can thus frequently be anticipated prior to opening the abdomen. It is furthermore of interest in explaining the fact that so many patients are reported by amateur surgeons as lacking an appendix because they fail to recognize this type of appendix and do not know how to find it after they are in the abdomen. Its detection will require a good exposure of the extracolic fossa, and in the extraperitoneal variety the outer leaf of the mesocolon may have to be first incised and the colon partially lifted up from its bed. Unless of the first type, it will present no mesentery, when found, and will require enucleation instead of mesenteric ligation.

In the more acute infections certain other characteristics may be worthy of consideration. In the first place in nearly all cases the attendant peritonitis is quite restricted and is confined pretty accurately to the extracolic fossa. In fact, the appendix is so thoroughly overlapped by the colon that early adhesions often confine the peritonitis to a limited area close down at the base of the outer leaf of the mesocolon, practically entirely subcolonic. In some instances in which the infection is most obvious here, particularly when perforation occurs at this point, we may have a leakage and extension of peritonitis downward into the pelvis (Fig. 8) as well as backward and upward along the outer side of the colon. In fact, the presence of this lower pelvic infection may lead one to overlook the extension backward and upward and to content oneself with drainage of the pelvis alone, while a posterior infection is allowed to continue its course unrecognized, an error which led to several fatalities in my early experience.

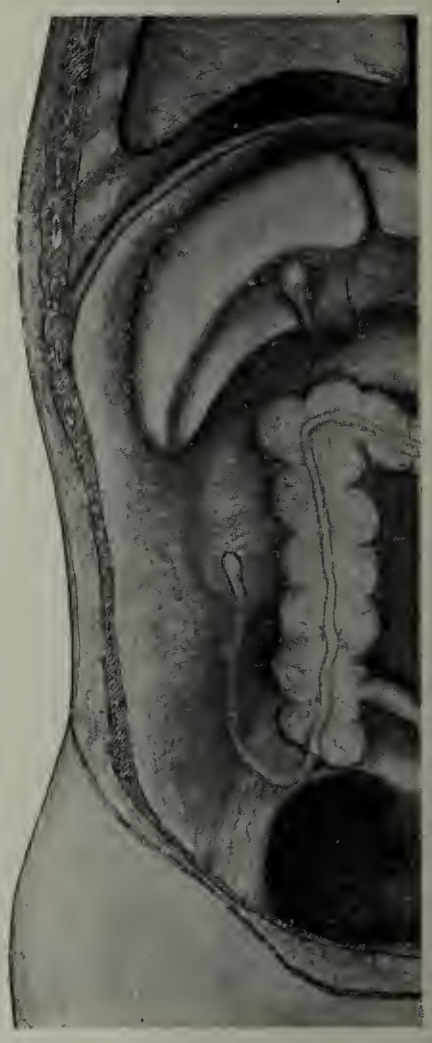


Fig. 5.—Course of the more usual type of retrocecal appendix with routes of peritoneal extension obvious by exaggerated anatomic arrangement.

While I have stated that the peritonitis is here restricted, I should modify this statement as intended only in so far as the involvement of the general peritoneal cavity is concerned. As a matter of prime importance we must recognize that in this restricted area outside of the colon a very important, possibly extensive and dangerous extension of peritoneal infection may be going on often unappreciated and unrecognized because of its somewhat hidden site. This is the upward extension of peritonitis along the outer side of the colon into the loin and onward toward the under surface of the liver (Fig. 5). Reaching here it may follow around, now forward above the hepatic flexure of the colon beneath the liver, and result in a subhepatic abscess (Fig. 8) or may further invade more or less extensively the upper peritoneal cavity beneath the liver. More usually, following gravity it reaches the low fossa behind the liver, passes upward between the liver and diaphragm, and results in a subphrenic peritonitis, often terminating in an obscure subphrenic abscess. From here the infection

may pass through the diaphragm into the pleural cavity with resultant empyema; or in the event of lung adhesions may break into the lung itself and produce a lung abscess, or rupture into a bronchus and thus be evacuated with a possible septic bronchitis added. In fact, in one of my cases death ensued rapidly from rupture of such an abscess into a bronchus, coughed up and inspired, with virtual drowning of the unfortunate child. Surely with these possibilities of lumbar abscess, pulmonary abscess, subhepatic abscess or peritonitis, subphrenic abscess, empyema thoracis and septic bronchitis or pneumonia, Deaver was justified in the statement attributed to him that "the retrocecal appendicitis is a bad type of appendicitis."

But outside of peritonitis and its extension there are further factors of peculiar importance. In all save the first type of my classification it will be observed that the appendix is in some part at least extraperitoneal or retroperitoneal. Infection may therefore spread to the cellular and other retroperitoneal tissues as well as to the peritoneum. A cellulitis is therefore one of the further dangers and may occur with or without a coincident peritonitis. This cellulitis may become localized or diffuse, may extend by continuity of the retroperitoneal space or may be diffused through the subperitoneal lymphatics. Also, as a matter of distinctive significance, the infection in this retroperitoneal space may extend to involve the colonic blood-vessels, particularly the veins, and give rise to infective phlebitis with dissemination to different parts of the body, more particularly to the liver (Fig. 6).

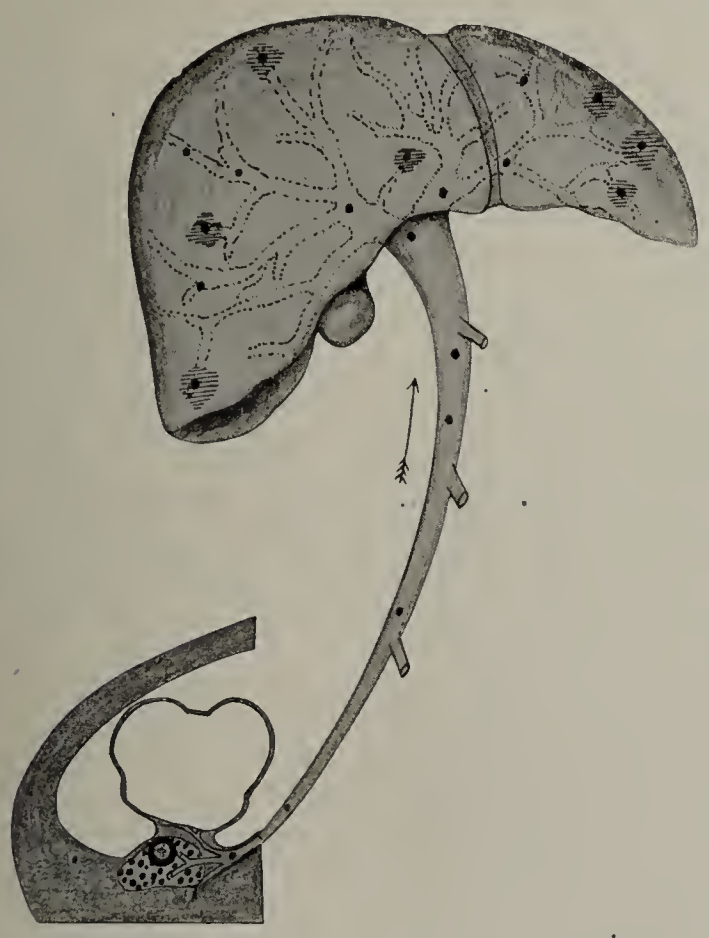


Fig. 6.—Figure illustrating how, with a retrocecal abscess, thrombi may pass into the portal with secondary liver abscess.

By direct extension through the retroperitoneal connective tissue it is easy to imagine how extensive the infection may become, and should the patient survive the general sepsis sufficiently long, how varied may be the points of presentation of the ensuing abscess. In one of my cases the entire perinephritic space was involved to such an extent that on posterior incision for drainage the kidney almost floated out of the wound. Many cases of perinephritic abscess may thus be explained. In the case just mentioned, the posterior drainage instituted did not suffice to prevent death, and on autopsy it was found that the infection passing behind the peritoneum had crossed the spine to the opposite side (Fig. 7), where an equally extensive abscess had been left unrecognized. In another case the abscess had occurred in the psoas magnus muscle, which had been largely destroyed with an abscess extending from the pelvic brim well up toward the diaphragm. In another case the infection spread through the parietal wall posteriorly and laterally and then followed down the thigh on its anterior and outer aspect to the knee. These few instances are sufficient to illustrate the multiform direction of extension as met in my limited experience, and might be almost indefinitely extended if recourse were made to general literature.

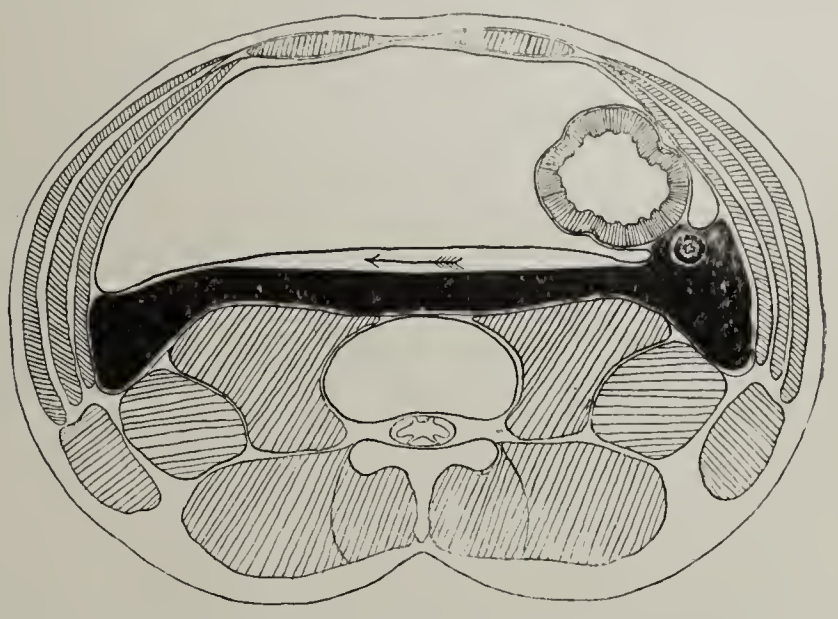


Fig. 7.—The black shading shows how pus may pass behind the peritoneum across the median line to the left lumbar fossa.

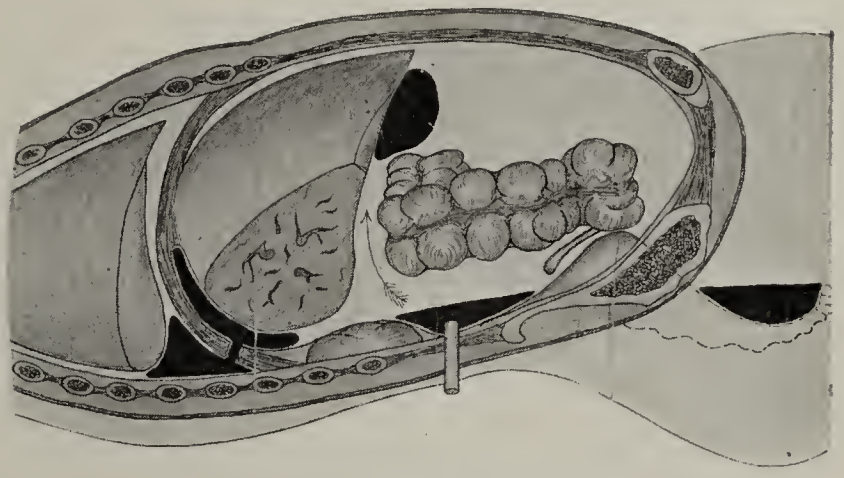


Fig. 8.—Shaded areas illustrate fossae of pus, the route of extension and the importance of the posterior drainage in recumbent patient.

The possibilities of extension by the portal radicals is also of importance. I have had the unfortunate privilege of making an autopsy in two of my own cases with multiple and surgically hopeless liver abscesses, resultant from a small retroperitoneal abscess (Fig. 6) unrecognized in time for any hope from surgical intervention.

This hasty and brief sketch limited to personal experience is sufficient, I think, to illustrate the importance of special study of the particular features of retrocecal appendicitis, which in my judgment more than any other type requires early diagnosis and prompt and in some respects special surgical attention.

SYMPTOMS

From what has been said about the special anatomic relations of the retrocecal appendix we are prepared to appreciate some of the peculiar features of symptomatology and the necessity often of very close study to arrive at a correct early diagnosis. In my judgment the difficulty of diagnosis, particularly in the hands of the general practitioner into whose care all cases first come, and the consequent failure to secure prompt or proper surgical care are responsible for the designation of Deaver, "the bad appendix." And it is particularly the absence of a diffuse peritonitis which leads to the failures of diagnosis, since, as I noted in my introduction, it is on the distinctive features of peritonitis, particularly of parietal peritonitis, that we have mainly relied for diagnosis. In retrocecal appendicitis these symptoms may all be largely lacking, or if present at the onset may quickly disappear. I have thus frequently had medical confrères remark, "We thought at the onset that we had a case of appendicitis, but the symptoms of this quickly disappeared and since we have been at a loss to know what was the trouble." This remark serves to illustrate the important significance of the early symptoms, and the general failure to appreciate the transition to those peculiar to the retrocecal type. I shall here refer only to the acute variety of appendicitis, as the subacute or chronic presents no clinical peculiarities other than before mentioned.

*Epigastric Pain.*—The primary epigastric pain is usually marked in this type as in others of acute appendicitis.

*Vomiting.*—Vomiting usually accompanies or follows the epigastric pain as in the ordinary case.

*Local Pain and Tenderness.*—In the usual intraperitoneal appendix case, the epigastric pain and vomiting are followed in a short time by a transfer of pain of acute type to the lower abdomen and perhaps to the region of the appendix in particular, this is attended by a marked tenderness, either local or diffuse, over the lower abdomen in general. This lower abdominal pain and tenderness is not only marked but persistent, unless sudden perforation supervenes. These symptoms are in large measure the indication of approaching or present more or less diffuse peritoneal involvement. And here the divergence in symptoms begins. In the retrocecal type there is usually some pain and tenderness in the region of the appendix. This pain, however, is not usually so severe, and the tenderness is much more circumscribed. Then as the causative peritonitis is usually quickly localized under and behind the outer side of the colon, with exceedingly slight or no involvement of the anterior parietal peritoneum, the pain becomes either markedly decreased or may practically disappear entirely. Likewise the tenderness hidden behind the cecum becomes diminished and may be entirely missing on palpation over the abdomen in front. Pressure from behind just above the crest of the ilium and in the loin almost invariably elicits, however, often unsuspected, even by the patient, tenderness more or less acute. And herein is presented one symptom elicited by proper examination which is very significant indeed when associated with the primary symptoms above noted, and which should be definitely borne in mind in this connection.

*Abdominal Rigidity.*—Abdominal or rectus rigidity, so significant in the intraperitoneal appendix, here is likewise usually of transitory presence. What rigidity remains after the first onset is limited to the later abdominal muscles, and the rectus may become soft and negative.

*Abdominal Distention.*—More or less distinct abdominal distention marks the normal appendicitis because of the involvement in the peritonitis of the adjacent small intestines. In the retrocecal type, on the other hand, the peritonitis is restricted to the colon, and the small intestines are not involved. The accompanying distention may therefore be entirely lacking or, if present, moderate and soft.

*Tumor.*—In the general type of appendicitis, particularly when leakage occurs, we soon have a distinct tumor mass easily recognized through the anterior abdominal wall. The edema of the contiguous intestines will present an apparent tumor often even though there be little or no leakage or peritoneal exudate. With the retrocecal appendix whatever edema or leakage or exudate may be present is under cover of the overlying colon filled with gas, fluids and feces and often cannot be recognized at all. If found at all it will be well outward and backward, and often present only in the loin.

*Temperature and Pulse.*—The temperature elevation and pulse increase are of course present as in any infection. It is noteworthy that they persist even after the local signs apparently disappear. This persistent high temperature, after the subsidence of local signs has led many a case to be diagnosed as typhoid fever, tuberculosis, malaria or one of any variety of infections characterized by fever. As a matter of fact the temperature usually remains at from 101 to 103 F., is out of proportion to local signs, and the pulse is increased in corresponding septic ratio, too high for typhoid and such infections.

*Blood Examinations.*—The examination of the blood is particularly serviceable here. The negative Widal may be of service in excluding typhoid, and the leukocyte count shows usually an increase in the white cells characteristic of pus infection.

*Sepsis.*—The general picture of septic infection will persist and increase in spite of the apparent subsidence of recognized local signs of infection, and should point the way to the recognition of at least some focus of distinct infection, only necessitating proper local assignment. But after all is said the recognition of the local area of infection rests on (1) the primary symptoms, requiring close attention to the earliest history of the case; (2) the tenderness usually found posteriorly; (3) the blood examination and other signs of pus infection.

TREATMENT

In treatment, a few points of practical significance I have found worthy of special consideration based on my own experience. It is pretty generally conceded to-day that in any case of acute appendicitis early operative interference is the proper procedure. In the retrocecal appendicitis I believe this to be of particular importance, first because of the obscurities which arise with delay, and second because of the dangerous extensions which are so apt to occur without well-marked signs to indicate their menace. If one waits until infection has spread by the continuity of peritoneum to the subphrenic space, most difficult problems of localization and management will arise. A subphrenic abscess may be very hard to locate even when we are reasonably sure of its existence somewhere; and even though located, its access is difficult and limited in its hidden site. Possibly while we hesitate, carefully seeking the spot of infection, it is already making its way through the

diaphragm into the pleura, the lung or bronchus. I have faced such situations often with hesitation and uncertainty fatal to the patient.

Furthermore if we delay, in the retroperitoneal type we may permit embolic infection of the liver with multiple abscesses entirely beyond any hope of relief by surgical means or otherwise. We would therefore emphasize the need of early diagnosis and early removal of the appendix as particularly indicated in this anatomic type of appendix.

If operation can be instituted while the trouble is still confined to the appendix, there is little further to be said except that a rather larger incision is necessary to expose the appendix which probably has no mesentery, and often the incision should be rather further back than that employed for the more usual lower site.

After perforation has occurred with peritonitis and abscess some further factors are important. In opening the abdomen from anywhere in front, as customary, we will usually enter the free peritoneum, as the abscess will be hidden down beneath the colon by adhesions. It is then well to pack off well toward the median line to prevent any general infection when we later break through the adhesions into the abscess. To avoid this condition a posterior incision in the loin has been advocated, and may in some cases be advantageous. It gives little opportunity for observation, however, and makes it rather difficult to reach and deal with the stump of the appendix at the base of the cecum. If we have a rather large abscess and are content to incise and drain, it is a route to be preferred. When I expect, however, to remove the appendix at the time, as I practically always do, the anterior incision, extended backward if desired, has been my route of selection. In many cases the appendix will be found long, extending well up to the under surface of the liver, and the incision will have to be extended backward until fairly long in order to give sufficient exposure if removal of the appendix is desired.

One point I have found of great importance. It must be remembered that the space about the kidney and below the liver is at a distinctly lower level when the patient is lying down than is the iliac fossa where the base of the appendix is situated, and which is directly beneath the anterior incision. In drainage therefore if we merely put in drainage in front, as is customary in other types of appendix, we will leave a large fossa behind which may retain a considerable pool of pus (Fig. 8). This pool of pus is just at the danger-spot for the extensions which I have cited as particularly menacing in these cases. This fact was forced on my attention some years ago in a case in which I had operated. The drainage which had been put in front was apparently effective with a profuse amount of pus. And yet the patient remained unaccountably septic. After having carefully cleaned up the wound one morning, in attempting to turn the patient over to remove the Kelly pad, my hand was pushed forward from the lumbar fossa, when the clean wound immediately flooded at least a pint of pus and caused me thus to realize the inadequacy of the drainage from in front. Since this experience I always seek the lowest point of the lumbar fossa from in front, and from behind make a sufficiently large incision down to the bottom of this pouch to provide for a large drainage-tube nearly an inch in diameter. This tube is carried just far enough in to drain the bottom of this area well. Until I learned this one thing I had a mortality of at least 75 per cent. in my cases of retrocecal appendicitis, from insufficient drainage and infection which continued to spread. Since learning this lesson and invariably employing this posterior drainage the mortality has been nil, except in cases so far neglected as to have already secured the remote infections before any surgery was instituted. A cigarette drain is usually added in front as in the normal case. When the abscess is first encountered well below at the base, this extended infection behind may easily be overlooked, as has occurred in my experience once or twice, in each instance with death. The one surgical feature therefore for strict observation in retrocecal appendicular abscess is posterior lumbar drainage.

2614 Forest Avenue.

---

## PROPHYLACTIC VACCINATION AGAINST EPIDEMIC MENINGITIS

J. H. BLACK, M.D.
DALLAS, TEXAS

With the desire to establish the value of prophylactic vaccination against epidemic cerebrospinal meningitis, experiments were undertaken by Dr. Abraham Sophian and myself during the month of April, 1912. This work was done on ten medical students who were in good health and volunteered for the work. These men were vaccinated with three doses at seven-day intervals. To half of them doses of 500 million, 1,000 million and 1,000 million were given. The other five received doses twice as large. Examinations of their blood were undertaken at once and showed an early development of agglutinins and immune bodies which increased after the second and third injections and, with considerable uniformity, reached a high degree. This work was reported in THE JOURNAL.[1]

The value of prophylactic vaccination must depend, not only on the agglutinins and immune bodies developed, but also on their persistence. If it can be shown that a considerable degree of immunity is found over a long period of time, then this is a procedure worthy of commendation.

Eleven months after the vaccinations were made I repeated the former experiments to determine what, if any, immunity could be demonstrated after the lapse of this length of time. Eight of the original ten vaccinated students were accessible. The technic used was identical with that reported in the former communication. In addition to the blood of a normal individual acting as a negative control, the blood of a student who had recovered from a severe case of meningitis just prior to the time of these vaccinations was used as a positive control. It will be noted that some of those vaccinated gave higher fixation than he.

It has been noted by many observers that agglutination tests on meningococci, as with other Gram-negative diplococci, often give very irregular results. Because of these irregular, and consequently unsatisfactory, results, the agglutination tests which were done at the time of vaccination were not repeated at this time.

It will be seen from the accompanying table that the complement-fixation tests still give uniformly high readings. It will be noted that in Cases 3 and 9 sharper fixation was obtained in the higher than in the lower dilutions. This was observed in the previous work and had been noted by Sophian and Neal[2] in their work on

1. Sophian, Abraham, and Black, J. H.: Prophylactic Vaccination Against Epidemic Meningitis, THE JOURNAL A. M. A., Aug. 17, 1912, p. 527.
2. Sophian and Neal: Research Laboratory, New York City. Collected Studies. 1912.

meningococcus strain differentiation. Another point of interest is that Cases 3, 9 and 10 show higher fixation at this time than they did at the conclusion of the former work.

While it is recognized that experimental vaccination of healthy individuals in the absence of an epidemic and the detection of immune bodies in their blood is an indirect way of proving its efficacy and that the method must finally be judged by its clinical application, we feel that we are justified in drawing the following conclusions from these studies:

1. Prophylactic vaccination produces a high degree of immunity in most cases, this immunity being demonstrable at the end of one year. It seems a justifiable conclusion that most individuals prophylactically vaccinated may safely consider themselves immune for at least one year. Exceptions to this will, of course, be found.

COMPLEMENT FIXATION

| Case No. | Dilutions | | | | | | | | Control |
|---|---|---|---|---|---|---|---|---|---|
| | 10 | 20 | 30 | 50 | 100 | 150 | 200 | 250 | |
| 1 ..... | +++ | +++ | +++ | +++ | +++ | ± | — | — | — |
| 2 ..... | +++ | +++ | ++ | +++ | +++ | ± | — | — | — |
| 3 ..... | + | +++ | +++ | ++ | +++ | ++ | — | — | — |
| 4 ..... | +++ | +++ | +++ | ++ | + | — | — | — | — |
| 7 ..... | +++ | +++ | ++ | ++ | + | ++ | — | — | — |
| 8 ..... | +++ | ++ | +++ | +++ | +++ | ++ | — | — | — |
| 9 ..... | + | + | ++ | ++ | +++ | + | + | + | — |
| 10 ..... | +++ | +++ | + | +++ | +++ | ++ | ++ | ++ | — |
| Pos. con.. | +++ | +++ | ++ | +++ | ++ | ++ | — | — | — |
| Neg. con. | — | — | — | — | — | — | — | — | — |

2. Some individuals may show an actual increase in immune bodies at the end of one year over those demonstrable soon after vaccination.

3. Fixation occurred with the serum of the positive control who has recovered from meningitis but this fixation did not reach as high dilutions as did that of some of those vaccinated. This has previously been found also in some others recovered from the disease.

4. Experimental evidence warrants us in concluding that prophylactic vaccination is a measure of the greatest value in the control of epidemic meningitis.

---

## MEDICAL ETHICS

BY A PHYSICIAN'S WIFE

Years ago my husband and I got into a little wagon, and hitched it to a star, and began our journey through the world for either failure or success. Somehow we never thought of failure, because I believed in him, and he, without any vanity or egotism, believed in himself.

After we had set up our Lares and Penates and begun our season of hoping and waiting, so trying to the young physician, I one day undertook to arrange his medical library. It was not large, of course, but well selected, and I remember some of the books. There were the immortal Gray's "Anatomy," well thumbed and well read; Gross and Agnew's "Surgery," J. M. DaCosta's "Physical Diagnosis," some of William Pepper's and other works of that period. They were the giants of those days. Over those tomes has grown the dust of years; the bell has rung, the school is out, the teachers have gone home never to come back — they are the men of yesterday.

When I came to the end of one of the shelves I found a small, cloth-covered book marked "A Code of Medical Ethics."* I had never heard of it. I sat down, in the midst of my work, and read it from cover to cover. Shall I ever forget the impression that it made on me? My whole idea of the medical profession had undergone a great change. It taught me that no commercialism could ever enter into its practice; barter and sale, trade and traffic had no place there; its nobility of purpose, its devotion to duty were paramount. Its all-pervading humanity made it divine, for it embodied the great commandment, "Thou shalt love thy neighbor as thyself."

Then the years began with their work and purpose, and the wagon, hitched to the star, carried my husband into the teaching faculty of his alma mater. I was proud and happy, and thought that he had "arrived." No, he had only begun. It was like the pendulum of a clock, night and day, toil, toil, toil. Oh, these men of to-day, what are they doing? By the munificence of some men who have made great fortunes in other lines than medicine, the men of medical research are climbing mountains of difficulty, sometimes finding their El Dorados and sometimes finding mountains far beyond.

> Still achieving, still pursuing
> Learn to labor and to wait.

Men in the laboratories discovering hidden diseases unseen by the naked eye, the men who have perfected the use of the Roentgen rays, the men engaged in activities for public health and the successes of sanitation, by their genius and perseverance have blazoned the way toward the happiness of many and the betterment of all.

The teacher who enters the amphitheater comes with the enthusiasm of his calling, bringing to his task his experience, his observations and his hours of study, believing that the students before him are those who stand in the vestibule of time waiting to become the "men of to-morrow."

The writer, possibly after a day of nervous strain, takes up his pen while others are sleeping or feasting, and gives to a larger field his thoughts, his opinions, his ideals and experiences, for the enlightenment of others. Then the white-robed surgeon, who day by day steps into the arena with a cool brain, a trained eye, a firm hand, and dexterous fingers, a perfect knowledge of anatomy, and reliance on asepsis, meets the lurking foe and puts the great destroyer to flight. He who saves and not destroys is greater than he who takes a city. Then there are the physicians who are in the towns and villages and countrysides; their work can better be illustrated by a little story of Henry Van Dyke's:

REWARD OF SELF-SACRIFICE

Once on a time there was a man who amassed a great fortune and built a beautiful mansion. One night he went into his library, turned up the reading-lamp, selected a book and sat down in a comfortable chair to read. Suddenly the letters seemed to fade, and he found himself on a great highway where people were all walking in the same direction. Joining one of the groups he recognized among them the village doctor of his early home, and a wave of fond recollection came over him. The years dropped away and he was a boy again.

How beloved the doctor had been! He remembered the time when his mother had been so ill and they had leaned so on this man. How thoughtful and kind and compassionate he had been! And when she was restored

*EDITOR'S NOTE: "A Code of Medical Ethics" is the old title. The present title of the booklet is "Principles of Medical Ethics."

to health and sat again among them, how they had loved him! Sometimes in the winter nights, when snug in bed and the wind was blowing cold, he would hear the wheels of the doctor's old buggy drive over the frozen ground: and in the summer, when he came from the river after a cool bath, he would meet the doctor, covered with dust from a ride in the hot sun. Oh yes, he remembered it all.

Then he began to catch snatches of the conversation, and he found that all his companions had suffered troubles and trials and had practiced self-denial. Soon they came to the City Beautiful, and the guide, who met them at the gate, took them down the shining street where the many mansions are, and each entered into his own place. The guide, pointing to the most beautiful of all, told the doctor that this was his, and those who remained outside heard the happy and loving greeting which the doctor received as he entered.

At last they were all gone except the rich man and the guide, when the two had come to a field of stubble in the midst of which stood a wooden hut, the guide, pointing to the hut, said, "This is yours."

Aghast, the man cried, "Why is this?"

The guide replied, "This is all the material you sent here."

"What," said the man, "I gave money to hospitals."

"Yes."

"I gave money to charities."

"Yes, but those materials never reached here."

"Why not?" asked the man.

The guide sorrowfully replied, "There was no self-sacrifice in them — they cost you nothing." And with a groan of anguish the man awoke. It was a dream.

### A TRIP ABROAD

A few years later, when our only child had finished a college course, it was decided that she and I should take a leisurely trip through Europe, leaving the professor to write his text-book. In our meanderings we reached Vienna one day and drove out to a cemetery where many illustrious dead were buried. In walking through one of the avenues I found the grave of Virchow, on which lay a large wreath of fresh flowers; on the ribbon attached I read the words, "To the Master from his affectionate students." My eyes filled with tears and a great wave of homesickness passed over me. These Germans may be scientific and phlegmatic, but they are full of sentiment, and I thought that in my own country such a thing would never be dreamed of, for no one has time to remember.

On entering the compartment of the train, the morning on which we left Vienna for Venice, we found a young man and woman as our companions, both Americans. He proved to be a graduate of one of our great universities, and in that long day we became quite friendly. He had graduated in medicine in June, and this was his wedding journey with his dear little wife. We talked a great deal about college, and one thing he told me impressed me very much. He said that one of the professors of that great institution had taken pains to give lectures on medical ethics, and I wondered if this was being done in the college which I was taught to believe great, and I determined to find out on the first opportunity.

Later, when in Rome, I stood under the Arch of Drusus, which commands the Appian Way, and as I stood there I had a vision. I did not see the great legions of Roman soldiers coming with their trophies and victories of war, but a small group of men; and as they drew nearer, one I observed was a little shorter than the others, and was in the company of a centurion. As they passed through the arch they stood inside the city. On the left side was the golden house of Nero, panoplied with all the pride of absolutism, shining and glittering in the soft sunlight. Before them was the Forum, with patrician senators in their togas, standing in groups, scheming and gesticulating—politicians, every one of them. To the right was the Basilica, from which the tones of the orator's voice could be heard. Nearby was the Colosseum, decked for a gala occasion. Not far off was a crowd of common people, pushing and shoving and grabbing tickets of admission to the Colosseum entertainment, the two upper tiers having been assigned to the public, free, on the presentation of these tickets; hence the great struggle to obtain something for nothing, as to-day.

Further along was the Palatine Hill crowned by the handsome palaces of the Caesars; below, the Circus Maximus where insane Caligula raced his horses and called them gods. There came a sound of marching feet, and a hundred Roman soldiers commanded by a centurion, passed by. And then, as I looked at the little group of men, I saw one with an illuminated countenance, a determined spirit, undaunted by the spectacle of power before him, and then my vision faded. I was a twentieth century woman standing under the old arch alone. Of the golden house of Nero not a vestige remained; the Forum was chaos; the Colosseum in ruins; the Palatine shorn of its palaces; the Circus Maximus a field of grass; the centurion and his soldiers had vanished with the centuries, and the small group of men to which I had been so much attracted had gone too. The great Roman Empire was a thing of the past. As I saw the dome of the great cathedral glistening in the soft sunlight, I thought that my hero of the Scriptures had given to the world a new empire which was established forever. And with this thought came those marvelous words of his: "Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are pure, whatsoever things are lovely, whatsoever things are of good report, if there be any virtue or any praise, think on these things." Are not truth, honor, justice, purity, nobleness of purpose, graciousness of manner, devotion to duty, are they not lovely? Are not these the foundations, essentials, principles and ideals of ethics?

### FRUITS OF THE MEETING ON THE TRAIN

One evening after our return from Europe the faculty of my husband's college dined with us, and it was my opportunity. I told the episode of the train to them, of the good professor of a great institution who taught medical ethics to the graduating class and asked if this were done in their college. They said no, only in a desultory way, as they had no room for that subject in the curriculum. I could not help expressing my regret. Judge of my surprise and delight when sometime later I was told that the next year these lectures would be arranged for and one of the professors would be appointed to teach.

There is no doubt but that young medical practitioners are often tempted, and in spite of their scientific knowledge, go wrong. The teacher who gives to the students the highest ideals of his profession may keep their eyes from tears, their feet from falling and their souls from death.

# CAUSES OF THE MIGRATION OF THE OMENTUM

ARTHUR E. HERTZLER, M.D.
KANSAS CITY, MO.

The fact that the great omentum is commonly found attached to areas of inflammation in the abdomen when such areas exist has long been known to surgeons. What the compelling forces are that attract it to these foci has not been determined. The term "policeman of the abdomen" has been applied in several languages to the omentum, but what is meant by this has not been explained in any of them. Peristalsis is supposed to account for its actual movements, though there is no proof of this.

In the beginning of my studies, which were made through a glass window in the abdomen, the first thing noted was that in those conditions which are attended by the migration of the omentum the peristalsis is suppressed; and conversely in conditions (for instance, obstruction) attended by active peristalsis, there is no movement of the omentum. The explanation for this will appear later.

The constant factor observed in the migration of the omentum is that it moves only toward areas which are injured and only when the injury is attended by the formation of a fibrinous exudate and the accompanying cellular infiltration. Similar injuries not followed by fibrinous exudate and cell infiltration are not attended by movements of the omentum. This is a common observation of surgeons. If an exudate occurs into the walls of an appendix, the omentum will be found attached to it. If there is necrosis, there is no attachment of the omentum. There is no sharp dividing line between the cases of attachment and non-attachment because there is none in the degree of the ability of the tissue to react. Streptococci and to a degree the colon group are not attended by a fibrinous exudate or by an abundant cell infiltration (broadly speaking), and with such cases also leukopenia is associated. Such infections may be said to exercise no chemotaxis on the omentum. This lack of reaction can be demonstrated experimentally by means of disks of corn-pith placed in the peritoneal cavity. Ordinarily a sterilized pith excites an exudate of fibrin and cells and the omentum is attracted; but, if a bit of pith is first soaked in peptone solution, fibrinous exudate is not formed nor do cells surround it, and the omentum is quite indifferent to its presence.

When we search for microscopic differences in the two conditions we find that in one case there are numerous cells with a fibrinous exudate, and in the other there is neither fibrinous exudate nor cells. It has not been shown by experiment what reaction there may be between cells and fibrin, and especially which is the primary attractive element. For the present, therefore, it is best to treat them together.

As a preliminary statement of the forces leading to movements of the omentum, the following may be advanced: When an injury occurs, the series of processes collectively called inflammation is set in motion. Exudation of cells and formation of fibrin take place at the point of injury and also in adjacent parts of the omentum. These elements, though massed in the omentum, are attracted toward the focus of the inflammation as if they lay free in the abdominal cavity, and tend to carry the omentum along with themselves. Further than this one cannot go. It is a matter of observation that the omentum after it is attached to the inflammatory focus is always infiltrated more or less with fibrin and cells. But whether or not this infiltration occurs before it is attracted toward the site of injury or after it becomes attached is not to be solved by clinical observation alone.

In experiments with the corn-pith the omentum migrates before there is macroscopic evidence of infiltration. There is hyperemia, however, and likely some exudation of cells and fibrin-forming material. The influences which cause this hyperemia are probably the same as those which cause vascular dilatation about any inflammation, and, like them, are effectual beyond the sphere of visible cellular changes. Whatever these influences may be they are probably at least physicochemical in character, and seem to be dependent more on the fibrin formation than on the cell exudation. Under some conditions granular exudate may form which is not infiltrated by cells. It is probably more akin to a precipitate than a coagulate. The relation of omental movements to chemotaxis is emphasized by the fact that in those conditions in which there is a leukopenia or at least no leukocytosis there is no migration of the omentum. These facts will be so obvious to the surgeon that the mere mention of them is sufficient here.

To prove that the cells and fibrin-forming elements are adequate for omental movements apart from any properties inherent in the omentum itself, direct observation and microscopic study of tissue do not suffice. An artificial omentum which can be controlled is necessary for this demonstration, and for this purpose also disks of corn-pith serve very well. These when placed free in the peritoneal cavity migrate to the site of injury just as the omentum does and under the same conditions. Inherent factors cannot, therefore, be the essential ones in the movements of the omentum, and a real "police intelligence" cannot exist. The corn-pith moves only after the exudate with which it has become infiltrated coagulates into fibrin, a process associated more or less with the exudation of cells. I am strongly inclined to believe, however, that migration of the corn-pith begins with the formation of the fibrin, for in early stages few cells are present, although the fibrin is already formed and migration has taken place. Studies of the various cells as to origin, function and destiny are intricate, and no unquestioned analysis of them has been made.

My study of wound-healing has shown me that fibrin bands form first and that the cells follow along these. Burrows has made the same observation in studies *in vitro;* the fibrin always forms first. It appears, therefore, that the chemotactic influence as exerted on cells is associated with the fibrin. The granular fibrin, on the other hand, does not so invite the cells. Corn-pith treated so as to prevent the deposit of fibrin fibrils becomes the site of a collection of granular fibrin and of a few cells which appear to have drifted in rather than to have been positively attracted, since they lack the orderly arrangement of the cells associated with fibrillar fibrin. Furthermore, under these conditions, the omentum does not migrate toward the corn-pith.

The formation of fibrillar fibrin and the attraction of cells to it is allied closely to the coagulation of blood. Whatever prevents blood from coagulating prevents the preliminary step in all wound healing, including the formation of adhesions and the attraction of the omentum; that is, the formation of fibrillar fibrin. The sub-

stance that has the prominent part to play in the coagulation of blood is the *Kittsubstanz* of the blood-vessel endothelium. The same material of the peritoneal endothelium is the initial factor in the formation of adhesions. This substance strongly reduces silver nitrate and on this and other grounds I have tentatively assumed[1] that it is rich in chlorids, probably in combination with calcium. The point of interest in this connection is that the omentum is particularly rich in this *Kittsubstanz* and is therefore capable of producing an exudate when subject to irritation. Other peritoneal surfaces are less abundantly supplied, and non-peritoneal surfaces less abundantly still. (Surgeons well know that exposed muscle is less apt to form adhesions with the omentum than injured peritoneum.) The only properties which give the omentum claim to any inherent protective tendencies are the possession of the abundant *Kittsubstanz,* and its pendent state which permits free movement. (The intestinal loops have to a less extent the capacity for migration.)

### CONCLUSIONS

The migrations of the omentum are not due to any peculiar inherent properties. Corn-pith migrates in the same way under the same conditions.

Fibrin formation is the preliminary requisite for migration: no fibrin, no migration.

The movements of the omentum are produced by the same forces that attract cells to any inflammatory field, and the carrying with them of the omental network is a purely accidental occurrence.

1004 Rialto Building.

---

## SURGICAL METHOD OF CLEARING UP CHRONIC TYPHOID CARRIERS

### REPORT OF TWO CASES OF REMOVAL OF THE GALL-BLADDER AND THE ENTIRE CYSTIC DUCT

THOMAS J. LEARY, M.D.
First Lieutenant, Medical Corps, U. S. Army
WASHINGTON, D. C.

CASE 1.—C. W. F., aged 27, was transferred to the Walter Reed General Hospital from Fort Benjamin Harrison, Ind., Aug. 27, 1912, suffering from a chronic biliary fistula, the result of drainage of an empyemic gall-bladder. Previous to the drainage of the empyemic condition, the patient had been unsuccessfully operated on for removal of gall-stones. The patient, who was very intelligent, denied ever having had typhoid fever, or any prolonged attacks of fever or diarrhea that might lead one to suspect a previous unrecognized attack.

On admission to the hospital, the patient was suffering from a chronic biliary fistula, which refused to stay permanently healed. For a time this condition was treated by dieting, keeping the fistulous opening and surrounding skin clean and protected by sterile dressings, and keeping the bowels loose by administering sodium phosphate each morning and occasionally a course of calomel, followed by magnesium sulphate. Under this treatment the fistula would cease discharging and stay closed for a period varying from four to ten days. After these irregular periods of closure, the patient would complain of a severe pain in the gall-bladder region. This pain would cause the patient to huddle up in bed or walk the floor in a stooping posture, holding the hands over the gall-bladder region, sweating freely, with irregular fever and wearing an agonized expression. On the passing of a probe into the gall-bladder with release of the pent-up contents, all symptoms would at once disappear.

The discharge from the gall-bladder was mostly of a clear, glairy mucous nature. Occasionally a very slight bile tinge was noticed. On the occasion of one of these probings, there was some doubt as to whether or not a stone could be felt.

The condition was diagnosed as a hydrops of the gall-bladder, and the patient was told that his cystic duct was occluded by either a calculus or cicatricial tissue, and that it was advisable to have the gall-bladder removed. Operation was not done at once, but palliative treatment kept up and the patient kept under close observation. Several roentgenograms were taken, but failed to reveal anything.

Nov. 19, 1912: Gall-bladder fistula was opened for the relief of pain, and some of the contents caught in sterile tubes and sent to the Army Medical School Laboratory for examination. Report of this examination, received November 26, showed that the specimen contained some bile pigment, a few pus cells and typhoid bacilli.

November 27: Gall-bladder contents positive for typhoid. Urine negative for typhoid. Feces positive for typhoid.

November 30 and December 3, 5, 7 and 10: Feces positive, urine negative for typhoid.

December 12, the patient was etherized, and the gall-bladder and entire cystic duct were removed. A calculus a little larger than a hazelnut was found impacted in the cystic duct. Numerous adhesions were encountered and broken up, or tied and severed between ligatures. The fossa of the gall-bladder was covered over by means of a continuous suture of catgut. The stump of the cystic duct was cauterized with phenol (carbolic acid) and alcohol. All of the scar tissue resulting from the two previous operations and the fistulous tract were removed. A cigarette drain was inserted, its lower end in close relation with the stump of the cystic duct, and the wound was then closed in the usual manner, leaving a small opening for the drain. Fluffy gauze dressings and a binder were applied. Patient left operating-room in very good condition.

Feb. 3, 1913: Patient returned to duty in good condition.

#### LABORATORY REPORTS ON THE PRECEDING CASE

December 16: Feces positive for typhoid.

December 18: Feces negative for typhoid. Urine negative for typhoid.

December 23: Discharge from surgical wound negative for typhoid.

December 30: Surgical wound about healed. Discharge negative for typhoid.

Jan. 3, 1913: Agglutination 1:160.

January 23 and 25: Feces negative for typhoid.

CASE 2.—M. M., whose family history and early medical history had no bearing on case, stated that he was taken with diarrhea, fever and loss of weight while serving in Cavite Province, P. I., in June, 1910. He did not go on sick report or consult a medical officer for this trouble. September 5, he reported sick at the division hospital, Manila, P. I., and was sent home October 14. During this time he was placed on milk diet and given the ipecac treatment. He was sick in the Letterman General Hospital, Presidio of San Francisco, from Nov. 16, 1910, until March 20, 1911. Nov. 20, 1910, his stools were found positive for typhoid, and every week during his four months' stay there he was given the vaccine treatment against typhoid.

He arrived at the Walter Reed General Hospital, April 10, 1911, for further observation and treatment, his case to be studied in conjunction with the Army Medical School Laboratory. During the summer of 1912, for several months he received his second course of vaccine treatment against typhoid. In addition to his prolonged vaccine treatment, the patient was given the calomel treatment, the buttermilk treatment, sodium sulphite treatment, hexamethylenamin (urotropin) and salol treatment and the ipecac treatment. The patient was constipated a large part of the time while in the hospital and received frequent purges from Epsom salts and castor oil.

Appendicostomy was at one time thought of, but discarded, as was drainage of the gall-bladder, patient refusing operation.

---

1. Hertzler, Arthur E.: Tr. Am. Microscop. Soc., xxiii.

Since it is a known fact that the gall-bladder will retain and keep typhoid bacilli alive for an indefinite time, removal of the gall-bladder was thought of and talked of for some time as holding out a possible means of cure, but was not suggested to the patient directly at the time, on account of his aversion to operations and the fact that he was satisfied with his condition of being a recognized typhoid carrier but otherwise enjoying good health. Since the typhoid condition was first recognized in the stools, these were examined daily for a time, and then every few days. None of the treatments given seemed to have any appreciable effect on the typhoid bacilli. Occasionally a report would come back negative, but with this report would come a note from the laboratory saying that the specimen was old and requesting a fresh specimen. The reports would then come back positive. The laboratory reports noted the bacilli to range from plus 1 to plus 90 per cent. The percentage of typhoid bacilli varied irregularly, but the stools contained as many typhoid bacilli just previous to the operation as when they were first found to be positive.

The patient finally consented to operation for the removal of the gall-bladder, and was operated on, Jan. 21, 1913.

A 4-inch straight high rectus incision was made, extending from the rib margin down until opposite the umbilicus. After the anterior sheath had been penetrated, the belly of the right rectus was retracted toward the midline, and then the posterior sheath and peritoneum were opened in the direction of the skin incision. The gall-bladder popped into view and was found to be enlarged and fairly well distended.

On account of the fact that in this case the Mayo method of removing the gall-bladder would necessitate a larger incision, this plan was abandoned and the fundus of the bladder was caught with special forceps and traction made forward and downward toward the umbilicus. This enabled the bladder to be dissected free from its fossa on the under side of the liver, without rupture of the gall-bladder, tearing of the liver substance or troublesome bleeding.

The neck of the gall-bladder and the cystic duct and artery were freed by the same method, after which a ligature of heavy chromic gut was placed about the duct and artery. A clamp covered with rubber tubing was placed gently on the cystic duct below the first ligature to express any contained bile from the duct. A double chromic-gut ligature was then placed below this clamp, at the lower end of the cystic duct. Gauze strips were packed about the duct and the duct severed between the clamp and the lower ligature. The gall-bladder was lifted out of the abdomen and placed in a sterile dish for further examination. The stump of the cystic duct was well cauterized with phenol and alcohol and allowed to recede. A cigarette drain was placed in the fossa of the gall-bladder, the lower end of the drain resting near the stump of the cystic duct. The peritoneum and posterior sheath were closed with continuous gut. The anterior sheath of the rectus was closed with interrupted gut, two or three sutures taking small bites of the rectus muscle. The skin was closed with interrupted silkworm-gut. The protruding end of the cigarette drain was fastened to the skin margin with a silkworm-gut suture. Ruffled gauze was then applied to the wound, over this a gauze cotton pad, and finally a binder.

The gall-bladder and contents, including stone, were sent to the Army Medical School Laboratory, and the contents were later reported as being a pure culture of typhoid. The patient made an uneventful recovery from the operation.

LABORATORY REPORTS ON THE PRECEDING CASE

Jan. 20, 1913: Feces positive for typhoid. Urine negative for typhoid. Blood agglutinates in dilution of 1:320.

January 21: Feees positive for typhoid (before operation). Urine negative for typhoid (before operation).

January 21: Operation.

January 24: Feces negative for typhoid.

January 25 and 27: Feces positive for typhoid (typhoid colonies scarce).

Jannary 29 and 31: Feces negative for typhoid.

February 3, 5, 7 and 8: Urine and feces negative for typhoid.

February 10, 13, 17 and 20: Blood agglutinates, 1:320; urine and feces regular for typhoid.

CONCLUSIONS

The operation of removal of the gall-bladder and cystic duct as a means of curing chronic typhoid carriers was freely discussed by all of the medical officers on duty at this hospital and received the endorsement of all before it was attempted.

It is our opinion that this method of clearing up chronic typhoid carriers is a very valuable one and should be given further trial by military and civil surgeons. I am of the opinion that the treatment of all typhoid carriers should be carried out only in conjunction with the laboratory men and, further, that the different medicinal treatments, but more especially the continued typhoid vaccine treatment, should be carried out thoroughly in the beginning. These methods failing, all typhoid carriers should either be kept quarantined or be operated on for removal of the gall-bladder and all of the cystic duct.

Only time and a larger series of cases will determine whether or not the removal of the gall-bladder and the entire cystic duct will clear up all of these cases. To date we have had the opportunity to carry out this operation on only two chronic typhoid carriers, and both of these cases cleared up within nine days. No after-effects followed the removal of the gall-bladder and cystic duct in either case.

I was assisted in Case 1 by Capts. W. A. Wickline and H. H. Johnson, M. C., and in Case 2 by Capts. W. A. Wickline and L. L. Smith, M. C. All the laboratory reports in the two operations were worked out under the personal supervision of Major F. F. Russell, M. C., of the Army Medical School laboratories.

Walter Reed General Hospital.

---

# "THE BRANCHED FORM OF THE TUBERCLE BACILLUS" AS A SPECIFIC FACTOR IN THE TREATMENT OF HUMAN TUBERCULOSIS

A PRELIMINARY NOTE

SAMUEL G. DIXON, M.D., LL.D.
Commissioner of Health of Pennsylvania
HARRISBURG, PA.

It is evident from the work which has been performed during the past twenty-four years in the biologic treatment of human tuberculosis, that an avirulent form of the *Bacillus tuberculosis* (human) should be used; and, particularly, if a living form is to be employed it should be one which will live a short time in the human body without reproducing itself. We have the first characteristic in the forms I reported[1] in 1889; these produced certain degrees of immunity in mammals,[2] and we have as yet failed to find them reproducing after injection into the organism. I have repeatedly confirmed[3] these experimental results.

1. Dixon, Samuel G.: Possibility of Establishing Tolerance for the Tubercle Bacillus, Med. News, Oct. 19, 1889.
2. Dixon, Samuel G.: Establishing Tolerance for the Tubercle Bacillus, Med. and Surg. Rep., Sept. 6, 1890; Possibility of Checking the Tuberculous Process in Man by the Agency of a Metabolic Product of the Tubercle Bacillus, Med. News, Jan. 17, 1891; Annual Address to the State Board of Health, Proc. Acad. Nat. Sc., Philadelphia, May 15, 1891; Involution Form of the Tubercle Bacillus and the Effect of Subcutaneous Injections of Organic Substances on Inflammations, Proc. Acad. Nat. Sc., Philadelphia, Feb. 21, 1893.
3. Dixon, Samuel G.: The Branched Forms of the Tubercle Bacillus, and Immunity to Tuberculosis, THE JOURNAL A. M. A., March 29, 1913, p. 993.

Before the therapeutic value of the branched forms were tested in the human economy, experiments on lower animals were continued during a number of years. Without question, the branched forms of the human type, as grown in our laboratory, are avirulent and are apparently non-reproductive in culture mediums and in guinea-pigs. Other animals, such as rabbits, opossums and monkeys, have been inoculated with the same results.

The question, however, has always been as to the effect they would have on the human type. In order to study the results of injections of the living branched forms in the human body a culture of the human type was produced in the laboratories of the State Department of Health of Pennsylvania and was kept for a period of two weeks at 50 C. (122 F.). Preliminary studies were made on guinea-pigs, the following being typical of the results obtained:

Guinea-pigs weighing from 370 to 480 gm. were injected intraperitoneally and subcutaneously with 1 and 2 c.c. of an emulsion containing 10 and 20 mg., respectively, of the microorganisms.

*Guinea-Pig 1457*, weight 480 gm., received intraperitoneally 20 mg., March 12, 1913. The animal showed a constant gain in weight until April 8, a period of twenty-eight days, at which time the weight was 500 gm. After the injection of the emulsion there was considerable induration at the point of inoculation. This, however, disappeared entirely at the end of four days. There was no perceptible systemic reaction at any time.

*Guinea-Pig 1458*, weight 350 gm., received intraperitoneally 10 mg., March 12, 1913. There was considerable induration at the point of inoculation, which disappeared within three days without evidence of perceptible systemic reaction. The animal showed a proportional gain in weight.

*Guinea-Pig 1459*, weight 370 gm., received 10 mg. subcutaneously, March 12, 1913. There was very slight induration at the site of inoculation which disappeared within two days; no general reaction was noted. At the end of twenty-eight days, April 8, the weight was 410 gm.

Being convinced from the experimental work carried out that the culture was (as usual) an avirulent one, after years of experimentation with the branched forms in lower animals, my next step was to apply this as a vaccine for the treatment of tuberculosis in human beings. One of my assistants has been doing this recent clinical work. Far-advanced patients (not wards of the state), most of whom had been confined to bed for a period of two months or more, were selected. Several of these patients, while suffering with continuous fever, had a very definite stadium and a few were afebrile. In no instance did the injection of the vaccine cause a rise in the temperature or any clinically appreciable symptoms. In every case, however, there was improvement, which was manifested by the subjective symptoms of the patient and the evidence of a reduced toxemia. The former was noticeable particularly in the gastrointestinal functions. One case in the late emaciated stage is of special interest; although unable to retain food prior to treatment the patient has been able since then to take his nourishment, and has shown an actual gain in weight of 9½ pounds at the end of the third week. The number of cases treated and their character make it unwise at this time to publish details, nor is my assistant, who is conducting this clinical work, willing to make any statement as to the curative effect of the vaccine. Nevertheless he is fully satisfied that there is no reaction following the injection, and that there is a marked improvement. A full history of the cases will be given when sufficient progress is made to warrant any faith in the treatment as a cure.

This preliminary note is made as a matter of record. Other classes of cases are being studied, and a report of the use of these living forms as a specific therapeutic measure in tuberculosis will be published as soon as the results justify its presentation.

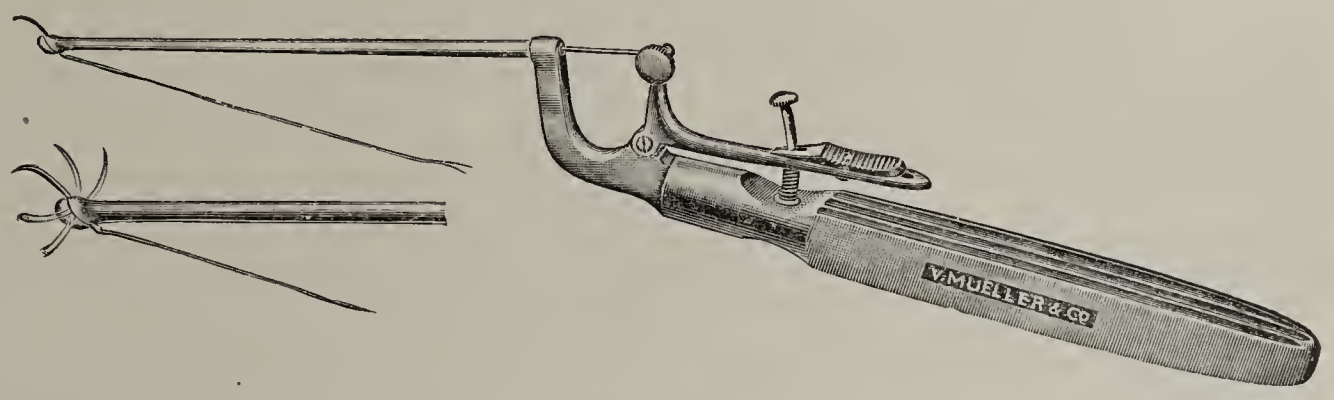
The use of my preparations of degreased bacilli (T. B. S.) and watery extract (T. B. E.)[4] is producing results which have not been attained by general treatment alone. This has been noted in the published reports[5] and in the state statistics[6] on its use, but from the experiments so far carried out, there is reason to believe that better results will be obtained by using the living branched forms. The use of these forms in the human economy has been followed by an evidence of benefit which would seem, at least, to justify further clinical use; permanent improvement should be recorded, however, before it is accepted by the profession in place of the present efficient biologic products.

---

## A NEEDLE-HOLDER FOR SUBMUCOUS RESECTION OF THE SEPTUM *

HENRY B. HITZ, M.D., MILWAUKEE, WIS.

The principal feature of this holder is its ability to grasp securely a small curved needle, so that a suture may be passed in any direction, leaving a clear view of the operative field. The needle can be instantly released and as readily picked up again and firmly held, which is a distinct advantage over the Yankauer type. It is made after the straight punch-forceps model, the needle being grasped by the movable end in a diagonal plane. The principal advantage of this needle-holder in submucous work is the rapidity with which suturing can be done in any direction with the least possible traumatism to the frequently thin, fragile, mucoperichondrial flap.




A new needle-holder for submucous resection of the septum.

* Presented Nov. 4, 1912, at the meeting of the Milwaukee Oto-Ophthalmic Club.

4. Dixon, Samuel G.: Pennsylvania Health Bull., October, 1911.
5. Francine and Hartz: Tr. Col. of Phys., Philadelphia, January, 1913; Results with Tuberculin (Dixon's) in Advanced Chronic Ambulatory Tuberculosis, THE JOURNAL A. M. A., March 8, 1913, p. 717.
6. Johnson and Berry: Report of Commissioner of Health, Pennsylvania, 1911; Dept. of Health Bull., November, 1912.

---

**The Physician as a Community Asset.**—A well-trained sensible doctor is one of the most valuable assets of a community, worth to-day, as in Homer's time, many another man. To make him efficient is our highest ambition as teachers, to save him from evil should be our constant care as a guild.—Osler.

## RECOVERY IN BRAIN SYPHILIS AFTER THE USE OF SALVARSAN

NATHAN B. EDDY, M.D., NEW YORK

The rapid and complete recovery in this case after the use of salvarsan seemed sufficiently unique to make the case worthy of record.

*Patient.*—F. M., aged 34, married, laborer, was admitted to the hospital Dec. 28, 1912. The family history was of no importance. The patient was moderately alcoholic and had been drinking rather heavily just before the onset of the present illness. He had a severe syphilitic infection in 1903 for which he was treated in hospital one year and discharged as cured. There were no further symptoms until the present time.

*Present Trouble.*—During December 1912, the patient had several of what he calls weak spells in which he became dizzy and confused, but did not fall or lose consciousness. Shortly after a hearty dinner, about 2 p. m. Dec. 28, 1912, without prodromes, he suddenly fell to the floor in a general convulsion lasting several minutes, which was followed by complete unconsciousness.

*Examination.*—On admission to the hospital, about 5 p. m. of the same day, the patient was in coma from which he could be partially roused with difficulty. He showed conjugate deviation to the left with nystagmus, small equal inactive pupils, and periodic winking. The respirations were of the Cheyne-Stokes type. The heart, lungs and abdomen were negative. There was a moderate amount of arterial thickening, but the pulse tension was not high. The patient had a flaccid paralysis of the left side with lost reflexes. On the right side the reflexes were normal. Projectile vomiting occurred with incontinence of urine and feces.

*Course.*—During the night the coma cleared up. After 3 a. m. the patient was restless and irrational a part of the time with periods of semistupor. The pupils were now unequal, the right being larger and reacting sluggishly, the left still small and inactive, with no deviation or nystagmus. All the reflexes were normal with no sign of paralysis.

From the sudden onset and transient nature of the symptoms in a young man, with the history, obtained at this time from the patient's brother, a tentative diagnosis of cerebral syphilis was made, probably an encephalitis with localized exudation. The Wassermann reaction was reported positive December 30. December 31 the patient had again lapsed into coma from which he could hardly be roused, muttering incoherently when questioned. His condition was rapidly becoming worse; the pulse becoming more rapid and weaker with slight cyanosis of lips and finger-tips; the breathing was markedly Cheyne-Stokes. There was slight rigidity of the neck and extremities but no paralysis. The spinal cord was tapped and 40 c.c. of perfectly clear spinal fluid obtained under considerably increased pressure. A cell-count of this showed a slight increase in the total number of cells, the change being chiefly in the epithelial cells.

*Treatment and Result.*—The man's condition seemed desperate so that in spite of the contra-indication to the use of salvarsan in acute brain syphilis, it was decided to give him the benefit of the doubt. Accordingly, December 31, 0.4 gm. of salvarsan was given intravenously.

The next day his general condition seemed slightly improved but mentally he was the same. On the second day (Jan. 2, 1913) there was noticeable improvement. He was conscious part of the time, answered questions as to his condition clearly, insisted on feeding himself, and used both hands equally well.

From now on the progress was rapid and constant. At first he was drowsy a good deal of the time and when awake noisy, alternating between hilarity and depression. The following week he was very voluble with silly fabrications. January 25, he was permitted to get out of bed and on the 29th was walking about the ward quite himself, rational all of the time, and completely oriented, with fair memory of events immediately preceding his illness.

Further treatment was as follows: January 15, 0.3 gm. salvarsan, intravenously; January 22, 0.75 gm. neosalvarsan, intramuscularly; February 6, 0.9 gm. neosalvarsan, intramuscularly. In addition intramuscular injections each of 1/2 grain of salicylate of mercury were given once a week.

During this time the patient's temperature was constantly flat normal except for slight rise in the first twelve hours after each salvarsan injection. The urine was always negative and blood-counts were normal.

A second Wassermann reaction, Feb. 3, 1913, was still strongly positive but not quite so much so as previously.

When the patient was discharged from the hospital, Feb. 8, 1913, the pupils were normal, gait and station ordinary, heart, lungs and abdomen negative. Mentally, he showed a slight tendency to be silly and inconsequential, but according to his wife and friends recovery was quite complete.

320 Concord Avenue.

---

## COMPLETE SITUS TRANSVERSUS

WILLARD J. STONE, M.D., TOLEDO

Reports of complete transposition of the viscera are but infrequently encountered in the literature. Because of the relative rarity of the condition, therefore, the following case report may be of interest.

*History.*—J. G., Italian, male, aged 22, Oak Harbor, Ohio, laborer, was admitted to the medical service at St. Vincent's Hospital, Oct. 6, 1911. The family history revealed nothing of importance. The personal history revealed no serious previous disease. The patient had never been in the tropics. His present illness began about one month prior to admission, with frequent chills and a continuous type of fever ranging daily between 101 and 103 F., during which time he had lost about 23 pounds in weight. His main complaint was referred to pain beneath the edge of the lower ribs on the left side. The patient believed that his illness was the result of an accident, which took place about one month before the illness began, in which he fell against an iron joist, striking the left side below the ribs.

*Physical Examination.*—The position of the apex-beat was slightly external to and below the right nipple. The area of cardiac dulness extended to the left to the midsternal line, at which point resonance was encountered continuous with resonance over the normal heart area. In the sixth interspace, left parasternal line, dulness was found which extended to the left as far as the midaxillary line and posteriorly to the angle of the scapula. This dulness in front and behind extended to the edge of the ribs and did not, on auscultation, reveal the presence of any air-containing tissue beneath. Vocal fremitus was not present, nor was this area of dulness movable on change of position. The normal liver dulness could not be made out on the right side.

The leukocyte count numbered 19,600. Examination of the urine was negative to pus and all abnormal ingredients.

*Diagnosis.*—It was at first thought that the patient had a so-called "sacculated" pleurisy with effusion involving the lower left chest with displacement of the heart to the right and a compensatory emphysema of the right lung, which had pushed the liver downward below its normal position. The fact, however, that dyspnea and cough were absent and that breath sounds could not be heard over the area of dulness on the left, and that the dulness was not movable on change of position, seemed to exclude such a possibility. An enormous pericardial effusion was considered, but the distinctly visible apex-beat and a distinct area of resonance between the heart dulness to the right and the dulness encountered to the left and below, rendered such a condition improbable.

*Roentgen Examination.*—Two days after admission skiagrams were taken by Harry W. Dachtler which clearly showed complete transposition of all the organs. The liver was found to be occupying relatively the same position on the left side as normally on the right, while the stomach was found on the right side. The heart was found in relatively its normal

position as regards its long axis, except that it was on the right side.

*Further History.*—The leukocytes two days after admission numbered 28,400. The continuous type of temperature with evidence of sepsis and occasional slight chills made it necessary, in view of the skiagraphic findings, to consider the possibility of appendiceal abscess on the left side, a suppurating gall-bladder on the left side, a liver abscess or a subdiaphragmatic abscess likewise on the left side. The patient's greatest pain and tenderness were found to be just below the edge of the ribs, but no mass or tumefaction was present except when in the upright position at which time a slight bulging or prominence was present on the left side in the flank.

The history of previous trauma to this area and other facts finally led to a diagnosis of probable extraperitoneal perirenal abscess. An incision was therefore made in the left flank Oct. 14, 1911, by the late Dr. Peter Donnelly under nitrous oxid-oxygen anesthesia and about 6 ounces of pus evacuated from an abscess about the left kidney. Cultures from the pus showed *Staphylococcus pyogenes albus.*

After about three weeks' drainage, the patient's recovery was practically completed.

## FATAL PERITONITIS DUE TO INFECTION WITH BACILLUS COLI*

ARTHUR L. GROVER, M.D., IOWA CITY, IOWA

The following case of septic peritonitis is of interest as it was proved to have resulted from infection with *Bacillus coli,* and as infection of the peritoneum with the colon bacillus, through the uterus, is somewhat rare. The material from this case was referred to this laboratory by Paul Reed, M.D., Nov. 7, 1912, with the following history:

*History.*—Woman, aged 35, married, had a child, aged 4 months, and had menstruated atypically since delivery. She was ill for two days with severe pain in pelvis. Examination on third day showed no fever present but a foul-smelling vaginal discharge, and severe pain in pelvis. Next morning the patient had all signs of general peritonitis which rapidly grew worse. She died during the morning of the next day (fifth day after onset).

The patient denied any attempt at abortion either by herself or by any one else. Her husband admitted that the patient had previously attempted to induce abortion in a former pregnancy. At the time of her childbirth, four months previously, the patient complained of severe pain in the right side, and examination was extremely painful, the patient being prostrated following it.

*Necropsy.*—After the death of the patient, the uterus was removed by vagina together with some fluid from the peritoneum. The uterus was somewhat enlarged, and the wall was thickened and felt soggy. At the top and just slightly posterior was an area about 2 inches in diameter that was denuded of its peritoneum and was rough and necrotic. In the center of this spot was an opening which led into the uterine cavity. A pencil fitted nicely into this canal. When a cut through the tissues was made, along the pencil, an area of extreme necrosis, brown and extremely fragile and crumbly was found along the course of perforation. The mucosa also was inflamed throughout, was necrotic about this area of perforation and contained a slight amount of débris. Sections were made through the uterine wall at the area of perforation and showed that the process was localized in a marked necrosis of this area, severe enough to be called gangrene. The vessels throughout the uterus were congested, and hemorrhagic exudate was present on the peritoneal surface. Gram-negative bacilli were seen in the tissue about the area of necrosis.

*Laboratory Findings.*—A bacteriologic examination was made of the fluid removed from the peritoneal cavity. Smears showed an immense number of Gram-negative bacilli which varied somewhat in size. On agar-slants in twenty-four hours we obtained a diffuse white streak with discrete, round, white, slightly raised colonies at the periphery. A fecal odor was present. Examination showed them to be Gram-negative bacilli resembling those seen in the smears made from the peritoneal fluid.

Further cultures showed that gelatin was not liquefied, that litmus milk was curdled and made acid, that gas was found with all sugars and in fermentation tube with lactose broth and that indol was found in Dunham's peptone solution. The following litmus sugar serum water media were used: dextrose, levulose, galactose, lactose, saccharose, maltose, mannite and dextrin. All were made acid and produced gas except dextrin.

*Conclusions.*—From the evidence it would seem that the organism in question fulfilled all the requirements of *Bacillus coli.* According to some authorities dextrin also should have been fermented; according to others, it should not.

Cases of peritonitis caused by the colon bacillus are common, and cases of uterine infection with the same organism are common, but this combination of *B. coli* peritonitis through perforation of uterus is not common. As the patient would acknowledge nothing, no light can be thrown on the instrument used or on how such a large perforation could have been made without more shock. It is not known that the perforation was made artificially, but it seems as if no other explanation is possible, since the attending surgeon did nothing more than tampon the cervix to increase dilatation. Of course the four months since last pregnancy is sufficient time in which to become pregnant, yet one would hardly suppose that the patient could have become far enough advanced in pregnancy to be cognizant of the fact. Nevertheless in some manner the uterus became perforated. So far as it is possible to tell one would believe that the lesion was not of long standing. No attempt has been made to go through the literature on this subject.

527 North Linn Street.

* From the Laboratory of Pathology and Bacteriology, State University of Iowa, College of Medicine.

## BURN OF EYEBALL DUE TO CAUSTIC CONTENTS OF GOLF-BALL

L. W. CRIGLER, M.D., NEW YORK

William J., aged 10, on Aug. 2, 1912, while dissecting a golf-ball, ruptured the small rubber bag in the center of the ball, and the contents spurted into his right eye. This caused immediate, excruciating pain, lacrimation, photophobia, redness and edema of conjunctiva. The surface of the cornea became opaque. The child was attended by a local physician, who irrigated the conjunctival sac and applied cold compresses. The patient was first seen by me on August 7, five days after the injury. The eye presented the picture of a typical caustic burn of the cornea and conjunctiva. The conjunctiva showed numerous areas of necrosis, some large, some small. The cornea was opaque to the extent of being almost white. The destruction had extended into the substantia propria; the pupillary border of the iris could scarcely be seen, and vision was reduced to shadows. The patient was admitted to the hospital and the usual remedies were applied, with no material alteration of the progress of the case toward cicatrization. The eyeball remained irritable and painful. At one time during the height of the inflammation the tension seemed increased. This was followed by a gradual diminution of tension until the eye became quite soft. It looked as if it were going on to phthisis. After the more aggravated symptoms were relieved, the child was allowed to go home, making subsequent visits to the hospital once a week up to the present. The cornea is becoming slightly more transparent, and the areas of necrosis in the conjunctiva have undergone cicatrization. The palpebral conjunctiva escaped a great deal of the caustic action of the alkali. Vision in the eye is slightly improved, the patient being able to count fingers at one foot.

An analysis of the paste in the center of a golf-ball said to be of similar make to the one causing the accident showed that it consisted of a mixture of barium sulphate, soap and a free alkali (sodium hydroxid, 2.4 per cent.).

40 East Forty-First Street.

## Special Article

# BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

### *INTRODUCTORY CONSIDERATIONS*

#### RAPID DEVELOPMENT AND EXTENSIVE USE

From comparatively small beginnings, the practice of what is now called bacterial vaccine therapy has come to assume proportions of great magnitude. Six or seven years ago an occasional worker well trained in the methods of bacteriology and immunology prudently felt his way in the pursuit of opsonic therapy, as it was then called. At present a large number of practicing physicians are inoculating their patients with bacterial vaccines. There has been a vast stride in an incredibly short interval.

A few years ago all bacterial vaccines were prepared from the patient's own lesions and reintroduced into that patient for therapeutic purposes (the so-called "autogenous" vaccines); to-day vaccines of all probable (and no doubt some improbable) pathogenic bacteria are procurable in the market, ready for use, with real or fanciful indications for their employment. This too has been an amazing development

Formerly the autogenous bacterial vaccines were cautiously administered by the expert bacteriotherapeutist under the guidance of the opsonic index. Now any physician, although incapable of making a bacteriologic diagnosis and without special training or acquired skill, is supposed to be competent to inoculate patients with all sorts of commercial vaccines, employing no accurate check on the results. This marks a transition so abrupt, so revolutionary and so unprecedented in medicine that it behooves us to pause and to ponder deliberately; for at this juncture (to paraphrase from its own terminology), we are in what may be styled the "positive phase" of bacterial vaccine therapy, and we must determine whether it is to be followed by a disastrous "negative phase," or to be directed to a sustained "high tide" of creditable success.

No other new and special field of medicine calling for extraordinary and often prolonged training has been so quickly invaded by the mass of the profession. In little more than half a decade a method of biologic treatment of unusual intricacy, the value and limitations of which are still far from being accurately determined, has gone into the hands of the medical profession as a whole. Although the profession does not recognize that a scalpel and a license to practice make of any physician a skilled and competent surgeon, it has come to pass that the possession of a syringe and a bulb of commercial stock vaccine implies an expert bacteriotherapeutist.

#### ADVENT OF COMMERCIAL VACCINES

In the pioneer days of this new method of treating disease the remedial agents (bacterial vaccines) were usually of the variety known as personal or autogenous. At any rate they were prepared by skilled bacteriologists who had thoroughly qualified themselves for this particular task and who had made the bacteriologic diagnosis. The administration of these vaccines, when not undertaken by their maker, was performed under his guidance. In this manner a close personal touch of the expert with the patient was assured.

The striking success which not uncommonly followed the use of these bacterial vaccines attracted the attention of physicians in general through direct observation of a given patient, from hearsay through other physicians, or even through the reports of other patients. The request for serum or vaccine treatment by patients themselves played its not inconsiderable part. As an outcome of this kind of suggestion, a demand arose for some alternative which would permit the new treatment to be instituted by physicians whose previous training had not qualified them to perform the requisite bacteriologic examinations or to make the necessary bacterial vaccines. It was to meet this demand that the commercial production and exploitation of bacterial vaccines arose.

For a few of the more obvious infections like boils or carbuncles in which the bacterial causative factor has been pretty thoroughly established, there is no great difficulty in selecting a corresponding vaccine; but in a large range of infections in which different bacterial species produce the morbid condition, as pharyngitis, in which the staphylococcus, streptococcus, pneumococcus, pneumobacillus or influenza bacillus or a combination may act as offending parasites, a difficult task confronts the practitioner.

It was to meet this emergency, solely the outcome of unscientific procedure, that there arose the unscientific practice of using "mixed" vaccines — vaccines compounded to include a number of different bacterial species in a single dose, aimed at the undetermined infection after a kind of "shotgun" logic, in the hope that one of the components would perhaps hit the mark. Further, there is the case of mixed infection in which more than a single bacterial species is active; here again it becomes a question of accurate bacteriologic analysis and the use of the indicated autogenous or corresponding stock vaccines. As the remedy for this lack of skill, mixed stock vaccines, often fantastic in their composition, are proposed by the manufacturer. It is but a step further to the production of semisecret mixtures of complex, unstandardized and dangerous bacterial poisons, vaguely aimed at "mixed infection" and advocated as a panacea for microbic infections generally.

#### VACCINES EASILY AND CHEAPLY MADE

Unlike therapeutic serums, in the manufacture of which the outlay and maintenance expenses are considerable, bacterial vaccines can be produced cheaply. Consequently, with a growing demand it was natural to find manufacturers increasing in number beyond reason. With increase of numbers came stress of competition. This has led to a lengthening list of varieties of stock vaccines and vaccine mixtures, with exaggerated and unwarranted claims for their therapeutic efficiency. Here also enters that needlessly complicating factor of containers for commercial stock vaccines, until a bewildering array of bottles, bulbs, ampules and syringes of various kinds has been forced on the physician to promote his helpless dependence on the manufacturer, and to increase the cost of the products.

#### NEED FOR A WORKING GUIDE

In the midst of this chaotic situation the prudent and thoughtful physician finds himself sorely perplexed. There is no authoritative non-commercial recent source of information which indicates to him how far he may avail himself of manufactured stock bacterial vaccines, or to what extent the claims for their therapeutic value

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

may be credited. He who would use and not abuse bacterial vaccine therapy has no unprejudiced guide as to its administration, value and limitations. The fundamental difference between curative and immunizing serums, and prophylactic and therapeutic bacterial vaccines is not clearly defined in the minds of many physicians.

In fact, one would not go far wrong in asserting that a large proportion of the medical profession fails to distinguish clearly between serums and vaccines. All this needs elucidation in a manner sufficiently devoid of theoretical and technical complications to insure its ready reception by the busy practitioner, and from the practical standpoint to be sufficiently exhaustive to furnish a reliable working guide to vaccine therapy in its present status. These are the objects which underlie the contemplated series of articles of which this is the introduction.

*(To be continued)*

---

# Therapeutics

## MANAGEMENT OF THE PATIENT BEFORE AND AFTER OPERATION

Routine treatment is generally bad treatment, and this is especially true before and after operation. Each case must be individualized, and often preparation for the operation and care after the operation are of more importanee than the technic of the operation.

Fortunately, it is now generally recognized that the anesthetist should be, if possible, one who has specialized in that work. At least, it is recognized that the anesthetist should be selected carefully, and that the giving of the anesthetic should not be left to the youngest intern, or to the physician who happens to refer the patient to the surgeon for operation. Bad as it is for the surgeon to have a clumsy, untrained assistant, even this is safer than to have the anesthetic administered by one who does not well understand the best method of administering it and the care with which the patient should be watched. We should recognize more fully that the somewhat opprobrious statement that "the operation was successful but the patient died," or "the operation was successful but the patient never recovered his strength," or "the operation was successful but a serious complication occurred," many times represents the fact that the care before and after was neglectful or incorrect. The mere technic of the operation and the quick and proper healing of the part operated on are only a certain portion of the operative risk and the operative result, their proportion, of course, varying with the part operated on and the seriousness of the condition found.

### BEFORE OPERATION

Unless the operation is for an emergency and to save life, the following points should be determined carefully: (1) strength of the heart; (2) blood-pressure; (3) kidney sufficiency; (4) condition of the stomach; (5) condition of the bowels; (6) condition of the thyroid, and (7) ability to sleep.

The strength of the heart, the blood-pressure and the kidney sufficiency are so closely correlated that they may well be discussed together. The presence of heart murmurs or of an enlargement of the heart is readily determined. An enlarged heart with valvular lesions may be better able to withstand an operation than a heart that is apparently normal in size without valvular lesions, but with a weakened myocardia. The blood-pressure also is readily determined, and the range of diastolic and systolic blood-pressure many times gives the range of cardiac muscle-efficiency. There are several methods of determining cardiac strength, the simplest of which perhaps is the relative rate of the pulse on sitting, standing and lying, and the increased rapidity on slight exertion. Normally, on lying down the pulse should soon become much slower. If the patient is already in bed, sitting up or even turning over will show what slight exertion will do. If the rapidity is greatly increased and lasts more than a few minutes, the heart is not strong. A very low blood-pressure, down to 100 mm. of mercury, in an adult shows that the heart is weak. A blood-pressure over 140 in an adult should be very carefully interrogated from the arteriosclerosis standpoint and from the kidney standpoint.

An examination of the twenty-four-hour specimen of urine on the ordinary diet of the individual will show not only whether sugar, albumin and casts are present, but also the estimated excretion of solids, nitrogen and the more important salts. If nephritis is present, or if an insidious interstitial nephritis is suspected, the prognosis of the operation, especially if the anesthesia is prolonged, is not good. No harm may be done, but such kidneys can readily stop secreting. If the blood-pressure, the strength of the heart and the kidney efficiency are found satisfactory, the prognosis from these points of view is splendid. If the kidneys are slightly incapacitated but the operation must be done, a few days on a diet without meat and with increased starches will render the patient much less likely to develop uremia, acetonuria or acidemia.

The next important considerations are the condition of the stomach and the bowels, and the ability of the patient to digest his food properly. The presence of such conditions as dilated stomach, motor impairment of the stomach, duodenal congestion with more or less absorption of bile, intestinal stasis with impacted feces, perhaps, or colitis, and putrefactive and fermentative toxins and products which may be absorbed, should be determined and as many of them improved or eradicated as possible. At any rate, unless the operation is for an emergency, the surgeon or the physician in the case should be thoroughly alive to the presence or absence of these conditions.

The prolonged starving of a patient from twenty-four to forty-eight hours before an operation, and the profuse purging of the patient with more or less drastic cathartics for twelve or twenty-four hours before the operation are not a good preparation for operation. Such treatment should be condemned. The patient may have a clean gastro-intestinal canal, but he has, many times, a seriously lowered blood-pressure and weakened heart, and he goes to the operation without the strength that he should have or the strength that he did have. There is no question but that the diet for a few days, especially for twenty-four hours, before an operation should be the simplest. Perhaps it is best that the patient receive no meat, but he should receive plenty of starches and carbohydrates. The more he can store up of this kind of nutriment the less is he liable to postoperative vomiting and the danger of acetonuria or acidemia, which is doubtless the cause of death in a great many postoperative patients.

Quite generally surgeons prefer to operate on a patient early in the morning. The patient in this instance has probably had nothing to eat since 6 or 7 p. m. the day before. Normally, an individual is at his lowest temperature, lowest blood-pressure, and lowest cardiac strength

from four to eight in the morning. The patient is thus caught at a disadvantage. The advantage of operating at this hour is in the probability that the patient has slept during the night, and therefore has not had as many hours of worry about the operation that is to come as he would have if the operation were done later in the day. Other things being equal then, it may be well for the majority of operations to take place in the morning from 8 to 9:30. The patient, however, should certainly have some stimulant such as a cup of coffee, with sugar, but without milk, two hours before the operation. If the operation is not to be done until between 10 and 12 o'clock in the morning, the patient should have a cup of malted milk or thin oatmeal gruel at 6 in the morning, and then a cup of coffee, as described, about 8. A prolonged starvation period is not sensible.

The caffein of the coffee will raise the blood-pressure, and this increased pressure is needed in many operative cases. If the patient already has a high blood-pressure, the objection might be made that it should not be raised. On the contrary, such a patient is accustomed to a high pressure, and will be as much weakened by the sudden loss of accustomed pressure as the individual whose blood-pressure is normal or low. Therefore there is no harm in the caffein stimulation.

There can be but one opinion in regard to the advantage of thorough evacuation of the bowels before operation. Just what cathartic should be selected must depend on the patient's condition, and whether or not the operation is to be performed for stomach or intestinal disease. It should never be forgotten that, simple as saline cathartics seem to be, if there is circulatory weakness such cathartics increase that weakness—sometimes seriously. Drastic cathartics are rarely indicated. The most drastic that should ever be administered is one or more compound cathartic pills, and these are generally unnecessary. A compound aloin tablet, such as aloin 0.02 gm. (1/3 grain), sulphate of strychnin 0.0015 gm. (1/40 grain), powdered ipecac 0.03 gm. (½ grain), and extract of belladonna 0.006 gm. (1/10 grain), with one or two grains of calomel administered either after a meal or with milk ten or twelve hours before the movements are desired, will generally prove efficient. If the action of the bowels does not occur at the time expected, an enema consisting of an ounce of glycerin mixed with an ounce of water will quickly give satisfactory results. Such a movement of the bowels should be arranged for on the afternoon or evening before the operation. Two or three hours before the operation the patient may receive, if the surgeon desires, an ordinary soap and water enema of such amount as the surgeon orders. A colon wash may be deemed advisable. If it is desired merely to empty the rectum or sigmoid flexure and lower colon, a small enema will be sufficient. Prostration will seldom result from this care of the bowels.

In operations, on women especially, the condition of the thyroid gland should always be considered; not that there is often hypersecretion of the thyroid sufficient to cause cardiac weakness, but it may be present. A rapid heart may be due to such a cause, and if a prolonged hypersecretion of the thyroid has been present, there may be considerable cardiac debility. Postoperative shock, also, is sometimes due to too much thyroid secretion. When an increased thyroid secretion is diagnosed as having been present for some time, and especially when the patient is in an excessively nervous state (which will give an acute increased thyroid secretion), it may be wise to administer a hypodermic injection of morphin before the operation. As a routine practice the administration of morphin or morphin and scopolamin is not good treatment. It is too well understood to need more than brief mention that in hyperthyroidism operations should not be done until a prolonged rest with proper diet and proper treatment has diminished the secretion and the toxicity from the secretion.

The sleeping habits of the patient should be investigated before operation. The patient who cannot sleep well for days or weeks prior to an operation will not sleep well without aid after an operation. Neither will a series of sleepless nights before an operation conserve reserve strength for the operation shock. It is often wise to give hypnotics to cause good sleep for several days before, and especially on the night preceding the operation. However much malaise or slight debility most hypnotics cause, they will do less harm than a series of sleepless nights.

### AFTER OPERATION

Albumin and casts are found in the urine so frequently after etherization that they should almost be expected, especially the albumin, after all prolonged operations. There may be a bare trace, or there may be a considerable amount. The only seriousness in such a condition is in case the albuminuria persists and the casts increase, or there is little or no kidney secretion. The profuse perspiration that has occurred during the operation, the nausea and vomiting, and the small amount of fluid that is ingested for some hours, cause a diminished secretion of urine, which is always a disadvantage. The greater the quantity of urine excreted apparently the better for the kidneys, and it is certainly better for the elimination of toxins left in the blood and tissues from the anesthesia. It is also necessary for the patient to receive water as soon as possible in order that the circulation may be carried on well and the blood-vessels sufficiently filled. More fluid is needed in the blood-vessels than usual because of the vasodilatation, relaxation, and, perhaps, the dilatation of the abdominal blood-vessels both on account of the prostration normally following anesthesia and operation, and on account of necessary disturbances in the abdomen during abdominal operations.

It is not purposed here to discuss the treatment of shock, but other things being equal, the preventives of shock are: surface warmth to prevent loss of heat; conserve abdominal tone with bandages; the prevention of acute pain by morphin hypodermatically, generally with atropin, which prevents morphin depression, contracts the blood-vessels, and prevents too profuse perspiration; and the administration of liquids as soon as possible.

Continued and persistent nausea, especially with vomiting, promotes prostration and even shock. Many hours of such inability of the stomach to take nourishment tends to promote an acetonuria and an acidemia and allow complete prostration and toxemia, terminating in death. The great opponents to acetonuria and acidemia are starches and carbohydrates; hence as soon as the stomach will retain the nutriment, the patient should be given, in small amounts at a time, strained oatmeal gruel or something similar.

While small pieces of ice dissolved in the mouth, and sometimes teaspoonfuls of iced water, tend to prevent vomiting, teaspoonful doses of hot water are generally more successful. If a patient vomits mucus or bile or more or less digested blood, he should be given a large cup of hot water so that he will wash out his stomach. Later, bicarbonate of soda, in 1 or 2 gm. (15 or 30

grain) doses, dissolved in water may be added. If this alkali is absorbed, it will aid in preventing acidemia, and will also aid in the cleansing of the stomach by the water, either by being vomited or passed on into the intestine. If the vomiting persists and bile is regurgitated constantly, sometimes a few drops of dilute hydrochloric acid given with a little water will cause the pylorus to close. If two or three small doses (5 drops at a time) do not produce this result, the treatment should not be continued, as it might aid in causing an acidemia. Sometimes passing a stomach-tube is advisable, but this is so disagreeable, and so often increases the nausea and vomiting that it should not be resorted to frequently. If an acute dilatation of the stomach seems to have occurred with inability to empty itself either through the pylorus or through the mouth, then there can be no question of the advantage of washing out the stomach.

If the patient is unable to retain any nutriment in the stomach, and acidemia or acetonuria is diagnosed, large doses of sodium bicarbonate, in solution, may be given by enema. The advisability of giving sodium bicarbonate solutions subcutaneously or intravenously may be considered, but they may do harm. If sodium bicarbonate solutions are not retained in the stomach, sodium citrate solutions may be tried.

Small doses of morphin, given hypodermatically, to stop vomiting, may be considered, such doses as 1/10 to 1/8 grain. It must be remembered, however, that some of the morphin will be excreted into the stomach and may later cause more vomiting; this, however, is often controlled by hot water.

This serious nausea and vomiting are always lessened with circulatory improvement; therefore any treatment that improves the heart strength and the blood-vessel tone will improve the circulation in the stomach and liver and decrease the liability to vomiting. Unless coffee or tea is retained in the stomach (and caffein is one of the best cardiac stimulants and vasopressor substances) caffein may be given hypodermatically, or strychnin or camphor, or the blood-pressure-raising substance of pituitary secretion. As previously stated, it is not the object of this article to discuss the exact treatment of shock. But it should be remembered that to push strychnin hypodermatically in the treatment of shock is an error. Strychnin may not raise the blood-pressure at all, and may simply overirritate the heart and nervous system.

Unless there is a large amount of intestinal gas and distention, it is not necessary to cause a movement of the bowels for at least two days after the operation, perhaps longer. Colon gas may be removed by the rectal tube. The simplest method of causing an evacuation of the bowels, at least of the colon, is by the injection of an ounce of glycerin with an ounce of water as suggested previously. A glycerin suppository cannot equal the efficiency of this injection. If there is intestinal paresis, hypodermatic injections of eserin (physostigmin), intramuscular injections of an aseptic ergot, and in certain conditions injections of atropin may act very efficiently.

The tendency of the heart to become dilated after operation should cause the greatest of care in not allowing a patient to sit up, rise suddenly, or use his strength in any way, until the blood-pressure has returned to what is satisfactory for the individual. Many a heart has been injured because a surgeon wished his patient to have another position for a dressing, or because he wished to make a record of the time his patient was in bed. All this is of no moment. The decision should be made as to whether the patient has the cardiac ability and the circulatory ability to sit up, to get up, to walk, to travel, and until he has this ability he should remain in bed, all time speed to the contrary notwithstanding. Just whether it is better for a patient to be placed in the Fowler position to cause abdominal drainage, is an entirely different matter. If his future safety seems improved by such a position, he must be placed in it, even if the heart is sometimes weakened.

### POSTOPERATIVE SUGGESTIONS

1. Stop anesthesia as soon as the operation is over, as it has been demonstrated that the greater the amount of anesthetic given, the greater the likelihood of kidney disturbances, and the greater the shock. This caution refers to the fact that sometimes the anesthesia is considerably continued for a prolonged and tedious dressing.

2. As the patient immediately after operation rapidly loses heat he should be uncovered as little as possible during the dressing, and warm blankets should be placed about him, lest severe chilling occur and be one of the causes of shock.

3. The dressing should be done as rapidly and with as little general disturbance of the patient as possible, and unless it is absolutely necessary, the patient's head and shoulders should not be raised much during the bandaging.

4. The bed should be warmed, great care being taken that no blistering of the patient's skin occurs from hot-water bags.

5. Pain should be stopped.

6. Absolute rest should be given. Talking, noise, questioning, or fussy, unnecessary disturbances about the bed or room should not be allowed.

7. The first urine should be analyzed carefully.

8. The length of time that the patient should be allowed to go without passing his urine before catheterization depends on whether or not the bladder is found to be full. If there is any doubt, and the patient cannot pass his urine, catheterization, with the greatest possible asepsis, should be done. When catheterization has been done more than once hexamethylenamin should be administered, in 5-grain doses, three or four times in twenty-four hours, for several days, unless there is some condition of the stomach that will prevent it.

9. Water should be given as soon as practicable, and frequently. A thin cereal should generally be the first food, and should be given two or three times a day.

10. Severe pain from after dressings should not be allowed, if it is possible to prevent it.

11. Patients should not be allowed to sit up or get up until the blood-pressure is shown by actual measurement to be nearly, if not absolutely, correct for the individual. Whether or not cardiac tonics should be administered must depend on the individual patient.

---

**A Case of Landry's Paralysis Caused by Salvarsan Intoxication.**—R. Fleischmann had a syphilitic patient who thirteen days after a second injection of salvarsan was attacked by a typical Landry's paralysis, from which he died. He believes it was caused by the salvarsan and not by the syphilis, because a Wassermann examination of the blood and spinal fluid was negative at the onset of the paralysis, there was no lymphocytosis, no infiltration of the vessels and no sign of meningitis or myelitis, as in syphilis, but there were atrophic changes of the ganglion cells which even Benario concedes to be evidence of a toxic effect of the salvarsan. Fleischmann's report was published in the *Zeitschrift für die ges. Neurologie*, 1912, xiv, 125.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, APRIL 26, 1913

## THE GROWING PROMINENCE OF URINARY CREATIN

In reviewing the progress of diagnostic methods, one almost gains the impression of the existence of eras, as it were, in which the important advances have been confined largely to a single field of endeavor or a special type of technic. The progress of bacteriology emphasized the importance of the microscope as a help in diagnosis; the renewed study of the heart and the circulation has directed attention to the use of certain forms of physical apparatus like the manometer or pressure-gage; immunology is bringing the test-tube into competition once more with the section knife; while the modern advances in the field of nutrition study have made the chemical laboratory an indispensable adjunct to every scientific outfit in experimental medicine. It is no less interesting to watch how these shifting tendencies reflect themselves in the equipment of the practitioner. What one day is a highly specialized reaction or an unusually complicated apparatus, reserved for the exclusive use of a few initiated or superbly trained men set apart from the usual work of the every-day doctor, soon may become incorporated as a part of busy routine and indispensable outfits. So it was with the microscope, with the hemocytometer and hemoglobinometer, with the blood-pressure apparatus, and with serum tests, and with respiration and anesthesia devices. The transitional stage may be noted with instruments like the polygraph for simultaneous records from various parts of the circulatory domain — devices which not a few of the hospitals now require, while the electrocardiographic outfit and the metabolic respiration apparatus are still reserved for a select and inconspicuous minority.

If Chemistry has fared less well in this triumphant progress it is, perhaps, because her claims are less well understood and her technic less easy to acquire. But there are signs of potent change even here. A few years ago the urine was looked on essentially as a solution of urea and salts; and aside from the presence of distinctly abnormal constituents like protein, sugar, blood or bile, the only question asked concerned the quantity of urea. This narrow outlook into the field of perverted metabolism is rapidly being widened. Urea, uric acid, creatinin, creatin, hippuric acid, ammonia, amino-acids, etc., are types of nitrogenous urinary components, each of which has its own independent history — each a story of specific importance to tell. Already we hear the inquiry made here and there in familiar practice as to the content of ammonia in the day's output in relation to possible acidosis; purin-free dietaries find their advocates just as a carbohydrate-free regimen has its place in therapy; the efficiency or usefulness of either finds its expression in the chemical composition of the urine.

The story of creatinin and creatin is still for the most part unfamiliar, as it is indeed still obscure. Not long ago urinary creatinin was regarded merely as the end-product of creatin ingested in meat, since the output was found to be increased by the intake of muscular tissue or meat extracts. Yet despite the fact that neither creatin nor creatinin is found in familiar plant forms, vegetarians were known to excrete creatinin. With the introduction of satisfactory methods of analysis it became clear at length that urinary creatinin for the most part has an endogenous origin in man. The output for the individual (on a creatin-free or creatinin-free, that is, meat-free, dietary) is practically constant, varying with the size of the individual. Now and then creatin was observed to accompany the closely related creatinin in the urine, first in starvation, then in certain diseases, subsequently in the case of the young in contrast with adults, and also in the period following pregnancy.[1]

What is the significance of this aberrant appearance of creatin in the urine? It is too early to give a decisive answer to the question; but the rapid extension of our knowledge gives promise of a solution to the inquiry in the not too far distant future. Certain pathologic conditions in which creatin is found to be eliminated have one factor in common with starvation in which it is uniformly observed; namely, the carbohydrate metabolism is known to be abnormal. The creatin excretion induced by starvation can be cleared up by feeding carbohydrate. Creatin is excreted in diabetes. Such facts have led to the assumption of an intimate relationship between the metabolism of carbohydrates and that of creatin. Indeed, the carbohydrates unquestionably play a more important part than that of simple sources of available energy. It is now appreciated that the adequate catabolism of fats in the body is in some way dependent on carbohydrates, which is indicated by certain features of ketonuria in which the sugars fail in the organism. In other words, many metabolic phenomena become abnormal in the absence of carbohydrates or when they cannot properly be used in the body. It is not strange, therefore, if creatin and creatinin metabolism manifest abnormalities when the carbohydrate store becomes unavailable. The situation has been summed up by saying that creatin metabolism, together with many other biochemical changes in the organism, goes wrong

1. The literature on the subject will be found referred to in the papers of Mendel, L. B., and Rose, W. C.: Experimental Studies on Creatin and Creatinin, Jour. Biol. Chem., 1911, x, 213.

in the absence of carbohydrate; but, on the other hand, an abnormal creatin metabolism does not mean an abnormal carbohydrate metabolism.

The excretion of creatin by women, post partum, which was first described by Shaffer,[2] has generally been supposed to be due to the involution of the uterus whereby creatin was liberated from the breaking down of the muscular tissue of the retrograding organ into the blood-stream, and excreted. The same sort of explanation has been offered for its appearance in starvation and diseases such as cancer which are accompanied by enforced inanition. Here the rapid wasting of the patient, with attending disintegration of the voluntary muscle, has been charged with the production of the eliminated creatin. Mellanby[3] has taken exception to this explanation for the appearance of creatin post partum. The unstriated muscle, he maintains, contains no creatin; hence the uterus cannot furnish the product referred to. In fact, he has shown that when the uterus is removed after delivery, even more creatin may be excreted than when this muscular organ is left intact. On the other hand, evidence gathered by Mellanby from a metabolic study of parturient women on creatin-free diets indicates that the creatin excretion at this time has some relation to the mammary gland. There is a correspondence between increased mammary activity a few days after delivery and the development of milk from colostrum. If, owing to a toxemic condition, the activity of the breasts is delayed after childbirth, the creatin excretion is also delayed, and both develop synchronously in such cases. The early suppression of mammary-gland activity by the development of fever and mammary-gland abscesses is accompanied by the suppression of the creatin excretion. On the other hand, purgation and bandaging, which are employed to suppress mammary-gland activity, but do not act so effectively as illness, do not diminish the creatin excretion of the puerperium. This post-partum excretion of creatin is unlike that accompanying acidosis and lack of carbohydrates, for apparently lactose and glucose added to the diet do not suppress it.

From the facts now at hand Mellanby ventures the opinion that in the adult person the excretion of creatin is a general reaction indicating some abnormal condition affecting the transport of nutrient material, such, for instance, as that which must accompany the growth of the fetus or the development of milk secretion. Such a generalization might include the metabolic condition of carbohydrate deficiency in which, as already mentioned, creatinuria is present. The observations by Mendel and Rose on the excretion of creatin in all stages of childhood and adolescence suggest the association of creatin with the transport of material necessary for the growing tissues.

It is a striking fact brought out in a few cases by Mellanby that the best-milking mothers excreted the most creatin. Some evidence has been advanced by him that the puerperal excretion of creatin depends on the action of substances formed in the mammary gland itself. The relation of this hypothetical substance to the pyrexia commonly observed in women a few days after childbirth, and to the milk fever of cows, a condition for which the mammary glands are apparently responsible, will bear investigation. The point which we wish to emphasize is that the critical study of the urine by the most up-to-date methods of analysis has called attention to possible relationships and etiologies which no amount of mere casual inspection would suffice to disclose.

2. Shaffer, P. A.: Am. Jour. Physiol., 1908, xxiii, 1.
3. Mellanby, E.: The Metabolism of Lactating Women, Proc. Roy. Soc., London (B), 1913, lxxxvi, 88.

---

## CONTAMINATED VEGETABLES

As water-supplies are more carefully inspected and their tendency to spread typhoid becomes less and less, the other factors in the dissemination of the disease are becoming better recognized. Among these one of the most important is the consumption of such vegetables as are placed on the table without cooking. As they can be washed only in cold water, and as frequently they may have been exposed to dust and dirt of various kinds, they are naturally capable of becoming carriers of disease under certain circumstances. The health departments of many cities now require, very properly, that such vegetables shall not be exposed openly for sale on the streets to be contaminated by street dirt and to be the resting-place of flies, but of course it is of no avail to safeguard them during sale if they have been contaminated previously. Their handling before they come to market and the conditions under which they have been grown are therefore extremely important.

Dr. J. D. Long[1] of the Public Health Service has called particular attention to the possibility of the dissemination of typhoid through the use of night-soil as a fertilizer. This would seem to be a distant and surely infrequent source of danger because of the deterrent feeling aroused by the thought of such a form of fertilizer, but, says Dr. Long: "In certain portions of the United States it is not uncommon to use sewage as it issues from the sewerage system of cities or towns for irrigation purposes, either by diverting it into a channel which leads through the garden, or by dipping it from polluted streams, vaults or vats, and applying it. In several communities, owners of large vegetable gardens collect night-soil, and furnish, clean and change the pails or receptacles, free of charge to the householder. In these instances the matter collected is usually mixed with the earth of the garden."

Among the Oriental peoples the custom of using night-soil as a fertilizer in vegetable gardens has obtained from time immemorial. Certain of the northern nations of Europe also have had this custom, and have brought it with them to this country. The truck farms near our

1. Long, J. D.: Contaminated Vegetables: the Use of Night-Soil in the Vegetable Garden as a Possible Disseminator of Diseases, Pub. Health Rep., March 28, 1913, p. 592.

large cities, especially in the East, are coming more and more into the hands of foreigners, some of them Syrians; while in the West the Chinese have invaded this branch of farming, and naturally bring with them the customs of the countries in which they have lived. Some of the oriental peoples of the Near-East, particularly the Greeks and the Armenians, in increasing numbers are growing and handling the fruits and vegetables of our larger cities.

Dr. Long says: "Owners and operators of vegetable gardens, in addition to saving carefully the excrement of themselves, their families and laborers, make periodic trips to the nearest market for the purpose of purchasing such additional material as may be needed. . . . In certain portions of the Orient it is a common thing to see a laborer walking between rows of young vegetables with a bamboo pole over his shoulder, from each end of which there hangs a sprinkling can. The streams from these cans are directed onto the tops of the young vegetables."

Typhoid bacilli may remain virulent on the leaves and stems of growing vegetables thirty days after the soil is infected, and the same germ has been found in the ground itself still active and virulent thirty-five days after it was infected. There are certain old impressions with regard to the purifying effect of natural conditions that need to be corrected. We have entirely given up the old maxim that running water purifies itself every three miles, for we know that specific disease-germs will live for days and weeks in running water. Ordinarily it was presumed that the growth of vegetables in sufficient sunlight to insure their vitality would definitely bring about the destruction of even virulent bacteria on them. This has been proved to be untrue. Rainfall or the watering process necessary for vegetable growth was supposed to be sufficiently cleansing to guarantee the healthfulness of fresh vegetables eaten uncooked, but when specific disease-germs are in question this is also not true.

As other affections, such as various forms of gastro-enteric disease, amebic dysentery and bacillary dysentery, may be transmitted in the same manner as typhoid through human excrement, it is evident that precautions should be taken against its use. The question is of much more wide-spread interest than might be imagined, for it is quite probable that the solution will also have to include some care with regard to other forms of fertilizer. While the excrement of the animals gives back to the soil, just as in the case of human beings, large amounts of readily available nitrogenous materials, these are mixed with matter that is extremely objectionable and often likely to be dangerous, particularly when derived from diseased animals. When the manure has been allowed to remain for a considerable period undergoing the chemical processes of decomposition, it is probable that most of the dangereous products in it are broken up.

## CHLOROFORM AND ETHER

Despite the controversy maintained so many years with respect to the comparative advantages of chloroform and ether as anesthetics — a controversy apparently supported by the varying impressions of experimentalists and practitioners — the belief has become quite firmly established, in this country at any rate, that chloroform harbors certain elements of danger not exhibited by ether. These consist in irregularities of the heart-beat which may early manifest themselves, even before the content of chloroform in the blood is sufficient to maintain a deep narcosis, the heart's action may be weakened. An accompanying relaxation of the vasomotors may help to bring about an imperfect circulation leading to a collapse of the patient during the narcosis. More serious than this, however, is another untoward feature of the undue administration of chloroform. A sudden failure of the heart may ensue when an excessive quantity of the anesthetic reaches the blood at once. It is in this respect that the danger of ether is far less marked; that is, the range of dosage between the amount sufficient to induce narcosis and the quantity which will evoke the dangerous failure of the heart is far larger in the case of ether than in that of chloroform. For example, it has been found that the cessation of the heart-beat occurred with a content of 0.058 per cent. of chloroform in the blood of the ventricle. Inasmuch as from 0.035 to 0.05 per cent. of chloroform is found in the blood in conditions of deep narcosis before the stage of heart failure,[1] it will be noted how slight is the zone of safety between the efficient concentration of chloroform in the blood and the danger limit. This is not true in the same way of ether, and the practical consequences of the differences in this behavior of the two anesthetics are obvious.

Although as long ago as 1848 Snow maintained that ether produced more efficient anesthesia than a quantity of chloroform which produced an equal degree of narcosis, and that chloroform is from eight to ten times more toxic than ether, the problem of relative merits has been reiterated again and again. This is, perhaps, due to the fact that in comparison with chloroform, ether has received little attention from pharmacologists; as one writer expressed it, the ether research has usually been a small appendage to a research on chloroform.[2] The Hyderabad Commission, in 1893, concluded that ether produced the same bad effect as chloroform; and Cushny had expressed the opinion that the effects of chloroform and ether differed mainly in degree.

The opinion of most observers that ether is distinctly less dangerous than chloroform is substantiated by recent observations of Githens and Meltzer[3] conducted by a new method at the Rockefeller Institute for Medical Research. They have studied the toxic effects of the two anesthetics

1. Nieloux, M.: Les anesthésiques généraux, Paris, 1908, p. 27.
2. Embley, E. H.: The Action of Ether on the Circulation, Biochem. Jour., 1910, v, 79.
3. Githens, T. S., and Meltzer, S. J.: Differences in the Toxic Effects of Ether and Chloroform, as Observed Under Intratracheal Insufflation, Jour. Pharmacol., 1913, iv, 355.

when administered by the method of intratracheal insufflation introduced by Dr. Meltzer. By this procedure one of the dangerous effects of ether and chloroform is eliminated, namely, that resulting from a partial or complete paralysis of the respiratory function; for the respiration is artificially conducted. The intratracheal insufflation does not necessarily cause apnea, for the spontaneous respiratory movements of the individual may still be detected. The outcome of the study of the anesthetics under such conditions was distinctive. When ether is used, a certain dose may be administered which is amply sufficient to keep the animal completely anesthetized, while respiration and blood-pressure may remain practically unimpaired for several hours. When this anesthetic dose is exceeded, the first striking effect is on the spontaneous respiration, which may be abolished. At this stage blood-pressure is not impaired. With the continuance of the higher dosage the blood-pressure begins to fall, very gradually and slowly. The dangerous level may not be reached for several hours. Even at this stage, when the ether is turned off, the pressure may begin to rise at once, although some time has to pass before the respiration returns, and there is still another interval before reflexes and consciousness return. Only a partial reduction of the ether intake may suffice to permit a return to the degree of blood-pressure which is sufficient to obviate danger.

The ready abolition of the respiration by ether is a practically important phenomenon. It may serve as an indication that the etherization has entered the toxic zone. As Githens and Meltzer add, it is a danger signal; and since hours may pass before the real danger will be arrived at, it is a safe and very valuable signal.

The results with chloroform were quite different and in line with what has been intimated before. In doses which are undoubtedly in excess of the anesthetic dose, respiration and blood-pressure go down practically together, and this in a comparatively short time. When the administered dose is only slightly in excess of the reliably anesthetic dose, the impairment of respiration does not set in so early as under ether intoxication; but when this sets in, blood-pressure begins to fall also, although the respiration may in some cases cease fifteen or twenty minutes before the fall of blood-pressure reaches the danger point. Respiration perhaps resists chloroform intoxication slightly longer than that of ether, while blood-pressure is affected much more rapidly and profoundly by chloroform than by ether.

These findings correspond in their practical bearings with the conclusions of Embley, who maintained that primary paralysis of heart muscle from overdose of ether does not occur in ether anesthesia; when heart-failure occurs it is secondary to failure of respiration. If it is true, then, that ether is in every way much safer than chloroform, one trenchant reason now is that, in the case of chloroform, the zone separating safe anesthesia and danger is narrow, and there is no reliable danger sign.

## THE GASTRIC SECRETIN

With the introduction of the hormone theory of the stimulation of digestive glands and other organs to physiologic activity, attention was quickly directed to the determination of where and how this explanation of the maintenance of important functions could be applied. The classic illustration was, of course, the initiation of pancreatic secretion through the absorption of secretin elaborated in the wall of the duodenum by the hydrochloric acid coming in contact with the intestinal mucosa after the discharge of gastric contents through the pylorus. Acting on the suggestions contained in this discovery, Edkins has carried out experiments to see whether such a chemical mechanism, in distinction from the nervous control which is usually called on to elucidate the phenomena of secretion, may not also serve to explain the secretion of gastric juice when food is introduced into the stomach. He finds that substances such as peptone, broths, dextrin, etc., which are known to induce gastric secretion when ingested, are without influence on the secretory act if they are injected directly into the blood-stream. But when such known excitants of secretion are allowed to stay in contact with the pyloric mucous membrane and a decoction of this is then injected into the circulation, a secretion of both acid and peptic enzyme into the stomach ensues. Infusions of the cardiac portion of the stomach or of other organs do not act in this secretion-producing manner. Edkins concludes that this typical secretion of gastric juice is determined by a chemical mechanism; the first products of digestion act on the pyloric mucous membrane, in which they produce a substance which, entering the blood-stream, is carried to the gland-cells of the stomach where it acts as a specific excitant of their secretory activity. This is the gastric hormone — gastric secretin.

The problem of the existence of such a specific chemical "secretagogue" has been pursued in the laboratories of the Academy of Sciences in St. Petersburg under the inspiration of the remarkable experimental technic which Pawlow has developed. The skill with which sequestered accessory stomachs and their connected fistulas are constructed surgically for the independent observation of what takes place in the major parts of the stomach; the side-tracking of usual paths of digestive progress; the purposeful diversion of the food-masses into new or unusual by-ways — all of these operative interferences conducted with due regard for the integrity of the nervous and muscular and circulatory mechanisms of the alimentary apparatus always remain a marvel to the inexpert and uninitiated. By such artistic methods whereby substances can be introduced into the pyloric portions of the stomach while the effects on secretion can be observed in an independent and disconnected part of the same organ, Sawitch and Zeliony[1] have established the essential accuracy of Edkins' contentions. Extract

1. Sawitch, W., and Zeliony, G.: Zur Physiologie des Pylorus, Arch. f. d. ges. Physiol., 1913, cl, 128.

of meat, for example, brought into direct contact with the pylorie mucosa, provokes a marked flow of gastrie secretion in the fundus of the stomach. This is, of course, quite independent of sight, smell or taste of the food product. Sodium bicarbonate, the possible efficiency of which as a secretory excitant in the stomach has been so much debated, also provokes a similar indirect secretion of acid gastric juiee. Even distilled water is found to be not inert. It seems certain, then, that the production of gastric juiee in the fundus glands can be excited through the mucosa of the pylorus region by various substances which are known as secretory excitants; and this effect can be brought about by direct eontact in the stomach, without stimulation of the mouth accessory parts or the sensory organs.

These facts add to the growing conviction that normal gastric secretion is due to the cooperation of at least two factors. The primary one is the nervous secretion induced by the stimulation of the mucosa of the mouth or by the awakening of the appetite through psychic channels. The second factor is ehemical. It depends on the elaboration of a hormone whieh acts as a chemical messenger to all parts of the stomach through humoral paths, and whose effects linger long after the psychic seeretion has faded out.

---

## ARTICLES ON VACCINE THERAPY

Bacteriology was unknown, or at least in its beginnings, at the time when many physicians now in active praetice received their medical training. Yet since that time, and based on that science, there has been a greater development in medicine and in surgery than was achieved in all the years preceding. As a result of the development of bacteriology, serum therapy was established, and finally Wright—less than a decade ago—inaugurated a method of treating infectious diseases by bacterial vaccines. When this new treatment was introduced, special skill was considered necessary on the part of those who used it; the worker had to be trained to recognize the different varieties of bacteria, to isolate them in pure culture and to know how to obtain the opsonic index. In a word, the treatment required a worker skilled in bacteriology with an unusual laboratory equipment. Now, however, physicians without special training are applying this treatment; no longer, it would seem, are these requirements of skill and experience regarded as necessary. Why?

The new method of treatment found the great majority of physicians without that particular training necessary to apply it properly. Laboratory workers, however, clinicians in hospitals, and here and there the thoroughly prepared man in active practice, were publishing reports of successful results from the use of vaccines—usually autogenous and made by the man who treated the patients. Physicians generally began to realize that it was their duty to give their patients the benefit of this new application of science to therapeutics. At the same time they realized their inability, through lack of laboratory training and knowledge of bacteriology, to meet the demand. They appreciated that this treatment depended, first, on a correct diagnosis—not as to the particular disease, but as to the causative agent—the particular organism; and second, on the knowledge and skill required to prepare the vaccines. How to compensate for their deficiency in this special knowledge was the problem before practitioners. This deficieney was almost unavoidable, for it meant practically a new science to be learned.

Here the manufacturer sprang to the rescue. He first engaged to take from the physieian the labor of making the vaccines, and the stock vaccines were placed on the market. So far, so good; but this satisfied only one requirement—supplying the remedy. The next was the supplying of the diagnosis. Commercial acumen again came to the rescue and introdueed, not corresponding stock vaccine—that is, one that would apply to the particular eausative organism—but two or three combined, so that good guesswork would be sufficient rather than correct diagnosis. This one false step being taken, *facilis descensus Averni*. If it was a good thing to have two or three different varieties, then it would be still better to have twice this number; so to-day we have mixtures containing as many as seven or eight, and in one instance ten different varieties of dead bacteria. Of course, such mixtures relieved the physician from the necessity not merely of making an exact diagnosis, but, in fact, of making any diagnosis whatever. Not only is it no longer neeessary to take the opsonic index, but even the microscope may now be laid aside, and the diagnostic culture ignored, for surely one of the many ingredients of these mixtures will fit the case! If the old shotgun nostrum was regarded as unseientifie and discreditable to our profession, what shall we say of the new shotgun mixture? From the point of view of true scientific therapy, there is absolutely no excuse for mixed vaccines, and the reason for their existenee rests, first, on the fact that many physicians are not able to make correct diagnoses and apply the partieular vaccine, and, second, on the fact that vaccine therapy has been subordinated to commercialism. In thus abdicating his office as a scientific diagnostician, the physician is descending from the position of a skilled specialist to become the purveyor of ready-prepared remedies under the advice of commercial houses.

At the time these commercial vaccines were being introduced, the Council on Pharmacy and Chemistry undertook to investigate and pass on these products, as it was doing with proprietary medicines. The Council soon realized that the problem was a serious one. Therefore, a little over a year ago, it appointed a special committee to consider the subject. This committee reported at the recent annual meeting of the Council and recommended, among other things, that in the future no

mixed vaccines should be accepted, unless there was a special reason for a particular combination. This recommendation was adopted. There was also another: that a special committee be appointed to prepare a series of articles to be published in THE JOURNAL, in which the problems connected with this new therapeutic movement should be discussed. The first instalment of the series appears in this issue.

Let us repeat that the recent developments in vaccine therapy are unscientific and discreditable; that it is time for each individual physician to give the matter serious consideration and to realize his responsibility. There is no doubt that this new therapy, if scientifically applied, is of real service, and marks an advance; but future development of the method depends on its scientific application, and its deliverance from commercial thraldom.

---

### GLUCOSE WINS

We have at different times[1] given our readers the facts regarding the attempt of the "glucose trust" to render null and void the Wisconsin state law which prohibits the sale of glucose under the euphemistic misnomer, "corn syrup." The case being lost in the state courts—lower and upper—it was finally carried to the U. S. Supreme Court. This tribunal within the past few days handed down a decision in the case favorable to the glucose trust. Briefly, the facts are as follows: Several cans of a product consisting of a mixture of glucose with a small amount of cane syrup were shipped from Illinois to a retail grocer in Wisconsin. This glucose mixture was labeled "Karo Corn Syrup" and also "10 per cent. cane syrup, 90 per cent. corn syrup." This labeling violated the Wisconsin law, which prohibits the use of the term "corn syrup" as a synonym for glucose. The retailer of this mixture was prosecuted under the state law and found guilty. The case was appealed to the state supreme court, which affirmed the conviction of the lower court. Then the case was carried to the United States Supreme Court.

The result of this federal decision is far-reaching. It means, apparently, that no state may pass, for the protection of its citizens, food and drug laws that are more stringent than the federal law covering the same ground—at least so far as the law may affect articles that are sold direct by the importer to the public.

The decision seems to bring about some curious anomalies. For instance, as the law now stands it is presumably:

1. *Legal* for a retail grocer in Wisconsin to sell his customers a product made in another state that is mislabeled according to the Wisconsin law, provided he imports the product himself and provided that the labeling does not conflict with the federal law.

2. *Illegal,* however, for him to sell the same product, labeled in the same way, if he has purchased it from a jobber in his own state.

3. *Illegal* for him to sell a product mislabeled according to the Wisconsin law, but correctly labeled according to the federal law, if the stuff is manufactured within his own state.

Apparently, then, the Supreme Court's decision will discourage the founding of any state industries in food and drugs in those states whose food and drug laws are more stringent than the federal law. Furthermore, it seems to deliver a body blow to the jobbers of those states having stringent laws. The Supreme Court's objection to the Wisconsin law in this matter seems to be that the state forbids the use of any label on the product except that which it prescribes. Should the Wisconsin law be so amended as to permit it, a can of glucose, without conflict with the Supreme Court's decision, may be labeled on one side "Corn Syrup"—thus complying with the federal law—and on the other side "Glucose," in accordance with the state law. As the matter now stands, the people of Wisconsin may have glucose foisted on them under any fancy name the glucose trust sees fit to use, provided the Wisconsin retailer imports the stuff direct instead of through his jobber.

---

1. Where Glucose is Not Corn Syrup, editorial, THE JOURNAL, July 2, 1910, p. 33; Will the Wisconsin Pure Food Law be Emasculated? editorial THE JOURNAL, Nov. 26, 1910, p. 1897; The Wisconsin Pure Food Law Not Emasculated, editorial, THE JOURNAL, May 20, 1911, p. 1483.

## Current Comment

### WATER-CORE GOLF-BALLS

Even our most innocent recreations seem hedged about with unseen dangers. Elsewhere in this issue will be found the case history of a boy who lost the sight of his right eye as the result of cutting into a golf-ball. This report is by no means the first one of its kind; indeed, there have been many both here and abroad, and attention has been called to the unwisdom of dissecting *any* golf-ball lest it prove to be one of the "water-core" variety. As a rule the centers of these balls are formed by a rubber bag containing various heavy fluids, almost all of which are highly caustic. Analyses of the contents in a number of reported cases have disclosed hydrochloric acid, solutions of zinc chlorid, caustic soda and other dangerous cauterants. These burning liquids and their rubber container are tightly covered by machine-wound ribbons or other material, and are thereby subjected to great pressure. It follows that when burst or cut open the fluid contents are expelled with explosive force, generally into the face of the dissector or some innocent onlooker. Recently the United States Golf Association took up the matter and issued this warning: "Owing to the fact that serious accidents have occurred in the past few years due to cutting open certain makes of golf-balls containing acid and other sight-destroying compounds, the association warns all persons to refrain from this dangerous practice." Whether or not the resiliency or "carrying power" of golf-balls is enhanced by furnishing them with some sort of fluid core may be left to

the proper authorities to decide; but it is our duty both as good (?) golfers and as practical sanitarians to warn the public of the dangerous character of some golf-balls, and to let them know that it is the part of wisdom not to invite disaster by dissecting any.

## THE SOPHISTICATION OF "SOFT" DRINKS

The near advent of the warm season with its attendant thirst, coupled with the great American habit of consuming large quantities of soda-water and other "soft" drinks, has prompted the New York City and Montana boards of health in recent bulletins to deal with this subject. The Montana bulletin contains an article giving a long list of bottled, carbonated beverages which were found either adulterated or misbranded when examined in the state laboratory. Most of them contained saccharin; samples of "ginger ale" contained capsicum but no ginger, and the fruit beverages all contained artificial flavors and colors which were not declared on the label. It is also stated that since saccharin does not aid foaming as does sugar the manufacturers are in the habit of using extract of soap-bark, which produces a good foam. Not only is this substance deceptive, but also the soap-bark contains a toxic principle, sapotoxin, which is markedly poisonous. The bulletin of the New York City Department of Health sets forth a regulation prohibiting the use of soap-bark in beverages and in fillings used by bakers. Violations of this regulation will be criminally prosecuted. The prevailing habit of consuming large quantities of bottled, carbonated beverages in hot weather is undoubtedly productive of much harm. The knowledge that poisonous chemicals are among the ingredients should discourage their use. Probably neither the conscience of the manufacturers nor statutory or health board regulations will entirely prevent the sophistication of these "soft" drinks.

## DANGER IN TONIC SUMMER DRINKS

In addition to the drinks containing saccharin, saponin and chemical flavoring and coloring substances, there are other "temperance" drinks equally dangerous, especially for the children and young persons who indulge in them so freely. Many of the rather misnamed "tonic" drinks that are so widely advertised have been shown by the United States government analyses to contain considerable proportions of caffein. It is easy to understand that after taking these caffein-containing cold drinks the feeling of fatigue may drop from one. Caffein is not, however, a desirable stimulant to serve indiscriminately to growing children or young adults, especially those city dwellers whose nervous systems certainly need no artificial stimulation. Besides, caffein seems to have a definite tendency to the formation of a habit. Not a little of the restlessness of children during the summer is to be attributed to the taking of caffein in considerable quantities in the form of these soda-fountain drinks. The parents sometimes discover that a distinct craving for the particular drink has been created and that the child pleads for money to satisfy that craving. After reading the advertisements of the marvelous tonic and stimulating virtues and fatigue-dissipating qualities of these preparations, the parents feel sure that there cannot be any harm in such well-recommended beverages, especially since they are sold in a favorite drug-store. Unfortunately, this confidence is not justified; it is necessary to draw a sharp line between bottled tonics or drinks containing caffein and the relatively harmless carbonated soda-water of the soda-fountain, when served plain or with wholesome flavoring matter.

## "KUR" AND "CURE"

Many newspapers are hasty or careless in announcing the discovery in Germany of some method of treatment more or less new, and not infrequently misinformation is given the public through failure to keep in mind the actual meaning of one little word. The German word *Kur* does not mean "cure," although it is not an uncommon thing to find it so translated into English. "To cure" in English means "to restore to health; to effect a cure"; but in other languages it means merely to apply "a method of remedial treatment of disease; medical or hygienic care; method of medical treatment." The German word for "restoration to health" is *Heilung,* not *Kur.* The Latin word *cura* means merely "care," a shade of meaning which is preserved in the derived term "curator." An Italian physician was recently made to say, when his article was translated into English, "I cured ten typhoid patients last month and six of them died." What he really said was that he had treated ten patients.

## THE NEW OWEN BILL

Senator Owen has introduced a revised bill providing for a national Department of Health; the text of this Senate Bill No. 1 appears in this issue.[1] In discussing the tie vote by which the Senate of the Sixty-Second Congress declined to consider the Owen bill at that time, THE JOURNAL stated[2] that it was generally understood that Senator Owen would redraft and modify his bill and would introduce it at the next session of Congress. The hope was also expressed that the new bill would go back to the original plan and provide for a Department of Health with a secretary in the cabinet. The new bill follows the general plan of organization provided in the former bill, but creates a Department of Health and provides for a Secretary of Health. The present bill is by far the best measure which has yet been presented on this subject. It contains all of the strong points of preceding bills without any of the objections to which previous bills were subject. The return to a plan for a Department of Health is commendable. In the United States Public Health Service we already have a strong, efficient and rapidly developing bureau. In order to justify itself to the friends of advanced health legislation, any proposed change must provide for something larger, better and stronger than the existing health machinery. The movement for a department has gained strength enormously during the past three years. The opposition to it has crystallized in a constantly diminishing group of

1. Medical Economics Department, this issue.
2. Senate Declines to Consider Owen Bill, editorial, Feb. 8, 1913, p. 453.

objectors, while public support for such a measure has been growing as its object and purposes have been better understood. The silly objections which were at first raised against the measure have been completely met. The establishment of a national Department of Health will not and cannot create a "medical trust." It cannot interfere with the rights of any citizen or with the authority of any state. It cannot have anything to do with the individual treatment of disease or with the administration of drugs. These facts have been proved repeatedly to the satisfaction of all those who really wish to know the truth. The only objectors left are those who are too ignorant to be able to understand, too fanatical to desire to understand or too mercenary to care for anything except the possibility of interference with their private gains. The educational value of the efforts that have been made in the past are well worth the cost. The prospects for the passage of Senator Owen's bill are more favorable now than ever before.

## *Medical News*

### ILLINOIS

**Personal.**—Dr. Arthur Parsons has been elected mayor of Genesco.——Dr. James Parkhurst, Grand Detour, who has been ill with pneumonia, is improving.——During the recent floods on the Ohio River, Dr. J. C. Westervelt, Shelbyville, represented the State Board of Health at Shawneetown and Dr. Charles J. Boswell, Cairo, and Dr. Charles E. Crawford, Rockford, at Cairo.

**Vote for County Sanatorium.**—At the city election in Rockford, April 15, advantage was taken of the Glackin act of 1908-9 and a vote was taken "for the levy of a tax for a public tuberculosis sanatorium." As the result of an active campaign by the Winnebago County Antituberculosis Association, this proposition passed by a substantial majority and Winnebago County will have in the near future a free antituberculosis sanatorium.

### INDIANA

**Death of Dr. Daugherty.**—Dr. C. A. Daugherty, South Bend, Trustee of the American Medical Association, died April 23. A further notice will appear next week.

### KENTUCKY

**Personal.**—Dr. R. Linsey Ireland has been elected president and Drs. Henry Enos Tuley and R. R. Elmore, vice-presidents, of the Louisville Automobile Club.——Dr. W. C. Caywood, Winchester, has been elected physician at the Frankfort Reformatory, vice Dr. E. H. Maggard, resigned.

**Flood Notes.**—The Louisville board of public safety will give antityphoid inoculation free to all who wish it.——On the recommendation of Dr. W. W. Richmond, Clinton, a member of the state board of health and Major Lyster, M. C., U. S. Army, the boards of health of Hickman and Fulton County are said to have issued orders for the compulsory typhoid vaccination of everyone in the county.——Surgeon Leslie L. Lumsden, U. S. P. H. S., spoke at a special meeting of the Maysville and Mason county boards of health and of the city council of Maysville, on the best method of cleaning up after a flood. Dr. Lumsden went from Maysville to Catlettsburg.——The steamer *Edward Meyer* left Louisville, April 9, in charge of Major James A. Logan, U. S. Army, to visit and inspect the cities and towns affected by the flood. Major Paul C. Hutton, M. C., U. S. A., was in medical charge of the expedition and was accompanied by Dr. W. L. Heizer, Bowling Green, representing the Kentucky State Board of Health, and representatives of the state boards of health of Indiana and Illinois and other physicians, all of whom worked in conjunction with the local boards of health of the various towns visited.——A bulletin has been issued by the State Board of Health appealing to public sentiment for "an organized, systematic and thorough clean-up campaign, the free liming and whitewashing of all recent overflooded premises and the boiling of all suspicious drinking-water."

### LOUISIANA

**New Railroad Hospital Opened.**—The new Illinois Central Railroad Hospital, New Orleans, was formally opened to receive patients, March 7. This hospital will care for the sick and injured employees of the system in the New Orleans district.

**Jubilee of Polyclinic.**—The twenty-fifth anniversary of the New Orleans Polyclinic, the postgraduate medical department of Tulane University, was celebrated with impressive ceremonies, April 7. Dr. Charles L. Chassaignac, the dean, told of the progress made in the institution since its first session in 1888. Other speakers of the evening were Drs. Isadore Dyer and H. Dixon Bruns. Dr. Rudolph Matas gave an interesting history of the polyclinic.

**State Board Has Full Authority.**—On April 16, for the second time, the State Board of Health of Louisiana was vindicated for the position it has assumed that it was the supreme and final health power and arbiter in the state. The Supreme Court, in the case of the State Board of Health versus Adolph Susslin, in which the board sought to enjoin an Algiers baker from operating a plant alleged to be in a highly unsanitary condition, reinstated the decree rendered by it last December after a full rehearing of the case. The court holds that neither the city of New Orleans nor the Board of Health of the City of New Orleans has exclusive jurisdiction in health, sanitary and hygienic matters in the city, and that the State Board of Health not only is not excluded from acting within the parish of Orleans, but has supervisory powers throughout the whole state including the parish of Orleans, and may remedy and suppress conditions detrimental to the public health, notwithstanding the existence of a local board of health.

### MARYLAND

**New Officers.**—Cecil County Medical Society, April 18: president, Dr. Ernest Rowland, Liberty Grove; secretary-treasurer, Dr. Howard Bratton, Elkton.

**Widows' Home Election.**—The board of managers of the Home for Widows and Orphans of Physicians elected the following officers at its annual meeting: president, Mrs. Eugene F. Cordell; vice-presidents, Mrs. J. F. H. Gorsuch and Mrs. Louis A. Griffith; recording secretary, Mrs. Salvatore De Marco; corresponding secretary, Mrs. Johannes Mattern, and treasurer, Dr. Eugene F. Cordell.

**Hospital News.**—Work has been commenced on the Allegany County Tuberculosis Hospital to be erected on a seventy-five acre tract of the Land estate on the east side of Haystack Mountain, opposite Mount Hebo. The building will be ready for occupancy this summer.——A committee has been appointed by the Berlin Board of Trade to look into a site for a hospital for the town. The committee has reported in favor of the Stokes farm, a mile and one-half south of Berlin. The site can be purchased for $5.000 and the cost of the necessary alterations will be about $3,000.

#### Baltimore

**Fletcher's Portrait Presented.**—At the meeting of the Johns Hopkins Hospital Historical Club, April 14, Dr. Fielding H. Garrison, Washington, presented to the college a portrait of the late Dr. Robert Fletcher of the Surgeon-General's Library, Washington, D. C.

**Psychiatric Clinic Opened.**—The event of the week in Baltimore was the opening of the Henry Phipps Psychiatric Clinic, April 16-18. Mr. Phipps, his wife and three sons were present and a dinner was given in his honor on April 16 to express the appreciation of the community for his gift. At this dinner Dr. William H. Welch was toastmaster, Governor Goldsborough and the mayor of Baltimore were among the speakers. Sir William Osler was one of the guests On April 16, the chief address of the occasion was delivered by Sir William Osler on "Specialism in the General Hospital." Dr. Henry M. Hurd spoke on "What the Henry Phipps Psychiatric Clinic Means." It is an attempt to apply the methods and conditions in which acute diseases are treated in a general hospital to the care and treatment of insanity. He believes that the utilization of the clinic for the instruction of medical students and of physicians generally in the diagnosis and treatment of insanity will be of great service to the country at large. The patients in the clinic will be classified as follows: on the first floor, more or less violent patients will be received, and on this floor not more than eight patients will be taken in a ward. The second floor will be known as the semi-quiet section. Here patients will be transferred when they begin to improve. On the third floor patients who are quiet, either on admission or

after their stay has brought them to this condition, will be accommodated. On the fourth floor quiet private patients will be placed and the fifth floor is divided into suites of two rooms and a bath, for private patients.

## NEW YORK

**Personal.**—Dr. Herbert Upham Williams, dean and professor of pathology of the University of Buffalo medical department, has been appointed examiner in bacteriology on the State Board of Medical Examiners, vice Dr. Hiss, deceased.——Dr. Katherine L. Daly, Rochester, has been appointed special lecturer by the State Department of Health.

**Skim Milk Must Be Labeled.**—The Court of Appeals of Albany has upheld the constitutionality of the law which prescribes a penalty for shipping skim milk from the state to another unless it is plainly marked, and in doing so upheld the recovery of $16,800 in penalties from a dealer in New York City, though the milk was for consumption in New Jersey.

**Oppose Hospital Site.**—The New York Merchants' Association has asked Governor Sulzer to instruct the state authorities to withhold approval of the plans of the proposed Mohansic State Hospital for the Insane and for the New York Training School for Boys which were to have been erected in Westchester County. It is requested that this action be taken pending the passage of a bill prohibiting the establishment of similar institutions within the Croton and Catskill water-sheds from which New York City receives its water supply. Several plans for establishing tuberculosis sanitariums within this area have recently been sidetracked.

**Clean-Up Suggestions.**—The *Monthly Bulletin* of the State Department of Health states that the time has now arrived to urge those who are slothful and negligent, or inclined to be so, to wake up and place their surroundings in as sanitary a condition as possible before the warmer weather permits the flies and other insects to increase and multiply to spread the germs of typhoid and other diseases broadcast. The following "Fly Aphorisms" culled from various sources are presented:

"It is better to screen the cradle and wear a smile than scoff at the precaution and wear mourning."
"Flies in the dining-room usually precede nurses in the sick room."
"Screens in the windows prevent crape on the door."
"Flies, as well as bad water, spread typhoid."
"A fly in the milk may mean a member of a family in the grave."
"A fly has natural enemies; the most persistent and most effective should be man."
"It costs less to buy a screen door than to get sick and lay off for a month."
"It's a short haul from the garbage can to the dining-table via the fly route."
"If at first you don't succeed, swat, swat, again."

### New York City

**Resolutions Regarding Dr. Bristow.**—The New York Academy of Medicine adopted resolutions regarding the death of Dr. Algernon Thomas Bristow, setting forth its sorrow at the death of Dr. Bristow and its appreciation of him as a man and a physician.

**Small-Pox on Cunarder.**—The Cunard steamer *Pannonia*, from Trieste and Naples, on her arrival at this port reported an outbreak of small-pox among the steerage passengers. After complete fumigation, 111 passengers were left at Hoffman's Island for further observation.

**Personal.**—Dr. John H. Carroll has been appointed examining physician to the Municipal City Service Commission.——Dr. William S. Applegate, Flatbush, was given a farewell dinner by the Flatbush Medical Society of which he is president, April 10, to mark his retirement from active practice.——Dr. Lewis Stephen Pilcher, Brooklyn, has been appointed examiner in diagnosis of the State Board of Medical Examiners in place of Dr. Glentworth R. Butler, resigned.

**No Island Hospital for the Bronx.**—At a recent meeting of the Board of Estimate it was decided to abandon the project of building a hospital for contagious diseases for the Bronx on North Brothers Island. The Bronx favored the island site instead of one on the mainland but it was pointed out that the other boroughs made no objections to such hospitals. Commissioner Lederle was instructed to look over certain sites in the Bronx that had been suggested as appropriate for this purpose.

**The Hall of Health.**—At a meeting in the Museum of Natural History, April 16, a new institution in the life of this city was opened. This is to be known as the Public Hall of Health. The audience numbered more than 1,000 persons and received with enthusiasm the announcement that this was the second stage of the campaign in educating the people as to the value of the clean-up movement that has been initiated by the Department of Health. The Health Commissioner emphasized the point that the most efficient health department and street cleaning department in the world could not effectually clean up New York and keep it clean without the cooperation of the people. The Hall of Health hopes to accomplish four things: First, to get the city physically clean; second, to make a decided reduction in the death-rate of the city; third, to educate the public so that they will never again let the city get dirty as it is now; fourth, to establish, eventually, by changes in the present regulations and perhaps by cooperation with permanent citizens' organizations a permanent clean-up organization. A lantern-slide exhibition was given showing the filthy conditions actually found by the Health Department throughout the city by its inspectors. The Hall of Health contains instructive exhibits showing the relation of filth and insects to the spread of disease.

## PENNSYLVANIA

**School Children Afflicted.**—Results just compiled show that medical inspection was badly needed in the public schools of Altoona. Investigation shows that out of 7,277 examined, 4,823 were recommended for some form of medical treatment, but the general defect discovered was decayed teeth, 3,107 being afflicted. Six hundred and thirty-eight had more than three decayed teeth each. Enlarged tonsils totaled 1,735. Eye-strain, 750. Not a single case of tuberculosis was found.

**Hospital News.**—The new addition to the York Hospital erected at a cost of $25,000 will be opened to the public about May 1. The addition will greatly increase the capacity of the institution.——At the annual meeting of the trustees of the Passavant Memorial Home for the Care of Epileptics, Rochester, plans were made for furnishing the newly-erected building for the shelter of male epileptics. The new building cost $25,000 and will accommodate fifty patients. There are now seventy-three inmates of whom forty-three are women.

### Philadelphia

**Personal.**—Dr. Theobold Smith, Harvard University, delivered an address to the Pathological Society, April 24, on "An Attempt to Interpret Present-Day Uses of Vaccines."——Dr. Ernest La Place has recovered from a serious illness with septicemia caused by a scratch received while operating.

**Old Hospital Demolished.**—On April 14 the demolition of the building on the northwest corner of Twelfth and Washington Streets was started. This building was originally used as the City Hospital and the ground extending west for two squares was used as the Potter's field. From 1831 until 1833 the building was used as an isolation hospital for the treatment of contagious diseases.

**Leidy Memorial Meeting.**—The first meeting under the Dr Joseph Leidy memorial foundation was held in Houston Hall of the University of Pennsylvania, April 17. This foundation has been established in memory of the former professor of anatomy by his nephew, Joseph Leidy, Jr. Addresses were made by Dr. Edmund Beecher Wilson of Columbia University, and Dr. Charles Sedgwick Minot of Harvard University. The gift for the foundation will be used for a series of scientific lectures by specialists.

**Waiters Must Be Healthy.**—Precautions against the transmission of communicable diseases by its dining-car and restaurant employees will be hereafter rigidly observed by the Pennsylvania Railroad. The following announcement was made by the management April 18: "There is to be a quarterly physical examination of every employee who has anything to do with the preparation or serving of food. Dishwashers, kitchen helpers, cooks and waiters must undergo an examination every three months, and only a 100 per cent. report on their physical condition will permit their remaining in the service. While those suffering from tuberculosis, diseases of the eye or skin, and any other communicable disease, may not be employed in any capacity where they might come in contact with food, further precaution will be taken in debarring them from employment in places where linens and tableware are kept."

**Alumni Meeting.**—The annual meeting and banquet of the alumni association of the medical department of the University of Pennsylvania was held in the Bellevue-Stratford, April 18. Dr. William Pepper, dean of the medical school, was toastmaster and addresses were made by Edgar F. Smith, provost of the University, Dr. Richard C. Cabot, Boston, Dr. Lewis H. Taylor, Washington, D. C., and Dr. John G. Clark. The following officers were elected: president, Dr. John B. Deaver; vice-presidents, Drs. John K. Mitchell, Richard C. Norris, S.

M. Hamill, Lewis H. Taylor, Casper W. Sharples, Walter R. Weiser and Alexander R. Craig; historian, Dr. William Pepper; secretary and treasurer, Dr. G. Morris Piersol; and executive committee, Drs. James Tyson, George E. de Schweinitz, George C. Stout, Allen J. Smith, Charles W. Burr, Lewis H. Adler, Jr., George G. Ross, B. A. Thomas, Fred H. Klaer and Henry P. Brown, Jr.

## GENERAL

**Physicians of Southwest to Meet.**—The annual meeting of the Medical Association of the Southwest will be held in Kansas City, October 7-8.

**Military Surgeons to Meet in Denver.**—The twenty-second annual meeting of the Association of Military Surgeons of the United States will be held in Denver, September 16-19.

**Alienists to Meet.**—A meeting of the alienists and neurologists of the United States will be held in Chicago, June 24-27. Dr. W. T. Mefford, 2159 W. Madison Street, Chicago, is in charge of the executive details.

**Meeting of Health Board Officers.**—The annual Conference of State and Provincial Boards of Health of North America will begin its session in St. Paul, Friday, June 13, under the presidency of Dr. W. F. Snow, Sacramento, Cal. In all probability, some of the sessions will be held on the campus of the university in Minneapolis.

**Canal Zone Notes.**—At the annual meeting of the Medical Association of the Isthmian Canal Zone held in Ancon, March 15, Dr. W. M. James was elected president; Dr. Lewis B. Bates, vice-president, and Dr. D. F. Reeder, secretary-treasurer, all of Ancon. On March 29 there was a special meeting of the association at which a delegation of members of the United States Clinical Surgery Society was entertained.——Drs. H. A. Greenwood, Ancon, and B. F. Cliff, Panama City, of the Colon Hospital staff, have resigned, the first to accept a position with the Guayaquil and Quito Railroad, Ecuador, and the second to enter private practice in the United States.

**Antituberculosis Association.**—The ninth annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in the New Willard Hotel, Washington, D. C., May 8-9, under the presidency of Homer Folks, LL.D., New York. At the meeting of the advisory council on the first evening, the subject for discussion is, "The Antituberculosis Movement and Its Relation to the Campaign Against Other Preventable Diseases," and at this session the committee on hospitals for advanced cases will make its report. On the morning of May 9, there will be a joint session of the Clinical and Sociologic sections at which there will be a symposium on "The Tuberculosis Problem from the Sociologic and Medical Points of View."

**Physicians and Surgeons Congress.**—The preliminary program of the ninth meeting of the Congress of American Physicians and Surgeons to be held in Washington, D. C., May 6-7, under the presidency of Col. William C. Gorgas, M. C., U. S. Army, announces that on the afternoon of the first day the subject for consideration will be "The Study of Renal Functions," on which papers will be read by Drs. Henry A. Christian, Boston; Theodore C. Janeway, New York City, and Leonard G. Rowntree, Baltimore. These papers will be discussed by Drs. Hugh Cabot, Boston; George Dock, St. Louis, and John T. Geraghty and William S. Thayer, Baltimore. In the evening Dr. Gorgas will give the presidential address on "Sanitation at Panama as it Relates to Sanitation in the Tropics Generally." A reception will follow. The subject for the second day's consideration is "The Development of Tissues in Vitro." Papers will be read by Drs. Ross G. Harrison, New Haven, Conn.; Montrose T. Burrows, New York City, and Robert A. Lambert, New York City, dealing, respectively, with the life of tissues outside the organism from the embryologic, physiologic and pathologic standpoints. These papers will be discussed by Drs. Leo Loeb, St. Louis; Warren H. Lewis, Baltimore, and others.

## FOREIGN

**Congress in the Orient on Tropical Medicine.**—The third congress of the Far Eastern Association of Tropical Medicine is to be held at Saigon, French Cochin China, November 8 to 15. The first congress was held in Manila in 1910 and the second in Hongkong in 1912.

**Centennial of Munich Hospital.**—The fifteenth *Annalen* of the public hospitals of Munich is published as a volume of 722 pages, half of which is devoted to a historical review of the personnel and work of the leading municipal hospital during the century of its existence, affording an interesting oversight of the prevalence of epidemics and of the morbidity in general as the standards of hygiene have been raised in this large German city as the hundred years progressed.

**Other Deaths Abroad.**—The following deaths are noted: Alfred Lewis Galabin, M.R.C.S., England, 1872; M.D., Cambridge, 1873; consulting obstetric physician to Guy's Hospital, London; a member and president in 1889-90 of the Obstetrical Society of London and president of the Hunterian Society; for several years editor of the *Obstetrical Journal*, president of the section of obstetric medicine of the British Medical Association, 1892; author of standard text-books on midwifery and diseases of women; died at his home in London, March 25, from heart disease, aged 70.——Deputy Inspector General G. Saunders, C.B., M.R.C.S., England, 1845; who served throughout the Crimean War and was senior medical officer at Hong Kong during the fever epidemic in 1865; died at his home in Tunbridge Wells, March 6, aged 89.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, April 12, 1913.

### The Government Inquiry Into Nostrums

Further evidence on the part of the proprietors of nostrums has been given at the government inquiry. Mr. Uredenburg, the literary representative of Raphael Tuck & Co. (art publishers), stated that he wrote the health hints contained in the book, "Hints to Mothers by M.D. of London," issued by the proprietors of Steedman's Soothing Powders (a preparation extensively given to children during dentition by the poorer classes). He said that he obtained his information from various encyclopedias and popular medical works. He then submitted the matter to his own physician. The matter was next sent to Messrs. Steedman and the referenees to the soothing powders were inserted according to their instructions. The manuscript as amended was not submitted to the physician.

### The Lister Memorial Fund

Considerable progress is being made with the Lister Memorial Fund. Committees have been formed by Oxford, Cambridge, Durham and other universities to promote the memorial, and arrangements have been made for the formation of committees in the British dominion and in foreign countries. The details of the memorial have been given in THE JOURNAL.

### The Conveyance of the Anthrax Bacillus in Clothes

Anthrax is almost invariably contracted by persons working with infected wool, and is therefore confined to those engaged in that occupation. In the following case the victim was not brought into contact with the source of infection: A woman aged 19 came to Guy's Hospital with a pimple on her face and was given a lotion. Next day a diagnosis of anthrax was made, and on the following day she succumbed to the disease. At the inquest it was stated that her husband, a laborer, handled foreign hides. The men engaged in this work were provided with special coats but did not trouble to wear them, although three contracted anthrax, in 1903, 1905 and 1911. Dr. Spilsbury, pathologist, said that the woman must have contracted the disease from her husband's clothes. Possibly the bacillus got into her eye and so reached her nose. It was not necessary to have a scratch.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, April 4, 1913.

### The Lessons of the Balkan War

On April 1, Professor Delorme, inspector-general of the military sanitary service, read before the Académie de médecine an interesting paper on long-distance transportation of the wounded during the Balkan War. Experience has shown that removal from the battlefield has been dangerous for the wounded Bulgarians and Servians as well as the wounded Turks. From hearing it repeated continuously that under the first aseptic dressing the healing of military wounds is easy, sure and constant, men have become persuaded that the transportation of a wounded man scarcely differs from that of a healthy man. They forget that the wounded man needs care during this transportation. The point of view which regards the clearing up of a battle-field as an administrative rather than a surgical problem is wanting in humanity. The principal mission of first-aid stations and ambulances is something more than the removal to a distance of the largest possible number of wounded. Account should be taken of the difficulties or the

hazards of the task. When, as in the Turkish army, the medical corps on the battle-field experience too great difficulties to assure the first treatment of wounds, it is desirable that at places where the wounded are assembled, as at crossroads or along the railroad, there should be stations for medical service and ambulances. When, as in the Bulgarian army, the line of removal along the route is of considerable extent and circumstances render transportation very slow and difficult, there is need of installing in the line of stations, if not hospital centers, at least centers where dressings may be applied, examined and renewed. Delorme thinks, moreover, that the service for the removal of the wounded along the route has not sufficient flexibility, and that the route and time of march of the ambulance wagons are too closely connected with that of the administrative wagons, whose speedy return to the sources of supply is a necessary condition.

### Meeting of the Societies of Medical Students

Besides the associations of students which have existed in France for a long time, there have recently been formed, the Associations corporatives des étudiants en médecine for the purpose of facilitating the professional instructions of the members, of improving, completing and perfecting medical instruction, and of defending the present and future interests of medical students. These associations have recently formed a federation and have organized a congress which was held in Paris, March 27 to 29. The eight incorporated associations of medical students were from Algiers, Bordeaux, Lyons, Paris, Marseilles, Rennes, Caen and Tours. The medical sections of the general associations of students of Lille, Besançon and Grenoble were also represented. A resolution was passed demanding that the hospital *stage* should be extended to other services than those which now admit *stagiaires*, to relieve the overcrowding in the services now open and to make use of the clinical material in the other services. It was also voted that predominance should be given to the medical sciences, properly speaking, over the accessory sciences of medicine. The clinical examinations ought to be increased in number, and theoretical examinations decreased. A resolution was passed that a control ought to be established over proprietary schools of medicine, and that the examinations by jury should be modified so that the study and the value of examinations in the *écoles* and the *facultés* should be equal. Representation of students on the councils of the medical schools and on the disciplinary councils of the Public Charities (Assistance Publique) was also demanded. A protest was made against the admission of foreigners to the examination for internships, and demand was made that internships in the hospitals should be reserved for French students.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, April 18, 1913.

### Annual Meeting of the German Surgical Association

Of the congresses held during the last week in March, the meeting of the Deutsche Gesellschaft für Chirurgie was the most important. In the present letter, therefore, I shall give a report of the transactions, selecting the most important subjects from the enormous amount of material presented.

#### BONE AND JOINT TUBERCULOSIS

Garrè of Bonn delivered the leading address on the treatment of tuberculosis of the bones and joints. Either the conservative or operative treatment should be applied, according to the individual case, and the indications and final results are different, according to the location of the affection. Tuberculosis of the shoulder-joint was treated in most cases with injections of iodoform, but in severe cases a resection by the method of von Langenbeck was made. Even in cases treated conservatively ankylosis usually resulted. The late results of resection were unexpectedly favorable, so that Garrè advocates enlarging the indications for resection. In tuberculosis of the elbow-joint of children a successful result is usually attained with injections of iodoform and fixation, but in adults resection must frequently be resorted to. The late results of conservative treatment are not very brilliant. Those in whom resection has been performed usually showed good healing, but ankylosis was present in half of the cases. The preferable technic is by Ollier's method and for secondary operations Helferich's method of interposition of tissue.

In suppuration of the wrist the ordinary resection should not be made, but one which spares as much of the tissues as possible. Hip disease should, as a rule, be treated conservatively with a walking cast with stirrup and iodoform treatment only in case of cold abscesses. A forcible correction should be avoided, and in case of contracture, treatment by extension is appropriate. After the joint has become free from pain, the result gained should be maintained by a large plaster cast or a leather splint; the Hessing apparatus presents no advantage. In every case ankylosis is to be aimed at. Only in the most severe cases should one attempt resection to save life. The final results of resection are discouraging: one-third of the patients died of tuberculosis and the remainder showed fairly good results only in half of the cases.

In the knee, the results of conservative treatment, even of mild cases, are not satisfactory; healing resulted in 51 per cent., generally with a stiff joint. On the other hand, resection carried out by the Textor incision gives good results. Subsequent investigation showed that, aside from about 5 per cent. who died from tuberculosis, 92 per cent. were cured. Even in children resection is advisable in all severe cases, as shortening often remains even after orthopedic treatment. Up to the thirteenth year of life there is the danger of later contracture after resection, which should be avoided if possible. In the ankle, resection is employed only in severe cases, according to the technic of König. Tuberculosis foci of the bone in the neighborhood of joints should be removed as early as possible; the cavity then plugged with a filling or with fat. Burrowing abscesses are punctured and injected with iodoform, but never incised. Roentgenotherapy has not given good results; its disadvantages are the small depth of action and the injury to the skin. General treatment in all cases of surgical tuberculosis is of the greatest importance, inunctions, baths, especially open-air treatment, climatic treatment, and sun-baths.

In the discussion, Bier of Berlin remarked that he applied conservative treatment even in severe cases of tuberculosis of the joints. He avoids every form of fixation of the diseased joint and treats it with passive hyperemia, iodid and removable dressings which relieve the joint of weight bearing. He presented a large number of severe cases which had recovered with complete mobility. De Quervain of Basel stated that he had seen splendid results from Rollier's treatment by insolation and mountain climate during the last ten years. The application of a general exposure to the sun and the continuation of the treatment for months and years are very important. Besides mountain climate, the seashore should also be considered. The cure of surgical tuberculosis under these circumstances results without the formation of scars and is therefore preferable to operations, which are now only rarely done in sanatoriums. In cases with amyloid degeneration and severe secondary infections this treatment is contraindicated.

Ritter of Posen applies active and passive hyperemia, the Roentgen rays and plaster casts. König of Marburg has seen good results from local and general treatment; he has found radiation with mercury quartz lamps a good substitute in our climate for the mountain sunshine. Wilms of Heidelberg has employed roentgenotherapy in surgical tuberculosis with good results. Especially joints of the upper extremities and lymph-nodes are favorably influenced by this treatment. A course of tuberculin treatment is to be recommended for patients who give a slight von Pirquet reaction. Mountain climate and sunshine treatment combined with roentgenotherapy give the best results. Voeleker of Heidelberg recommends in desperate cases of tuberculosis of the knee an open treatment with the joint opened up and immobilized until healing permits replacement.

Iselin of Basel treated 367 patients with Roentgen rays. The injurious by-effects liable are teleangiectasis and ulceration, which may occur even a year and a half later. He had fourteen cases of ulceration from this cause. He measures the dosage by the method of Sabouraud. On account of the danger of disturbances in growth, the large joints of children should not be treated by Roentgen rays. Tough, dry forms are resistant to the treatment, while soft, suppurating ones afford a good prognosis. Spondylitis contra-indicates it, because in consequence of the absorption under the action of the Roentgen rays, kyphosis may result. Müller of Rostock takes an intermediate stand. He remarked that social conditions often forbid treatment with sun-baths. Rosenbach of Göttingen explained the theory and technic of his tuberculin treatment. It is contra-indicated with active pulmonary processes. Friedrich of Königsberg has been forced to a greater amount of operative treatment on account of the peculiarity of his material. He warns against the too long-continued use of iodid (according to Bier) in children, as there is danger of injuring the ovaries and testicles. (Described in THE JOURNAL, 1912, lix, 233.)

*(To be continued)*

# Miscellany

## U. S. Senate Asked to License Friedmann

The following is taken from the *Congressional Record* of April 17:

MR. HUGHES: I introduce a bill, and ask unanimous consent for its present consideration.

MR. SMOOT: Mr. President, that has hardly ever been done in the Senate, and I think I shall have to object.

MR. HUGHES: I should like to have the bill read. I understand, of course, that objection can be made to its consideration.

THE VICE-PRESIDENT: The bill will be read by title.

The bill (S. 1222) authorizing and directing the board of medical supervisors of the District of Columbia to issue to Friedrich Franz Friedmann, without examination, a license to practice medicine and surgery in the District of Columbia, was read twice by its title.

MR. GALLINGER: Mr. President, I will have to object to unanimous consent being given to have the bill acted on at this time. There are pretty serious questions involved in it. I ask that it be referred to the appropriate committee.

THE VICE-PRESIDENT: Objection being made, the bill will be referred to the Committee on the District of Columbia.

MR. HUGHES: Mr. President, did I understand the Senator from New Hampshire to object?

MR. GALLINGER: I will have to object to the present consideration of the bill. I should like to look into it and consult some of the medical men of the District concerning it. It is a serious matter. It proposes to suspend existing law.

MR. HUGHES: The whole matter is serious. The disease which this doctor is engaged in fighting is an extremely serious matter.

MR. GALLINGER: Yes.

MR. HUGHES: Mr. President, did I understand the Senator was to see if we could not get away from objections raised by certain members of the medical fraternity and from the attitude of distrust and suspicion which seems to characterize the gentlemen who are representing the Government in their dealings with this scientist. I have been the recipient of countless letters, telegrams, telephonic communications, and personal requests from men who are standing on the brink of the grave who feel that perhaps their lives may be saved if they are permitted to take this treatment. Dr. Friedmann himself seems to be under the impression that he is absolutely under the control of the Federal service in this matter, and he thinks he is operating under the same sort of governmental supervision that he would be compelled to operate under in Germany. At his request I have introduced the bill. I regret very much that the Senator from New Hampshire thinks it necessary that the consideration of this matter should be delayed, when his single objection perhaps will mean the loss of the lives of men, women, and children who are eager and anxious to take all the risks, real or fancied, in connection with this treatment.

MR. STONE: Mr. President, will the Senator permit a question?

THE VICE-PRESIDENT: Does the Senator from New Jersey yield to the Senator from Missouri?

MR. HUGHES: I do.

MR. STONE: I should like to ask the Senator from New Jersey——

MR. WORKS: Mr. President, I again call for the regular order, since objection is made to the present consideration of the bill.

THE VICE-PRESIDENT: Objection being made, the bill will be referred to the Committee on the District of Columbia.

MR. HUGHES: Mr. President, I ask unanimous consent to have read a letter which I have received bearing on the subject matter of the bill I just introduced.

MR. PENROSE: Mr. President, I object to the reading of a letter on this subject. I do not want to pronounce this man a faker, but I think the Senate is going out of its way to give him advertisement. He may be a quack, for all I know. I have direct information that the reputable physicians of the country look with considerable doubt on his maneuvers, and that reputable medical journals criticize the Congress of the United States for the semiofficial recognition which they have already given him. I was surprised and shocked when I saw that a Senate document had been printed on his alleged cure. Were it not that the incident was past and closed, I had intended calling the attention of the Senate to the gross impropriety of recognizing a questionable "cure" by an official advertisement of that character. This is not an occasion for maudlin sentiment; it is a practical proposition whether the lives of thousands of people may not be threatened by a "cure" which is purely based on quackery and fraud.

MR. STONE: I should like to ask the Senator from New Jersey if Dr. Friedmann intends to charge $25 for each treatment?

MR. HUGHES: I have absolutely no information on that subject.

MR. LODGE: Mr. President, I ask for the regular order.

MR. HUGHES: I did not presume to ask Dr. Friedmann about that. I asked him if he would practice in the District of Columbia if given permission, and he said he would.

THE VICE-PRESIDENT: The regular order is demanded. If there be no further bills and joint resolutions, concurrent and other resolutions are in order.

# Association News

## THE MINNEAPOLIS SESSION

### Rates for Round Trips to Minneapolis—Announcement of the Transportation Committee

The Committee on Transportation and Place of Session suggests that members consult the local ticket-agent in their home town for full information regarding rates, time limits, extensions and stop-over privileges preparatory to purchasing railway tickets for the Minneapolis meeting. The tariff schedules on file at every ticket-office will allow the local agent to quote rates from any point. In addition to this, with the assistance of the agent, a physician can plan for an additional trip either going or coming. Those who intend going to the Yellowstone Park, the Pacific Coast, Alaska or other points should arrange for tickets for the entire trip. These side trips, of course, may be arranged for from Minneapolis; but in most instances a better rate can be obtained if a complete itinerary is submitted to the local agent. The committee announces the following rates for the Minneapolis meeting:

The Transcontinental Association announces a fare via direct route from California common points to Minneapolis and St. Paul, of $75.70. Circuit fare, one way via Shasta route, or S. F. and P. S. S. Co. between San Francisco and Portland, or P. C. S. S. Co. between San Francisco and Seattle, $85.35 from San Francisco; from Los Angeles, $95.35.

From Bellingham, Everett, Spokane, Tacoma and Seattle, Wash., or Portland, Ore., to Minneapolis, $60. Inquiries should be made of your local ticket-agent for definite information concerning the date of sale and time-limit.

The Central Passenger Association advises the committee that summer tourist fares will be in effect at the time of the meeting in Minneapolis. These tickets are all of non-transferable form and will be on sale from June 1 to Sept. 30, 1913, with final return limit to reach original starting point not later than midnight of Oct. 31, 1913.

The Trunk Line Association has authorized the following rate of fare from points in its territory:

One and one-half first-class limited fare to trunk line western termini, plus summer excursion fares tendered therefrom for the round trip. Tickets to be sold to Minneapolis or St. Paul. Dates of sale, June 12, 13 and 14. Final return limit, tickets to be limited to reach original starting point, Oct. 31, 1913. Tickets to be sold going and returning by same route only. No validation of tickets for return passage will be required. Private or sleeping-cars occupied by passengers in Minneapolis or St. Paul will be parked at a charge of $10 per car per day.

We are advised that special trains and special cars are being arranged for from various points.

J. RAWSON PENNINGTON, Chairman.

### Minneapolis by Way of the Northwestern Line

As THE JOURNAL has said before, there are several excellent railway lines between Chicago and Minneapolis, all of which will doubtless be used by members attending the annual meet-

ing. Among these is the Northwestern Line, which operates six through trains daily from its magnificent new terminal. In this station are a hospital and emergency rooms under the charge of a matron and trained nurses, and a completely equipped drug-store. The railway is double-tracked and protected by automatic signals. The route is through a region made famous by the early explorers, and is noted for its natural beauty. Leaving Chicago at night, one awakes near Merrilan, Wis., 277 miles northwest of Chicago. The first large city is Eau Claire, a lumbering and manufacturing point located on the Chippewa and Eau Claire rivers. From this point on, the picturesque scenery will be found of special interest. Just before reaching Hudson a panoramic view of the surrounding country is obtained. Crossing the St. Croix River into Minnesota, the train makes a long sweeping curve to the north, and after leaving Stillwater Junction goes through a level, open country through Lake Elmo to St. Paul.

### Revised List of Hotels Announced—Desirability of Making Reservations at Once

The Subcommittee on Hotels for the Minneapolis session, June 17-20, has revised the list of hotels. This new list should be followed in place of the one in THE JOURNAL, March 8. Most of the changes are in the hotels selected as headquarters for the sections. The commitee has made these new arrangements for the better entertainment of the members.

Those who are particular about their accommodations should secure reservations at once. They can write direct to the hotels, or to the undersigned, 1106 Donaldson Building, Minneapolis, Chairman of the Committee on Hotels, who will be pleased to give any assistance possible. In writing, one should state the scientific section of the Association preferred and also as exactly as possible the lodgings desired, that is, the approximate price, whether with or without bath, and who will be in the party. S. MARX WHITE, Chairman.

| Hotel, Section Headquarters and Street Address | No. of Rooms | Without Bath | | With Bath | |
|---|---|---|---|---|---|
| | | Single | Double | Single | Double |
| RADISSON—*General Headquarters*—Seventh St., bet. Nicollet and Hennepin | 320 | $1.50 | $2.50 | $2.50 to $5.00 | $4.00 to $7.00 |
| WEST—*Practice, Pathology, Dermatology, Hospitals,* and *Nervous*—Fifth St. and Hennepin Av. | 375 | 1.50 to 3.00 | 2.50 to 4.00 | 2.00 to 4.00 | 3.50 to 6.00 |
| LEAMINGTON—*Surgery*—1013 Third Av., South | 600 | 1.50 | 2.50 | 2.50 to 5.00 | 5.00 to 7.00 |
| ANDREWS—*Obstetrics, Gynecology and Abdominal Surgery*—Fourth and Hennepin | 200 | ..... | ..... | 1.50 to 3.00 | 2.50 to 4.00 |
| DYCKMAN—*Ophthalmology*—Sixth St., bet. Nicollet and Hennepin | 200 | ..... | ..... | 2.00 to 4.00 | 4.00 to 6.00 |
| PLAZA—*Laryngology, Otology and Rhinology*—1700 Hennepin Av. | 100 | ..... | ..... | 3.00 to 5.00 | 5.00 to 7.00 |
| MAJESTIC—*Pharmacology and Therapeutics,* and *Diseases of Children*—Seventh and Hennepin | 100 | 1.00 to 2.00 | 1.50 to 2.50 | 1.50 to 3.00 | 2.50 to 4.00 |
| NICOLLET—*Stomatology*—Washington, Hennepin and Nicollet Avs. | 150 | 1.00 to 1.50 | 2.00 to 2.50 | 2.00 to 2.50 | 3.00 to 3.50 |
| ROGERS—*Preventive Medicine and Public Health*—27 Fourth St., South, corner of Nicollet | 150 | 1.00 to 1.50 | 2.00 to 2.50 | 2.00 to 3.50 | 3.00 to 5.00 |
| VENDOME—*Genito-Urinary Diseases*—19 Fourth St., South | 200 | 1.00 to 2.00 | 2.00 to 3.00 | 2.50 to 3.00 | 3.50 to 4.00 |
| ST. PAUL (in St. Paul)—*Orthopedic Surgery*—Fifth and St. Peter Sts. | 360 | ..... | ..... | 2.50 to 5.00 | 4.00 to 7.00 |
| OTHER HOTELS IN MINNEAPOLIS | | | | | |
| ALLEN—200 Third St., South, corner of Second Av. | 65 | 1.00 | 1.50 | 2.00 | 2.50 |
| CAMFIELD—First Av., South, and Eighth St. | 100 | ..... | ..... | 1.00 to 2.00 | 2.00 to 3.00 |
| CLINTON—Fourth Av., South, and Grant St. | 65 | ..... | ..... | 2.00 | 3.50 |
| ELGIN—Hennepin Av. and Eighth St. | 150 | 1.00 | 1.50 | 1.50 to 2.00 | 2.00 to 3.00 |
| HAMPSHIRE ARMS—Fourth Av., South, and Ninth St. | 350 | 1.00 | 1.50 | 2.00 | 3.00 |
| HASTINGS—Twelfth St. and Hawthorne Av. | 150 | ..... | ..... | 1.50 to 2.00 | 2.00 to 3.00 |
| MARYLAND—Grant St. and Vine Pl. | 200 | ..... | ..... | 1.50 to 2.50 | 2.50 to 4.00 |
| NATIONAL—Second Av., South, and Washington | 200 | 1.00 to 1.50 | 2.00 to 3.00 | 1.50 to 3.00 | 3.00 to 5.00 |
| REVERE—316 Second Av., South | 100 | 1.00 | 1.50 | 1.50 | 2.50 |
| ROSSLYN—707 Summit Av. | 70 | ..... | ..... | 1.00 to 1.50 | 2.50 to 4.00 |
| WILLISTON—500 Tenth St., South, corner of Fifth | 60 | 1.00 | 1.50 | 2.00 | 2.50 |
| ST. PAUL HOTELS | | | | | |
| ABERDEEN—Dayton and Virginia | 200 | ..... | ..... | 1.50 to 4.00 | 3.00 to 5.00 |
| FREDERICK—Fifth and Cedar Sts. | 100 | 1.00 | 2.00 | 1.50 to 4.00 | 2.50 to 5.00 |
| RYAN—Robert St. | 300 | 1.00 to 2.50 | 2.00 to 4.00 | 2.00 to 4.00 | 3.00 to 6.00 |
| WILLARD—Tenth and St. Peter Sts. | 200 | .75 | 1.25 | 2.00 to 4.00 | 3.00 to 6.00 |

## Marriages

JONES L. MOOREFIELD, M.D., Guilford College, N. C., to Miss Viola Hudson of Pomona Mills, N. C., in Danville, Va., April 6.

HENRY FLOYD KEEVER, M.D., to Miss Elizabeth Mae Seely, both of Auburndale, Mass., April 2.

WILLIAM JOSEPH SCHMITZ, M.D., Baltimore, to Miss Anna Estelle Hebner, in Baltimore, April 8.

FLOYD BURKE RILEY, M.D., Chicago, to Miss Beulah Nye Bennison of Los Angeles, Cal., at Cedar Falls, Ia., April 24.

ARTHUR WARD VAN RIPER, M.D., to Miss Daisy Dwight, both of Passaic, N. J., in New York City, April 15.

JOHN T. TENNEY, M.D., Warner, Alta., to Miss Olga Polin of San Luis Obispo, Cal., at Spokane, Wash., March 22.

HARRY MCPHERSON BRANDEL, M.D., Oshkosh, Wis., to Miss Adele Marie Persch of Chicago, April 12.

J. LELAND BOOGHER, M.D., to Mrs. A. M. Holliday, both of St. Louis, April 12.

## Deaths

**Eliphalet G. Edwards, M.D.** McGill University, Montreal, 1855; formerly president of the Kent County (Mich.) Medical Society and an honorary member of the Michigan State Medical Society; a surgeon in the British Army during the Crimean War and thereafter surgeon for the Grand Trunk Railway; for one term president of the College of Physicians and Surgeons of Ontario and for twenty years a member of the Ontario Medical Council; since 1883 a practitioner of Grand Rapids, Mich.; a member of the board of health and dean of the Grand Rapids Medical College; died in St. Mary's Hospital, Grand Rapids, January 18, from pneumonia, following an operation for strangulated hernia, aged 80.

**James Edwin Harris, M.D.** University of Maryland, Baltimore, 1886; for about fifteen years after his graduation in medicine and dentistry a practitioner of London, England; thereafter for six years a resident of Cape Town, Cape of Good Hope, South Africa, and for the last six years a resident of Baltimore; died in a sanitarium in Baltimore, April 8, from cerebral hemorrhage, aged 49.

**Clara Jane Alexander, M.D.** Woman's Medical College of Pennsylvania, Philadelphia, 1889; a member of the American Medical Association; formerly of Boston, Mass.; surgeon to the New England Hospital for Women and Children and attending physician to the Pope Dispensary of that hospital, Boston; for fifteen months a missionary of the American Board in Mysore, South India; died about April 13, in the Mary Calvert Holdsworth Memorial Hospital, Mysore.

**Robert D. Robinson, M.D.** Kentucky School of Medicine, Louisville, 1887; for several years a practitioner of Santa Rosalia Parral and Torreon, Mex.; one of the editors of the International Medical Association of Mexico; later a practitioner of El Paso and a member of the State Medical Association of Texas; died suddenly at his home in El Paso, April 9, from heart disease, aged 52.

**Samuel Bell, M.D.** University of Michigan, Ann Arbor, 1864; a member of the American Medical Association; surgeon of the Fifteenth Wisconsin Volunteer Infantry during the Civil War; formerly surgeon-general of the department of Wisconsin, G. A. R., and president of the first board of health of the state; a resident of Beloit, since 1874; died at his home, April 18, aged 71.

**Hezekiah John Crumpton, M.D.** Rush Medical College, 1871; a member of the American Medical Association; who went to California during the gold rush in 1849 and was for many years engaged in mining; vice-president of the Society of California Pioneers; died at his home in Piedmont, Cal., April 8, from senile debility, aged 84.

**Marion D. Carter, M.D.** Missouri Medical College, St. Louis, 1882; a member of the American Medical Association; of Los Angeles, Cal., aged 55; died in the Crocker Street Hospital, Los Angeles, April 10, from injuries received two days before in a collision between his automobile and an interurban car at Nadeau Station.

**George Washington Corey, M.D.** Rush Medical College, 1859; surgeon of the Twelfth Missouri Cavalry during the Civil War; later division surgeon of the Union Pacific System at Cheyenne, Wyo., and a practitioner of Sawtelle, Cal.; died in the hospital of the Soldiers' Home, Sawtelle, April 2, from senile debility, aged 80.

**Jared Grover Baldwin, M.D.** New York University, New York City, 1853; consulting physician to the Hahnemann Hospital, New York City, and for many years censor of the New York Homeopathic College and Hospital; died at his home in New York City, April 11, from senile debility, aged 85.

**Morris D. Rouse, M.D.** University of Pennsylvania, Philadelphia, 1866; a veteran of the Civil War; for thirty years a practitioner of Buffalo; died at his home in that city, April 10, as the result of injuries received two days before, in a collision between his bicycle and an automobile, aged 76.

**Howard C. Rice, M.D.** Ensworth Medical College, St. Joseph, Mo., 1910; a member of the American Medical Association; instructor in materia medica in the Training School for Nurses, Ensworth Hospital; died at his home in St. Joseph, April 9, from pneumonia, aged 30.

**Thomas M. Jackson, M.D.** Cincinnati College of Medicine and Surgery, 1874; a member of the Medical Society of the State of Pennsylvania and president of the Mercer County Medical Society in 1912; died at his home in Hadley, Pa., April 7, from arteriosclerosis, aged 67.

**Byron Clifford Cheeseman, M.D.** College of Physicians and Surgeons, Baltimore, 1880; a member of the American Medical Association; a member of the staff of St. Joachim's Hospital, Watertown, N. Y.; died at his home in that city, April 3, from nephritis, aged 56.

**Harry Frederick Diers, M.D.** Northwestern University Medical School, Chicago, 1911; of Bristow, Neb.; a member of the American Medical Association; died at the home of his parents in Gresham, Neb., April 3, from abscess of the brain, aged 26.

**Abraham S. Rosenberger, M.D.** Homeopathic Hospital College, Cleveland, 1870; of Covington, O.; died at the home of his daughter in Dayton, O., April 6, from nephritis, aggravated by exposure and excitement during the recent flood, aged 64.

**Edward Sawyer Bacon, M.D.** Harvard Medical School, 1889; a member of the American Medical Association and a specialist on diseases of the ear, nose and throat of Providence, R. I.; died at his home in that city, April 8, aged 50.

**John F. Collins, M.D.** George Washington University, Washington, D. C., 1886; for many years a medical examiner in the pension office, Washington; died in Garfield Hospital in that city, April 11, from arteriosclerosis, aged 67.

**Joseph Davis, M.D.** Albany (N. Y.) Medical College, 1908; a member of the American Medical Association; medical director of the Samuel W. Bowne Memorial Hospital, Poughkeepsie, N. Y.; died at the state sanatorium for tuberculosis, Raybrook, N. Y., April 1, from tuberculosis, aged 26.

**Charles Born, M.D.** University of Leipzig, Germany, formerly assistant professor of anatomy in his alma mater; for more than twenty years a practitioner of Cincinnati; died at his home, April 3, from heart disease, aged 73.

**Henry G. Addy** (license, New Brunswick) a practitioner since 1882; surgeon of volunteers during the Civil War and since its close a resident of St. John, N. B.; died recently at his home in St. John, aged 78.

**John M. Harrah, M.D.** Rush Medical College, 1865; a member of the Indiana State Medical Association and a pioneer practitioner of Greene County; died at his home in Switz City, April 12, aged 73.

**Isaac Whittington Timmons, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1870; for forty-two years a resident of Winona County, Minn.; died at his home in Winona, April 13, aged 79.

**Egbert D. Doolittle, M.D.** Bellevue Hospital Medical College, 1870; formerly president of the Lehigh Valley Homeopathic Medical Society; died at his home in Easton, Pa., April 12, aged 66.

**S. Jean Stevenson-Monroe, M.D.** Woman's Medical College of Pennsylvania, Philadelphia, 1870; died at her home in Bemus Point, N. Y., January 4, from carcinoma of the rectum, aged 71.

**Patrick Kelley Wortham, M.D.** Missouri Medical College, St. Louis, 1879; for many years a practitioner of Waco, Tex.; died at the home of his daughter in that city, April 8, aged 75.

**George W. Sprinkle** (license, Virginia); a member of the Medical Society of Virginia; for forty-two years a practitioner of Smyth County; died at his home in Marion, April 8, aged 67.

**Lawrence Y. Abernathy, M.D.** Chattanooga (Tenn.) Medical College, 1904; for six years a member of the hospital corps of the Army; died at his home in Chattanooga, April 5, aged 30.

**George Martin, M.D.** Laval University, Montreal, Que., 1906; for several years connected with the Bruchesi Institute in that city; died at his home, April 1, from diphtheria, aged 31.

**Edward E. Fauver, M.D.** Lincoln (Neb.) Medical College, 1895; of Loveland, Colo.; died at St. Luke's Hospital, Denver, April 4, a month after a surgical operation, aged 40.

**John H. Goss, M.D.** Cincinnati College of Medicine and Surgery, 1860; of Lancaster, O.; died in the Park Street Hospital in that city, April 14, from diabetes, aged 75.

**Alfred A. Bagwell, M.D.** Medical College of Georgia, Augusta, 1889; a member of the Medical Association of Georgia; died at his home in Ingleside, Ga., April 5.

**Harry A. Stutzman, M.D.** Medico-Chirurgical College of Philadelphia, 1905; died at his home in Tower City, Pa., April 4, from pleuropneumonia, aged 36.

**Snider M. Carlton, M.D.** Reform Medical College of Georgia, Macon, 1859; died at his home in Thornton, Tex., April 2, from senile debility, aged 83.

**Charles F. Nichols, M.D.** University of Maryland, Baltimore, 1887; postmaster of Vienna, N. Y.; died at his home in that place, April 4, aged 47.

**Hiram H. Gunby, M.D.** University of Maryland, Baltimore, 1855; died at his home in Crisfield, Md., about April 9, from pneumonia, aged 80.

**Daniel E. Lake, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1871; died at his home in Fulton, N. Y., March 1, aged 75.

**William P. Booker, M.D.** Kansas City (Mo.) Hospital College of Medicine, 1885; died suddenly at his home in Caney, Kan., recently.

**Edward Francis Guth, M.D.** University of Pennsylvania, Philadelphia, 1862; died at his home in Philadelphia, March 13, aged 72.

**Isaac Sternlicht, M.D.** University of Vienna, Austria, 1889; died at his home in New York City, April 9, from heart disease, aged 50.

**J. A. Hall** (license, Arkansas, 1905); died at his home in Greenway, March 18, from nervous prostration, aged 53.

**Thompson J. Taylor, M.D.** Jefferson Medical College, 1874; died at his home in Richmond, Ky., March 20, aged 60.

**William H. Sampson** (license, Indiana); died at his home in Brookston, April 5, from paralysis.

# The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

## STANDARDIZATION OF DISINFECTANTS

### Report of the Council on Pharmacy and Chemistry

Believing the general adoption of a standard method for the valuation of disinfectants important, the Council appointed a committee to consider the feasibility of adopting such a method. The committee submitted a report which was adopted by the Council, with the recommendation that it be published. Following is the report.

W. A. Puckner, Secretary.

Your committee, having considered the question of the recommendation of a method for the standardization of disinfectants, respectfully submits the following:

In the examination of disinfectants it is necessary that due attention be paid to certain factors which have an important bearing on the results to be obtained, among these factors being the test organism, the temperature of the experiment, the proportion of culture to disinfectant, the amount of inoculation in subculture tubes, the media for subculture and organic matter. Neglect of attention to these factors will necessarily result in misleading results. There are at the present time three methods that may be given consideration.

#### RIDEAL-WALKER METHOD

The first is the Rideal-Walker method, extensively used in England and the British colonies. The original Rideal-Walker method seems to have the following objectionable features: (1) the latitude allowed in determining the coefficient; (2) the lack of definiteness in the proportion of culture added to the disinfectant; (3) the latitude allowed in the temperature of medication; (4) the use of seeding tubes 5″ by ⅝″ with cotton plugs, which necessitated their removal from the water bath and (5) the possibility of shaking from the sides of the tube organisms that had not been fully exposed to the action of the disinfectant and thus giving erroneous results.

The first objection has been eliminated by some workers, by arbitrarily limiting the determination of positive or negative result to a 2½-minute or 5-minute period. The other objections, however, still stand.

#### THE LANCET METHOD

The second is the *Lancet* method, a modification of the Rideal-Walker. Although in some respects a distinct advance over the Rideal-Walker method, it possesses the following objectionable aspects: (1) variations in strains of *B. coli communis* are known to be greater than those in strains of *B. typhosus*; (2) McConkey's bile salt media exert a variable but none the less restraining influence on attenuated organisms of the typhoid-colon group; (3) the method gives no definite rule for decreasing the strength of dilutions tested; (4) lengthening of the time to thirty minutes appears to have no very special advantage; (5) the special apparatus required, particularly the spoons, interferes to some extent with the general employment of the method.

#### THE HYGIENIC LABORATORY METHOD

The third method is that known as the Hygienic Laboratory phenol coefficient. This method has some of the features of the Rideal-Walker method as well as the *Lancet* method, but also contains important modifications. This method has been quite generally adopted in the United States and is now used by the federal government in connection with the purchase of disinfectants. It has also been officially adopted by some state boards of health. At the Annual Conference of State Boards of Health with the Public Health Service, held in Washington, D. C., June 1, 1912, the following resolution was passed:

"*Resolved*, That the United States Public Health Service Hygienic Laboratory method for the determination of the phenol coefficient of disinfectants be recommended to the several state boards of health as the standard method; that all regulations regarding disinfectants be based on this standard; and that the phenol coefficient be required to be stated on the label of each package containing such disinfectant"

It is evident from the above statements that the method is coming into very general use in the United States and probably will supplant the other methods for the standardization of disinfectants in this country.

As originally proposed, the method did not require the use of organic matter in performing tests, but has recently been modified, so that the test may be used either without or with organic matter.

Your committee has considered the question carefully and has decided to recommend to the council the adoption of the Hygienic Laboratory phenol coefficient as published in Hygienic Laboratory Bulletin 82. The details of the test, as well as a discussion of the various factors concerned in the standardization of disinfectants, are described at length in a paper entitled, "A method of standardizing disinfectants with and without organic matter," in the bulletin referred to above.

## FATHER JOHN'S MEDICINE AND THE FOOD AND DRUGS ACT

Mrs. Oscar W. Bean, Amesbury, Mass., writes:

"I have written to the Bureau of Chemistry on the subject: What does 'Father John's Medicine' contain? It is guaranteed under the Food and Drugs Act of June 30, 1906, No. 918. I always had the impression that the ingredients of all 'patent medicines' would be given when asked for after the pure food laws had been enforced and of course thought they'd be at Washington. Not finding them there, I would very much like to know its contents."

The hundreds of inquiries we receive from laymen are, as a rule, answered direct by mail. The one given above has been so answered. Our reason for printing it is that it is typical of many we get and may prove of interest to our readers.

As we told Mrs. Bean, "Father John's Medicine" is a nostrum. Like all nostrums, its composition is known only to the manufacturers. Its ingredients to-day may be different from its ingredients of yesterday, and these in turn differ from those of to-morrow. When analyzed two years ago, the chemists of the Connecticut Agricultural Experiment Station reported "Father John's Medicine" to be essentially a cod-liver oil emulsion containing about 37 per cent. of cod-liver oil by weight.

Much misunderstanding exists regarding the working of the Food and Drugs Act and the meaning of the legend: "Guaranteed under the Food and Drugs Act." This act ("the pure food law"), does not require the manufacturers of "patent medicines" to make public the composition of their nostrums. It merely demands that if the medicine contains any one of eleven drugs, or the derivatives of these drugs, the quantity or proportion of such drugs must be given on the label. These eleven drugs are alcohol, morphin, opium, cocain, heroin, alpha- or beta-eucain, chloroform, cannabis indica, chloral hydrate and acetanilid. The nostrum may contain any number of the hundreds, possibly thousands, of other drugs known and the public be none the wiser. It may contain some of the most dangerous poisons known to science, such as strychnin, arsenic, prussic acid and aconite, and no warning needs to be given of their presence. So far as the clause "Guaranteed under the Food and Drugs Act" is concerned, it means only that the manufacturer has applied to Washington for a serial number. This application is entirely optional and in making it he is not required to give any information about his product. A "patent medicine" may be, and in many cases has been, proved to be a fraudulent product, that is, misbranded or adulterated within the meaning of the act. These facts are not considered in the issuance by the government of a serial number. The only value of the guarantee is the protection it gives to the individual retailers of the product should it be declared misbranded or adulterated under the act. In other words, it throws the responsibility for misbranding or adulteration back on the manufacturer and not on the retailer.

The widespread misinterpretation of the guarantee clause has been brought about, largely, by unscrupulous manufacturers who try to make the public believe that the government guarantees the purity or value of the products on whose labels the guarantee clause appears. When the Canadians enacted a

law controlling the sale of "patent medicines"—which they did about three years after the passage of our own law—they recognized the abuse of the guarantee clause and specifically prohibited by law the use of the term "guaranteed." They also made it illegal for any manufacturer to indicate that the certificate of registration (corresponding to the "serial number" in this country) in any way implied a recommendation or guarantee on the part of the government as to the merits of the article. This prohibition applies not only to statements on the label but to any published advertisements. Our national Food and Drugs Act needs modifying in this regard.

---

### "ORIGINAL PACKAGES"

That insidious form of advertising known as the "original package" method, in which the physician is made to act as a go-between, is not peculiar to the United States; the same evil exists in Great Britain. Here is what the *Medical Press and Circular* has to say about it:

"The patent medicine vender is putting up a great fight in his efforts to get a firm grip on the medical profession. Every post brings us so-called 'literature' and samples of wonderful synthetic drugs which emanate mostly from Germany. There is a similarity between them all; their names end in 'on' or 'al' or 'ex,' a magnificent procession of letters announces their alleged chemical composition, and a list of their properties is a splendid mass of polysyllabic perfidy. They all claim to be strictly 'ethical' preparations, and they publish a formula which is either unintelligible or untruthful. Some of these drugs may be useful, but great care is necessary in prescribing them. If they are ordered in their original packages, the way is instantly laid open for the self-drugging habit. If the chemist dispenses them in his own containers, the patient, when he has learnt what he is taking, feels aggrieved at having to pay an enhanced price for what he could buy anywhere himself, and feels, too, as if his case was not receiving real individual attention—much as if his tailor passed off a ready-made suit on him. In a few years we shall have before us enough insurance statistics to form a fair idea of the extent to which these proprietary medicaments are used. The prescribing of these preparations is only one degree removed from the evil of self-dosing with 'patent' medicines. Let us hope that this practice will suffer a rapidly atrophic death at the hands of the medical community."

---

### LOPEZ

#### A Fraudulent Cure for Syphilis

Dr. C. S. Bliss of Coggon, Iowa, writes:

"I am inclosing a pamphlet, "Lopez on Blood and Skin Diseases." I do not know what the remedy is but the pamphlet is getting people afraid of mercury and especially injections."

Lopez is called by its exploiters, the Lopez Remedy Company, Wichita, Kan., "the great Hot Springs remedy." According to their booklet:

"Lopez is a high-class preparation, scientifically compounded entirely from more than nine of the purest herbs known or obtainable. Each separately tested as to purity, strength, etc., then as carefully and accurately compounded as the druggist prepares your physicians' prescriptions. Positively contains no mercury, morphin, cocain or other poisons, and is as much a specific for children as for adults."

Like most concerns that sell a cure for syphilis, the Lopez Remedy Company rings the changes on the dangers of the mercurial treatment of this disease. And the usual farrago of nonsense is indulged in relative to the superior properties of "vegetable remedies." The federal authorities seized a quantity of this nostrum alleging that it was misbranded: first, in that the use of the word "specific" on the label "was unwarranted and misleading inasmuch as the article was not a specific"; second, in that the alcohol in the preparation "was not declared in the manner prescribed" by law; third, in that the therapeutic claims made for the stuff were rankly false and fraudulent. When the case came to trial, the judge held that lying about the curative and therapeutic properties was not misbranding and directed the jury to return a verdict of acquittal; this, too, in spite of the fact that although the stuff contained over 27 per cent. of alcohol, the label failed to state correctly the proportion of this drug as the law requires. The government chemists analyzed the nostrum and reported finding alcohol, potassium iodid, podophyllum, sarsaparilla, stillingia, eucalyptus and gentian. The analysis indicates that Lopez differs but little from the various "sarsaparilla compounds" put out by "patent medicine" makers and which used to be very popular. Whatever real or imaginary benefit was or is derived from such mixtures is due to the potassium iodid and the laxative drug they may contain. The absurdity, not to say viciousness, of recommending a preparation of this sort for the cure of syphilis can be appreciated only by physicians, but the public should at least be given warning.

---

## *Correspondence*

### Value to the General Practitioner of Special Training in Pulmonary Diseases

*To the Editor:*—It should be admitted that one of the best ways for the general practitioner to develop his general knowledge is through the specialties. It is not enough to depend entirely on places doing general work, such as the general medical dispensary, invaluable as such training is; for many of the conditions formerly treated solely in the general medical dispensaries are now handed over to special dispensaries. The result is better diagnosis and treatment for the patient, and better training for the attending physician. It is surely obvious why a dispensary for diseases of the nervous system or for diseases of children offers advantages of instruction to the physician unobtainable in the general medical dispensary, even if it attempts to handle these cases.

This generalization applies with special force to pulmonary diseases, which have long waited to receive the limited special consideration which they now enjoy. From the point of view of this note, such specialization is of interest only in so far as it relates to the general practitioner. Surely a class of diseases responsible for one-fifth of the total mortality, rendering thousands of victims chronic invalids, and causing untold suffering and expense—all of which are generally considered to be more or less within the possibility of control—deserves special consideration from the general practitioner, provided this will result in suitable returns.

If development in pulmonary diseases is not sought in the special dispensary or institution, on what sources is the general practitioner going to depend for his knowledge of diseases of the lungs? There are first, the field of general practice; secondly, the general medical dispensary and hospital ward, and thirdly, the physician's early experience. Although general practice offers opportunities for training in pulmonary diseases obtainable in no other way, it still holds true that the general practitioner will develop himself more completely and certainly more rapidly in many phases of the subject by spending some time in their special study. As for the general medical ward and dispensary, unsurpassed as they are in many of the aspects of pulmonary cases, they do not offer a man all that he needs to make him proficient in pulmonary work, which in its details and in its far-reaching relations fails utterly to receive its due measure of consideration in these places. As for a physician's early training, granted it has been in the best undergraduate course in medicine, and pursued later for a number of years in a thoroughly up-to-date hospital, no one who has properly estimated his own knowledge of pulmonary diseases at the end of this time will be so bold as to maintain that he concluded his course as resident proficient in pulmonary diagnosis or treatment, or in any measure cognizant of the broader departments of the subject.

What additional advantages are provided or what gaps are filled up in the special dispensary? Compare for a moment the handling of tuberculous patients in a well-conducted tuberculosis dispensary and in the best type of general medical dispensary. The factor of the amount of time allotted to each case is a strikingly distinguishing feature between the two, for in the latter dispensary a very limited amount of time is available to each patient, and in the former the amount of time is limited only by the necessities of each case. This makes possible another distinguishing factor, which is the use of the proper method in studying these cases, the physician's development being promoted by spending a relatively large amount of time on a few cases, and not retarded by spending the same amount of time on a large number of cases. One part of the method in these dispensaries is to chart all the physical findings, both normal and abnormal, a practice that if continued long enough perfects one in the art of physical diagnosis to an extent available in no other way and will prove of the greatest service in acute as well as in chronic cases.

Progress along these lines is slow, and is attained only by patient and painstaking effort. Not every one realizes how complicated and difficult a subject physical diagnosis of pulmonary conditions is, but a person is much impressed by this if he reviews his own past experience, or observes students in the process of studying physical signs of the lungs. The heart and other organs, in both health and disease, as a rule present much simpler problems, as far as the eliciting of physical signs is concerned, than do the lungs. Another advantage of the special dispensary to the practitioner is the coming in contact with the experience and stimulus of experts in this line of work. Of inestimable value too is the knowledge of treatment and prevention of tuberculosis cases, including an insight into the broad economic and sociologic aspects of the subject which have wide general significance.

I have barely touched on some of the advantages to the general practitioner to be derived from a special study of pulmonary diseases. If he will look more deeply into the subject, if he will learn the opinion of those who have so specialized, and above all if he will test out these advantages by taking such a special course himself, he will be convinced of the truth of these remarks. Especially to the young practitioner who has time for dispensary work on his hands, is such special training to be recommended.

Charles M. Montgomery, M.D., Philadelphia.

### Sterility—A Remediable Cause

*To the Editor:*—When in general practice, I was occasionally consulted for the relief of sterility by couples who had been married several years, and in whom there was no apparent physical disability.

In searching for the causes, I found a suggestion in an old edition of the work on midwifery by Cazeaux that led me to think that the condition was often maintained by too frequent sexual indulgence.

Cazeaux suggested that in women the ovum is usually thrown off at the time of menstruation; but that during an orgasm provoked by sexual congress the ovum might be discharged at other times. I reasoned that in this way the ova were constantly thrown off before reaching maturity, and therefore were incapable of fecundation. I advised that for five or six months all sexual intercourse should be abstained from excepting immediately before and immediately after menstruation. I feel sure that in fifteen or twenty cases pregnancy occurred as a result of following this advice, and I am confident that in some, subsequent conceptions were brought about in the same way.

From my observation, I came to believe that sterility from these causes occurred most frequently when the husband and wife were peculiarly vigorous and especially congenial.

An Old Practitioner.

[Comment.—"An Old Practitioner" is a well-known physician of long experience who does not care to have his name published; he is not a gynecologist.—Ed.]

### Gauze as a Scarifier in Vaccination

*To the Editor:*—I am convinced that it is fully worth while to call further attention to a new method of vaccination, originated by the Public Health Service surgeons now in the Philippines. In this method a small piece of gauze (plain and sterile) is used as a scarifier. The gauze is simply drawn over the index-finger and held by the thumb and other fingers, and the point selected is briskly rubbed until slightly abraded over an area about equal to that of a thumb-nail. The virus is then deposited on the abraded area and allowed to dry. The gauze used to rub with can be bound over the point of vaccination, if desired, but should be discarded on the following day, as if allowed to remain it may adhere and give further trouble.

This method is well suited for work on women and children. Its authors state that the operation is completed while the patients are "expecting every minute to be the next." Either capillary tubes or ivory points can be used to furnish the virus; the tubes are better, perhaps, as the virus is more abundant than that on the points, and no point is in evidence. In other respects the technic is the same as in other methods. The percentage of takes equals other methods, and fainting of nervous patients is eliminated.

F. J. McKinley, M.D., Pala, Cal.

[Comment.—Although this procedure is by no means a new one, we are glad to give further publicity to it for the benefit of those who may not have heard of this method.—Ed.]

### Ligneous Phlegmon of Abdominal Wall

*To the Editor:*—There is an error in my article on this subject (The Journal, April 5, 1913, p. 1039). In the quotation on page 1042, this language is used: "Powers quotes with approval the suggestion of Friedrich in favor of wide excision." The next sentence commences: "In certain cases." These three words "in certain cases" belong to the former sentence, which should read, "Powers quotes with approval the suggestion of Friedrich in favor of wide excision in certain cases." The error is one of punctuation, for which I may have been partly responsible.

W. W. Grant, M.D., Denver.

## Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### FIRST FIFTEEN MEDICAL COLLEGES IN THE UNITED STATES

*To the Editor:*—Please name the first fifteen medical colleges organized in the United States and the dates of organization

D. E. F.

Answer:

1. 1765: Department of Medicine of the College of Philadelphia, now the University of Pennsylvania Department of Medicine.

2. 1767: Medical Faculty of King's College, New York; reorganized as Columbia College Medical Faculty 1792; merged with the College of Physicians and Surgeons of City of New York, 1817.

3. 1782: Harvard Medical School, Boston.

4. 1797: Dartmouth Medical School, Hanover, N. H.

5. 1807: University of Maryland, Faculty of Physic (now School of Medicine), Baltimore.

6. 1807: College of Physicians and Surgeons of the City of New York; absorbed Columbia College Medical Faculty in 1817; became again Medical Department of (then) Columbia University in 1860 (see Fig. 2 above).

7. 1810: Yale Medical School, New Haven, Conn

8. 1816: Transylvania University Medical Department, Louisville, Ky.; became Kentucky School of Medicine, 1850; merged with University of Louisville, 1908.

9. 1819: Medical College of Ohio, Cincinnati; became Medical Department of University of Cincinnati in 1887; absorbed Miami Medical College and became Ohio-Miami Medical College of the University of Cincinnati in 1909.

10. 1820: Medical School of Maine, Brunswick, Maine; Medical Department of Bowdoin College.
11. 1823: Medical College of South Carolina, Charleston.
12. 1825: Columbian College (now George Washington University) Medical Department, Washington, D. C.
13. 1825: Jefferson College Medical Department, Philadelphia (now Jefferson Medical College).
14. 1825: University of Virginia, Department of Medicine, Charlottesville, Va.
15. 1828: Medical Academy (now college) of Georgia, Augusta, Ga.

---

### EPILEPSY AND AMYOTROPHIC LATERAL SCLEROSIS

*To the Editor:*—Could you furnish me with information as to the occurrence of epilepsy or of epileptiform attacks in association with amyotrophic lateral sclerosis? S. F.

ANSWER.—Amyotrophic lateral sclerosis, a disease in which the motor nervous system in its totality progressively degenerates, is never seen in association with epilepsy or epileptiform attacks. The reason for this negative finding might be that the degeneration proceeds from the periphery toward the cortical elements too slowly to produce the symptoms of irritation—epileptiform attacks. The fibrillary twitchings seen in the degenerating muscle-fibers in a case of amyotrophic lateral sclerosis may have a superficial resemblance to epileptiform attacks, but the former are more or less constant, involve only a few fibers and never cause a contraction of the muscles in mass, while the latter occur at intervals and affect entire groups of muscles *in toto*. The fibrillary tremor is an expression of weakness in a dying muscle; the epileptic or epileptiform attack rather expresses an overflow of energy in a strong muscle.

While epileptiform attacks are foreign to the symptom-complex of amyotrophic lateral sclerosis, they may occur in the same patient as an independent affection, just as any other disease might develop in one already suffering. It is quite possible that a complicating arteriosclerosis or syphilis may demonstrate its presence by convulsive attacks not distinguishable from epilepsy. Indeed, the entire disease amyotrophic lateral sclerosis, with its atrophy and spasticity, may be simulated by syphilis of the central nervous system, which has also epilepsy as one of its many symptoms. So far as we know, the literature does not furnish any examples of true amyotrophic lateral sclerosis occurring in association with epilepsy or epileptiform attacks.

---

### "NURITO," "MOTHERSILL'S SEASICK REMEDY" AND "MARK WHITE'S GOITER TREATMENT."

*To the Editor:*—Please give: (1) Analysis of "Nurito," a so-called rheumatism cure; (2) analysis and merits of "Mothersill's Seasick Remedy"; (3) information concerning the Mark White Goiter Treatment. M. N. A., Illinois.

ANSWER.—1. An analysis of "Nurito" and a discussion of the produce appeared in THE JOURNAL, Aug. 10, 1912; see also page 461 in the new edition of "Nostrums and Quackery." Its composition was found to be:

| | |
|---|---|
| Pyramidon | 60 per cent. |
| Phenolphthalein | 6 per cent. |
| Milk sugar | 34 per cent. |

2. Mothersill's Seasick Remedy was discussed in THE JOURNAL, July 2, 1910, and Jan. 4, 1913, and the matter appears in the new edition of Nostrums and Quackery. Analysis showed the chief constituent to be chlorbutanol (chloretone).

3. The Mark White goiter treatment is put on the market by one Mark White, a "horse doctor" who calls himself "president and general manager" of the Mark White Goiter Treatment Company and "discoverer of Goitreine." Mr. White assures the sufferers from goiter that if they will only buy Goitreine they "may be practically sure of an immediate and permanent cure." White says that his treatment "cannot possibly harm you in any way." Possibly not, but the Denver papers of May 23, 1911, reported a case of collapse and death in a woman following an injection given in White's office. The paper stated that the death certificate, which was signed by a Dr. W. A. Gray, gave "fatty degeneration of the heart and goiter" as the cause of death. Dr. W. A. Gray was the licensed physician employed by Mark White to administer injections and thus "get around" the requirements of the state medical practice act. The Mark White Goiter Institute offers to divide with physicians the money it gets from its victims. To some physicians it offers $10 for every $50 victim, with an additional $5 for every $50 increase; to other physicians it makes a straight 50 per cent. commission offer. Says Mark White:

> "You would be expected to make a cash charge to the patient for the treatment, remitting on the same day our 50 per cent. to us, when ordering the treatment, giving the treatment in no cases for less than $50."

White's opinion of the medical profession must be pretty low, for he wrote to a number of medical societies, asking them to print in their bulletins full-page advertisements of his goiter cure in which he made the proposition of 50 per cent. commission to physicians.

---

### RESPONSIBILITY OF THE PHARMACIST WHEN A PRESCRIPTION CALLS FOR HEAVY DOSAGE

*To the Editor:*—Please answer the following: If a prescription calling for 4 ounces of veratrum viride, in an 8-ounce mixture—dose 2 teaspoonfuls every two hours—is dispensed as written, by a registered pharmacist, without consulting the physician regarding the heavy dosage, and ill effects follow its use, who is to blame? X. Y. X.

ANSWER.—The rule with reference to the responsibility of the pharmacist is that he shall exercise due care to avoid mistakes on the part of both himself and the physician. If an evident error is made in a prescription, the pharmacist should not put it up until the error has been corrected. In case of doubt as to the dosage of any ingredient in a prescription, he should consult the prescribing physician to determine whether the amount prescribed is that intended. If the physician sanctions the amount given in the prescription, the druggist is relieved from responsibility, unless the amount given would evidently produce toxic effects. In the case referred to it is not specified what preparation of veratrum viride was prescribed. If it was the tincture, the dose is four times that given by the Pharmacopeia; but it must be remembered that the Pharmacopeia gives the average and not the maximum doses. The amount therefore could be given to some patients if deemed advisable by the physician. If the prescription called for the fluidextract, however, the dose would in all probability be a poisonous one, and should not be put up.

---

### LITERATURE ON JACKSON'S MEMBRANE

*To the Editor:*—I would greatly appreciate it if you would refer me to some literature on Jackson's membrane—that peculiar formation associated with Lane's kink. D. L. D.

ANSWER.—The following are references found in THE JOURNAL index for the last two years:

Mayo, C. H.: Intestinal Obstruction Due to Kink and Adhesions of the Terminal Ileum, *Surg., Gynec. and Obst.*, March, 1911.
Connell, F. G.: Ileocecal Adhesions (Lane's Kink and Jackson's Membrane), *Surg., Gynec. and Obst.*, November, 1911.
Lejars, F.: Lane's Kink of Ileum and Jackson's Membrane, *Semaine méd.*, Dec. 6, 1911.
Hamburger, S.: Ileus from Lane's Kink, *Hospitalstid.*, Oct. 9, 1912.
Kohlmann, W.: Ileocecal Adhesions (Lane's Kink), *Southern Med. Jour.*, October, 1912.
Kivlin, C. F.: Lane's Kink of Ileum, *New York Med. Jour.*, Nov 9, 1912.
Chandler, C. E.: Lane's Kink and Jackson's Membrane, *Vermont Med. Month.*, February, 1913.
Connell, F. G.: Etiology of Lane's Kink, Jackson's Membrane and Cecum Mobile, *Surg., Gynec. and Obst.*, April, 1913.
Eastman, J. R.: The Fetal Peritoneal Folds of Jonnesco, Treves and Reid and Their Probable Relationship to Jackson's Membrane and Lane's Kink, *Surg., Gynec. and Obst.*, April, 1913

---

### STIMULATION OF THE DEVELOPMENT OF INFANTILE SEXUAL ORGANS

*To the Editor:*—Please give information as to the following case: A boy aged 13 was born with complete cryptorchidism. By an operation when he was 5 years old the testicles were brought into the scrotum, but they failed to develop any further. The boy is 5 feet 5 inches in height, and very strong. He has no hair on the pubes, and his sexual organs are of the size of those of a boy of 3 years, one of the testicles being even smaller and very soft.

1. Is there any possibility of stimulating further development of these infantile organs?
2. Where can extracts of testicle be obtained?
3. What do you know of Poehl's spermin?
4. Kindly refer me to literature on this special subject.

F. NEUMANN, M.D., New York.

ANSWER.—1. Cases of complete cryptorchidism usually involve a failure of development of the interstitial cells of the testicles, which, it appears, are the effective agents in stimulating the development of the secondary sexual characters. While some remarkable effects are reported as the result of the use of testicular extracts, in other cases failures have been experienced, so that it is very doubtful whether it would be

possible to stimulate the development of the secondary characters in the case referred to. It must be remembered, however, that the boy has perhaps not yet entered the period of puberty, so that it is possible that the hope for development will be realized.

2. An extract of testicle is prepared by Armour & Co.

3. Poehl's spermin is a proprietary product said to be made from semen, for which extravagant claims are published. It appears to have received less attention of late than formerly.

4. The following articles may be consulted:

Kyrle, J.: Defective Development of Testicles, *Wien. klin. Wchnschr.*, Nov. 10, 1910; abstr., THE JOURNAL, Dec. 17, 1910, p. 2190.

Pappenheimer and Schwartz: Relation of the Interstitial Cells of Testicle to its Internal Secretion, *New York State Jour. Med.*, December, 1910; abstr., THE JOURNAL, Jan. 21, 1911, p. 221.

Koch, K.: Interstitial Connective-Tissue Cells in the Testicle and Their Atrophy, *Virchows Arch. f. path. Anat.*, December, 1910.

Hanes, F. M.: Relation of the Interstitial Cells of Leydig to the Production of an Internal Secretion by the Mammalian Testicle, *Jour. Exper. Med.*, March, 1911.

Hanes, F. M., and Rosenbloom, J. A. Histologic and Chemical Study of the Fatty Matter of Normal and Cryptorchidic Testicles, *Jour. Exper. Med.*, March, 1911.

## EYE, EAR, NOSE AND THROAT JOURNALS

*To the Editor:*—Kindly give me the names, addresses and other details of a number of periodicals on the eye, ear, nose and throat.

G. R. HAYS, M.D., Richmond, Ind.

ANSWER.—Following is a list of eye, ear, nose and throat journals, with addresses, frequency of publication, and price:

*Annals of Otology, Rhinology and Laryngology.* Quarterly; subscription $4 per year. Published by Jones H. Parker, Mermod-Jaccard Building, St. Louis.

*Annals of Ophthalmology.* Quarterly; subscription $4. Published by Jones H. Parker, Mermod-Jaccard Building, St. Louis, Mo.

*Ophthalmic Record.* Monthly; subscription $4 a year, single copy, 50 cents. Published by H. A. Fox, 7 West Madison Street, Chicago.

*Journal of Ophthalmology and Oto-Laryngology.* Monthly; subscription $2 a year. 32 North State Street, Chicago.

*Ophthalmology.* Quarterly; subscription $5. Published by H. V. Würdemann, 711-714 Cobb Building, Seattle, Wash.

*Archives of Ophthalmology.* Bimonthly; subscription $5, single copy, $1. Published by G. P. Putnam's Sons, 27 and 29 West Twenty-Third Street, New York.

## LIQUID PETROLATUM IN CONSTIPATION

*To the Editor:*—What is the status of the use of liquid albolene or other petroleum product in the treatment of constipation? Is continued use safe? ROBERT E. GRAVES, M.D., Chicago.

ANSWER.—"Liquid albolene" is a proprietary name for a hydrocarbon oil corresponding to liquid petrolatum. Liquid petrolatum has been recommended in the treatment of constipation by Schmidt, but so far as we know it has not received much attention. Its action is supposed to be that of a lubricant which facilitates the passage of the feces along the canal. Pure petrolatum is quite insoluble in water, and so far as we know innocuous. It is to be remembered, however, that volatile hydrocarbons have distinctly poisonous properties and therefore such preparations should be free from volatile hydrocarbons and should be used with caution and in moderate doses. In view of the slight experience of the profession with this remedy, it must be regarded as in the experimental stage.

## THE COMPOSITION OF ATOPHAN

*To the Editor:*—Can you give me any information regarding Atophan? I have been unable to find any mention of it in my files of THE JOURNAL. H. CRASSWELLER, M.D., Windsor, Ont.

*To the Editor:*—Please give me the formula or exact ingredients of Atophan, a proprietary medicine recommended and advertised for rheumatism and other diseases. I want this in plain English. I am not smart enough to figure out what carboxylic acid is. The other part I can figure out. Are any of these ingredients injurious to the eyes? F. M. HALBERT, M.D., Greenville, Miss.

ANSWER.—Atophan was described in the New and Nonofficial Remedies department of THE JOURNAL, March 2, 1912. It is included in the book: New and Nonofficial Remedies, 1913, p. 46, paper-bound copies of which will be sent on receipt of 25 cents.

Atophan is 2-phenyl-quinolin-4 carboxylic acid. That is, it is the basic substance, quinolin, into which a phenol and a carboxyl group has been introduced. The carbon atoms of the quinolin nucleus are numbered consecutively, the numbers "2" and "4" indicating the carbon atoms to which the groups are attached. The term "carboxyl" is a contraction of "carbonyl" and "hydroxyl," and the group COOH, which is characteristic of organic acids, may be considered as a combination of carbonyl and hydroxyl.

We know of no reports indicating that Atophan has any effect on the eyes.

## UNILATERAL ABSENCE OF PERSPIRATION

*To the Editor:*—Please inform me what condition could produce a disappearance of sweat on one side of the body and what measure should be employed to cure it.

R. CARULLA, M.D., Santiago, Cuba.

ANSWER.—Perspiration is principally controlled by a bilateral center in the medulla oblongata. It is believed that there are also sudorific centers in the cortex and in the spinal cord. Disorders of secretion may occur in diseases of the brain, spinal cord, peripheral nerves and the sympathetic. We do not know what causes hyperhidrosis or anhidrosis. A hemihyperhidrosis unilateralis, that is, a perspiration on one side of the face or body only, occurs occasionally in normal persons, especially after the ingestion of mustard, pickles, etc.; and in diseases of the sympathetic, hemicrania, exophthalmic goiter, erythromelalgia, tabes dorsalis, gliosis and other nervous diseases. It is an isolated phenomenon of psychic degeneration and may result from an acute infectious fever. Naturally the treatment must be that of the underlying causes. Local application of astringents may be made, such as a solution of alum from 1 to 5 per cent., or a solution of formaldehyd, from 1 to 5 per cent.

## HOW TO GIVE CASTOR OIL

*To the Editor:*—In THE JOURNAL (April 12, 1913, p. 1174), you give different methods of administering that old and much-maligned remedy, castor oil. For many years I have given it on ice-water. In this way you can give it to any one in the dark and the patient will be none the wiser until later. If the oil is poured into a small glass of ice-water the oil will form a globule on top of the water and will go down like a raw oyster. If any taste is left, a pinch of salt will remove it. The method is applicable to any oil, and has the advantage that often when a palatable drink is used, a distaste for that drink remains; but water is always good when one is thirsty.

GEORGE F. BEASLEY, M.D., La Fayette, Ind.

## IS THE RIGHT EYE BLIND IN RABIES?

*To the Editor:*—I was interested in the article on rabies by Dr. Wesson (THE JOURNAL, April 5, 1913, p. 1069), and since he mentions paralysis of the left side I would like to know if blindness of the right eye exists. I have heard it said from experience that if one turns out to the left when meeting a running mad dog, he will not bite.

A. L., Kansas.

# *Medical Economics*

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

## THE NEW OWEN BILL

On April 7, Senator Robert L. Owen introduced Senate Bill No. 1, a revised bill providing for a National Department of Health. The new bill follows the general plan of the last Owen bill, but goes back to the original plan for a department, rather than a bureau of health. The text, in full, follows:

A BILL TO ESTABLISH A DEPARTMENT OF HEALTH, AND FOR OTHER PURPOSES

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

That there be at the seat of government an executive department known as the Department of Health, and a Secretary of Health, who shall be the head thereof; and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The Secretary of Health shall be appointed by the President, by and with the advice and consent of the Senate, at a salary of $— and with tenure of office like that of the heads of the other executive departments. And said Secretary shall cause a seal to be made for the Department of Health, of such device as the President approves, and judicial notice shall be taken of said seal.

SEC. 2. That there be in the Department of Health an assistant to the Secretary of Health, designated and known as the Commissioner of Health, who shall be a skilled sanitarian, appointed by the President, by and with the advice and consent

of the Senate, who shall serve at the pleasure of the President, and who shall receive a salary of $— per annum. The Commissioner of Health shall perform such duties as are required by law and such as are prescribed by the Secretary of Health. There shall be also a chief clerk, a disbursing clerk, and such other employees as Congress may from time to time authorize. The auditor for the state and other departments shall receive and examine all accounts of moneys paid in and of moneys expended on account of the Department of Health, and shall certify the balance arising thereon to the division of bookkeeping and warrants of the Treasury Department, and forthwith send a copy of each such certificate to the Secretary of Health.

SEC. 3. That it be the province and duty of the Department of Health to foster and promote all matters pertaining to the conservation and improvement of the public health and to collect and disseminate information relating thereto: *Provided*, That this act shall not be construed as attempting to authorize the Department of Health to exercise or attempt to exercise, without express invitation from the chief executive or other proper authority of the state, any function belonging exclusively to such state, or to enter any premises in any state without the consent of the owner or occupant thereof; but the Secretary of Health, on request of the chief executive or other proper authority of any state, territory, the District of Columbia, or any insular possession, may detail for limited periods an officer or officers, employee or employees, from the Department of Health to assist the health authorities of such state, territory, district, or insular possession in protecting and promoting the health of the people of such jurisdiction.

SEC. 4. That to the Department of Health are hereby transferred the following bureaus, divisions, and other branches of the government, and all that pertains to them, and they and each of them shall remain under the supervision and direction of the Secretary of Health until otherwise directed by law, namely:

(a) From the Department of the Treasury is transferred the Public Health Service.

(b) From the Department of Agriculture is transferred that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs, and liquors, and with the execution and enforcement of the Act of Congress entitled "An act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes," approved June 30, 1906.

(c) From the Department of Commerce and Labor is transferred the Division of Vital Statistics, Bureau of the Census.

And the President is hereby authorized to transfer to the Department of Health at any time either the whole or any part, as to him may seem best, of any bureau, division, or other branch of the government engaged in work pertaining to the public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy.

And each and every function, authority, power, duty, and jurisdiction, of whatsoever character it may be, vested at the time of any transfer aforesaid in the head of the executive department from which said bureau, division, or other branch of the government is transferred, shall, to the extent to which such function, authority, power, duty, or jurisdiction pertains to such bureau, division, or other branch of the government immediately on such transfer become vested and thereafter remain vested in the Secretary of Health.

All land, buildings, furniture, apparatus, equipment, and property of whatsoever description, and all official records and papers, in the custody of any executive department from which any bureau, division, or other branch of the government is transferred as aforesaid and pertaining to the business of such transferred bureau, division, or other branch of the government, shall at the time of such transfer, or as soon thereafter as practicable, and in so far as such action can be taken without hindering the work of the executive department from which such transfer is made, be given over into the custody of the Department of Health. And all unexpended balances of appropriations available at the time of such transfer for the use of any such transferred bureau, division, or other branch of the government, or which may become available thereafter, shall be and remain available, in similar manner and to the same extent as if no transfer had been made.

SEC. 5. That within the Department of Health there shall be the following bureaus:

(a) Bureau of Sanitary Research; (b) Bureau of Child Hygiene; (c) Bureau of Vital Statistics and Publications; (d) Bureau of Foods and Drugs; (e) Bureau of Quarantine; (f) Bureau of Sanitary Engineering; (g) Bureau of Government Hospitals; (h) Bureau of Personnel and Accounts. And the Secretary of Health is hereby authorized to arrange and rearrange from time to time, with the approval of the President, the functions, duties, personnel, papers, records, and property, and the work, resources, and equipment generally, coming into the jurisdiction and control of the Department of Health by the operation of this act, so as most efficiently and economically to organize and maintain the several bureaus herein named and such divisions and offices thereof as to said secretary seems proper; but in arranging and rearranging the personnel, the rank, pay, and allowances of the officers of the Public Health Service commissioned at the time of the transfer of that service to the Department of Health shall not, by reason of anything in this act contained, be diminished. And the Secretary of Health may call on the heads of other executive departments for information in their possession whenever such information is needed for the efficient and economical working of the Department of Health.

SEC. 6. That the President is hereby authorized to detail officers and employees from any of the several executive departments of the government for duty under the Secretary of Health when so requested by said secretary, and to detail officers and employees in the service of the Department of Health to any of the other executive departments on request of the head of such department, provided such detail can be made without prejudice to the public service, to carry into effect the purpose and intent of this act; but officers and employees so detailed shall receive no additional compensation, but shall be paid such actual and necessary expenses as they incur in the discharge of their duties.

SEC. 7. That the Secretary of Health may, in his discretion and with the approval of the President, appoint an advisory board of not more than seven members, to confer with him on his request, from time to time as he deems necessary, concerning the work of the Department of Health and the health of the people. The members of said board shall be selected because of their special knowledge of matters relating to the public health, and each shall hold office for a term of seven years or until his successor is appointed, except that the appointments first made, and appointments thereafter made to fill unexpired terms and terms of members who have held over beyond the periods of their original appointments, shall be made so that not more than one member shall retire during any one fiscal year. No member of any such advisory board shall receive any compensation for his services, but each shall be paid all actual expenses necessarily incurred in the discharge of his duties. And from and after the passage of this act the advisory board for the Hygienic Laboratory created by section 5 of an act entitled "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, be, and the same hereby is, abolished.

SEC. 8. That the Secretary of Health may, whenever in his judgment public interests would be promoted by so doing, invite the duly constituted health authorities of all or of any of the states, territories, the District of Columbia, and insular possessions as to him may seem advisable, each to send one delegate to confer with him or his duly appointed representative or representatives and with each other, at such time and place as he may designate, concerning any particular matter or matters relating to the public health; and it shall be the duty of the Secretary of Health, on the written application of the duly constituted health authorities of not less than five states, territories, the District of Columbia, or insular possessions, stating the particular matter or matters which it is desired to consider, to appoint a time and place, and to call a conference of the health authorities of the states, territories, the District of Columbia, and insular possessions that united in the request therefor, and personally or through his duly appointed representative or representatives to be present at such conference; but every state, territory, the District of Columbia, and insular possession shall be notified of every conference, and if practicable be afforded an opportunity of being present and participating in its proceedings. And from and after the passage of this act annual and other conferences of state and territorial boards of health, quarantine authorities, and state health officers, provided for by section 7 of an act entitled "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, be, and the same are hereby, abolished.

SEC. 9. That, except as expressly provided in this act, nothing herein contained shall be construed as limiting or abrogating any function, right, or duty imposed by law on any existing bureau, division, or other branch of the government; but such bureaus, divisions, and other branches of the government

as are by this act or by authority thereof transferred to the Department of Health shall continue, under direction of the Secretary of Health, to have such functions, duties, and rights as they have at the time of such transfer; and in the case of such bureaus, divisions, and other agencies of the government as are transferred in part only, the part not transferred shall continue to have and to exercise all such functions, duties, and rights, except such as specifically relate to the part transferred to the Department of Health, in the same manner and to the same extent as if no such transfer had been made.

SEC. 10. That the Secretary of Health shall annually submit to Congress a report in writing showing the operations of the Department of Health during the last preceding fiscal year, which report shall give an account of all moneys received and all moneys disbursed on account of such operations. He shall make such other reports from time to time as may be required by the President, or by either house of Congress, and such as are in his judgment necessary or expedient.

SEC. 11. That $—— be, and the same are hereby, appropriated to carry into effect the provisions of this act, out of any money in the Treasury not otherwise appropriated.

SEC. 12. That all acts and parts of acts contrary to the provisions of this act or inconsistent therewith be, and the same are hereby, repealed.

SEC. 13. That this act shall take effect on and after July 1, 1914.

## TARIFF ON INSTRUMENTS

The Jefferson County (Ky.) Medical Society recently passed the following resolutions:

WHEREAS, The President of the United States has called Congress into special session, the chief end in view being a revision of the tariff downward; and

WHEREAS, There exists on finished surgical instruments imported into this country a duty of 50 per cent.; instruments in the rough are admitted with a duty of 15 per cent., while scientific instruments and apparatus for teaching are admitted free; and

WHEREAS, This condition puts an unnecessary tax on all physicians in the purchase of their instruments, either domestic or foreign, which is both unjust and unnecessary; be it

*Resolved*, That we, the members of the Jefferson County Medical Society, respectfully petition the Congress of the United States now in session assembled, through our representative Honorable Swager Sherley, to remedy this condition through a bill introduced by Mr. Sherley taking the duty off of the aforesaid articles; since we feel that if instruments used only for teaching are admitted duty free it is all the more essential that instruments used in the practice of surgery for the purpose of saving human life and alleviating human suffering should be accorded like privilege; and, be it further

*Resolved*, That a copy of these resolutions be sent to our representative, respectfully asking that he at once adopt measures toward the desired end, that another copy of these resolutions be sent to the American Medical Association with the request that the above resolution be given wide-spread publicity in the pages of THE JOURNAL with the request that all the doctors in the United States, through their county societies, join with the Jefferson County Medical Society in requesting their representatives in Congress to endorse the above mentioned legislation.

DUNNING S. WILSON, President.
A. C. L. PERCEFULL, Secretary.

700 Atherton Building, Louisville, Ky.

**Medical Inspection of Schools.**—Medical inspection ought to emphasize in a decided way the especial significance of hygienic conditions in schools. It seems more than foolish to shut up our well children in unventilated and improperly lighted schoolrooms; furnish them no playgrounds, compel them to live a life not in accord with the laws of physical development, and then when they become anemic, near-sighted, and defective make a great stir about special classes for defectives and spend in building special schools money better spent in keeping children well. We must learn that it is far more important to furnish conditions which promote the health and development of well children than it is to make special efforts to care for those who are sick or defective, especially where these defects have been largely induced through neglect.—*Public Health*, Michigan.

# *Medical Education and State Boards of Registration*

## COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

FLORIDA: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

GEORGIA: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

ILLINOIS: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

LOUISIANA: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

MASSACHUSETTS: State House, Boston. May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee.

### Connecticut Homeopathic March Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, March 11, 1913. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. Only one candidate, a graduate of the Hahnemann Medical College and Hospital of Philadelphia, 1892, was examined and he passed with a grade of 76 per cent.

### Montana April Report

Dr. William C. Riddell, secretary of the Montana State Board of Medical Examiners, reports the written examination held at Helena, Mont., April 1-3, 1913. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 27, of whom 22 passed and 5 failed. The following colleges were represented:

| PASSED<br>College | Year Grad. | Total No. Examined |
|---|---|---|
| Northwestern University Medical School, (1906) (1908) | (1911,2) | 4 |
| College of Physicians and Surgeons, Chicago (1898) | (1903,2) | 3 |
| Hahnemann Medical College and Hospital, Chicago | (1896) | 1 |
| Dunham Medical College, Chicago | (1898) | 1 |
| Drake University, Des Moines | (1911) | 1 |
| Michigan College of Medicine and Surgery | (1901) | 1 |
| University of Minnesota, School of Medicine | (1899) | 1 |
| Washington University, St. Louis | (1904) | 1 |
| Creighton Medical College | (1911) | 1 |
| New York Homeopathic Medical College and Hospital | (1910) | 1 |
| Medical College of Ohio | (1907) | 1 |
| Hahnemann Medical College and Hospital, Philadelphia | (1907) | 1 |
| Vanderbilt University | (1912) | 1 |
| Milwaukee Medical College | (1903) | 1 |
| Laval University, Quebec | (1904) | 1 |
| University of Toronto, School of Medicine (1904) | (1906) | 2 |

| FAILED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| Georgetown University | (1903) | 67.1 |
| College of Physicians and Surgeons, Chicago | (1910) | 69.4 |
| Keokuk Medical College, Coll. of Phys. and Surg., | (1908) | 61.5 |
| Milwaukee Medical College | (1910) | 68.3 |
| Wisconsin College of Physicians and Surgeons | (1905) | 65.4 |

### Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 3, 1913. The total number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined, was 5, all of whom passed. The following colleges were represented:

| PASSED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Baltimore | (1912) | 88 |
| Harvard Medical School | (1908) 86.8; (1910) | 83.7 |
| Cornell University Medical College | (1908) | 89.8 |
| University of Vermont | (1911) | 81.8 |

# Book Notices

THE QUALITATIVE ANALYSIS OF MEDICINAL PREPARATIONS. By H. C. Fuller, B.S., Chief Analyst, Institute of Industrial Research, Washington. Cloth. Price, $1.50 net. Pp. 132. New York: John Wiley & Sons, 1912.

The great diversity in the nature of medicinal substances renders it impossible to devise any routine scheme of analysis for medicines which is both brief and practical. This is particularly the case in a volume of this size. Then, too, the analysis of medicines is such a complex subject and one that requires so much patience and skill acquired from experience that no manual of directions, however complete, can make a competent analyst from an amateur. This work, however, makes no claim to attempt the impossible. The author's analytical scheme resembles the earlier methods of Dragendorff and Parsons for plant analysis, in that an endeavor is made to separate the organic medicines into groups by successive treatments with various solvents in acid and alkaline mediums. After the group separations are made the individual substances are identified by appropriate tests compiled from the literature. The book should prove useful as a time-saver in making cursory examinations of remedies, and will doubtless be found valuable in teaching short courses in drug analysis.

ANLEITUNG ZUR FUNKTIONSPRÜFUNG DES OHRES (Prüfung des Gehör- und Gleichgewichtsapparates). Für die Praxis dargestellt. Von Dr. A. Sonntag und Dr. H. J. Wolff. Mit einem Vorwort von Prof. Dr. G. Brühl. Paper. Price, 2.50 marks. Pp. 69. Berlin: S. Karger, 1912.

This is a treatise on the methods of testing the organ of hearing, including its functions of hearing and equilibration. In addition, sufficient attention is given to the physiology to render plain the results of comparatively recent investigations which make possible some new and important tests. The hearing tests are classified into those which test the condition of the sound-conduction apparatus and those testing the condition of the sound-perceiving apparatus. The methods of using speech, noises and tones as hearing tests are given in detail and the value of each is indicated. The particular value of this work is in the discussion of the physiology of the vestibular apparatus and the methods of testing the function of these end-organs. The subject of nystagmus is carefully considered, dealing with both spontaneous and experimental nystagmus. The methods of using caloric, pressure, galvanic and turning tests are fully and lucidly explained, and finally a diagnostic table summarizes the symptoms of labyrinthitis.

A METHOD OF MEASURING THE DEVELOPMENT OF THE INTELLIGENCE OF YOUNG CHILDREN. By Alfred Binet and T. Simon. Authorized Translation With Preface and an Appendix Containing an Arrangement of the Tests in Age and Diagnostic Groups for Convenience in Conducting Examinations. By Clara Harrison Town, Ph.D., Director of the Department of Clinical Psychology, Lincoln State School and Colony, Lincoln, Ill. Paper. Price, $1. Pp. 83. Lincoln, Ill.: The Courier Company, 1912.

Interest in the study of the backward child has called attention to the mental tests devised by Binet and Simon for the grading of such children, which seems to be the most practical of any of the few methods devised for this purpose. The translator in this little pamphlet has presented the method of Binet and Simon in a compact and practical form which should prove convenient for those interested in this work.

PAPERS ON PSYCHO-ANALYSIS. By Ernest Jones, M.D, M.R.C.P., Associate Professor of Psychiatry, University of Toronto. Cloth. Price, $4 net. Pp. 432. New York: William Wood & Co., 1913.

English readers wishing to gain an insight into the theory and practice of psychanalysis as promulgated by Sigmund Freud will find this series of papers extremely helpful and interesting. The author has long been known as an ardent admirer and faithful disciple of Freud; in fact, he may be said to be even more Freudian than Freud himself. The papers have all been published in journals, but their reproduction in one volume will be welcomed by many. The author's style is facile, and he writes with the power of conviction.

# Medicolegal

## Validity of State Law Prohibiting Shipment of Immature Citrus Fruits

*(Sligh vs. Kirkwood, Sheriff (Fla.), 61 So. R. 185)*

The Supreme Court of Florida affirms a judgment refusing to release the plaintiff in error on habeas corpus proceedings after his arrest on warrants issued from informations charging him with violations of the Florida act of 1911, making it unlawful for anyone to sell, offer for sale, ship or deliver for shipment any citrus fruits which are immature or otherwise unfit for consumption, and for anyone to receive any such fruits under a contract of sale, or for the purpose of sale, or of offering for sale, or for shipment or delivery for shipment, etc. The court holds the statute constitutional. It says that it does not think that the statute conflicts with the interstate commerce clause of the federal constitution or with any of the provisions of acts of congress passed in pursuance thereof that have come to the court's attention. The court does not think the statute a direct interference with interstate commerce or a burden on or prohibition against the legitimate subjects of such commerce. It does incidentally affect such commerce by prohibiting immature citrus fruits produced within her borders from becoming the subjects of shipment or sale, and this in obedience to the police duty and power to protect the public health. Except thus incidentally, the court does not think that the act is an unwarranted interference with or burden on interstate commerce. Nor does the statute in any wise conflict with the Food and Drugs Act of Congress of June 30, 1906. By the sixth subdivision of section 7 of the last-named act, the prohibitions against vegetable substances, which, as the court interprets it, would include citrus fruit, is that if it is in whole or in part filthy, decomposed or putrid, then it is debarred as a subject of commerce. Green or immature fruit may be as deleterious to health as the same fruit in an overripe or decomposed state. The act of congress debars the latter, but says nothing as to the former, thus leaving the field of deleterious immaturity of fruit open to be dealt with by the states. It is not enough to render the state law invalid that it is similar to the federal act on the same subject. Where both the acts of congress and of the state make a defined act an offense, the commission of the act may be an offense against each, and punishable by each.

## Liability to Occupation Tax After Exemption

*(State ex rel. Wilson vs. City of Pensacola (Fla.), 61 So. R. 193)*

The Supreme Court of Florida affirms a judgment in favor of the city in this action, brought by the state attorney for the first judicial circuit to test the power of the city to impose a revenue license tax on the physicians and surgeons practicing their profession within the corporate limits of the city. The court holds that the city of Pensacola may impose an occupation tax on physicians and surgeons practicing their professions within that municipality. And, more generally, it holds that an act exempting physicians and surgeons from an occupation tax may be repealed by a subsequent legislature in a general license law. The failure of the legislature to tax, for state purposes, an occupation exempted by a previous legislature from taxation does not prohibit taxation by municipalities, authorized by the later act to tax for municipal purposes all occupations not mentioned therein.

The court says that the legislature of Florida in 1905 passed an act exempting regular practicing physicians and surgeons from the payment of any license tax. In 1907 a general law was passed imposing licenses and other taxes, which law mentions numerous businesses, professions, or occupations, but does not mention physicians and surgeons. In 1909 the legislature passed an act supplementary to the then existing Pensacola charter, and extending its powers, but which did not limit or cut down the power to impose the tax authorized under the general act of 1907. The state must be given a liberal range in reaching out after the means for its maintenance; and exemptions, not amounting to a vested right, are not lightly

to be treated as fixed and irrevocable. The exempting act had not become a fixed policy of this government; in fact, it barely became a law, not having received the active assent of the governor, who permitted it to become a law without his signature; and to receive the legislative assent apparently required a concession, in that its effectiveness was postponed beyond the usual time. At the next session of the legislature, while it did not impose for state purposes a license tax on physicians and surgeons, as it did do in 1903, it remitted, by express directions to counties and incorporated cities and towns, the power to impose a license tax on any profession not mentioned in the act. The condition before the court was that the legislature, having exempted the profession of physicians and surgeons in 1905, failed or refused in 1907 to continue that exemption, when conferring on municipalities the power to tax; and to this extent the general repealing clause, if needed for the construction of that act, repealed the former exemption enjoyed for a brief period by that honored profession. The title to the general act of 1907 put the world on notice that the legislature was dealing with the subject of occupation taxes; and it was wholly unnecessary to place therein the cognate subsidiary matter, properly connected therewith, that the act might affect previous exemptions.

---

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Diseases of Children, Chicago

*April, V, No. 4, pp. 285-343*

1. Study of Merorachisis (Spina Bifida Occulta). B. Joseph, Burlington, Vt.
2 *Protein Milk as Corrective of Digestive Disturbances. H. B. Wilcox and M. C. Hill, New York.
3 *Protein Metabolism in Infants Fed on Protein Milk. B. R. Hoobler, New York.
4 Complement Fixation Test in Management of Gonococcus Vulvovaginitis. G. G. Smith, Boston.
5 Diphtheria Septicemia, Report of Case. E. Morgan, New York.

2. **Protein Milk for Digestive Disturbances.**—Summarized, the authors' points are:

Protein milk is essentially a therapeutic agent. It is not suitable for use as a continued diet. It is suitable for use at all ages, but better adapted to children over 3 months. It is indicated in gastric or intestinal indigestions, acute infections or chronic incapacities, fermentations or putrefactions. It is of the greatest therapeutic efficiency when made from skim-milk. It is best used without preliminary starvation or purgation. It may be used in combination with any plain milk mixture. Children may be abruptly changed from it to plain milk formulas without danger. It should be partially withdrawn with the first signs of digestive improvement. It should be replaced by suitable milk formulas as fast as the patient's tolerance will admit. Fresh milk and breast milk, when taken badly alone, are often well borne if combined with protein milk. Caloric values of the food may be more rapidly increased when some protein milk is given. Protein milk is especially indicated in acute intestinal infections.

3. **Protein Metabolism in Infants Fed on Protein Milk.**—Hoobler states that the clinical advantages of protein milk as a corrective for diarrheal conditions in infants are confirmed by the following metabolic findings: The protein intake is not increased sufficiently to be a detriment to the child, but on the other hand, frequently supplies only a sufficient amount to make up for the previous protein depletion. When kept on this high protein intake for but a short period, the specific dynamic action of protein may be disregarded. Even though the food be low in caloric value, and while there may be loss of weight, there is nevertheless sufficient protein retained to prevent waste of muscle-tissue and provide for growth. The changes in the stools accompanying protein milk feeding are due to a decrease in the total acidity in the stool, the volatile acids, the fatty acids, an increase in the formation of soaps, a decrease in the amount of water lost through feces and a better retention of the mineral salts. All of the above factors tend to produce fewer stools through lessened irritability and formed stools through the reduction of water and the formation of soaps. These chemical results may all occur within the space of three or four days, and confirm the clinical observation that in many cases protein milk may be discontinued at the end of a very short period, thus using it as a corrective for diarrheal conditions only and not as a true food.

### American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

*April, LXVII, No. 424, pp. 649-848*

6 *Influence of Ovary as Organ of Internal Secretion. W. P. Graves, Boston.
7 Intestinal Obstruction. A. B. McConnell, San Francisco.
8 Extra-Uterine Pregnancy: Operation Three Months After Term; Recovery. W. S. Smith, Baltimore.
9 Pros and Cons of Specialism. D. C. Moriarta, Saratoga Springs, N. Y.
10 Alpha and Omega of Digestive Tract in New-Born Child. D. H. Stewart, New York.
11 Hysterectomy for Cure of Prolapse of Uterus. W. A. B. Sellman, Baltimore.
12 Properitoneal Hernia. W. C. G. Kirchner, St. Louis.
13 Tuberculosis in Its Relation to Pregnancy, Labor and Puerperium. R. W. Lobenstine, New York.
14 Delivery by Breech, with Special Reference to Technic. A. J. Skeel, Cleveland.
15 Surgery of Liver and Bile Tract. J. G. Sherill, Louisville, Ky.
16 Nephrectomy for Polycystic Condition of Kidney. G. Torrance, Birmingham, Ala.
17 Toxemias of Pregnancy. H. E. Tuley, Louisville, Ky.
18 Preservation and Repair of Female Perineum. S. J. Goodman, Columbus, O.
19 Function of Thymus. A. E. Lampé, Halle, Germany.

6. **Influence of Ovary as Organ.**—The present status of our knowledge concerning the physiology of the ovary, Graves says, justifies the following conclusions:

1. Anatomic evidence makes it probable but not incontestable that the ovary is an organ of internal secretion. 2. Infantilism is not a result of ovarian deficiency but is a local or general manifestation of a hypoplastic constitution in which the ovary may or may not share incidentally. 3. After sexual maturity the ovary exercises a trophic influence over the other internal and external genital organs. 4. There is evidence to show that the ovaries preside over menstruation by an internal secretion which has a selective action on the endometrium; and that abnormal uterine bleeding may be due to a hypersecretion of the ovaries. This evidence is not incontestable. 5. Transplantation of ovarian tissue has not as yet proved to be of great practical value in the surgical treatment of gynecologic patients. 6. Castration of sexually mature women directly causes vasomotor symptoms typified by hot flashes in 80 per cent. of cases. 7. Definite psychoneuroses are not directly caused by castration, but such symptoms if present are due to other causes that produce physical or mental pain or discomfort. 8. Ovarian extract is invaluable in the treatment of the vasomotor disturbances following castration. Its value in the treatment of other gynecologic conditions is problematic.

### Annals of Surgery, Philadelphia

*April, LVII, No. 4, pp. 449-592*

20 *Congenital Internal Hydrocephalus. I. S. Haynes, New York.
21 *Effect of Removal of Hypophysis Cerebri in Dog. J. E. Sweet and A. R. Allen, Philadelphia.
22 Consecutive Displacement of Cerebral Hemisphere in Localization and Removal of Intracerebral Tumors and Hemorrhages (Apoplectic Hemorrhages and Clots). W. H. Hudson, Atlanta, Ga.
23 *Coexisting Infection and Sarcoma of Thyroid. M. F. Porter, Fort Wayne, Ind.
24 *Experimental Devascularization of Intestine with and without Mechanical Obstruction. J. S. Horsley and C. C. Coleman, Richmond, Va.
25 *Surgery of Single and Horseshoe Kidney. C. H. Mayo, Rochester, Minn.
26 *Embryogenetic Relationships of Tumors of Kidney, Suprarenal and Testicle. L. B. Wilson, Rochester, Minn.
27 Excision and Suture in Treatment of Dense, Close, Urethral Strictures. C. G. Cumston, Boston.
28 *Operative Fixation as Cause of Delay in Union of Fractures J. B. Roberts, Philadelphia.
29 *Treatment of Volkmann's Contracture. E. G. Alexander, Philadelphia.
30 Infections of Hand. L. W. Hoon and G. J. Ross, Philadelphia.

20. **Congenital Internal Hydrocephalus.**—The correctness of the principle of this operation (also published in the *Archives of Pediatrics* and abstracted in The Journal, March 22, p. 940), is again emphasized by Haynes. He reports two cases in which the procedure was employed unsuccessfully, but both cases, he believes, show that his theory is correct.

21. **Removal of Hypophysis.**—In summing up their experience with twenty-two dogs, the authors state that it is evident that the hypophysis is not essential to life; there are undoubtedly three well-marked changes which follow hypophysectomy;

the first change concerns the pancreas. They have not worked very extensively with the question of sugar tolerance, and therefore have nothing to say on that point. The second change is the atrophy of the testicles, which is of very early appearance, being extremely marked by the end of the second week after operation. Whether or not this atrophy can be compensated for by the function of some part left behind or of some glandular rests which have been described by Cushing in the floor of the sella turcica, the authors are unable to say. Increase in weight is of late appearance, and whether it be due to the loss of the hypophysis primarily or due to the secondary atrophy of the testicle is not at all clear in their minds.

Their results agree with the most recent work on the subject reported by Aschner, except perhaps in two particulars. He worked almost exclusively with young animals, and inclines to the belief that the removal of the hypophysis from the adult dog is without effect. In the second place he ascribes the atrophy of the testicles to injury of the tuber cinereum. This point of view seems to Sweet and Allen a purely academic one. There can be no agreement as to where tuber cinereum ends and infundibulum begins. They have found no evidence whatever in their work which would incline them to agree with Aschner in this particular.

23. Abstracted in THE JOURNAL, January 25, p. 316.

24. **Devascularization of Intestine.**—The authors add two experiments to ten previously reported in THE JOURNAL, Aug. 24, 1912, p. 597.

25 and 26. Abstracted in THE JOURNAL, January 18, pp. 236 and 237.

28. **Delay in Union of Fractures.**—Roberts reports a case of apparent interference with union by operative fixation with a metal plate to maintain coaptation of the fragments after a difficult reduction. He has also gone over the recently expressed opinions of surgeons doing this kind of work. He pleads for caution against the enthusiastic adoption of this method of treatment as a routine means of dealing with closed fractures. The profession and the public should know that while it is a necessity in some cases and its adoption a question of judgment in other cases, there are many instances of subcutaneous or closed fracture in which it is not needed. Good results can often be obtained, both as to anatomic restoration of the parts, good function and rapid cure, by external dressings guided by a thoughtful, careful surgeon, who has a mechanical mind and anatomic knowledge. The operative treatment is particularly dangerous when adopted by novices in aseptic surgery, or in places where complete aseptic surroundings cannot be obtained.

29. **Treatment of Volkmann's Contracture.**—Alexander reports two patients who were treated by mechanical means, electricity and massage. One case was of short duration, the other had existed for several months. The first patient was treated on a splint, electricity and massage were given every other day, and the splint gradually extended. At the end of twelve weeks the patient was discharged from the hospital cured, with good supination and pronation of the forearm, flexion and extension of the wrist and fingers. The second patient, treated like the first, in about three months' time was able to flex and extend the fingers and wrist. Although he has good wrist and finger motion, he still shows atrophy of the muscles of the forearm and hand. Sensation in the hand is apparently normal. The only difficulty encountered in the treatment of these two patients was superficial pressure ulceration of the finger tips. This difficulty was overcome by placing pads under the finger tips and "making haste slowly" with the extension.

The apparatus used in treating the two patients reported consists of two parts. Part 1 consists of a leather casing encircling the lower half of the forearm. The casing is reinforced on each side (radial and ulnar) by a steel bar. A semicircular bar at the upper end extends around the flexor surface from the radial to the ulnar bar. The casing is buckled on the extensor side of the forearm. Part 2: A plate covered with leather is fitted to the palm of the hand and fingers. Extending from one side of the plate to the other, on the dorsal aspect, is a wide leather strap to hold the fingers straight and in position. Two bars attached in front on either side of the plate pass backward, the one on the radial side arching much more than the ulnar one, to join at the wrist the radial and ulnar bars described in Part 1. The joint formed by the union of these bars is provided with a lever and quick screw. Two long leather straps, attached in front at the junction of the plate and bars, pass backward, crossing on the dorsum of the wrist, and are attached to the radial and ulnar bars, just in front of junction of these bars with the semicircular one. These straps, and also the broad finger strap, are so arranged that they can be adjusted to fit the case. The apparatus can be varied to suit the case. The apparatus is applied with the hand strongly flexed and the fingers extended as much as possible. By turning the screws the plate is elevated and the hand and fingers extended.

### Bulletin of Johns Hopkins Hospital, Baltimore

*April, XXIV, No. 266, pp. 103-134*

31 Tuberculosis of Urinary System in Women. E. H. Richardson, Baltimore.
32 Effect of Chemical Treatment on Baltimore City Water. W. W. Ford and E. M. Watson, Baltimore.
33 Certain Dangers of Adenoidectomy. W. E. Grove, Milwaukee, Wis.
34 *Transplantation of Rib Cartilage Into Pedunculated Skin Flaps: Experimental Study. J. S. Davis, Baltimore.
35 Dengue, Its History, Symptomatology and Epidemiology. E. R. Stitt, Washington, D. C.

34. **Transplantation of Rib Cartilage.**—A flap of the required size with either a broad or narrow base was outlined by Davis and raised from its bed. It was then folded on itself, raw surface to raw surface, so that there was skin on both sides. The edges were held together with several sutures. In this way a sort of pouch was formed and into a selected portion of this pouch the cartilage was placed and secured. The long flaps, with narrow bases, were dressed with gauze moistened with normal salt solution, and each was protected from pressure by a molded wire cage which was secured by a bandage. The short flaps, with broad bases, were in a number of instances exposed to the air without dressings.

The cartilage was obtained from the cartilaginous ribs. The perichondrium was not disturbed except where shaping was done. The cartilage was either imbedded in a thin layer of subcutaneous fat, or was placed in a pocket burrowed in the subcutaneous tissue itself, or was surrounded by the skin after the subcutaneous tissue had been removed. The location of the cartilage varied in the different flaps. In some it was placed parallel to the base of the flap, either in the distal, intermediate or proximal portions. In others, it was placed vertically to the base, and in different parts of the flap. In still others it was placed diagonally across the flap. The shape of the cartilage varied. In some of the experiments it was inserted in its natural shape, and in others it was cut and moulded into the desired form. The flaps when completed were either appendix-shaped, square, or rectangular, some of the latter having a broad and some a narrow base. Pieces of cartilage from 1.5 to 7 centimeters in length were used. The cartilage was allowed to remain in the flaps from seven to 120 days. In two instances where infection occurred the wounds were quickly brought into healthy condition, and the cartilage saved, by the free use of tincture of iodin. In one experiment the cartilage was accidentally contaminated before transplantation, but after being dipped in the iodin solution it was placed in the flap, and *per primam* healing followed.

The appendix-shaped flaps containing cartilage, which were long and had comparatively narrow bases, were the least likely to be completely successful. The broad-based flaps, on the other hand, were nearly always successful throughout. In several instances the cartilage transplanted in the flaps was obtained from other dogs, and these pieces were apparently as well nourished and gave as satisfactory results as those from the same animal. The cartilage should be securely, but loosely, anchored in position. If there was pressure on any particular portion of the cartilage, as for instance by a tightly drawn suture, there was usually slight liquefaction and subsequent fracture of the cartilage at that point. Macroscopic examina-

tion showed in every instance that the squarely cut ends of the transplanted cartilage had become slightly rounded. The healing was reactionless and the cartilage did not act as a foreign body.

The measurements of the cartilage when removed from the flap differed very little, if at all, from those taken at the time of transplantation. On section the cartilage appeared normal and seemed well nourished. Microscopic examination showed the transplanted cartilage surrounded by a loose connective tissue zone containing blood-vessels, which were more or less abundant, according to the length of time after transplantation. The cartilage cells appeared normal and there were no signs of degeneration or absorption. This series of experiments show that cartilage with its perichondrium may be transplanted successfully into flaps of the desired shape, with skin on both sides, so long as the blood supply is sufficient to nourish the flaps. The cartilage may also be cut and molded into any required form to support the flap.

### Bulletin of Lying-in Hospital of City of New York

*March IX, No. 1, pp. 1-65*

36 Temporal Bone and Its Anomalies at Birth in 150 Cases. C. A. Freligh, New York.
37 Infant Temporal Bone in Its Relation to Mastoid Operation. H. B. Brown, New York.
38 Does the Average Midwife Meet Requirements of Patient in Confinement? G. W. Kosmak, New York.
39 When Is High Forceps Operation Justifiable? J. A. Harrar, New York.
40 Immediate Treatment of Depressed Fractures of Skull in New-Born. G. W. Kosmak, New York.

### Boston Medical and Surgical Journal

*April 10, CLXVIII, No. 15, pp. 525-560*

41 Conduct of Labor Without Vaginal Examinations. C. M. Green, Boston.
42 *Diabetes in Infancy and Childhood. J. L. Morse, Boston.
43 Bilateral Subclavian Aneurysms. H. A. Lothrop, Boston.
44 Follow-Up Work as Element of Effective Treatment in Outpatient Clinic for Eye Diseases. E. Hartshorn and M. M. Davis, Boston.
45 Progress in Diagnosis and Treatment of Intussusception. W. E. Ladd, Boston.

42. **Diabetes in Infancy.**—The literature of this subject is reviewed by Morse and nineteen personal cases are added. There was a history of diabetes in the family of six, or 31 per cent. of these patients. A history of long-continued excessive consumption of sugar was present in six cases. Polyuria was the first symptom noted in five of seventeen patients over 2 years of age. Enuresis was the first symptom noted in four, excessive thirst in three, emaciation in three, quietness in one and disturbance of vision in another. Polyuria was noticed in all. Polydypsia was, however, noted in but thirteen. Emaciation was also noted in thirteen. Only nine were constipated. A large appetite was noted in six, while loss of appetite was noted in three. Enuresis was present in five and irritation and itching of the external genitals in four. Itching of the skin was mentioned in but one case. Three were nervous, two were quiet, one suffered from headaches and one had trouble with vision. About two-thirds of the cases were of the severe type. The duration in twelve patients over 2 years old was six weeks, two months, five months, seven months, seven months, twenty-one months and twenty-eight months, respectively. Three patients are still alive, two months, eleven months, and twenty-eight months, respectively, after the onset of symptoms. All of these have sugar in the urine. The result is not known in the other two.

### California State Journal of Medicine, San Francisco

*April, XI, No. 4, pp. 135-172*

46 Rational Psychotherapy. H. C. McClenahan, San Francisco.
47 Psychotherapy in Sexual Neurasthenia. V. Vecki, San Francisco.
48 Psychiatric Duties of Large Cities. R. L. Richards, Burkesville, Ky.
49 Are We Doing as Much for the Tuberculous Patient as We Should? F. M. Pottenger, Monrovia.
50 Interauricular or Interventricular Deficiency of Septum? A Question of Diagnosis. W. W. Kerr, San Francisco.
51 Prospects and Retrospects. A. Barkan, San Francisco.
52 Granuloma Inguinale Tropicum. D. Friedlander, San Francisco.
53 Occipito-Posterior Position. L. I. Breitstein, San Francisco.
54 Present Knowledge of Vermiform Appendix C. J. Teass, San Francisco.
55 Treatment of Fractures of Patella. R. Brown, Santa Barbara.

### Cleveland Medical Journal

*March, XII, No. 3, pp. 161-232*

56 When Man Had a Hole in His Humerus. F. D. Snyder, Ashtabula, Ohio.
57 *Effects of Aortic Compression on Circulation. T. Sollmann and J. D. Pilcher, Cleveland.
58 Radical Treatment of Uterine Fibroids Based on Their Association with Malignancy. R. E. Skeel, Cleveland.
59 Some Common Diseases Mistaken for Tuberculosis and Their Consideration. J. C. Placak, Cleveland.
60 Difficulties in Diagnosis of Gall-Stones. F. E. Bunts, Cleveland.
61 *Influence of Lipoids on Hemolysis. J. D. Pilcher, Cleveland.
62 *Clinical Results of Nasal Treatment in Asthma. W. J. Abbott, Cleveland.
63 Organization of Medical Schools. C. F. Thwing, Cleveland.
64 Duodenotomy for Removal of Impacted Sewing-Machine Needle. J. J. Buchanan, Pittsburgh.

57. **Aortic Compression.**—Compression of the aorta and, indeed, any other rise of blood-pressure, was found by Sollmann and Pilcher to produce a moderate constrictor effect; the stimulation being due, presumably, to increased intracranial pressure. While the absolute rise is the same, the percentage rise is inverse. At 50 mm. the percentile rise would be 80 per cent.; at 100 mm. it would be 40 per cent., etc. The degree of vasoconstriction—the clamping of the aorta—is, of course, uniform; hence, the absolute rise is a much better index of vasomotor changes of blood-pressure than is the percentile rise. When the aorta is compressed, the heart is dilated to about the same relative degree in systole and diastole. The excursions remain practically unchanged. The high blood-pressure is maintained for at least twenty minutes, and then falls very slowly, the heart continuing to beat efficiently for several hours. Ordinarily, therefore, the heart is not discoverably injured by the high pressure and resistance. Sometimes, however, presumably because the heart is already weak, the muscles may pass early into sudden and irrecoverable fibrillation.

When the pressure on the aorta is suddenly released, the blood-pressure falls temporarily below the normal level. This fall is generally attributed to vasomotor paralysis, but this view is disproven by the authors' experiments. Their perfusion method shows that the vasomotor center is not depressed in this period; static stimulation still raises the blood-pressure; and the fall of pressure is equally marked with compressions lasting only half a minute, in which a peripheral vasomotor paralysis by anemia is excluded. On the other hand, they have distinct evidence of cardiac changes. During the fall of pressure the systole and diastole are both incomplete; that is to say, the heart neither fills nor empties itself as completely as normally. This inefficiency of the heart cannot be due to an injury of the cardiac muscle; for as they have seen, the heart is able to work against high pressure indefinitely. The explanation is probably to be sought in temporary maladjustments. On the one hand, the tone of the heart muscle has been pitched to the high resistance and cannot instantly change its pitch to a low resistance. On the other hand, a large part of the blood thrown out by the heart is required to fill the depleted arterial system, so that the return flow to the heart must be temporarily impeded. Similar temporary maladjustments must exist in any sudden change of resistance of loss of blood. They do not occur when the changes are produced gradually. The authors therefore emphasize that it would be safer to apply any measures which alter the resistance to the heart gradually.

61. **Lipoids and Hemolysis.**—While working with a number of laking or hemolytic agents Pilcher observed that a number of bland oils increase the hemolytic power of certain substances which are either lipoid solvents (alcohol and ether) or are soluble in oils (chloral hydrate). This holds true whether the blood-corpuscles are first shaken with the oils and are then added to the plain hemolytic agent, or whether plain or "oiled" corpuscles are added to the hemolytic agent saturated with the oils. The increased hemolysis caused by the oils was

not due to free fatty acids, for the oils were neutral or at least very faintly acid to alcohol moistened litmus. The "oiled" blood, on standing, did not lake before the plain blood. Shaken plain blood behaved as unshaken blood. It is suggested that the oils increase the permeability of the lipoid (lecithincholesterin) cell envelope to the laking agents.

Several series of experiments were made, using 50 per cent. alcohol in normal saline as a laking agent. Five c.c. of a 5 per cent. mixture of sheep's corpuscles, both plain and "oiled," were added to 3.7 c.c. of plain alcohol made up to 5 c.c. with normal saline solution. The linseed and olive oil corpuscles were laked within five minutes, the petrolatum in thirty and the plain corpuscles in sixty minutes. With 3.5 c.c. of alcohol, plain and petrolatum corpuscles were laked in about three hours, the cottonseed oil corpuscles in one and one-half hours, while the linseed and olive oil corpuscles were still laked in five minutes. In other experiments, petrolatum corpuscles were laked somewhat more readily than plain. When the alcohol was saturated with the oils it was found that laking occurred more rapidly than with plain alcohol, so that in this series smaller quantities of alcohol were used. Two c.c. of alcohol saturated with linseed and olive oils laked linseed and olive oil corpuscles within one hour, and cottonseed corpuscles somewhat less rapidly; the plain and petrolatum corpuscles were laked overnight. Alcohol saturated with cottonseed oil and petrolatum liquid laked linseed, olive and cottonseed (the latter only partially) corpuscles overnight, but not plain and petrolatum corpuscles; so that linseed and olive oils increase alcohol laking more than cottonseed oil and petrolatum. Linseed oil is soluble in ten parts of absolute alcohol, olive oil sparingly, cottonseed oil and petrolatum very sparingly. This difference in solubility may explain the greater action of the linseed and olive oils, although there was not a great difference between the action of the two and linseed oil is much more soluble in alcohol than is olive oil. In the presence of oils even completely laked mixtures may be cloudy, so that the microscope was employed to determine when the corpuscles were in complete solution.

62. **Nasal Treatment in Asthma.**—Abbott found in all his forty-four cases of bronchial asthma that there was a more or less hypertrophied condition of the mucous membrane over or near the middle turbinate body and in all but two of the cases removal or lessening of the hypertrophied condition caused a disappearance or improvement, in a very short time, of the symptoms of asthma. The treatment used in these cases varied with the variations in the conditions found. Sometimes the ethmoid condition was uncomplicated, so treatment was directed to it alone, while in others it was found that there existed other conditions which seemed to have been the cause of the ethmoiditis. When the ethmoiditis alone existed the treatment varied from local applications of silver nitrate, chromic acid, trichloracetic acid, cauterization with the electric cautery and simple removal of the apparent hypertrophic tissue, to a complete cleaning out of the ethmoid cells.

The results Abbott has been able to get so far are, he says, very interesting: In one case, a woman of 40, asthma had existed for twelve years, and had been constant, with frequent severe attacks. After operation she was clear for two months and the attack was mild. A young lady of 26, who had been asthmatic for twenty-three years, with severe attacks at frequent intervals, was free for three and one-half months when a slight attack laid her up for three days and she had only used drugs during those three days, although before operation she was up every night for months for an hour at least inhaling and taking drugs of different types. A man of 26, with a history of asthma for about eight years, was free ten months after operation, then suffered for five days from asthma after a severe cold and has been free now for four and one-half months and has gained twenty-three pounds in weight. The case that has gone longest with no recurrence is now about two years and two months since treatment.

## Delaware State Medical Journal, Wilmington

*March, IV, No. 4, pp. 1-26*

65 Venereal Diseases vs. Prostitution. C. DeJ. Harbordt, Dover.

## Georgia Medical Association Journal, Augusta

*April, II, No. 11, pp. 345-376*

66 Sanitation in Schools. T. A. Mann, Brunswick.
67 Prevention of Pellagra. H. F. Harris, Atlanta.
68 Sanitation in Home. J. R. McMichael, Quitman.
69 History of Obstetric Forceps. A. J. Kilpatrick, Augusta.
70 Treatment of Typhoid. S. T. Revell, Louisville.
71 Cotton Mill and Tuberculosis. J. H. Hammond, Lafayette.

## Journal-Lancet, Minneapolis

*April 1, XXXIII, No. 7, pp. 191-222*

72 Open Treatment of Fractures. E. H. Beckmann, Rochester, Minn.
73 High Blood-Pressure and Arteriosclerosis. W. H. Bodenstab, Bismarck, N. Dak.
74 Male Bladder Changes in Form and Position from Infancy to Old Age. F. R. Wright, Minneapolis.
75 Pelvic Cellulitis. F. Treon, Chamberlain, S. Dak.
76 Present Status and Indication for Abdominal Cesarean Section. H. I. King, Aberdeen, S. Dak.
77 Significance of Pupillary Inequality. J. M. Robinson, Duluth.
78 Chemical Tests for Occult Blood. H. E. Robertson, Minneapolis.

## Journal of Biological Chemistry, Baltimore

*April, XIV, No. 3, pp. 159-334*

79 Tannic-Acid Fermentation. L. Knudson, Ithaca, N. Y.
80 Idem: Effect of Nutrition on Production of Enzyme Tannase. L. Knudson, Ithaca, N. Y.
81 Method of Preparing Ash-Free Casein and Paracasein. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
82 Preparation and Composition of Basic Calcium Caseinate and Paracaseinate. A. W. Bosworth and L. L. Van Slyke, Geneva, N. Y.
83 Preparation and Composition of Unsaturated or Acid Caseinates and Paracaseinates. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
84 Valency of Molecules and Molecular Weights of Casein and Paracasein. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
85 Composition and Properties of Brine-Soluble Compound in Cheese. L. L. Van Slyke and A. W. Bosworth, Geneva, N. Y.
86 Rate of Extraction of Protein (Salmin) from Desiccated Tissue by Aqueous Solvent. T. B. Robertson, San Francisco.
87 *Quantitative Chemical Analysis of Human Bile. J. Rosenbloom, Pittsburgh.
88 Behavior of Some Hydantoin Derivatives in Metabolism. H. B. Lewis, New Haven, Conn.
89 Cerebronic Acid. P. A. Levene and C. J. West, New York.
90 Chemical Differentiation of Central Nervous System: Comparison of Brain of Albino Rat at Birth with That of Fetal Pig. M. L. Koch, Philadelphia.
91 Idem: Comparison of Two Methods of Preserving Nerve Tissue for Subsequent Chemical Examination. W. Koch and M. L. Koch, Philadelphia.
92 *Rapid Clinical Method for Estimation of Urea in Urine. E. K. Marshall, Baltimore.
93 Lipins of Heart Muscle of Ox. J. Rosenbloom, Pittsburgh.
94 Folin's Michrochemical Method for Determination of Urea. J. C. Bock, Boston.
95 Researches on Purins. C. O. Johns and A. G. Hogan, New Haven, Conn.
96 Researches on Pyrimidins: Pyrimidin-Nucleosides. T. B. Johnson and L. H. Chernoff, New Haven, Conn.
97 Intermediary Metabolism of Amino-Acids. H. D. Dakin, New York.

87. **Quantitative Chemical Analysis of Human Bile.**—Rosenbloom examined 3,180 c.c. of bile obtained from a patient with a biliary fistula. His analysis yielded the following results: bile salts, 10.1; mucin and pigments, 4.86; cholesterol, 2.61; fat, 6.85; soaps, 2.6; lecithin, 6.42; total solids, 29.8; inorganic, 9.2; water, 970.2; fatty acids, 1.2.

92. **Clinical Estimation of Urea.**—The procedure described by Marshall is said to be peculiarly useful in its application to pathologic urines since the presence of glucose and protein, usually so annoying in the estimation of urea, are without influence here and need not even be removed. In the preparation of the enzyme solution, soy beans are ground to a fine powder which can be preserved in well-stoppered dry bottles for months without appreciable loss of activity. Twenty-five grams of this powder are mixed with 250 c.c. of distilled water, and allowed to stand with occasional agitation for about an hour.

Twenty-five c.c. of N/10 hydrochloric acid are now added, and the mixture allowed to remain a few minutes longer (best in a water bath at about 35 C.), when a large proportion of the protein of the bean extract is precipitated. The mixture is filtered; the filtrate treated with a few drops of toluene and

preserved for use in a stoppered vessel. On standing the originally clear fluid becomes opalescent, and finally a precipitate is formed, but the solution remains sufficiently active for use in the method at least five days after its preparation when kept at the room temperature. This solution is alkaline to methyl orange, and 2 c.c. generally require from 0.28 to 0.34 c.c. N/10 hydrochloric acid for neutralization. This factor should be determined once for 2 c.c. of each preparation and can then be employed as a correction as long as the solution is used. The alkalinity is apparently constant from day to day. If for any reason the extract should not be distinctly alkaline to methyl orange, less acid should be used in its preparation, as an extract which reacts acid to methyl orange is scarcely active.

In the execution of the method two 5 c.c. portions of the urine are measured into flasks of 200-300 c.c. capacity and diluted with distilled water to about 100-125 c.c. Two c.c. of enzyme solution are added to one flask, a few drops of toluene to each and the solution allowed to remain, well stoppered, at room temperature over night. The fluid in each flask is titrated to a distinct pink color with N/10 hydrochloric acid using methyl orange as an indicator. The amount of hydrochloric acid required for the contents of the flask containing the urine and enzyme solution less the amount used for 5 c.c. of urine alone and that previously determined for 2 c.c. of enzyme solution, corresponds to the urea originally present in the sample of urine.

Since 1 c.c. of N/10 hydrochloric acid is equivalent to 3 mg. of urea, the number of cubic sentimeters required multiplied by 0.6 gives the value of urea expressed in grams per liter of urine. The time required for complete hydrolysis of the urea depends on the quantity of urine used, the concentration of the urea, the amount of enzyme present and the temperature of action. The velocity of the reaction is approximately twice as rapid at 35 C. as at 25 C., and directly proportional to the enzyme concentration within certain limits. The conversion is complete in less than one hour at 35 C., when 10 c.c. of the enzyme solution are employed instead of 2 c.c. A cloudiness, however, is produced on titrating a solution containing 10 c.c. of the enzyme mixture, which renders the end point uncertain and the procedure less accurate. With the use of only 2 c.c. of enzyme solution this cloudiness is scarcely noticeable.

If more rapidity is required than is attained by the method as outlined, digestion for three hours at a temperature of 35 C.-28 C. will suffice, or, if accuracy is to be sacrificed to rapidity, less urine and more enzyme solution can be employed.

## Journal of Cutaneous Diseases, New York

*April, XXXI, No. 4, pp. 221-304*

98 Classification and Nomenclature of Acquired Cutaneous Syphilis. G. H. Fox, New York.
99 Granuloma Inguinale Tropicum: Report of Three Cases. J. Grindon, St. Louis.
100 Scaphoid Scapula and Its Syndrome: Connection with Syphilis in Ascendants. W. W. Graves, St. Louis.
101 Multiple Lymphoid Tumors of Skin: Report of Case. J. M. Winfield, Brooklyn.
102 *Can Psoriasis Be Cured? A. Ravogli, Cincinnati.

**102. Can Psoriasis Be Cured?**—Ravogli has nearly abandoned the use of chrysarobin, pyrogallol and tar, for the reason that they cause too much discomfort to the patient. He finds that in cases of ordinary psoriasis a salve with white precipitate gives the best results:

℞

| | gm. or c.c. | | |
|---|---|---|---|
| Hydrarg. precip. alb. | 33-66 | | gr. v to x |
| Bismuthi subcarb. | 2 | or | āā ʒ ss |
| Zinci oxydi | | | |
| Phenolis | 4 | | gtt. vi |
| Petrolat. alb. | 30 | | ʒ i |

## Laryngoscope, St. Louis

*March, XXIII, No. 3, pp. 161-240*

103 Innocent Growths of Larynx: Eight Cases. J. W. Wood, London.
104 Laryngotracheal Manifestations of Thyroid Disease. O. J. Stein, Chicago.
105 Determining Factors in Tinnitus Aurium. E. P. Fowler, New York.
106 Some Curable Affections of Acoustic Nerve. A. Lewy, Chicago.
107 Some Ethical Problems Confronting Eye, Ear, Nose and Throat Specialist. L. Emerson, Orange, N. J.
108 Extradural Abscess Complicating Frontal Sinusitis. R. H. Johnston, Baltimore.
109 Fibrinous Rhinitis. V. Dabney, Washington, D. C.
110 The Monochord. M. A. Goldstein, St. Louis.
111 Mouth Gag with Permanently Attached Tube for Continuous Etherization and New Tonsil Grasp. W. C. Wood, Philadelphia.
112 Curet for Bridge in Radical Mastoid. M. D. Stevenson, Akron, Ohio.
113 Corwin's Tonsil Hemostat. A. M. Corwin, Chicago.

## Medical Record, New York

*April 12, LXXXIII, No. 15, pp. 645-690*

114 Peritoneal Adhesions of Insidious Toxic Group. R. T. Morris, New York.
115 Prevalence of Catarrhal Deafness and Its Economic Consideration. H. Hays, New York.
116 Osteitis, Periostitis, Etc. W. W. Griffin, New York.
117 Results of Tonsillectomy. B. DeF. Sheedy, New York.
118 *Pathology and Treatment of Callous Ulcer of Bladder. L. Buerger, New York.
119 Sexual Disorders Associated with Disease of Nervous System. W. M. Leszynsky, New York.
120 Accuracy of Systolic Blood-Pressure Determinations by Various Methods and Clinical Use of Diastolic Pressure. L. Clendenning, Kansas City, Mo.

**118. Callous Ulcer of Bladder.**—Buerger summarizes his paper as follows:

Clinical, cystoscopic and pathologic studies in two cases of vesical ulceration have conclusively shown that simple callous ulcer of the bladder can and does exist. The clinical symptoms of this condition are intense dysuria, urgency, frequency of micturition with sanguineous and purulent urine. The manifestations became progressively more marked and take a chronic course. The chronicity of this disease and the progressive impairment of vesical capacity speak strongly for the view that chronic cystitis and contracted bladder are often the sequelae and outcome of solitary ulceration. The region of the trigone seems to be the favorite site for the chronic indurated type of ulceration. Although designated as simple, and often as solitary ulcer of the bladder, this condition may be accompanied by one or more superficial erosions of the mucous membrane, elsewhere in the bladder interior, lesions which are undoubtedly secondary to the intense cystitis accompanying the ulcer.

The most effective and rapid method of curing the disease as well as the simplest procedure is the excision of the ulcerated area by means of the author's operating cystoscope and punch forceps. Less radical measures of treatment, such as cauterization with the actual cautery or fulguration, and silver nitrate irrigation are of no avail in this type of ulcer. Histologic examination in two cases has shown that the pathology of this condition is rather characteristic, there being a superficial deposit of urinary salts, a layer of necrosis and ulceration, and a stratum of newly formed connective tissue with active evidences of inflammation. The margin of the ulcer shows intensely vascular inflamed mucous membrane and submucosa.

In every case of chronic cystitis, particularly in women, in which dysuria, urgency and frequency of micturition are marked, a careful search should be made for this form of ulcer, for if it be present, it is more than likely that chronic cystitis, irritable and contracted bladder are secondary, and may be cured by the method advocated.

## Mississippi Medical Monthly, Vicksburg

*April, XVII, No. 12, pp. 231-250*

121 Venereal Prophylaxis. A. J. Jagoe, Clarksdale.
122 Some Experiences with Pellagra. G. M. Shaw, Robinsonville.
123 Pneumonia; Bronchopneumonia; Capillary Bronchitis; Lobular Pneumonia; Catarrhal Pneumonia. R. M. Donald, Hattiesburg.
124 Better Health Conditions for Country How Obtained. J. M. Gurney, Tupelo.

## New York Medical Journal

*April 12, XCVII, No. 15, pp. 741-796*

125 Poliomyelitis and Variola. F. Proescher, Pittsburgh.
126 Pathology of Neuralgia. G. McConnell, Philadelphia.
127 How Much of Eugenics is Scientific? C. E. Nammack, New York.
128 Atypical Children. S. P. Goodhart, New York.
129 Hemorrhoid Operations. L. Watson, Oklahoma City, Okla.
130 Improvements in Speculum. P. Z. Herbert, New York.
131 Exercise and Diet in Relation to Growth. R. H. Dennett, New York.
132 Treatment of Pneumonia. M. Packard, New York.
133 Jequirity in Ophthalmic Work. J. Allan, London, England.
134 Heart-Block (Adams-Stokes Syndrome). I. W. Held, New York.
135 Suitable Amusements for Growing Child. P. M. Van Voast, New York.

136 Diseases Influencing Growth. B. R. Hoobler, New York.
137 Acute Anterior Poliomyelitis Following Bite of Dog Infected with Rabies. H. B. Haywood, Raleigh, N. C.
138 Injection of Salvarsan. R. Ormsby, New York.

### Pennsylvania Medical Journal, Athens

*March, XVI, No. 6, pp. 421-512*

139 *Hypophysis Cerebri in Disease; Method and Results of Surgical Intervention. C. H. Frazier, Philadelphia.
140 Gradually Developing Hemiplegia Due to Cerebral Neoplasm. M. H. Fussell and S. Leopold, Philadelphia.
141 Paraplegia in Hodgkin's Disease: Treatment by Lamineetomy and Roentgen Rays. C. K. Mills and E. Martin, Philadelphia.
142 Cases Illustrating Certain Phases of Cerebrospinal Surgery. J. S. Rodman, Philadelphia.
143 *Treatment of Talipes. D. P. Willard, Philadelphia.

139. Also published in the *Annals of Surgery*, February, 1913, and abstracted in THE JOURNAL, Oct. 26, 1912, p. 1566.

143. Abstracted in THE JOURNAL, Nov. 16, 1912, p. 1814.

### Southern Medical Journal, Nashville

*April, VI, No. 4, pp. 219-288*

144 *Studies of Malarial Fevers in Alabama. R. H. von Ezdorf, Mobile, Ala.
145 Early and Undeveloped Cases of Pellagra. B. R. Tucker, Richmond, Va.
146 *Luetin Skin Reaction in Diagnosing Syphilis. C. A. Simpson, Washington, D. C.
147 Latent Gout and Its Manifestations. C. M. Nice, Birmingham, Ala.
148 Medical Inspection of Schools in South Carolina. L. R. H. Gantt, Spartanburg, S. C.
149 Forty-Eight Cases of Goiter. E. G. Jones, Atlanta, Ga.
150 Gastric and Duodenal Ulcer. P. C. Perry, Jacksonville, Fla.
151 Discrepancy Between Clinical and Post-Mortem Findings in Cancer of Stomach. W. A. Bryan, Nashville.
152 Gastric and Duodenal Ulcers, with Special Reference to Method of Operative Procedure Employed. F. Martin, Baltimore.
153 Volvulus of Sigmoid Flexure; Report of Case. G. T. Tyler, Greenville, S. C.

144. Abstracted in THE JOURNAL, Nov. 30, 1912, p. 1999.

146. **Luetin Skin Reaction in Diagnosing Syphilis.**—Simpson has injected over fifty patients with luetin, but has been able to follow and control with Wassermann's only forty-three cases. These results include cases in all stages of syphilis from early secondary to late tertiary forms and five cases of tabes. In thirty-eight active cases of syphilis, some in the first few months of the disease, he got over 80 per cent. positive reactions, while the late tertiary cases under treatment gave a much higher percentage. In the five cases with clinical symptoms of tabes, three gave a history of syphilis and of these only two gave positive Wassermanns and both of these gave positive luetin reactions.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### Bristol Medico-Chirurgical Journal

*March, XXXI, No. 119, pp. 1-96*

1 *Case of Acute Septicemia Due to B. Pyocyaneus. J. M. Clarke.
2 Aleucocythemic Leukemia. R. Waterhouse.
3 Case of Alternating Oxaluria and Phosphaturia. F. H. Edgeworth.
4 Idem. C. W. J. Brasher.
5 Intravenous Administration of Neosalvarsan in Syphilis. J. A. Nixon.
6 Example of Stokes-Adams Syndrome. C. Coombs.
7 *End-Results of Cases Operated On for Gall-Stones. A. R. Short.
8 Treatment of Chronic Constipation. F. H. Edgeworth.

1. **Pyocyaneus.**—Clarke's patient, male, aged 15, was suddenly taken with headache, drowsiness and vomiting; there were no rigors. He felt ill, but kept at work three days, when he took to his bed, where he remained, complaining chiefly of headache, drowsiness, weakness and slight cough. There was no return of the initial vomiting, no diarrhea, no jaundice, no photophobia, no pains in limbs. On the fifth day, patient was weak and drowsy, he lay on his back with his eyes closed, and complained of frontal headache. Pulse 82, regular. Temperature 100 F. Respiration 20. Bowels constipated. Tongue furred thickly. Except for the signs of bronchitis, the lungs were normal. Heart, liver, kidneys, normal. The nervous symptoms predominated at this time. He was very drowsy, but sensible; answered when spoken to, and was not delirious. On the tenth day he had a distinct rigor. On the twelfth day he fell asleep directly after feeding; there was photophobia, and he covered his head with the bedclothes, otherwise no change in his condition, and no fresh physical signs of organic disease in nervous system or lungs. The bronchitis continued. Profuse sweats. The case at this stage resembled, clinically, one of meningitis. On the sixteenth day there was distinct jaundice, edge of liver was one inch below the costal margin, splenic dulness was increased, and the tip felt. A systolic murmur appeared over the base of the heart. No hemorrhages or petechiae into skin. Fresh rigors had occurred. Lumbar puncture. The cerebrospinal fluid dropped out slowly, it was clear, and contained a few polymorphonuclear cells and no organisms. During the following week he was extremely ill, deeply jaundiced, restless, and tossing about constantly, especially at night. He was so ill that after this time it was difficult to examine him. He was constantly groaning, which obscured the lung and heart sounds and during the last few days he could not be turned over to examine the back of his lungs carefully. He rapidly emaciated, and for some days exhaled a marked cadaverie odor. On the twenty-third day, he was much emaciated and deeply jaundiced. The liver appeared reduced in size, the spleen decidedly enlarged. The urine contained many crystals of calcium carbonate. There were no enlarged glands, and no hemorrhages throughout the illness. The pulse was soft and running. Tongue very dry and furred. No abdominal distention. The motions were very light in color. There was some dulness at the bases behind, and rhonchi and scattered moist crepitations over both lungs, but his constant groaning interfered with auscultation. Blood.—Erythrocytes, 2,890,000; leukocytes, 14,000; hemoglobin, 35 per cent. The next day the *B. pyocyaneus* in pure culture was recovered from the blood and feces. Patient died on the twenty-fifth day of his illness. After death the *B. pyocyaneus* was recovered in pure culture from the heart's blood, pleural exudate and lung abscesses, but not from the spleen or brain.

7. **End-Results of Cases Operated on for Gall-Stones.**—Of eighty-six patients operated on for gall-stones by Short twelve died, but the mortality in ordinary and febrile cases was 12 per cent. Unlike most statistics, the mortality was higher in removals of the stone from the gall-bladder than from the common duct. Of sixty patients followed through for more than a year, about 82 per cent. are quite cured, or very greatly improved. Failure is usually due to adhesions, not to recurrence of the stone formation. Where adhesions were found to be extensive, six out of nineteen died. Of those traced, four out of eleven were but little improved (36 per cent. failures). Apart from adhesions, there were only 10 per cent. failures. According to Short's figures, of 100 ordinary afebrile patients operated on, twelve died, seventy-five are greatly improved or quite cured, and thirteen are not much bettered. Cases are related of intestinal obstruction by a gall-stone, vomiting a stone, injury of the portal vein, general peritonitis due to gall-stones, deaths from perforating gastric ulcer and from hematemesis caused by a gastric ulcer soon after operation for gall-stones, and diabetes supervening long afterward.

### British Medical Journal, London

*March 29, I, No. 2726, pp. 645-696*

9 *Mucous Channels and Blood-Stream as Alternative Routes of Infection. C. J. Bond.
10 *Genital Functions of Ductless Glands in Female. W. B. Bell.
11 Esthetics of Medicine. C. J. Macalister.
12 *Henoch's Purpura with Intussusception: Laparotomy: Recovery. S. Barling.

9. **Routes of Infection.**—The main point made by Bond is that, when an organism like the *Bacillus coli* reaches the pelvis of the kidney by ascending the urinary tract, it produces symptoms and effects which differ from those produced by the same organism when it reaches the kidney by way of the

blood-stream. He also suggests that these differences depend on the fact that the organism is undergoing adaptation to a mucous and urinary environment in the one case and a blood or lymphatic stream environment in the other.

10. Published in the *Lancet*, March 22, and abstracted in THE JOURNAL, April 19.

12. **Henoch's Purpura with Intussusception.**—Barling's patient, a boy aged 4, had suffered from stomach-ache and frequent attacks of sickness for twelve months. Three weeks before admission the attacks of abdominal pain and sickness became more noticeable, and were accompanied by a rash which appeared on the buttocks, and then spread to the limbs; the rash at first was definitely urticarial, the spots being raised above the surface and about the size of a shilling; these spots soon became hemorrhagic. On one occasion the mother noticed a small amount of blood in the stools. The rash faded, but fresh crops of a similar nature came out, the spots, however, being smaller. The child gradually improved, but at the end of three weeks, on the evening before admission, he had a sudden violent attack of abdominal pain, worse than anything he had ever experienced previously; he was sick, and almost immediately dark fluid blood was passed from the bowel. These symptoms of violent pain, sickness and hemorrhage from the bowel continued intermittently throughout the night, but abated somewhat on the morning of admission. He was seen by his doctor six hours after the attack had started; examination of the abdomen, on the suspicion of an intussusception being present, failed to reveal a tumor. On admission, twenty hours after the onset of pain, the child was pale and quiet, pulse 128, temperature normal; the abdomen was soft, and an irregular trilobed tumor could be felt lying somewhat transversely in the epigastrium, and apparently somewhat movable on respiration. Per rectum nothing could be felt; dark fluid blood, however, escaped on removing the finger from the bowel. The urine contained a light cloud of albumin, but gave no reaction to guaiacum. On the knees and the elbows, there was a slightly raised papular rash, some of the papules showing old hemorrhage. A median incision above the umbilicus revealed a dark tumor lying more or less transversely across the abdomen; owing to the force with which the invaginated bowel had been thrust into the lumen of the colon, the latter had become bent on itself, giving the trilobed appearance which had been noticed on examination. The tumor was about 10 in. in length and the apex of the intussusception was in the upper part of the descending colon. The distal half of the swelling reduced quite easily; the proximal 4 in., however, required some twenty minutes' manipulation before the invaginated bowel could be freed, and in effecting this reduction the peritoneal coat of the ascending colon tore. This residual part of the tumor consisted of the ascending colon, containing the caput cæci, the appendix, and some 18 in. of the lower end of the ileum. These were expressed in turn. The appendix, cecum and the ileum that had been involved in the intussusception showed extensive interstitial hemorrhage, and some inches of small bowel were black and apparently gangrenous. The part of the ileum above the obstructed portion was distended for some distance by dark blood-stained fluid lying in its lumen. The gangrenous portion of bowel, together with some inches on the proximal and distal sides of it, was excised, about 12 in. in all being removed, the open ends of the bowel crushed and turned in, and the continuity of the gut established by a lateral anastomosis between the ileum and the lower part of the ascending colon. The patient suffered much from shock, and was very restless for the first forty-eight hours, but after that made satisfactory progress.

## Edinburgh Medical Journal

*April, X, No. 4, pp. 289-384*

13 General Paralysis of Insane. G. M. Robertson.
14 Case of Ruptured Very Early Primary Ovarian Pregnancy. G. Chiene.
15 Multiple Myeloma, and Its Association with Bence-Jones' Albumose in Urine. T. Shennan.
16 Rheumatoid Arthritis in Children. J. Lindsay.
17 Re-Formation of Bone After Resection. G. A. Piric.
18 Nephritis, with Ascites, Bilateral Hydrothorax and General Edema, in Secondary Syphilis. F. P. Weber.

## Indian Medical Gazette, Calcutta

*March, XLVIII, No. 3, pp. 89-128*

19 Value of Amorphous Cinchona Alkaloid in Malaria. E. E. Waters.
20 Anaphylaxis. W. D. Sutherland.
21 Management of Puerperium and Its Relation to Puerperal Fever. G. T. Birdwood.
22 Two Patients Successfully Treated by Psychotherapy. O. Berkeley-Hill.

## Lancet, London

*March 29, I, No. 4674, pp. 869-936*

23 Intrathoracic Aneurysm. F. Dell. Hall.
24 *Eczema Oris as Manifestation of Congenital Syphilis. L. Findlay and H. F. Watson.
25 Relation of Puberty and Menopause to Neurasthenia. H. Macnaughton-Jones.
26 Hyoscin-Morphin Anesthesia for Alcohol Injection in Neuralgia. W. Harris.
27 Clinical Study of Pulmonary Tuberculosis. C. T. Williams.
28 Individual Treatment of Diabetes. S. A. Arany.

24. **Eczema Oris in Congenital Syphilis.**—There is, according to Findlay and Watson, one form of skin disease which, so far as the literature reveals, has not been so considered, and which they propose to designate "eczema oris syphilitica." Their attention was directed to the condition in a boy suffering from infantile paralysis. The boy presented no specific stigmata, and no history of anything suggestive of syphilis in infancy could be elicited, yet in both his mother and himself the blood was found on examination to react very strongly to Wassermann's test. In its most typical form the lesion is situated at one or both angles of the mouth and radiates therefrom toward the cheek, sometimes in the form of fan-shaped patches. It may, however, completely surround the mouth and implicate the face extensively. The patches are somewhat irregular in shape with sharply cut or ill-defined margins. They are red in color, at times the hyperemia being very marked. The surface is, as a rule, dry and scaly, although occasionally, and especially during an exacerbation of the mischief, there may be some discharge with the formation of crusts, and at this period there is always a certain degree of induration. The eczematous patch is continuous with, and frequently invades the mucous membrane of the lip, giving it a slightly papillary appearance. The lips themselves may be swollen to a greater or less degree. A similar condition around the nostrils, where there is usually a greater tendency to moisture and eczema tarsi, are also present in a proportion of the cases. It is a most obstinate and chronic malady, never entirely disappearing, though varying much in severity from time to time. The patients do not as a rule present any specific stigmata, and the proof that the lesion is of a syphilitic nature rests on the presence of a positive Wassermann reaction and on the result of anti-specific treatment. In five out of twenty-one cases seen by Findlay and Watson, however, definite specific stigmata—e. g., deafness, notching of the upper incisors, "saddle nose," or cicatrices round the mouth—were present. The diagnostic features on which they lay most stress are the chronicity, but more especially the situation of the lesion at the angles of the mouth with implication of the mucous membrane of the lips.

## Sei-I-Kwai Medical Journal, Tokyo

*March, XXXII, No. 3, pp. 17-40*

29 Method of Increasing Body Weight. H. Sewaki.

## Annales de l'Institut Pasteur, Paris

*February, XXVII, No. 2, pp. 97-184*

30 Autolysis. (Étude de biologie générale.) M. Nicolle.
31 Autolysis of the Colon Bacillus. (Expériences sur l'autolyse du coli-bacille.) E. Alilaire.
32 Research on Immunization Against Anticoagulating Action of Peptone. E. and M. Pozerska. Commenced in No. 1.
33 Sterile Tadpoles. (Sur l'élevage des têtards stériles.) E. Wollman.
34 Vaccination of Cattle Against Tuberculosis. (Nouvelles recherches expérimentales sur la vaccination des bovidés contre la tuberculose et sur le sort des bacilles tuberculeux dans l'organisme des vaccinés.) A. Calmette and C. Guerin.
35 Vaccination Against Typhoid. (De l'action du sérum antityphique de Besredka sur l'évolution, de la fièvre typhoïde,) C. Andriescu and M. Cinca.
36 Comparative Resistance to Autolysis of Different Bacteria. (Préparation de "solutions" toxiques à l'aide de l'autolyse.) A. T. Salimbeni.

### Annales de Médecine et Chirurgie Infantiles, Paris

*March 15, XVII, No. 6, pp. 165-200*

37 *The Cerebrospinal Fluid. (Sémiologie du liquide céphalo-rachidien.) F. Rathery.
38 *Infantile Scorbutus. (La maladie de Barlow; 8 cas.—Essai de traitement prophylactique.) P. de Sagher.
39 *Chronic Diphtheria of the Air Passages. A. Gouget.
40 Efficacy of Serotherapy in Pure Cases of Typhoid Fever; 131 Cases. M. A. Rodet.

37. **The Cerebrospinal Fluid.**—Rathery reviews the information that may be obtained from the cerebrospinal fluid by physical, chemical, histologic, bacteriologic and biologic examination.

38. **Infantile Scorbutus.**—De Sagher has found that the increasing use of artificial foods seems to be increasing the prevalence of scorbutus in infants. He has encountered six well defined cases during the last year, and describes in detail eight. They were all in well-to-do families as the children of the poor are not fed on these expensive artificial foods and usually are given early a little food from the family table. He is convinced that incomplete forms of scorbutus are more frequent than is generally recognized; he knows of a number of instances in which the infants were treated for Pott's disease or coxalgia or osteomyelitis. Even Marfan diagnosed in one case "pseudoparalysis of syphilitic origin," which proved to be merely scorbutus. Hutinel warns that scorbutus should be thought of first in every case of painful paraplegia in an infant, or even when the child is merely a little uneasy when its legs are touched. Do not wait for further symptoms of scorbutus to develop. Scorbutus is exceptional under five months and after two years of age. In de Sagher's cases some of the infants had been fed on condensed milk, some on nutricia milk, some on maltosan and some on boiled milk. To ward off any danger from this cause, he orders systematically, after the age of six months, from 2 to 6 teaspoonfuls a day of grape juice, adding to this after two or three months from 1 to 3 teaspoonfuls of some preserve, his preference being banana jam. This not only wards off scorbutus but it combats constipation and supplies a little iron. None has ever developed scorbutus among the children fed in this way.

39. **Chronic Diphtheria of the Air Passages.**—Gouget discusses some recent cases in which diphtheria bacilli were found in the sputum of persons from several months to years after diphtheria. Beyer's patient was a man of 43 with chronic fibrinous tracheobronchitis and no measures proved successful in banishing the diphtheria bacilli from his sputum, so that the attempt was abandoned after nine months of futile efforts. Schmidt's patient was a woman of 62 with chronic interstitial pneumonia with varying general symptoms for ten years during which period diphtheria bacilli could be cultivated from the sputum. The bacilli did not prove virulent for guinea-pigs, however.

### Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

*March, II, No. 3, pp. 225-320*

41 *Chronic Appendicitis and Disease of the Ovaries. (Appendicite chronique et ovaires sclérokystiques.) L. N. Lapeyre.
42 *Placenta Tumors. (De la nature inflammatoire des chorio-angiomes placentaires.) E. Plauchu and P. Savy.
*Salvarsan and Neosalvarsan in Pregnancy and the Puerperium. (Etude sur les résultats observés à la clinique Tarnier par l'emploi du salvarsan et du néo-salvarsan chez les femmes enceintes, chez les femmes en couches et chez l'enfant nouveau-né.) J. Lemeland and H. Brisson

41. **Chronic Appendicitis and Sclerocystic Ovaries.**—Lapeyre reports seventeen cases from which he concludes that chronic appendicitis in women seems to be habitually accompanied by degeneration of the ovaries. The ovarian lesions may cause spontaneous and induced pain during and between the menses, dysmenorrhea, irregular menstruation and hemorrhages. The uterus at the same time generally shows signs of hyperplasia and is often displaced. The whole trouble is probably some primary disturbance in the sympathetic nervous system; this explains the alterations in the various organs as the nutrition suffers—ptosis, colitis and sclerocystic degeneration of the ovaries and chronic inflammation of the appendix. The central nervous system, irritated by some peripheral disturbance in some lesion in the vulva, vagina, uterus, appendix or pelvis, reacts by a reflex mechanism on the trophic nerves of the ovary. Treatment should aim to cure the local lesions before the central nervous system has been too seriously impaired. When the abdomen is opened it should be on the median line in women so as to permit systematic inspection of the entire pelvis and appendix region.

42. **Inflammatory Nature of Benign Tumors of the Placenta.**—Plauchu and Savy regard these tumors as frequently of syphilitic origin and in all cases due to a process resembling that of an infarct. These non-malignant tumors have a most nefarious influence on the vitality of the fetus. He found only thirty living children mentioned in fifty-four cases on record, and gives an illustration of a case personally observed.

43. **Salvarsan and Neosalvarsan for Parturients and New-Born Infants.**—Lemeland and Brisson here conclude their long report on this subject. They did not find either of the drugs invariably effectual in transforming a positive Wassermann reaction into a negative; it fluctuates almost immediately but soon returns to its former height. They found that neosalvarsan seems to disturb the organism more than salvarsan, and that its use is dangerous even in the moderate doses employed. It should be reserved until after it has established its standing in therapeutics.

### Bulletin de l'Académie de Médecine, Paris

*March 11, LXXVII, No. 9, pp. 169-198*

44 Importance of Mode of Access in Surgery. (De l'importance des voies d'accès dans l'enseignement de la médecine opératoire.) E. Delorme.
45 *Vaccination Against Typhoid in the United States. M. Chantemesse.

45. **Vaccination Against Typhoid.**—See the Paris Letter in THE JOURNAL, April 12, p. 1166.

### Journal de Chirurgie, Paris

*March, X, No. 3, pp. 273-416*

46 The Multiple Applications of Appendicostomy. L. Arnaud.

### Journal de Médecine de Bordeaux

*March 23, XLIII, No. 12, pp. 179-192*

47 *Tonic-Clonic Spasmodic Torticollis. Desqueyroux.
48 *Occlusion of Intestine by Retrodisplaced Normal Uterus. (Occlusion intestinale par rétrodéviation d'un utérus normal.) H. Lefèvre.

47. **Spasmodic Torticollis.**—The patient was a girl of 17 taken suddenly with an apoplectiform attack followed by spasmodic contracture of the muscles of the neck bending the head down almost to the mamma. There were probably some minute lesions in the brain or medulla and this induced the contracture, but their action would probably have been only transient if it had not been for a tendency to hysteria which perpetuated and aggravated the spasms.

48. **Ileus from Displacement of Normal Uterus.**—Lefèvre's patient was a woman of 45 who for several years had had vague symptoms from retrodeviation of the rather large uterus. Otherwise she was in perfect health when she was jolted in a carriage and suddenly experienced intense pain and other signs of ileus with great depression. A loop of the small intestine was found incarcerated in the pouch of Douglas, the fundus of the uterus pinning the intestine against the sacrum. Correction of the displacement released the bowel and cured the patient at one stroke. Ileus from this cause in a non-pregnant woman is exceptional, according to the literature. Lefèvre could find only two cases on record (Koeberle and Cricks) in which an apparently normal non-gravid uterus had induced ileus. Cricks' patient died. In Lefèvre's case the jolting of the carriage had evidently flung up the retroflexed fundus for a moment and during this moment the loop of intestine had slipped down behind it.

### Lyon Médical, Lyons

*March 23, XLV, No. 12, pp. 605-664*

49 *Conditions Which Favor Application of Direct Sunlight in Therapeutics. (Des conditions qui favorisent la pratique de l'héliothéraple.) L. Jaubert.

49. **Conditions Which Favor Heliotherapy.**—Jaubert reviews the history of the utilization of the sun's rays in the treatment of disease and calls attention to its great value, particularly in surgical forms of tuberculosis. To get the best effect all factors which add to its value should be taken into consideration. Sun porches should preferably face south or, if that is impracticable, east in order to get the morning sun. Spring and summer are the most favorable seasons for the treatment, because the ultraviolet rays, which are particularly beneficial, are more abundant then. The air should be clear, the atmospheric moisture moderate and the prevailing winds not too strong. Where a choice of climate is possible, all these conditions should be taken into consideration and the patient sent to a high altitude or a warm sunny region. But heliotherapy may be utilized in any country and hospitals should always be built with sun porches with the most favorable exposures.

### Presse Médicale, Paris

*March 19, XXI, No. 23, pp. 221-228*

50 Treatment of Gunshot Wounds. (Du traitement des blessures par balles de revolver et de fusils de guerre.) P. Reclus.

51 *Direct Sunlight in Treatment of Non-Tuberculous Disease. (L'héliothérapie dans les affections non tuberculeuses.) A. Aimes.

*March 22, No. 24, pp. 229-240*

52 Estimation of Minimal Blood-Pressure as the Standard Unit. (Une orientation nouvelle de la sphygmomanométrie.) V. Pachon.

53 Local Agglutinins in Diagnosis of Tuberculosis. L. Karawacki.

54 *Ozone in Treatment of Glycosuria. (Quelques états glycosuriques traités par l'ozone.) D. Labbé and P. Pérochon.

51. **Direct Sunlight in Treatment of Non-Tuberculous Affections.**—Aimes enumerates the various affections in which heliotherapy has been found an extremely useful adjuvant, citing various authors. The list includes varicose ulcers, burns, sprains and contusions, certain gynecologic affections, atrophied muscles, resolution of inflammatory exudates, and the sequels of phlebitis and conjunctivitis. He states that the mucosa is less sensitive to the sunlight than the skin, and relates that of forty-eight eyes with trachoma, thirty-five were cured by exposure to the direct sunlight at two sittings and there has been no recurrence during the long period since. The conjunctiva of the lids bears prolonged exposure to the direct sunlight without harm, according to Borel's experience, but he did not notice any improvement from the exposures in rheumatic iritis, in mycosis or in syphilitic affections. Aimes reiterates that heliotherapy can be applied everywhere and is within the reach of all, while the results may be remarkable and that no one should neglect this simple and easy method of treatment.

54. **Ozone in Treatment of Glycosuria.**—Labbé and Pérochon have their patients with glycosuria inhale ozone for from fifteen to thirty minutes a day, and have found that in some way it promotes the utilization of sugar so that sugar disappears more or less completely from the urine. Eight typical cases are described to show the benefit thus realized. In one case, for example, a man of 57, had had diabetes for six years and 50 gm. of sugar were found in the liter of urine. He inhaled ozone for fifteen minutes a day for two months by the end of which time the sugar had vanished from his urine. Two weeks later the sugar appeared anew in the urine and ran up to 8 gm., but subsided to traces on resumption of the ozone treatment. Another patient was a woman of 66 with diabetes for many years. She had 150 or 200 gm. of sugar to the liter of urine and this became materially reduced under the ozone treatment and her severe pruritus became very much improved. They theorize to explain the effect of the ozone: It seems to promote assimilation of carbohydrates. The nascent oxygen fastens on the reds and they transport it to all the tissues.

### Revue de Gynécologie, Paris

*January, XX, No. 1, pp. 1-112*

55 Ovarian Teratoma Removed at Age of 50. (Névraxo-épithéliome de l'ovaire.) Gosset and P. Masson.

56 *Cancer of the Ampulla of Vater. D. Clermont.

56. **Cancer of the Ampulla of Vater.**—Clermont gives the details of a case from the Toulouse surgical service and summarizes thirty others from the literature. He approves of operating at two sittings, and insists on an early exploratory laparotomy as the outlook is comparatively good with cancer at this point. It causes symptoms early and shows little disposition to spread.

### Revue Médicale de la Suisse Romande, Geneva

*March, XXXIII, No. 3, pp. 177-284*

57 Salvarsan in Syphilis. (Sur les résultats acquis dans le traitement de la syphilis par la médication d'Ehrlich.—Des neurorécidives.) Dind.

58 *Early Sign of Incipient Pericarditis. (Signe précoce de péricardite.—Eclat clangoreux diastolique au foyer pulmonaire.) G. Turrettini.

59 Much Technic for Examination of Sputum. (Le procédé de Much pour la coloration des bacilles de Koch dans les crachats; sa valeur clinique.) A. Cramer.

58. **Early Sign of Incipient Pericarditis.**—Turrettini wonders that greater attention has not been paid to the sign of impending pericarditis or endocarditis which Josserand noted some years ago. This is a sudden and violent clanging diastolic sound in the pulmonary area. In two recent cases Turrettini noticed the development of this sound and it was soon followed by other signs of pericarditis. The peculiar clanging nature of the secondary pulmonary sound was very pronounced and the vibration could be perceived by the hand. The second aortic sound was perceptible but less marked. One patient had chronic nephritis with hypertrophy and dilatation of the left heart and the fibrinous pericarditis, ushered in by the *éclat clangoreux diastolique*, developed under his eyes as the patient was under treatment for the kidney disease. There was no necropsy in the second case but clinically the conditions seemed to be the same as in the first case. The friction sound soon followed in both. In two other cases of pericarditis from the spread of a pleural process this peculiar clang to the sound was never noticed. He urges study of this clanging sound as the importance is obvious of being able to recognize incipient pericarditis and by instituting treatment in time possibly to ward it off. It is particularly valuable in the course of acute articular rheumatism as it may give warning in time for intensive treatment to save damage to the heart.

### Semaine Médicale, Paris

*March 26, XXXIII, No. 13, pp 145-156*

60 *Clinical Forms and the Diagnosis of Syphilitic Cerebellar Hemiplegia. P. Marie and C. Foix.

60. **Syphilitic Cerebellar Hemiplegia.**—Marie and Foix have recently published a study of the common basis for the symptoms and signs of syphilitic cerebellar hemiplegia, and they now analyze the different manifestations which are encountered with lesions at different levels and of different degrees of severity. The article is accompanied by seventeen illustrations, with reports of typical cases. The lesions causing the disturbance are grave from the standpoint of the functional prognosis, but do not seem otherwise threatening except from the serious fact that they were always accompanied by a syphilitic meningitis, manifested by lymphocytosis in the cerebrospinal fluid during life and by the necropsy findings. This active meningitis is fraught with grave danger both in itself and by its aggravating influence on the cerebellar processes. In any event they say, vigorous antisyphilitic measures are needed to arrest, if possible, the active process although irreparable lesions already installed, are beyond relief. The writers warn to search for the minor signs of a cerebellar lesion in every nervous affection, seeking confirmation by the findings of lumbar puncture.

### Archiv für klinische Chirurgie, Berlin

*C, No. 4, pp. 939-1192. Last indexed March 22, p. 947*

61 *Why Living Tissue is Not Digested by Gastric Juice. (Zur Entstehung des Magengeschwürs.) M. Katzenstein. To be continued.

62 Fascia Hammock for Nephropexy. (Nephropexie vermittelst transplantativer Bildung einer fascialen Aufhängekapsel.) K. Henschen.

63 Choledochoduodenostomy. F. Sasse.
64 *Experimental Research on Surgery of the Lungs. E. Schepelmann.
65 Substitution of Segment of Vein. (Ueber Ersetzung eines Stückes der Vena cava inferior durch frei transplantirte Vena jugularis externa desselben Thieres.) E. Jeger and W. Israel.
66 *Advantages of the Whitehead Operation for Hemorrhoids; 223 Cases. S. Hadda.
67 Varices in Japan. (Häufigkeit der Varicen am Unterschenkel bei Japanern und der Erfolg einiger operativ behandelter Fälle.) K. Miyauchi.
68 *Hernias in 279 Cadavers. (Zur Casuistik der Hernien.) P. Bernstein.
69 *Direct Drainage of Ascites Into Saphenous Vein. (Die directe Dauerdrainage des chronischen Ascites durch die Vena saphena in die Blutbahn.) Döbbertin.
70 Fascia Lata for Plastic Operations. (Ueber die freie Plastik der Fascia lata.) H. Lucas.
71 Teratoma of Upper Jaw. (Fall von Teratom des Oberkiefers —Epignathus.) S. Goto.
72 Pathology of Undescended Testicles. (Pathologie der Hodenretention.) O. Uffreduzzi.
73 Cancer of Liver in Male Infant of Seven Months. (Fall von primärem Lebercarcinom im Säuglingsalter.) G. Idzumi.
74 Hour-Glass Gall-Bladder. (Fall von grosser congenitaler sanduhrförmiger Gallenblase.) R. Toida.

61. **Why Does Not the Stomach Digest Itself?**—Katzenstein has been conducting research to answer this question, the results confirming the assumption that tissues used to the action of gastric juice become resistant to it by some process of adaptation. He found that it was possible to induce or check the digestion of a part of the intestine brought up into the stomach. This promoting or inhibiting action on the digestion of the implant was realized by modifying the food to stimulate or depress the production of gastric juice. A constant vegetable diet depressed the gastric secretion, and this same effect was obtained with injection of atropin, while the digesting process in the dogs was promoted by a single meal, consisting of meat. When a wisp of stomach, of duodenum tissue and of a lower loop of the small intestine were all drawn up and fastened in the stomach, the stomach tissue and the duodenum tissue were not destroyed by the gastric juice while the lower loop was invariably digested. The account of the extensive research is to be continued.

64. **Experimental Surgery of the Lungs.**—Schepelmann's experiments were carried out on rabbits without regard to the clinical availability of the methods applied, but certain of them have some bearing on the clinic so he reports them in detail. His results with division of the phrenic nerve in the neck were encouraging; by this means the apex of the lung is excluded from participating in the excursion of the rest of the lung and thus the procedure answers the same purpose as Freund's chondrotomy and artificially induced pneumothorax. His article is profusely illustrated and shows the effects of amputation of a lung, with or without phrenicotomy, as he calls division of the phrenic nerve. In other experiments he resected part of the diaphragm and found that this led to compression of the corresponding lung. The lung becomes immobilized and compressed by the pressure of the contents of the abdomen, and this resection of the diaphragm is a simple and easy operation on animals at least. His conclusions are that for mild apical processes not absolutely amenable to internal treatment, resection of the phrenic nerve in the neck might be considered as an extremely simple operation, perfectly well tolerated, which has the effect of immobilizing the lung on that side and at the same time inducing a tendency to thicken it.

66. **Whitehead's Operation for Hemorrhoids.**—Hadda summarizes the details of 223 cases in which he has applied this technic with eminently favorable results, and commends it as superior to all other methods for treating hemorrhoids. When it does not perfectly accomplish its aim, the trouble is that Whitehead's directions were not followed implicitly.

68. **Hernia.**—Bernstein has been examining 279 cadavers for the presence of hernia or predisposition thereto. Positive findings were obtained only in 25.8 per cent.; that is, in seventy-two cadavers, only twenty-one in this group being females. He discusses these findings from various standpoints.

69. **Permanent Drainage of Ascites Into Saphenous Vein.**—Döbbertin mobilizes the saphenous vein in the upper third of the thigh and draws it up through a passage made under the skin directly into the peritoneum, thus diverting the ascitic fluid directly into the circulation. He feared at first that blood would escape from the vein into the peritoneum, but found that this never occurred as the attraction of gravity aided in the evacuation of the ascitic fluid. The procedure is very simple and harmless, as he describes with several illustrations, and it is applicable not only where the Talma operation is indicated but also with stasis in the portal circulation, hypersecretion from carcinosis, inoperable ovarian tumors, etc. He regards it as a physiologic process, providing a passage back into the blood of the fluid which came from the blood. The fluid drains away at once after the operation without the necessity for waiting for a collateral circulation to develop, as with omentopexy.

## Beiträge zur klinische Chirurgie, Tübingen

*January, LXXXII, No. 3, pp. 475-702*

75 Influence on the Thyroid of Artificial Stenosis of the Trachea. A. Reich and Blauel.
76 Stenosis of the Trachea of Thymic Origin. E. Hoeniger.
77 Ligation of the Carotid. (Zur Unterbindung der Carotis communis.) F. Smoler.
78 Congenital Inherited Ankylosis of the Interphalangeal Articulations. K. Morgenstern.
79 Wound Diphtheria and Diphtheroid. J. Zulleg.
80 Acute Pancreatitis. F. v. Faykiss.
81 External Supravesical Hernia. W. v. Steimker.
82 Lateral Ventral Hernia. W. v. Steimker.
83 Typical Fractures of the Atrophic Femur. M. Brandes.
84 Cecum-Small Intestine Volvulus in Incarcerated Hernia. Syring.

## Berliner klinische Wochenschrift

*March 17, L, No. 11, pp. 477-524*

85 *Progress in Treatment of Diabetes in Last Fifty Years. R. Lépine.
86 *Appendicitis in Scarlet Fever. (Zur Kasuistik der Epityphlitis bei Scharlach sowie der wiederholten Scharlacherkrankung.) O. Meyer.
87 Exclusion of Tuberculous Bladder. (Zur Harnblasenausschaltung wegen Tuberkulose.) L. Casper.
88 Colon-Bacillus Suppurative Bladder Disease. (Klinische und serologische Untersuchungen bei Harneiterungen durch Bacterium coli.) T. Cohn and H. Reiter. Commenced in No. 10.

85. **Progress in Treatment of Diabetes in Last Fifty Years.**—Lépine regards as one feature of the progress the emancipation from the too exclusive conception of excessive production of sugar as the essence of diabetes mellitus. Progress in dietetic treatment has been mostly in the recognition of the value of oat meal and similar "cures," and the explanation that they act mainly by transforming the flora in the intestines. The microbes then oxidize part of the sugar formed in the intestines and thus supply the organism with ternary products and reduce the amount of sugar absorbed in the intestines. Drugs are often useful to respond to certain indications, like quinin when a tonic is needed, arsenic or strychnin to keep up the strength; antipyrin by mediation of the nerve centers may reduce the output of urine and of sugar. In the test-tube it acts directly on the liver cells. But on the whole, drugs display little influence on the diabetes itself, except sodium bicarbonate which is indispensable with acetonemia. He has given it by intravenous injection in a number of cases, but it is effectual only when it is given before the coma develops; afterward it may give more or less transient relief. By intravenous injection it acts more thoroughly than by mouth, as it suddenly disturbs the osmotic processes and is thus able to penetrate into the cells and neutralize the toxins directly. He always uses an isotonic solution of sodium bicarbonate. On account of the hydration of the organism a hypertonic solution might be dangerous. Diabetics should exercise but should always carefully refrain from getting fatigued to exhaustion. Especially with acetonemia, any fatigue is injurious. Operations on diabetics should be avoided as much as possible on account of the danger from the tardy action of the anesthetic, especially on the liver. With gangrene, superheated air baths (at 300 C.) twice a day for thirty or forty-five minutes will mummify the

tissues and enable the amputation to be done under comparatively favorable conditions. With gangrenous phlegmons, however, not an hour is to be lost; amputation should be done at once and high up, the pus having a tendency to work through the tendon sheaths much higher than one would suppose possible. He adds that diabetes is becoming more frequent in certain cities, especially in Berlin, but the mortality is growing less as we understand better how to manage the cases.

86. **Appendicitis in Scarlet Fever.**—Meyer reports three cases of true appendicitis developing in the closest connection with scarlet fever or measles. In three other cases pneumonia developed with symptoms suggesting exclusively appendicitis, but the course of the cases revealed the true source of the disturbances and the pseudo-appendicitis subsided. In the first group, one child had the acute appendicitis as part of a typical scarlet fever, but it subsided under medical measures, dieting and staying in bed. Ten months later exactly the same syndrome returned anew, the typical scarlet fever and acute appendicitis, but the attack lasted only a few days. Meyer cites a few cases on record of second attacks of scarlet fever. Henoch has encountered only one case in his extensive experience, Heubner none, but Baginsky has reported a case with three attacks. Szontagh alone does not regard a second attack as very unusual, and Weissenberg has known of seven cases. Meyer remarks that it is possible that repeated attacks occur more frequently than supposed and escape recognition. It is possible that the febrile sore throat with general symptoms which the father had each time the children had their attacks of scarlet fever, may have been masked scarlatina. This was beyond question, he thinks, in another case in which the mother developed sore throat and high fever with albuminuria and earache after her children had had a siege of scarlet fever.

### Correspondenz-Blatt für Schweizer Aerzte, Basel

*March 1, XLIII, No. 9, pp. 257-288*

89 *Etiology and Treatment of Osteomalacia and Rachitis. S. Stocker.
90 *Arteriomesenteric Occlusion of the Intestine. (Zur Kenntnis des arteriomesenterialen Darmverschlusses.) K. Bollag.

*March 15, No. 11, pp. 321-352*

91 Differentiation and Importance of Arhythmias. (Die Erkennung und Bedeutung der Arhythmien.) (R. Stähelin.

*March 22, No. 12, pp. 353-384*

92 *Psychic Anorexia at Puberty. L. Schnyder.
93 Changes of Shape of Tubercle Bacilli in Sputum. (Der Wechsel der Tuberkelbazillenformen im phthisischen Sputum. A. Kirchenstein.

89. **Treatment of Osteomalacia and Rachitis.**—Stocker reviews his experimental research based on the assumption that osteomalacia is the result of excessive or perverted functioning of the ovaries. He experimented with rabbits, calves and dogs, and implanted in the preperitoneal tissue ovaries from other animals of the same species, thus inducing an extra supply of the ovarian internal secretion. The results were negative in rabbits and he knows of no record of osteomalacia ever occurring in these animals. In the calf, signs of pronounced softening of the bones were evident in five months and in the dog, after implantation of testicles, the same picture of softening of the bones was soon presented. There seemed to be no doubt that the implants continued to secrete, and that thus the excess of hormones from the sexual glands influenced the metabolism to such an extent that the bones remained soft, that is, that the excess of hormones inhibited the ossification processes. The softening of the bones resembled in every respect the finding in rachitis and osteomalacia. These two affections must therefore be regarded as a consequence of hypersecretion of the genitals or of certain parts of them. We have no means to check the secretion of these glands, but we can counteract their action by supplying from without a larger amount of the antagonistic hormones, to restore the balance between the internal secretions. This has been realized by Bossi with epinephrin in osteomalacia; Bab has reported equal success with hypophysis extract, and Stocker himself obtained notable improvement in one case with thyroid treatment. If the extract of one of the organs with an internal secretion does not benefit, try another, he says. Until we are better informed, this empiric method of treatment is the only one at our disposal. Fraenkel reported in 1908 a cure of osteomalacia in a patient given the milk of a castrated goat. This was suggested by the benefit realized in exophthalmic goiter from the serum of thyroidectomized sheep: In consequence of the removal of the gland in question the antagonists secrete more of their hormones. As these circulate in the blood they can have a therapeutic action. The principle of treatment is therefore the same as the administration of an organ extract. Stern has also reported a case of osteomalacia in which this treatment gave fine results. Stocker has given the milk of castrated cows in two cases of rachitis; one patient was very favorably influenced and the other is much improved. He suggests that the serum of castrated bulls should be used for rachitis and osteomalacia in males.

90. **Arteriomesenteric Ileus.**—In the case reported by Bollag the arteriomesenteric occlusion of the intestine was chronic, that is, it recurred periodically, and he thinks that it was the result of the pronounced lordosis of the spine. While the patient was leading a normal life the condition caused only slight trouble at times, but gradually grew more chronic, the pressure from the stomach growing greater as also the traction on the root of the mesentery. This was revealed by occasional vomiting but as long as the patient was up and about the passage became permeable after the stomach had been relieved by vomiting. Then the patient fractured her femur and was confined to her bed for some time, the conditions then favoring total obstruction and the woman succumbed, deriving no benefit from postural treatment or other measures. The diagnosis of the case was made during life from the uncontrollable vomiting, the immense size of the stomach, the lack of pain, the small, rapid pulse with comparatively slight rise in temperature, the intense thirst, the severe general depression, the ileus, and the lack of distention of the lower abdomen. It is possible that a gastrojejunostomy might have saved the patient, but the general condition was too bad to permit this.

92. **Psychic Anorexia.**—Schnyder refers in particular to the passive and active anorexia at the age of puberty. He regards it as a more or less fundamental disturbance of the instinct of self preservation.

### Medizinische Klinik, Berlin

*March 16, IX, No. 11, pp. 397-440*

94 Myopia and Its Treatment. M. Sachs.
95 General Principles for Treatment of Heart Diseases. M. Herz.
96 *Skin Diseases and Dietetics. (Ueber die diätetische Beeinflussung der Hautkrankheiten.) H. Hübner.
97 *Epinephrin in Treatment of Arthralgia and Neuralgia. (Ueber antiarthralgische und antineuralgische Wirkung des Adrenalins.) F. Gaisböck.
98 Serodiagnosis of Syphilis at Ophthalmic Clinic. (Die Luetinreaktion nach Noguchi bei Augenkrankheiten.) A. Löwenstein.
99 Atresia of the Duodenum. W. Weber.
100 Tests for Blood in the Stools. (Ueber die klinische Brauchbarkeit der üblichen chemischen Blutproben an den Faeces.) E. Schlesinger and J. Jagielski.

96. **Dietetic Influencing of Skin Diseases.**—Hübner says that the skin diseases of infants must be regarded from another standpoint than those of adults. The infant intestine is more permeable than the adult's, and eczema, especially the seborrheic type, is frequent in overfed, overfat babies. Fat seems to be the element of the diet that should be avoided in this case, and milk can be replaced by whey or buttermilk. According to the experience of many, eggs are not tolerated well by eczema children; some writers advise sterilizing the milk to check bacterial action in the intestines. Even those who deny a connection between eczema and the diet must admit that the folds in the skin under the joints of these overfat babies invite eczema, and thus reduction of the food is useful from this standpoint if from no other. Finkelstein's idea that eczema is due to excess of salt in the food has less to sustain it. In any event, external measures are of great importance, and Hübner protests against the fear of "driving in the eczema" by external treatment. All the cases on record of alleged "eczema death,"

he says, have proved to be due to other, easily explainable causes. The masters insist unconditionally on local treatment of the eczema; the cases published as "fatal driving in of the eczema" were cases of "thymus death" or heart failure or fulminating sepsis occurring in children who happened to have eczema at the time. Regulation of the diet is useful also in strophulus infantum, along the same lines as in eczema, reduction of the total amount, addition of cooked fruits to the diet, and possibly mild laxatives. The mere change from too exclusive meat diet to a more predominantly vegetable diet will often suffice alone. Prurigo, on the other hand, occurs in children who are insufficiently fed or tuberculous, and the diet must be of a strengthening nature. Any attempt to reduce it or to make it mainly vegetable can do only harm. Urticaria in adults is frequently traceable to a certain article of diet, but no other skin affection in adults shows such a connection although the laity generally assume this for seborrheic acne and ask for something to "purify the blood." There is more sense in avoiding fats and especially fats with a low melting point as liable to solidify and clog the sebaceous glands, particularly mutton fat. No benefit seems to have been derived from diet in psoriasis, but with pruritus ani it is well to refrain from spices, pepper, etc., liable to irritate as they are passed with the stools. Even tea and coffee are liable to prove irritating in this way. Jessner has reported cases in which the pruritus vanished on abstention from tea and coffee. They evidently irritate the nerve terminals and hence should be avoided in all skin affections accompanied by itching, and particularly in senile pruritus.

97. **Epinephrin in Neuralgia and Arthralgia.**—Gaisböck reports the details of seventeen cases out of a more extended experience in which prompt and durable benefit was derived from adrenal medication. He gave a subcutaneous injection of 1 c.c. of 1 to 1,000 solution of epinephrin (adrenalin, Parke-Davis) repeating the dose until 24 c.c. had been injected in the first case. The results observed confirm the assumption that adrenal medication has a favorable, even a curative, influence on inflammatory processes in joints, more or less independent of their special origin, and neuralgic affections also are favorably influenced by it. This opens up a new field for therapeutics with epinephrin, interesting alike for the practitioner and the theorist. In its action in this respect epinephrin takes rank as an antineuralgic, and it is interesting that certain antineuralgics have also an influence on asthma, probably from the regulation of the circulation which they induce. This is sufficient to explain the favorable action of epinephrin in osteomalacia, in asthma and in the arthritis cases. The magic way in which the epinephrin relieved a patient with osteomalacia first suggested to Gaisböck its use in neuralgia and arthritis. The typical cases of the latter described were in adults from 16 to 72, in fourteen of the cases the trouble was acute arthritis, in two others sciatica; distinct improvement was evident after a few injections. No benefit was derived by two girls with arthritis possibly due to sepsis, and no influence was apparent in the cases of deforming arthritis. No lasting untoward by-effects were observed in any instance, and nothing to suggest that the coagulating power of the blood had been increased. In four cases of ordinary polyarthritis the patients recovered without complications; in two others there were signs of fibrous pericarditis from the start.

## Monatsschrift für Kinderheilkunde, Leipsic

*XI, No. 11, pp. 545-620*

101 *The Care and Treatment of Infants in Institutions. (Erfahrungen und Gedanken über Anstaltsbehandlung der Säuglinge.) A. Schlossmann.
102 Action on Human Milk of Shaking Up. (Wirkung der mechanischen Erschütterung auf die Frauenmilch.) S. Engel.
103 Influence of Artificial Pneumothorax on the Mechanism of Respiration in Children. (Einfluss des künstlichen Pneumothorax auf die Atemmechanik des Kindes.) R. P. van de Kasteele.
104 Infant Mortality in 1911. (Die Säuglingssterblichkeit im Grossherzogtum Mecklenburg-Schwerin 1911.) H. Brüning.

101. **The Care and Treatment of Infants in Institutions.**—Schlossmann took charge of the infants' asylum in Düsseldorf in 1906. For a period of four years preceding that time the admissions had been 165, deaths 118, showing a mortality of 71.5 per cent. For the five years following the admissions were 238, deaths 40, mortality 16.8 per cent. In the children's hospital of Düsseldorf for the past five years there have been 1,284 admissions with 317 deaths, or 24.69 per cent. Seventy per cent. of these died within a week after admission, showing how extremely bad their condition was on admission. He concludes that institutions do not necessarily have a bad effect on the health of infants—that there is no such thing as "hospitalism." There are four factors that enter into the production of the condition so-called: insufficient or inefficient medical attention and nursing, bad surroundings and insufficient or improper feeding. The head physician's entire time should be devoted to the institution and he should be always on call. The importance of good nursing should be recognized and abundantly provided for. Sick children should be immediately transferred to the hospital, where everything is arranged for the care of the sick. In this way too the spreading of contagion is avoided. The building should be well lighted and well ventilated and provided with sleeping-porches, so that as much time as possible is spent in the open air. Some children on admission are too far gone to be saved by any food; others can tolerate only breast milk. For those who can bear artificial feeding at all, he thinks diluted cow's milk with a little milk sugar added is the best food. The most important point to determine is how much the child can take. A child that cannot take small quantities of half milk can probably not stand any artificial food. In institutions where the most careful attention is given to medical supervision, nursing, hygienic surroundings and feeding, the death-rate can be kept as low as or lower than that in the community as a whole. Needless to say sufficient financial support must be given to render such care possible, and to secure such support the public must understand and sympathize with the needs of its unfortunate children.

## Münchener medizinische Wochenschrift

*March 18, LX, No. 11, pp. 569-624*

105 Metabolism of Albumin in Fever. (Die Stellung des Eiweisses im Stoffwechsel des fiebernden Menschen und ihre theoretische und praktische Bedeutung.) E. Grafe.
106 *Chronic Appendicitis. A. Krecke.
107 *Utilization of Forces of Respiration in Treatment of Scoliosis. H. Spitzy.
108 Mechanism of Development of Slanting Pelvis. (Die Entstehungsweise übermässiger Beckenneigung.) J. Fränkel.
109 Pylorospasm. K. Glaessner and S. Kreuzfuchs.
110 Ferments in Serum of the Insane. (Zur Frage des Vorhandenseins spezifischer Schutzfermente im Serum von Geisteskranken.) A. Fauser.
111 Unreliability of Dialysis Technic for Serodiagnosis of Pregnancy. (Zur biologischen Diagnose der Schwangerschaft.) E. Engelhorn.
112 *Advantages of Phenolsulphonephthalein Test for Kidney Functioning. (Die Nierenfunktionsprüfung mittels des Phenolsulphonphthaleins.) F. Fromme and C. Rubner.
113 Polyps in Rectum or Sigmoid Flexure. (Ueber gutartige Polypen des Mastdarms und des S. romanum.) Decker.
114 Serodiagnosis of Syphilis Applied to Cerebrospinal Fluid. (Anwendung der Hermann-Perutzschen Reaktion bei der Prüfung von Lumbalpunktaten.) F. Lade.
115 *Mushroom Poisoning by Inhalation. (Auch eine "Pilzvergiftung.") Dreisbach.
116 Serodiagnosis of Syphilis. (Ist die Ausführung der Brendel-Müllerschen Reaktion durch den praktischen Arzt empfehlenswert?) A. Pöhlmann.
117 Psychoneuroses. R. Neupert. Commenced in No. 10.

106. **Chronic Appendicitis.**—Krecke seeks to distinguish true appendicitis from the syndrome induced merely by dread or imitation. After the illness or death of a prominent person from appendicitis, many persons apply to physicians claiming to have symptoms of appendicitis; the so-called familial appendicitis, is probably, he thinks, an epidemic from suggestion. In chronic appendicitis he has frequently found that there must have been some acute phase at some time which escaped recognition, the patient being treated for typhoid, dysentery, etc. Another fact he has learned from experience is that the appendix can return to an entirely normal condition after acute inflammation. He has been reexamining lately twenty patients whose appendices were removed over at least a year ago. All but five patients were women. The symptoms

indicated chronic appendicitis and yet nothing pathologic could be found in the appendix. Fully 85 per cent. were entirely cured by the appendicectomy but three state that their former disturbances still continue. The trouble must have been a more general bowel affection, not restricted to the appendix region. In seventy cases of chronic appendicitis traced to date, he found that 70 per cent. of the patients had been cured by the operation but no relief had been experienced in 30 per cent.; the appendix was diseased only as part of a more general disease of the large intestine. The symptoms presented by this latter group of patients were pains in the right iliac fossa, not very violent but radiating to other parts of the abdomen, with disturbances in defecation and tenderness in the right iliac fossa with resistance and roentgenoscopic delay in the digestion in the cecum. Another feature which suggests that more of the intestine is involved than merely the appendix, is the character of the pains which are a sense of oppression or discomfort rather than the boring or stabbing pain of appendicitis. With appendicitis the pains are localized in the iliac fossa while with colitis they spread over the entire abdomen and are more constant than with appendicitis. Exacerbation from physical effort and from menstruation speaks more for general bowel trouble; the pains of appendicitis are generally independent of external influences. Constant tenderness at McBurney's point speaks for chronic appendicitis while constant tenderness at other points is a sign of chronic disease elsewhere. He adds that with chronic appendicitis, especially the recurring form, there is frequently no tender point anywhere. A resistance in the ileosaeral region indicates participation of the colon as also constipation, intestinal fermentation and admixture of mucus with the stools. This colitis can be either the consequence or the cause of chronic appendicitis. If the disturbances improve under physical and dietetic measures, appendicitis can generally be excluded. A tendency to nervous disturbances also speaks against a localized appendicitis. In any event, the patient should be examined several times, and with special regard to the psychic behavior; with other symptoms of hysteria or neurasthenia one should be guarded with the diagnosis of chronic appendicitis. If you learn that the patient has a special dread of appendicitis or there has been a case in his immediate circle of acquaintances, the diagnosis should be even more reserved. In such cases it is better to say "I do not find anything just now suspicious of appendicitis. But I advise you to send for a physician at once if the pains increase in intensity."

107. **The Forces of Respiration in Treatment of Scoliosis.**—Spitzy here describes how best to utilize the forces of gravity and of respiration in treatment of scoliosis, in which Abbott seems to have led the way. He has applied Abbott's method in fourteen cases in the last six months and states that the results were "much, much better" than with any other method tried in the course of many years. His article is a preliminary to Abbott's presentation of the subject at the approaching German orthopedic congress.

112. **Phenolsulphonephthalein Test for Kidney Functioning.**—Fromme and Rubner state that intramuscular injection is liable to give misleading findings. They regard the test as important but reliable only when the intravenous technic is followed. With this from 60 to 65 per cent. of the drug is eliminated by healthy kidneys in three hours, and usually the proportion eliminated is much larger in this period, even up to 90 per cent. in some cases.

115. **Mushroom Poisoning.**—Dreisbach has encountered several cases of epidemic headache and joint pains with fever and other signs of severe infection, following close on a few days of thrashing. He is convinced that the trouble is due to the dust from mushrooms or moulds in the dust thrown up by the thrashing machine. Mere irritation from indifferent dust could not explain the severe symptoms observed.

### Wiener klinische Wochenschrift, Vienna

*March 13, XXVI, No. 11, pp. 401-444*

118 *Milk Differentiation of Spastic Strictures in Stomach and Duodenum. (Ueber das Verhalten verschiedenartiger Strikturen im Magen und Duodenum bei Milchdiät.) S. Jonas.

119 *By-Effects with Salvarsan from the Glass of the Vials. (Durch Alkaliabgabe des Glases bedingte toxische Nebenwirkungen nach intravenösen Salvarsaninjektionen—Glasfehler.) R. Matzenauer.

120 The Skin Reaction in Syphilis and its Relation to the Wassermann Reaction. (Die Hautreaktion bei Lues und ihre Beziehung zur Wassermannschen Reaktion.) R. Müller and R. O. Stein.

121 *From the Seat of War. (Kriegschirurgische Erfahrungen vom montenegrinisch-türkischen Kriegsschauplatz.) O. Heinz.

122 Seaside Sanatorium for Children. (Dauererfolge und Schicksale von im Seehospize zu Triest 1896-1903 behandelten Brunner Kindern.) E. Homa.

123 *Tabes in the Young. H. Barkan (San Francisco).

124 *Choice of Occupation with regard to Tuberculosis. (Fürsorge bei der Berufswahl mit Rücksicht auf die Tuberkulose.) L. Teleky.

118. **Diagnosis of Spastic Strictures in Gastro-Intestinal Tract.**—Jonas calls attention to the fact that a stricture in the stomach or duodenum is modified by restriction to a milk diet just as the underlying lesion is modified. That is to say, strictures from scar tissue, adhesions or tumors show no change, while spastic reflex strictures from the irritation of an ulcer subside on a milk diet as the exposed nerves escape irritation when the food is restricted to milk, and hence the reflex spasms cease to occur. When the symptoms of the stricture subside on a brief restriction to milk, the assumption of a causal ulcer is justified. Negative conclusions, that is, persistence of the stricture phenomena on a milk diet are not conclusive as to the non-existence of an ulcer. Roentgenoscopy before and during restriction to milk gives instructive findings. He allows the patient only milk or cream cheese until the milk with six-hour intervals is borne without pain. Then roentgenoscopy is applied again and if the signs of the stricture have subsided, the assumption of an ulcer as the cause of the previous stricture is justified. He does not keep up the milk diet longer than a week. When there is no residue in the stomach after six hours, during this milk course, the diagnosis of a causal ulceration is the more probable the larger the amount of residue before the restriction to milk, and the shorter the interval before it disappears.

119. **By-Effects From the Glass in Giving Salvarsan.**—Matzenauer ascribes to the action of alkali from the glass in the vials certain by-effects observed during intravenous injection of salvarsan. He thinks that this "glass error" is responsible for certain untoward effects in salvarsan treatment.

121. **From the Seat of War.**—Heinz was in charge of a Red Cross expedition to Montenegro, and describes his surgical experiences in 159 cases. The men had been wounded mostly in outpost skirmishes. Among the wounded were seven women. Five had been injured at one time by shrapnel as they were bringing supplies to the front. He states that this task was in the hands of the women and it was no uncommon sight to see supply wagons in trains miles long, driven only by women and children. Fully 60 per cent. of the twenty cases with shrapnel wounds went on to suppuration.

123. **Tabes in the Young.**—Barkan reports from Fuchs' clinic three cases of tabes in children of 9 to 16, comparing them with three others in the children of one family in which the father was syphilitic, the mother apparently free from syphilis. Only one case of juvenile tabes is on record with necropsy findings, which indicates that the young are resistant. Atrophy of the optic nerve has developed in 80 per cent. of the cases on record and the Wassermann reaction is positive in a much larger proportion than in adults. The Romberg sign and ataxia are less frequent in the children. Mercury does not arrest the progress of the tabes but seems even to have accelerated it in some cases. It seems wisest to place such children in a blind asylum early, where they can be trained in work for the blind before their vision is entirely lost.

124. **Choice of an Occupation from the Standpoint of Tuberculosis.**—Teleky expatiates on the lack of participation of physicians, as a rule, in the solving of the great sociologic problems, when they are the very ones who should take the lead in social hygiene. A very important task in this line is the guidance of the wage-earning youth in the choice of a trade. He insists that wage-earning should not begin before

the age of 16, and that the change from school to trade should not be sudden and complete but there should be a period of gradual adaptation. The state should provide manual training institutions where at least the predisposed and the weakly should be gradually habituated to work. Kaup demands for every wage-earner under 18, restriction to ten hours' work, including the free hours, at least three half days a week for physical training and athletics, and a two-weeks vacation every year. But still more important is the necessity for consultation with a physician before starting in on any occupation. Even under present conditions much could be accomplished by medical advice as the children leave school.

### Zeitschrift für Kinderheilkunde, Berlin

*VI, Nos. 1, 2 and 3, pp. 1-252. Last indexed March 15, p. 873*

125 *The Eruption in Measles. (Das Bild der Masern auf der äusseren Haut.) C. v. Pirquet.
126 Abdominal Purpura. (Zur Frage der Purpura abdominalis—Henoch.) R. Lederer.
128 *No Reflux of Pancreatic Juice Into the Stomach of the Infant. (Zur Frage des Rückflusses von Pankreassaft in den Magen des Säuglings.) A. Reiche.
129 The More Active Metabolism of the Child. (Der grössere Stoffverbrauch des Kindes.) M. Kassowitz.

125. **Distribution of the Skin Eruption in Measles.**—Von Pirquet studied forty-six cases of measles with a view to determining the distribution of the eruption and its causes. He marked the exanthematous areas from day to day and the figures are reproduced in his article. He concludes that the eruption is an antitoxic reaction to the organisms causing the disease, which are located in the capillaries. The organisms are agglutinated and the eruption appears when the capillaries of a given region become saturated with antibodies. This saturation takes place first in the regions having the most abundant blood-supply, such as the mucous membranes and the regions near the heart and large blood-vessels. Gradually the organisms are removed from the circulation by agglutination. By the time the parts with a less abundant blood-supply, such as the elbows, feet and nates, have developed sufficient supply of antibodies, there are no longer any organisms to agglutinate; therefore those parts show no eruption. The monograph has 456 illustrations from his original drawings, fourteen other illustrations and eight colored plates.

128. **No Pancreatic Juice in the Infant's Stomach.**—It has been demonstrated that in the adult there is a flow of pancreatic juice into the stomach. Reiche made tests with twenty-three children from six weeks to one and one-half years of age to determine whether the presence of pancreatic juice in their stomachs could be demonstrated. It was not found in any case so there normally can be no digestion of fat and albumin in the stomach by the aid of the pancreatic juice.

### Zentralblatt für Chirurgie, Leipsic

*March 22, XL, No. 12, pp. 417-456*

130 *Absorption by the Pleura. (Ueber Pleuraresorption.) Boit.
131 *Management of Pyelotomy Wound. (Wie soll man die Pyelotomiewunde behandeln?) R. Bastianelli.
132 *Disadvantages of Exclusion of the Appendix. (Ausschaltung des Wurmfortsatzes.) F. Steinmann.

130. **Absorption by the Pleura.**—Boit injected saline into the pleural cavity of dogs, with or without 1 per cent. of some stain, or olive oil, to study the power of absorption. Almost immediately after injection of the fluid on one side, it was evident in the other side, and it proceeded to accumulate slowly in the lower portions of the pleural cavity. A few minutes after injection into the right pleura of 50 c.c. of the stain, the entire pleural cavity on the other side was stained a deep tint with it. The lymphatics convey rapidly the fluid into the mediastinum, and the lymph in the thoracic duct was already stained when it was opened twenty minutes after injection of the stain. The experimental findings suggest the possibility that in clinical cases infection of one pleura may be transmitted to the other side by way of the mediastinum.

131. **The Wound After Pyelotomy.**—Bastianelli declares that the incision in the kidney pelvis will heal without suturing unless there is some obstruction in the ureter or very severe infection, and if the wound is not too large or has not ragged edges. At the same time he does not advise systematic refraining from suture. A flap of the adipose tissue drawn up over the incision will protect it. When it is difficult to draw up the kidney he does not loosen up the adipose tissue but cuts directly down on the stone and does not attempt to suture the wound as the fat closes over it and renders a suture unnecessary. It is important to refrain from injuring the fat and to leave a layer intact to draw over the wound.

132. **Exclusion of the Appendix.**—Steinmann reports a case to show the possible evils of leaving the appendix *in situ* after severing it from the cecum, suturing the stumps separately. The part of the appendix close to the cecum was apparently normal in his case, but the rest was impacted in the midst of an inflammatory tumor in which the ileum, omentum and median wall of the cecum were soldered together. The case seemed particularly adapted for exclusion of the appendix as Kofmann has recently recommended, and this was done with exceptional ease, but the previously chronic process flared up into acute inflammation, the appendix perforated, and a fecal concrement further complicated the case, compelling a speedy second laparotomy.

### Zentralblatt für Gynäkologie, Leipsic

*March 22, XXXVII, No. 12, pp. 409-448*

133 *Resection of Promontory to Enlarge the Pelvis. (Verfahren zur Heilung enger Becken.) E. Gerstenberg.
134 *The Crossed-Hands Maneuver to Aid Delivery. (Ein neuer Handgriff—Kreuzgriff—bei Entbindungen.) O. Krug.
135 Primary Sarcoma of Small Intestines. R. Patek.
136 Primary Gastric Cystosarcoma. H. Kondring.
137 *Proportions of Males and Females Born. (Ueber das Verhältnis der Geschlechter.) M. Hirsch.

133. **To Enlarge a Contracted Pelvis.**—Gerstenberg has tried on twenty-three cadavers Rotter's method of chiseling off the promontory to enlarge the internal diameter of the pelvis. This experience has convinced him that the special field for this operation is in connection with artificial premature delivery, and that the method should not be attempted with a true conjugate of less than 8.5 cm. Rotter advocates it for a true conjugate down to 7 cm., and thinks that it will render premature delivery unnecessary.

134. **The Crossed-Hands Maneuver to Facilitate Delivery.**—Krug calls attention to the remarkable force that can be exerted when the hands are placed back to back after crossing them, the backs of the hands serving thus as the levering point for pushing with the fingers. He utilizes this force to spread the articulations of the pelvis as they loosen up during the labor pains, thus magnifying the natural stretching. He introduces his three middle fingers deep into the vagina, down to the inner surface of the right tuberosity of the ischium, the forefinger of the right hand on the ascending ramus of the right tuberosity of the ischium, the middle finger on the edge of the obturator foramen and the third finger on the great sacrosciatic ligament. The fingers of the left hand are introduced in the same way, the hands thus crossed ready to push at the height of the labor pain. As the force is applied only transversely to the pelvis, and as the entire pelvis is slightly lifted up at the same time as the woman lies across the bed with legs spread and slightly pendent, there is not much danger of injury.

137. **Proportions of Males and Females at Birth.**—Hirsch has been surprised to note the unusually large proportion of male fetuses among those in the abortive and premature delivery cases. They far outnumber the females, and he thinks there can be no doubt that the male fetus is more susceptible to injury, including the trauma at birth, than the females, and also that the male fetuses far outnumber the female, irrespective of those that come to normal birth. The proportion of males is larger the shorter the interval since conception. He urges others to study this subject as his findings suggest a new biologic phenomenon of the greatest importance for predetermination of sex and for embryology in general. In order to bear weight hereafter, research on the proportions between the sexes must not be restricted to the children born

but should take into account the sex proportions in embryos. He urges institutions to compile data on this subject, classifying the cases with the length, weight and signs of development of the fetus or embryo; the sex (with young embryos microscopic examination may be necessary); age of the parents; their health (syphilis, nutritional disturbances, heart, kidney or gynecologic disease, deformities and alcoholism); occupation (whether the mother is employed or not); industrial diseases; residence (city or country); food and housing conditions; number of preceding childbirths and abortions (age, health and sex of the children), and, finally, the cause of the death of the fetus. He thinks that compilation of data along these lines will be a great advance toward solving the question of predetermination of sex and other biologic problems.

### Policlinico, Rome

*March 23, XX, No. 12, pp. 401-436*

138 Headache of Thyroid Origin. (Sull' esistenza di una forme di cefalea di origine tiroidea.) G. Bilancioni.

### Riforma Medica, Naples

*March 15, XXIX, No. 11, pp. 281-308*

139 Physiopathology of the Adrenals. III. (Fisiopatologia delle capsule surrenali in rapporto al morbo di Addison ed alle sindromi surrenaliche.) P. Castellino.

140 Action of Ultraviolet Rays on Cholera and Plague Germs. A. Schiavone and G. Trerotoli.

141 *Acid-Fast Bacilli in the Blood-Stream. (Osservazioni e considerazioni sulla presenza di bacilli acido-resistenti nel sangue circolante.) A. Fagiuoli. Commenced in No. 10.

141. **Tubercle Bacilli in the Blood.**—Fagiuoli remarks in this report of research on the presence of acid-fast bacilli in the blood-stream, that of the thirteen clinically non-tuberculous patients examined with positive results, one had an attack of tuberculous pleuritis four months afterward. He does not regard the acid-fast bacilli in the blood as a sign of active tuberculosis nor as a certain sign of impending tuberculosis, nor as of much import for the diagnosis from any point of view. The bacilli in the blood show that the individual is infected, but whether the bacilli will find lodgment and a chance to proliferate is another question. There did not seem to be any connection in his experience between the numbers of the bacilli and the gravity of the tuberculous process; he found them frequently quite numerous in the incipient cases and very scanty in the well developed. He remarks in conclusion that the new light thrown on the presence of acid-fast bacilli in the blood-stream does not reduce the importance and necessity for the prophylactic measures against tuberculosis already in vogue, but it shows still more urgently than ever the importance of means to enhance the resisting powers of the individual. His findings were constantly positive in seventy-five patients with pulmonary tuberculosis in various stages and in five of six patients with surgical tuberculous lesions, also in thirteen of twenty persons apparently free from suspicion of tuberculosis. He found the acid-fast bacilli also in the urine of four of five tuberculous patients examined, and in two of five apparently free from tuberculosis. The acid-fast bacilli were also constantly present in the pleural effusion from the four patients examined, and in three out of four cases they were discovered in pus from a tuberculous process. Also in the stools from six tuberculous patients. The bacilli thus found constantly in the tuberculous and in 65 per cent. of the non-tuberculous examined were inoculated into guinea-pigs—a total of twenty-six animals—with the result that four of the nine animals inoculated with blood from tuberculous patients and one of the four inoculated with blood from a non-tuberculous individual developed tuberculosis.

### Hygiea, Stockholm

*February, LXXV, No. 2, pp. 113-192*

142 *Cancer in the Jejunum and Ileum. (Om primär kräfta i jejunum och ileum.) B. Carlson.

143 *The "Blotting Paper" Capillary Test for Gastric Secretion. (Om s. k. kapillaranalys af magsaft enligt dr I. Holmgren.) K. Mattisson.

144 *Complications from Roentgenoscopy of Kidney Pelvis. (Fall af pyclografi, där kollargol inträngt i njurens urinkanaler och Malpighiska kroppar.) A. Troell.

145 *Local Anesthesia by Aid of Electricity. (Lokalanästesi medelst katafores.) M. Lundgren, A. Schele and B. Svedin.

142. **Cancer in Jejunum and Ileum.**—Carlson adds seven more cases to the forty-three compiled by Schlieps in 1908. Two of the seven new cases were in Carlson's own practice. He discusses the comparative frequency of malignant disease at this point and tabulates the details of the total fifty cases. In fifteen the conditions were too far advanced for operative relief; palliative operations were done in fifteen cases and resection in twelve cases. One of Mikulicz' patients lived afterward for over seven years and one of Schede's for over a year, dying then from pneumonia. In Carlson's resection case the patient is still in good health after six months. Sörensen's patient lived three years after a merely palliative entero-anastomosis. Carlson insists that an exploratory laparotomy is imperative whenever a person is constantly losing flesh without known cause, whether at the cancer age or not, and there is a fixed pain in the abdomen and constipation alternates with diarrhea and there are attacks of colic or slight ileus. The great danger with cancer in the jejunum or ileum is its slow course; immediate danger does not seem impending and as transient benefit is realized from care in dieting, further measures are postponed until too late.

143. **The Blotting-Paper Test for Gastric Acidity.**—Mattisson's conclusions from extensive tests of Holmgren's technic for estimation of the free acid in the stomach content are unfavorable to the reliability of the method: The chances for error are too great and the information afforded too meager.

144. **Complications from Radiography of Kidney Pelvis.**—Troell says that Zachrisson and Jervell have each reported a case of decided injury from a test injection of collargol into the kidney pelvis for radiography. He has also had a case of the kind in his own experience, as he describes in detail, but has been unable to find records anywhere else of similar occurrences. In his case the kidney was removed afterward and it showed that the 7 per cent. solution of collargol, injected to cast a shadow, had penetrated into the parenchyma of the kidney and worked its way into the space between the glomeruli and their capsules. This was the more remarkable as only 6 or 7 c.c. had been injected and the injection had been made very slowly and under weak pressure. The ureter catheter had been introduced for 20 cm. and the patient complained of pain when this amount had been injected so the injection was suspended at once. The patient was a woman of 64; a suppurative process involved part of the kidney, which was removed next day, but the silver salt had backed up into the canaliculi and malpighian bodies even in the sound half.

145. **Local Anesthesia by Aid of Electric Current.**—Lundgren and his coworkers tabulate the findings in a number of cases in which they induced local anesthesia by cataphoresis, sending into the tissues a 10 per cent. solution of novocain in an epinephrin solution (adrenalin). The anesthetic is dropped on a piece of filter paper folded three or four thick or the paper was first impregnated with the solution. The paper pad is cut the size of the electrode and the continuous current was applied at a tension of 110 volts. They give an illustration of the arrangement of the regulator, etc., found most convenient, and state that complete local anesthesia was thus realized in four cases in ten minutes with a current of one milliampere, the anesthesia lasting for an average of sixteen minutes. With a current of two milliamperes, complete anesthesia was induced in eight instances in five minutes and it lasted for an average of eighteen minutes; with two milliamperes in ten minutes in nineteen cases and it lasted for twenty-seven minutes on an average. The sensibility was only partially reduced in seven other cases while in twelve others there was very nearly but not quite total anesthesia. Further experiments with a 5 per cent. solution of cocain in the epinephrin solution answered the same purpose, the anesthesia lasting for an average of thirty minutes, but the skin showed signs of irritation. The novocain proved equally effectual but without any signs of irritation of the skin. They made twenty applications of the cocain and fifty of the novocain solution. The paper pad with the anesthetic was placed under the positive round electrode covering an area of about 3 sq. cm. the other electrode was held in the patient's hand.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, No. 18 CHICAGO, ILLINOIS MAY 3, 1913


## MYCETOMA IN AMERICA


RICHARD L. SUTTON, M.D.
KANSAS CITY, MO.


Although mycetoma, or Madura foot, was described by Kaempfer[1] in 1712, its occurrence, or rather its recognition, in America is of quite recent date. Of the cases originating in this country, that described by Adami and Fitzpatrick[2] is probably the first. Their patient was a French Canadian, 21 years old, a native of Montreal who had never been outside of Canada. Parkes' patient[3] had previously resided in India, and in the case described by Kemper and Jameson[4] the course of the disease was so rapid and the pain so great that, in the absence of corroborative microscopic evidence, a diagnosis of mycetoma may safely be excluded. In the example reported by Hyde and Senn[5] the patient was a dental student, 20 years of age, a native and resident of Iowa. Artwine and Lamb's[6] case occurred in a Mexican laborer, 45 years old, and Pope and Lamb's[7] patient also was a Mexican laborer, aged 27. The fifth, and last, American case that I have been able to find a record of is the one on the study of which Wright[8] largely based his admirable contributions to the subject of mycetoma. The patient was an Italian woman, 26 years of age, on Dr. H. H. A. Beach's service at the Massachusetts General Hospital.

The two following cases of Madura-foot disease have recently been under observation in Kansas City:

CASE 1.—The patient, A. D., laborer, single, aged 24, was an employee of the Missouri Pacific Railway Company, and was referred to my associate, Dr. J. P. Kanoky, the company dermatologist. Dr. Kanoky being absent from the city, I diagnosed and treated the case, and am indebted to him for permission to report it. The patient is a native of Padua, Mexico, and formerly resided at Aransas Pass, Texas. He has never before suffered from a skin disease, and the cutaneous history of his family also is negative.

*Present Illness.*—Three years prior to the time of consultation, while walking barefooted across a pasture, the patient stepped into a depression in the soft ground that had been left by an old mule track, and at the same time sustained a slight punctured wound of the sole of the left foot, beneath the arch. He thinks that the wound was probably made by a cactus thorn. The lesion gave rise to but little pain or inconvenience, and was almost forgotten until about a month afterward, when a small, hard lump appeared beneath the skin at the site of the injury. The tumor was incised, but no pus escaped, and no foreign body could be discovered. The tumefaction gradually increased, however, until the depression beneath the arch was replaced by a large, boggy swelling. There was little or no associated pain. In the course of about fourteen months, a minute, oval opening appeared near the site of the original wound, and small amounts of "grainy," yellowish pus escaped. Since then, a number of other openings have developed, until, at present, there are a hundred or more scattered over the sole and sides of the foot. At no time has the pain been severe. A feeling of fulness is present occasionally, especially in cold weather, but the patient did not entirely cease work until the spring of 1912.

*Examination.*—The patient was a slight, nervous man, 5 feet and 4 inches tall, and weighed 124 pounds. The skin on parts other than the left lower limb was normal and unscarred. There was no response to a von Pirquet application of tuberculin, and the Wassermann serum test was negative. A radiograph, made by Dr. C. F. Martin, showed the bones to be apparently normal. The affected foot was greatly swollen and misshapen, the deformity being principally confined to the region of the instep. The circumference of the left foot at this point was over 50 cm., while the right measured only 27 cm. The dorsal surface of the affected part was almost constantly covered with large drops of perspiration, the plantar surface being dry or only moderately moist (Fig. 1). The right foot was normal in this respect. There was some tenderness on deep pressure, but fluctuation could not be obtained. The sinus openings were about the diameter of an ordinary pin, many being capped by a round or oval, reddish or brownish, tightly adherent crust (Fig. 2). Small amounts of yellow, fish-roe-like matter, suspended in an oily, puriform fluid, could be squeezed out of the majority of the sinuses. The fungi, which morphologically were identical with those found in the ochroid variety of mycetoma, were easily found in this expressed material and in the crusts after thorough soaking in a solution of potassium hydroxid. Cultures of the organism were not so readily secured, however, our experience in this regard coinciding with that of previous observers. Even scrapings from the sides of two of the canals, removed by means of a small, sharp spoon, after thorough anesthetization of the part with cocain, failed to prove productive. Repeated attempts on the part of Dr. W. K. Trimble, Dr. Frank Hall and myself having been without result, it is very probable that no viable organisms will be secured until the foot is opened and fresh, moist material, which has not been exposed to the action of antiseptics, is obtained.

For histologic study, a small piece of tissue was excised from the sole of the foot at the outlet of one of the sinuses. The material was stained with hematoxylin and eosin, alone and in combination, methylene-blue (Unna-Pappenheim), Weigert and Gram-Weigert. The prickle-layer was somewhat increased in thickness, with many open spaces between the cells. Some of these intercellular cavities contained polymorphonuclear leukocytes, round cells, and, occasionally, a granular deposit which stained with eosin. The grains, or

1. Kaempfer: Amaenitum exoticarum, Lemgoviae, 1712, iii, 561; cited by Scheube, Die Krankheiten der warmen Länden, 1903, Ed. 3, p. 735.
2. Adami and Fitzpatrick: Tr. Assn. Am. Phys., 1895.
3. Reported by Hyde: A Practical Treatise on Diseases of the Skin, Phila., 1888, p. 496.
4. Kemper and Jameson: Am. Pract. and News, 1876, p. 577.
5. Hyde and Senn: Jour. Cutan. Dis., 1896, p. 1.
6. Artwine and Lamb: Am. Jour. Med. Sc., 1899, cxviii, 393.
7. Pope and Lamb: New York Med. Jour., lxiv, 386.
8. Wright: Jour. Boston Soc. Med. Sc., 1897, ii, 128; Tr. Assn. Am. Phys., xiii, 471; Jour. Exper. Med., 1898, p. 422; Buck's Reference Handbook of the Medical Sciences (under Actinomycosis), 1900, i, 101; Publications of the Mass. General Hosp., Boston, 1905, i; Osler's System of Modern Medicine, 1907, i, 344.

"druses," were irregularly scattered through the corium in the neighborhood of the sinus. Under the low power, these bodies appeared as rounded, oyster-like masses, the central and pericentral portions of which stained fairly well with hematoxylin, and the outer zone of which reacted to eosin only. Histologically, the bodies consisted of a central, granular appearing portion, with radiating mycelial threads which extended almost to the periphery, the entire mass being encompassed in a glassy, hyaline shell. The separate filaments stained so faintly that it was not possible to ascertain, with any degree of accuracy, whether or not either branching or segmentation was present. The tissue changes in the immediate vicinity



Fig. 1—Case 1.—Character of deformity and distribution of sinuses. The dorsal surface of the foot and the ankle are covered with perspiration.

of the druses were such as one might expect to find in a chronic inflammatory process of this nature—vascular generation and dilatation, the latter often accompanied by endothelial proliferation, with connective tissue and epithelioid infiltration of the vessel walls, and collections of plasma and epithelioid cells in the cutis, together with occasional giant cells.

*Treatment.*—In the districts where Madura-foot disease most frequently occurs, it has been found that the only successful treatment is amputation of the affected part. In this instance, however, the patient refused operation, and we were compelled to resort to other measures. Of these, dependence has been placed, for the most part, on remedies which have proved helpful in the treatment of actinomycosis. Potassium iodid, in gradually increased doses, copper sulphate, 0.02 gm., in water, after each meal, as originally suggested by Bevan,[9] and the *x*-rays, as recommended by Stelwagon[10] and by Zeisler.[11] Locally, various preparations of iodin have been employed. After two months of treatment along these lines, the foot is somewhat less swollen than at first, but the degree of improvement is very slight.

CASE 2.—The patient, J. H. C., married, housewife, aged 23, was under the care of Dr. John W. Perkins, of this city, and was treated by him. It is through his courtesy that I am enabled to include the history in this report. The patient was a native resident of Texas. Her cutaneous history and that of her family were negative. She had never gone barefooted, but frequently bathed in a stream where many cattle drank. Dr. Perkins first saw the patient Sept. 5, 1906. Nine years previous to that time, a horse had stepped on her left foot, but the skin apparently was not broken. About one year after this accident, several small excrescences appeared near the base of the great toe and discharged slightly. These nodules gradually increased in size and number, and the foot became greatly swollen (Fig. 3). The pain was more or less constant, and quite severe. In 1902, an incision was made and some of the metatarsal bones were scraped. This procedure was repeated in 1904, but at that time appeared to aggravate the condition. On September 6, Dr. Perkins opened the foot, and removed the second toe and the second metatarsal bone. The sinuses were cauterized with a Paquelin cautery and dry dressings applied. A bacteriologic examination made at this time, by Dr. Frank Hall, showed the *Streptothrix madurae* to be present in large numbers. The after-treatment consisted of thorough cleansing with solutions of hydrogen peroxid and potassium permanganate, and the injection into the sinuses of iodoform emulsion. November 12, the third, fourth and fifth toes were removed, and the lesions on the dorsum of the foot curetted and dressed with iodoform (Figs. 4 and 5). A small sinus just anterior to the internal malleolus was incised, and cauterized with nitric acid. Iodin was injected into the drainage tubes for a fortnight. The patient was sent home late in December, with the lesions on the dorsal surface of the foot healed, and only a slight ulcer remaining on the inner surface of the ankle, where the nitric acid had been applied.

Dr. Perkins did not see the patient again until September, 1907. At that time there was a small ulcer on the inner side of the instep, a second just beneath the arch, and a tiny, blister-capped sinus 2 inches back of the fourth metatarsophalangeal articulation. There was no pain, and only slight tenderness on deep pressure. No fungi could be found in the discharge. The sinuses were again cauterized, and dressed with a 5 per cent. solution of phenol (carbolic acid). Later, an iodoform emulsion was injected daily. The patient returned home November 26, her condition apparently much improved. Seven months later, she again applied for treatment. After reaching home, she had walked on the foot, and had suffered very little inconvenience in any way until April, 1908, when a constant, throbbing pain developed and gradually increased in severity. In May, she was compelled to use crutches. At the time of examination, she was unable to place her foot on the floor. Several sinuses had ruptured on the dorsum and sole of the foot, and on the sides of the ankle. A blood analysis made July 12, 1908, showed: Hemoglobin, 100 per cent.; erythrocytes, 5,600,000; leukocytes, 25,900, with a differential count of: Polymorphonuclears, 69.3 per cent.; mononuclears, 18.5 per cent.; small lymphocytes, 4.5 per cent.; transitionals, 3.1 per cent.; eosinophils, 3.3 per cent.; basophils, 0.6 per cent.



Fig. 2—Case 1.—Sinus openings on sole. Many are capped by round or oval, tightly adherent, brownish crusts.

A bacteriologic report, received from Dr. Edward N. Tobey, of Harvard University, Sept. 2, 1908, read as follows: "Cultures made from specimen received show fine radiating growths giving the characteristic puff-ball appearance of *Streptothrix madurae*. Microscopic examination shows long, branched filaments, some with club-shaped ends."

9. Bevan: Treatment of Actinomycosis and Blastomycosis with Copper Salts, THE JOURNAL A. M. A., Nov. 11, 1905, p. 1492.
10. Stelwagon: Diseases of the Skin, W. B. Saunders & Co., Phila., Ed. 6, 1910, p. 1111.
11. Zeisler: Tr. Am. Dermat. Assn., 1906, p. 104.

The foot was amputated in July, and the stump healed promptly and smoothly. Cross-sections made before hardening the tissues showed that the sinuses followed the tendon sheaths, and were filled with a soft, gelatinous material which, in most instances, had entirely replaced the tendon. The tendons that remained were soft and atrophied.

The fact that both of the patients whose histories are here recorded were in the habit of living active, outdoor lives in a subtropical country is of interest. In a statistical study of one hundred cases of mycetoma, Bocarro,[12] of the Hyderabad Medical School, found that



Fig. 3—Case 2.—Condition of dorsum of foot at time of first examination (courtesy of Dr. John W. Perkins).

91 per cent. of the patients were tillers of the soil, and that the remaining 9 per cent. spent the greater portion of their time barefoot in the open air (boatmen, porters, beggars, etc.). Eight of the patients were females, seven being the wives of agriculturists. The disease occurred most frequently between the ages of 21 and 40. Crocker[13] states that a history of previous attack of guinea-worm disease is often present, but Bocarro found that the causative organism most frequently gained entrance through the wound left by a thorn prick. While the disease usually affected the feet, other exposed parts, especially the hands and the knees, occasionally were attacked.

Clinically, mycetoma may be divided into three varieties, the yellow or ochroid, the black and the red, so named because of the color of the small masses or granules suspended in the oily, seropurulent discharge from the sinuses. The ochroid is the most common type, while the red is exceedingly rare. Except Bassini's[14] Italian case, I can find no record of the occurrence of either the black or red forms outside of India.

12. Bocarro: Lancet, London, Sept. 30, 1893, p. 797.
13. Crocker: Diseases of the Skin, P. Blakiston's Son & Co., Ed. 3, ii, 1348.
14. Bassini: Arch. per le sc. med., 1888, p. 309.

Bacteriologically, the consensus of opinion would indicate that the yellow and the black, the two varieties that have been most exhaustively studied, are due to different organisms. Jackson[15] has found that the ochroid organism, when grown in association with pyogenic cocci, on steamed potato, will sometimes, after a month or two, take on a rose color, or even a red color. It may be that this explains the origin of the much-discussed red growths of the streptothrix isolated and studied by Vincent[16] and, later, by Gémy and Vincent.[17]

Vandyke Carter,[18] to whose masterly monograph we owe much of our knowledge of this disease, believed that the pale particles represented an evolutionary stage of the same organism found in the black variety. Kanthack[19] studied three cases of the black form and twelve of the yellow, and concluded that both were due to the same fungus, an actinomyces. Boyce and Surveyor,[20] while acknowledging the similarity of the organism found in these two varieties of mycetoma and in actinomycosis, believe that the two forms differ distinctly in etiology. They examined seven cases of the black type, and found the particles to consist of a brown pigment-substance, readily removable in Javelle water, and containing a large, branching, septate fungus. No organisms of fructification were observed. In Adami



Fig. 4—Case 2.—Condition of dorsum of foot at time of amputation, July, 1908 (courtesy of Dr. John W. Perkins).

and Fitzpatrick's[2] case, the fungi were identical in general appearance with actinomycetes but the clubs were much larger. Oppenheim,[21] who obtained his material from the Tametsee Djidjisbhoy Hospital in Bombay,

15. Jackson: Tropical Medicine, P. Blakiston's Son & Co., Phila., 1907, p. 490.
16. Vincent: Ann. de l'Inst. Pasteur, 1894, p. 129.
17. Gémy and Vincent: Ann. d. Dermat. et de Syph., November, 1897, vii.
18. Carter, Vandyke: Mycetoma or the Fungus Disease of India, Churchill, London, 1874.
19. Kanthack: Jour. Path. and Bacteriol., 1893, p. 140.
20. Boyce and Surveyor: Tr. Royal Soc. London, 1894.
21. Oppenheim: Arch. f. Dermat. u. Syph., 1901, lxxi, 209.

made a comparative histologic and bacteriologic study of the yellow and black varieties. Clinically, and in their main histologic features, he found them very similar, in fact, practically identical. In the yellow form there was apparently a somewhat greater tendency to connective-tissue proliferation, while in the black type abscess formation and liquefaction were more prominent features. Bacteriologically, however, the two conditions were very dissimilar. The organism from the yellow variety he believed belonged to the actinomyces group, while that isolated from the black was more of the nature of an odium.



Fig. 5—Case 2.—Condition of sole at time of amputation, July, 1908 (courtesy of Dr. John W. Perkins).

Wright found that the granules in the yellow variety were composed of microorganisms from the streptothrix group, to which the actinomyces is now generally thought to belong, and not to the more highly organized hyphomycetes. He considered it not unlikely that many of the ochroid cases were nothing more nor less than actinomycosis.

Unna,[22] in his work on actinomycosis and its possible relation to Madura-foot disease, found that the causative fungi in the two affections, while resembling each other culturally and morphologically, possessed marked tinctorial differences, the actinomyces, when first fixed by anilin xylol and then decolorized with anilin, staining readily with acid fuchsin, while the adult *Streptothrix madurae* was affected but little, or not at all, by prolonged contact with this dye.

Later Unna and Delbanco[23] again investigated the subject, both from a histologic and bacteriologic standpoint, and finally arrived at conclusions coinciding, in the main, with those which Unna reached in his first research.

22. Unna: Deutsch. med. Ztschr., 1897, p. 49.
23. Unna and Delbanco: Monatsch. f. prakt. Dermat., 1900, xxxi, 545.

McLeod[24] believes that Vincent's streptothrix is the etiologic agent in the yellow variety of mycetoma, and that this organism is allied to, but differs from, the actinomyces.

The black species of Madura foot he thinks is due to a degenerate form of the same fungus.

One of the most recent and valuable investigations that has been made regarding the etiology of mycetoma is that of Musgrave and Clegg.[25] Their material was obtained from a typically clinical case of the ochroid variety, of three years' duration, in a Filipina woman, 30 years old. With an organism which they isolated, and to which they gave the name *Streptothrix freeri,* they performed inoculation experiments on forty monkeys, guinea-pigs, rabbits, dogs and pigeons. In three instances, typical examples of Madura foot developed in monkeys after the injection of cultures of the organism into the tissues of the foot. On the other hand, in no instance was a progressive disease produced by inoculation into other parts of the body.

Variations in the color of the granules were occasionally noted, and in one instance, in which the subject was a monkey (*Cynomolgus philippinensis* Geoff), a fair number of small, black granules were produced in the tissues following a subcutaneous inoculation of the organisms.

The statement, which has often been repeated, that the ochroid variety of mycetoma is actinomycosis is not supported by the weight of evidence in the literature, and is positively disproved by the results of Musgrave and Clegg's work.

As these investigators conclude, it is probable that all types of mycetoma are due to streptothrix infection,

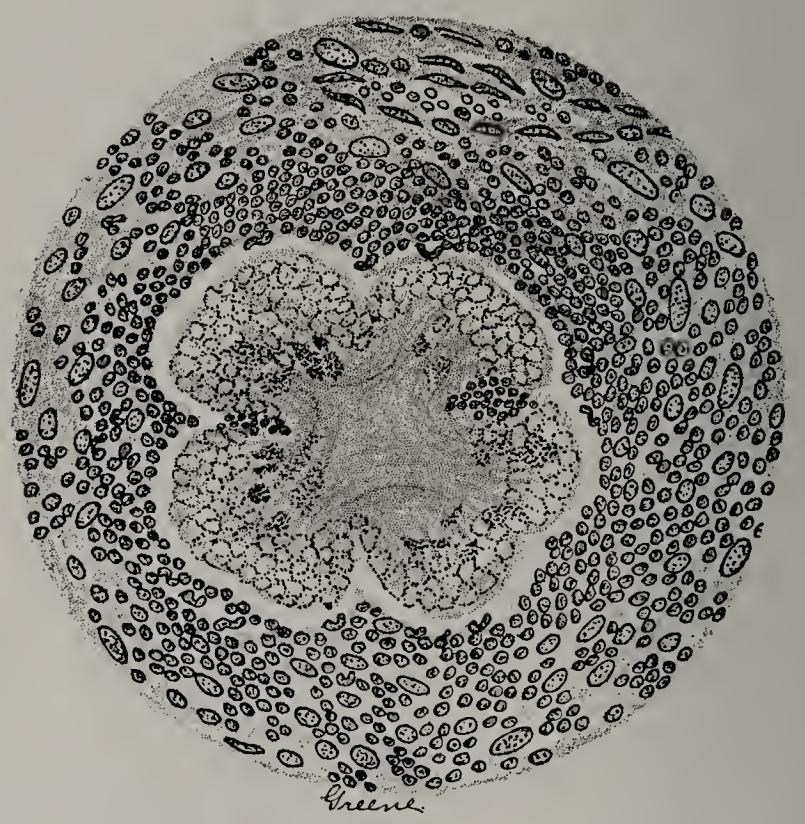



Fig. 6—Case 2.—Organism with surrounding zone of cellular infiltration (drawing by Dr. Marie Green; courtesy of Dr. John W. Perkins).

but whether all forms are caused by an infection with the same organism, or whether more than one species plays a part in the disease cannot at this time be stated positively.

610 Commerce Building.

24. McLeod: Allbutt's System of Medicine, Ed. 2, 1907, ii, 754.
25. Musgrave and Clegg: Philippine Jour. Sc., December, 1907, ii, No. 6, Sec. B.

# SHATTERING OF FEMUR WITH EXTENSIVE COMPOUND INJURY OF SOFT PARTS

## RECOVERY WITHOUT OPERATION WITH USEFUL LIMB *

J. J. BUCHANAN, M.D.
Surgeon to Mercy Hospital
PITTSBURGH

*History.*—The patient presented is a man, aged 26, whose thigh was crushed July 10, 1912, by a fall of slate in a mine. The femur was comminuted, split, and the fragments displaced in a grotesque manner throughout almost the entire length of the shaft, as shown by the *x*-ray plate (Fig. 1). Extensive injuries to the soft parts at the lower third of the thigh, with large openings extending to the fragmented bone, had caused such great loss of blood at the time of the accident that on admission he was almost pulseless, with sighing respiration, and apparently about to die.

*Treatment and Course.*—The cavities in the thigh were packed with iodoform gauze by my assistant, Dr. N. P. Davis, to



Fig. 1.—Shattered femur with extensive compound injury of soft parts.

whose assiduous care and judgment, during the first night, when the patient was delirious, restless and practically pulseless, the favorable outcome of the case should be ascribed. The treatment consisted of intravenous infusion of physiologic salt solution; camphor, strychnin and morphin hypodermatically; and enteroclysis, with elevation of the foot of the bed.

Nothing was done to the limb at first except to renew the aseptic external dressings as they became saturated with the serous discharge from the packing. No fragments were removed nor was any exploration of the wounds made. The limb was supported as well as possible between sandbags.

Improvement in the general condition of the patient began on the following day, but did not justify his removal to the *x*-ray room until the tenth day, when the first plate was made. A Buck's extension was applied on the fifteenth day, with full abduction to carry the comminuted fragments of the shaft as

*Patient exhibited at meeting of Surgical Section, Allegheny County (Pa.) Medical Society, Dec. 19, 1912.



Fig. 2.—Shattered femur (five months after injury) showing fusing of fragments together and with callus.



Fig. 3.—Shattered femur (seven months after injury).

nearly as possible into line with the short uppermost fragment. The original packing remained in place forty-seven days. Granulations gradually filled the cavities; the limb became firmer, and to-day the man walks well without crutch or cane and has but 1¼ inches shortening.

The second plate (Fig. 2) was made Dec. 18, 1912, and shows the fusing of the fragments together and with the callus, the absorption of the projecting spiculae and the zigzag direction of the bone. It shows, however, that the center of gravity is transmitted properly through the bone and this accounts for the symmetry and strength of the limb.

This patient was seen February 19 when the plate reproduced in Figure 3 was made. He walked with hardly a perceptible limp and his limb seemed about as straight and appeared fully as strong as its fellow. A photograph, reproduced in Figure 4, was taken at this time. The patient stated that he walks 3 miles at a time without discomfort. The last sinus had been closed more than a month.

The history of this case illustrates:

1. The marvelous power of Nature in the restoration of function to a bone apparently hopelessly shattered.



Fig. 4.—Legs of patient with shattered femur (seven months after injury). Note straightness of leg.

2. The advantages of the Fabian policy in wounds with inaccessible depths and unknown tendencies to infection.

3. The fallacy of the belief that satisfactory function cannot follow unless fractures are anatomically adjusted.

**Child Labor and Oysters in Mississippi.**—The state of Mississippi considers her human resources even less significant than her sister state, Louisiana. In five years the state has spent approximately $162,000 to replant depleted oyster reefs. Yet to this day, with 2,600 manufacturing establishments alone, and an average of nearly 51,000 wage-earners, Mississippi has not provided a single penny for factory inspection. There is a child-labor law in Mississippi, which provides that no girl under 14 years and no boy under 12 shall be employed, but there is no one in the state whose sole business it is to see that the law is enforced. If the sheriff has visited the canneries as he is "empowered" to do, he missed the ninety-three children between 6 and 14 years of age whom I found actually at work in four Mississippi oyster canneries.—E. F. Brown, member Nat. Child Labor Com.

# MODERN STEAM STERILIZATION *

MAX RUBNER, M.D.
Professor of Physiology and Director of the Hygienic Institute, University of Berlin
BERLIN, GERMANY

We live in a hygienically strenuous period. If we consider the history of hygiene for the last forty years, we may admire the great progress which has been made in most civilized countries in the sphere of infectious diseases of every kind. Most of the epidemics that used to decimate mankind, such as variola, plague, Asiatic cholera, yellow fever, typhoid fever and diphtheria, have to-day largely lost their terror.

To the modern generation maladies which in our youth seemed matters of course appear as if they belonged to the remote past. As a young man I saw the mighty typhoid fever epidemics in our country, especially in Munich, my native town, which formerly decimated the population; to-day typhoid fever has diminished as I have been told by a clinical friend, until there is not sufficient typhoid fever material for the clinical lectures.

It has required hard work to produce this effect in face of the rapidly increasing size of our large towns. A tour, not only through a typical large city of Germany, but also through many of the smaller cities, proves how unceasing the work there has been, and how by means of sanitation, water-supply, public cleanliness, the improvement and embellishment of dwelling houses and rooms, and the building of modern hospitals, we have striven without interruption to maintain the health of the people, the most important feature of a nation.

By means of scientific hygiene combined with the technical progress of sanitary engineers, all governments and all communities have worked unremittingly to complete this important task. The cause of hygiene has also been strengthened by legislation. The German nation and its representative, the German Reichstag, passed at first a law against the adulteration of food. Pettenkofer, the great hygienist, and A. W. Hoffman, the great chemist, by untiring effort achieved this success. Later the laws guarding against the dangers to health to which the workmen in factories, foundries, mines and other industrial institutions are subjected, the laws for the protection of women and children, and at last the wonderful social achievement—the social laws—were passed by the Reichstag. As an example of their beneficent effect, during the year 1906 more than 140,000 accidents in industrial and agricultural pursuits were followed by judgments for indemnity. More than a million persons received indemnities, either as injured persons or as survivors of persons killed, and the sum total of the indemnities exceeded 140 million marks.

The indemnity from the imperial invalid insurance during the year 1906, including the imperial contribution, may be estimated at about 160 million marks. During the first fifteen years of the existence of the invalid insurance, indemnities to the amount of more than 1,200,000,000 marks were paid. The expenditures by all the sick funds of Germany for physicians, medicine and pecuniary compensation in 1905 amounted to 232 millions marks, and at present about a million marks are spent every day for the social laws. As a result of the social laws, there comes the increasing need of hospitals. The services of physicians are to-day much more in demand than formerly, because the sick fund

* Delivered before the Harvey Society of New York, Oct. 5, 1912.

is paying all expenses and the progress in building hospitals and in their equipment is well known. We hope in the future to build more convalescent hospitals in the larger towns, because it is desirable, in the opinion of our hospital physicians, to prolong the treatment in many cases.

The influence of the social laws on the diminution of the mortality of the people is important and beyond doubt. Disease is no longer the sword of Damocles suspended over the happiness of the people, no longer the unavoidable cause of the decay of a family. How much grief and sorrow is stilled! The millions spent for the health of the people are not only a hygienic necessity and a compulsory contribution given by humanity, but also good business. The prophylaxis and protection of health is always cheaper than the loss of national fortune by sickness and epidemics. We cannot rest in our hygienic work. Every day brings new problems, and we must strive to win new means for combating the dangers to the public health.

## DISINFECTION

Progress even in practical affairs cannot always be expected from technic only; it springs chiefly from a foundation of theoretical knowledge. The evolution of hygiene as a science has given a most important impulse to all modern scientific work. Scientific knowledge is always the shortest way to any practical progress.

The immense success in combating infectious diseases we owe, first, to Robert Koch, by whose research and methods the most important agents of human infection have been discovered and their peculiarities recognized. But many other things, the discussion of which would lead us too far, have helped, in our country at least, to contribute to this great success.

Among the means of combating the infectious diseases, one has always been considered very effective, namely, the destruction of infectious material by disinfection.

This fundamental idea of disinfection is as old as the conception of living contagions, which in turn is many centuries old. Whoever is interested in historical studies will be able to find in ancient hygienic literature, besides many superstitions, many and even important precursors of our modern disinfecting methods. We know that in some parts of the world during the great pestilences in the middle ages not only were the patients isolated, but also the walls were disinfected according to established measures—which have come down to us—by means of milk of lime, the floors by means of washing with wood-lye.

In 1772 Plency published a theory concerning the etiologic influence of microorganisms and the rise of infectious diseases which agrees surprisingly with our modern views on the subject. Experiments were made, although incompletely, with chemical agents as means of disinfection. It would be unjust not to acknowledge the importance of the scientists of that time as pioneers of rational means for combating diseases. A good many interesting facts concerning this subject may be found in a book by Hermann John Pringle, general physician of the English troops that fought in Flanders, Holland and Germany in 1743-1744.

In 1780 the famous chemist, Lavoisier, in a publication on prisons recommended the disinfection of clothes by means of highly heated air, and of rooms by vapors of muriatic acid by a method indicated by de Mervean in 1773. He also recommended clothes of linen and cotton, as being less attractive for the infectious agents than wool. On the whole, the theory of infection then remained the same for almost a century, no considerable progress being made.

Up to the seventies of the last century dry heat was still the only means for disinfecting clothes and similar things; for the disinfection of rooms fumigation with chlorin and sulphurous acid were still the methods most in use. The means of disinfection by solutions had been considerably improved by the discovery of phenol (carbolic acid) and mercuric chlorid (corrosive sublimate), but even their action was not beyond doubt. Their great importance for practical medicine and for prophylaxis was first recognized by Lister in his application of an antiseptic method. The cleaning of infected materials with solutions of phenol for the destruction of infectious agents was recommended and used in various diseases. But there was not yet any certainty in the procedures and results; empiricism had not given sufficiently clear information.

The modern doctrine of disinfection, which is based on the peculiarities of the infectious agents, did not arise until the eighties, when Robert Koch and his assistants made the first systematic experiments and learned the considerable difference between the disinfecting influence against spores and that against vegetative forms of the infectious agents. Koch then wanted disinfection to kill all infectious agents, and that is still the effect which is expected from really good disinfecting methods, although we know nowadays that pathogenic germs rarely form spores.

Heat was now placed in the first rank of effective agents of disinfection; I mean not only the boiling of clothes, etc., which had been used long ago—but heat in some form of closed apparatus which was filled with steam. The application of steam for heating foodstuffs had first been introduced into Germany by one of your countrymen, Benjamin Thompson, who was born near Boston, May 26, 1753; he lived for a long time in Munich, where he was made Count Rumford. He is well known as a physicist, especially for his work on the theory of heat; and he was a student of nutrition and of social problems.

Koch showed that steam is excellent for disinfecting articles of any description—bedding, clothes, etc. The disinfecting apparatus is a big reservoir which can stand some pressure of steam and through which the steam passes. By this method the air is heated quickly, and after it has reached a temperature of 100 C. (212 F.) all living germs are killed in the shortest possible period of time.

## DEVELOPMENT OF STEAM DISINFECTION DURING RECENT YEARS

In the beginning steam disinfection was purely empiric, and it remained on this basis for a good many years. The procedure of using steam under pressure with temperatures above 100 C., and the use of superheated steam were soon given up. A current of steam with or without some pressure was always returned to. Steam without pressure was preferred for cheaper apparatus, for small hospitals, etc.

Progress by means of natural science requires study of the theoretical foundations. This was neglected for a long time in the doctrine of steam disinfection. The powerful action of the steam was explained by most persons as due to its great conduction of heat; others, Sambur, for instance, said that for the purpose of disinfecting any object its pores must be filled with water; otherwise no success could be expected.

It should be noted that there are two kinds of steam, saturated and unsaturated. Saturated steam can be produced at any temperature below 100 C. by lowering of the barometric pressure, by working in a partial vacuum, and above 100 C. by raising the pressure and the tension of the steam. Unsaturated steam is produced by heating steam which leaves a boiler above the temperature inside the boiler. Wet linen does not dry in saturated steam; superheated steam has the same influence as dry air—it dries wet linen in a very short time. This shows that physically it makes a difference whether saturated steam or superheated steam is used. This difference had never been considered. The more that steam is superheated the more it approaches the character of warm atmospheric air. The theoretical considerations were all based on practical disinfecting methods. This was a grave mistake.

### CHEMICAL AND PHYSICAL ACTION OF STEAM

It is my opinion that in steam disinfection two things must be carefully separated: first, the action from a chemical and physical point of view of the steam on the object; second, the action of the steam on the infectious agents. I have examined these two points separately. The first question was: Does steam act as a means of disinfection only if it condenses in the pores of the object? This hypothesis, although believed in by many, is entirely wrong. The disinfection is successful even if there is no condensation of water at all. The condensation of water as fluid is in most cases not even necessary in order to heat the objects. The hypothesis of Sambur is based on the mistaken assumption that objects are warmed only if there are visible droplets of water. Let us consider this physical aspect of heating.

Bunsen constructed a so-called steam calorimeter, a closed reservoir which is filled with steam at 100 C. temperature, and into which we may put any object, a ball of copper for instance, of a certain lower temperature; the water condenses at once on the cold ball and drops into a glass underneath. At the end of the experiment we see from the quantity of water how much heat the ball has lost.

Disinfection by steam is not generally applied to metallic objects; it is used mostly for textiles of wool, silk, linen, cotton, feathers, hair, etc. If these materials are used for the same experiment as the copper ball we see that they do not even become moist, and consequently there will be no drops of water in the glass. From this we assume that in this case the mode of heating must be quite a different one. I am going to give a more detailed explanation of this process later; at this moment it is sufficient to know that there may be disinfection without perceptible condensation of water.

Another important fact to note is that the beneficial influence of steam disinfection is exercised only on objects with large *open* pores; these objects are quickly disinfected. Here we notice the strong action of the steam, which is superior to that of dry heat; this was first described by Robert Koch. In objects without pores the heat spreads only slowly, by conduction.

The power by which the steam enters is the difference between the specific gravity of the steam and that of the air in the pores of the materials which are to be disinfected. This fact has been recognized by Walz, Gruber, Clarenbach, Frosch and Teuscher. Consequently the heating takes place as in steam-heating—the light steam enters the pores and the heavier air escapes outward. That is why the steam should always enter the apparatus at the top, while air and steam should leave it at the bottom. But this explanation of the process of steam disinfection is not sufficient. We know that in spite of the usual time of disinfection and although the thermometer shows a temperature of 100 C., in a good many cases insects, like fleas and roaches, will leave the disinfecting apparatus still more lively than when they entered it.

The reasons for this are as follows: Exactly as in heating rooms by steam, the steam in some parts may meet air which cannot give way, and then finds an enormous resistance. These parts remain cold. It is possible, too, that some parts may become impenetrable to the steam owing to moisture on the surface—this happens chiefly in the case of linen and cotton textiles. As a result of special researches I have calculated the time which is necessary for heating different materials by steam to 100 C.—when they are heated only by conduction. A ball of woolen cloth, the surface of which is impenetrable to steam, with a radius of 5 cm., takes three hours before the temperature has risen to 100 C. in the center; a ball of 25 cm. takes eighty hours; one of 50 cm takes 325 hours. This proves the necessity of porosity.

I found another still more interesting fact; the temperature in the center of an object which is put into steam of 100 C. may rise far above 100 C.—I even measured 147.5 C. (297.5 F.). It is easy to perform this experiment. Take a skein of wool with a radius of 105 cm. and put a thermometer in its center. Then heat the skein for some time for instance in dry air of 100 C. or in cold dry air, and after this put it in a steam chamber; the temperature will rise to from 140 to 147 C. (from 284 to 296.6 F.). This simple experiment is of great importance for the theory of steam disinfection, especially for the mode of heating objects.

The explanation of this is as follows: All materials that attract water, that is, hygroscopic materials, including all sorts of clothes and linen, cover themselves with water; this, however, is not visible and perceptible but is held loosely by the objects, as for instance the water of crystallization. Our clothes always contain hygroscopic water in proportion to the percentage of humidity in the air. This improves the conduction of heat, and I found that by absorption of 1 gm. of water at an ordinary temperature that 75 degrees C. in calories of heat are set free. Added to this there is the heat produced by the absorption of steam, so that the heating by steam, as shown above, may be considerable. One has to consider that wool may contain up to 30 per cent. of hygroscopic water, silk a little less, and the vegetable fibers still less.

If now we return to the experiments with steam disinfection we can easily understand the enormous heat in the more compact materials. On account of the high temperature the center of the masses contains not saturated, but unsaturated steam. This overheating will not take place if the material is loosened, as the fibers cool quickly after having once come into contact with the steam at 100 C. These experiments give us important hints as to the way in which the material ought to be exposed in the steam-disinfection apparatus. It must be well loosened and should never be compressed. If the outside of a parcel of clothes or linen is too compact and the penetration by steam cannot take place quickly, this parcel shows exactly the same conditions as the copper ball in Bunsen's steam calorimeter; its surface is covered with water. But water condensation must not take place in steam disinfection, at least as far as objects with large pores are concerned.

### BIOLOGIC ACTION OF STEAM

Now let us pass on to the biologic phenomenon concerned in the killing of microbes. It takes place first by the coagulation of the protein. The difference between the vegetative forms and the spores consists in the fact that when fresh the former contain a considerable amount of water and salt which makes the coagulation by heat easier. The spores (we know this with certainty as far as the mold-spores are concerned) contain only hygroscopic water and little salt. The hygroscopic water evaporating quickly in dry heat, there remains dry protein which contains little salt; this explains the great resistance of spores against dry heat, the protein not coagulating even at very high temperatures. I found that liquid water is not necessary for the coagulation of the protein; a certain amount of hygroscopic water is sufficient for the purpose. White of egg, when heated, coagulates to a white substance; if it is first dried in air and then placed under steam it coagulates without losing its yellow color.

Steam at 100 C. is also an important chemical agent. Keratin, albumin, casein and dried bacteria yield a little carbon dioxid, ammonia and hydrogen sulphid when placed in a current of steam, which proves the destructive influence of the steam. In hot dry air this separation takes place only at very high temperatures.

What germicidal power have the different kinds of steam in reference to freely accessible bacteria? For some time a temperature of 100 C. was considered absolutely necessary; higher temperatures were soon given up, the more compressed steam being more expensive and often destructive to the disinfected objects. When I tried the influence of steam at 95 C. on spores, there was very little difference; at 90 C. the spores were killed only after a rather long time (12 minutes at 90 to 1 minute at 95). At 85 C. the disinfection required more than one hour.

It is not only the temperature, but also the saturation of the steam that is important. One can produce at any temperature saturated and unsaturated steam. Steam at 100 C. with a saturation of 80 per cent. takes five times as long to kill bacteria as does saturated steam; steam of 70 per cent. saturation takes twenty-two times as long.

Now we see why different authors have obtained entirely different results in testing the germicidal power of superheated steam. If steam at 100 C. is superheated after it leaves the boiler it is altered in two ways: first, its temperature is raised, which improves its action; second, its saturation is reduced, which lessens its action. At first the two influences counterbalance each other. In superheated steam at 110 C. which was made from saturated steam at 100 C. the spores lived twice as long, at 120 C. three times as long, and at 127 C. ten times as long. We see from this that success is lessened as the steam becomes drier. The impregnation of the spores with water decreases, and with this decrease the disinfecting effect of the steam is diminished.

Immediately after the steam has entered the apparatus, its influence on the microbes is not very considerable, as the air not only prevents the steam from entering the finest pores of the objects, but also hinders the absorption of water by the microbes. The steam, however, becomes more concentrated after streaming through the apparatus for some time. If there is 8 per cent. air in the steam, the time required for disinfection is considerably lengthened; 20 per cent. lengthens it eightfold, 37 per cent. fifteenfold, and so on. The purer the steam, that is, the freer from air dilution, the quicker is its action.

Disinfection by saturated steam applied to properly prepared objects of porous and non-compressed material may lead to satisfactory results and is considered the best method for this purpose, but it has the great disadvantage of not being applicable to furs, leather, fine clothes, books, furniture, etc., as it would ruin them. Other wholly insufficient disinfecting methods—rubbing with disinfecting liquids, for instance—were therefore used instead.

This, too, is why dry heat was taken up again as a means of disinfection; but with this, one had to give up the killing of spores altogether. The disinfection by dry heat takes rather a long time but is said to show good results at temperatures of from 100 to 75 C. It has been especially applied to books and military clothing. But these methods in which the air is not sufficiently saturated with steam cannot be absolutely relied on.

### STEAM-FORMALDEHYD DISINFECTION

The discovery of formaldehyd, a new gaseous means of disinfection, meant a great step in advance for the doctrine of steam disinfection. Oskar Löw first mentioned the poisonous influence of formaldehyd on the protoplasm of plants, but not till many years later were experiments made as to the use of formaldehyd for the disinfection of rooms. Peerenboom and I were the first to find that a certain amount of dampness in the air is necessary for the disinfecting action of formaldehyd. The different objects, wool, linen, etc., have a specific attractive influence for formaldehyd. On other objects formaldehyd is condensed only in smaller quantities. The reaction which leads to the poisoning of the microbes and which is doubtless a union of protein and formaldehyd, can take place only if there is some steam, provided that the objects are dry, as is generally the rule.

All reactions being considerably accelerated by temperature, I thought of using formaldehyd together with the undiluted steam of a disinfecting apparatus. It would then be possible, I argued, to use steam of a lower temperature instead of the high temperature which had proved destructive. But all the above-mentioned conditions of steam disinfection must of course be fulfilled. For my experiments an apparatus was constructed which fulfils all the conditions of steam disinfection that have been mentioned above. A considerable lowering of the boiling point by means of a vacuum allows of the production of steam at a temperature of from 50 to 60 C. or even less. The steam can be condensed and is conducted back to the boiler. Technically the construction of this apparatus was not easy of accomplishment.

My experiments had to answer two questions. First, there was the question whether in a fairly high vacuum the steam would enter the objects entirely and quickly. The circulation of the steam might be disturbed by its mixing with air in the partial vacuum, since the difference between the specific gravity of the steam and that of rarefied air is not so great as that between the specific gravity of the steam and that of normal air. This disturbing influence is counterbalanced, however, by the great purity, the lack of air, in the steam in my method, as well as by the unimpeded attraction of the steam by the hygroscopic objects, which has been proved by experiments.

The disinfecting apparatus allows the production of steam which contains a certain amount of liquid disinfecting agent. I first compared the composition of the steam with the concentration of the liquid. It would lead us too far if I should give details of the numerous experiments I made for that purpose. I shall only mention briefly that the effective substance contained by the steam by no means always corresponds with the concentration of the solutions; indeed, their relations are sometimes very complicated.

Formaldehyd being the cheapest of all the means which I tried, I always used it for my experiments. Christian found by means of different experiments on the killing of anthrax spores that at 50 C. the best results are obtained if 8 per cent. solutions are evaporated, which means that the steam contains from 2 to 8 per cent. of formaldehyd. The spores are killed in the same time as in saturated steam of 100 C. With my method little formaldehyd is lost, as the steam and the formaldehyd can be condensed and pumped back to the boiler. Strong pneumatic pumps empty the disinfecting apparatus in a short time until the desired vacuum is attained.

By steam-formaldehyd disinfection even the most delicate objects are not injured. At present the method has been carried to such a pitch of technical perfection that large apparatus in which even whole invalid-carriages can be disinfected are in use. Steam disinfection may now be used for all those objects to which it could not be applied formerly, and it kills not only the vegetative forms of microbes but also all living germs. It is possible to construct a large apparatus for the disinfection of railway cars. The trouble is little, and even the most luxuriously furnished car is not injured, while all living germs are killed. It would mean a great advance in railway hygiene if much-used cars, chiefly sleeping-cars, could be disinfected now and then. It is certain that progress will be made in this direction. Formaldehyd will not always remain the only means of disinfection; for instance, Christian found that thymol might be used as well for the apparatus; but formaldehyd being the cheapest means up to the present, it is the best for practical use.

It would be of great value to provide railway stations at the frontiers with better disinfecting apparatus. They might be useful, not only in the case of epidemics, but for the disinfection of infectious goods; I am thinking of the anthrax danger. Nowadays, infectious goods are sent to the stations which are responsible for their disinfection. This is always a danger because of the possible dissemination of infections germs. I believe that these new methods of disinfection will help us in many cases in which the former methods were not applicable.

I hope I have proved that theory and practice must work together, and that scientific analysis is not only necessary for practical work but may even indicate new ways toward its improvement.

---

**Fish to Destroy Mosquitoes.**—An interesting experiment is being tried in South Africa, with the object of combating malaria. The officer in charge of the government fish hatchery in the Cape Province is now arranging to introduce from the Barbados a quantity of the small fish known as "millions." These tiny fish are said to have kept the Barbados Islands free from malaria by destroying the larvae of the fever-carrying mosquito. Two large ponds have been prepared for the reception of the fish, which are to be propagated and distributed throughout the fever districts of South Africa.—*Australasian Med. Gaz.*

# A POSSIBLE SOURCE OF DANGER IN THE USE OF ANTIMENINGITIS SERUM*

S. P. KRAMER, M.D.
Surgeon to the Cincinnati Hospital
CINCINNATI

Dr. A. L. Knight of Madisonville, Ohio, asked me to see a case of meningitis with him March 5, 1913. We found a boy, aged 6, who had had intense headache, fever and nausea for three days. The head was markedly retracted and the neck rigid; Kernig's sign was present. The child was immediately sent to the private ward of the Contagious Hospital. Thirty c.c. of turbid cerebrospinal fluid were withdrawn, in which the meningococcus was subsequently found, and 30 c.c. of antimeningitis serum were injected with very good effect.

The following morning Dr. Knight sent the child's sister, aged 2, to the hospital with similar symptoms. This child immediately received the same treatment. In this case, however, the cerebrospinal fluid was clear, and no meningococci were found.

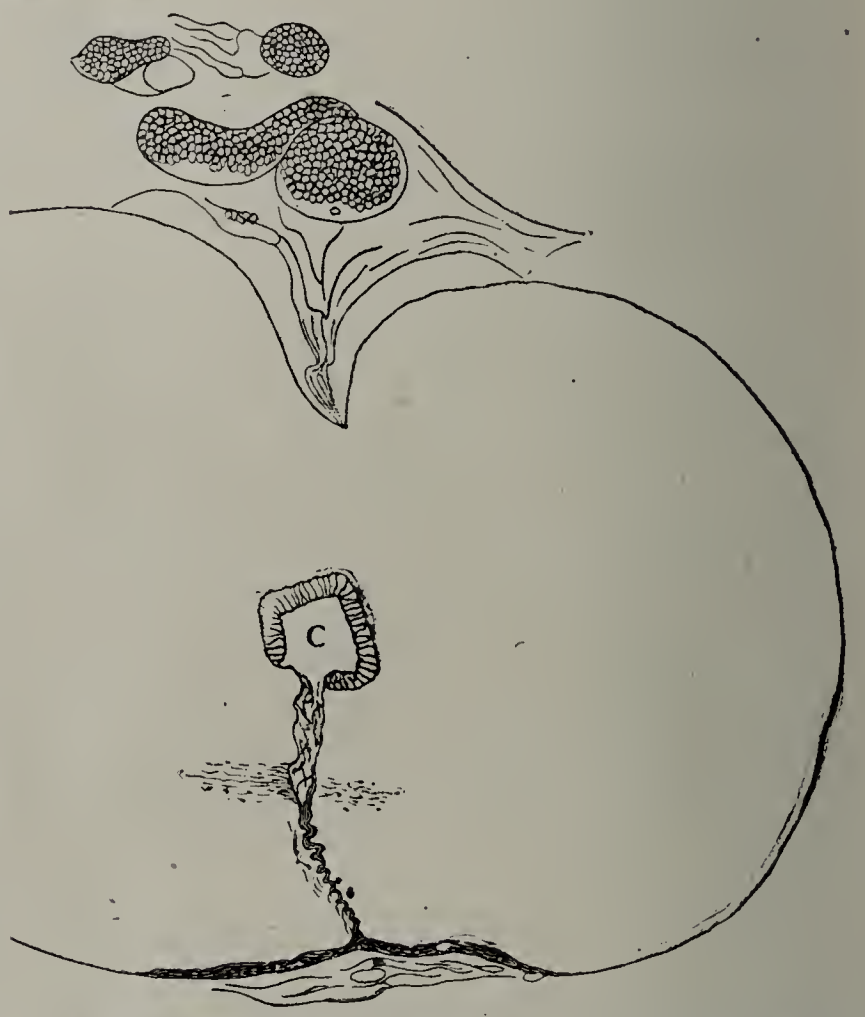



Fig. 1.—Section of cord of new-born child from the region of the conus medullaris, showing the passage leading from the central canal through the posterior median fissure to the outer surface. Top, anterior surface; bottom, posterior surface; *C*, central canal lined with ciliated epithelium.

The second child improved rapidly after the treatment, so that by March 9 we thought of sending her home. She was afebrile, with no headache, the only symptom being a retention of urine. The following morning she had a temperature of 102 with headache, rigidity and Kernig's sign positive. At 11 a. m., March 10, 30 c.c. of clear cerebrospinal fluid were withdrawn under light anesthesia, and 20 c.c. of antimeningitis serum injected. The child received no anesthetic during the time of injection. About two minutes after the injection she suddenly stopped breathing and became livid, the pupils being contracted, the heart beating strongly. After three minutes of artificial respiration the child again breathed normally and showed an internal strabismus of the right eye due to a paralysis of the right external rectus. An hour after, when the child became conscious, the nurse noticed a hemiplegia involving the

*Presented to the Clinical Society of the Cincinnati Hospital, March 20, 1913.

entire left side of the body. The paralysis of the leg and face and right rectus disappeared that day. The left arm remained slightly paralyzed up to the time of the child's death, March 17. The day following the injection, the child developed a marked urticaria and a consolidation of the left lung due to a pneumonia, which proved fatal a week later.

At the time of the second injection the cessation of respiration and the nuclear paralysis struck me forcibly as being similar to what occurs in those patients who die after the lumbar subdural injection of cocain for purposes of anesthesia. The child's nurse, Miss Augusta Miltz, told us that she had seen three immediate deaths following the administration of antimeningitis serum at the Cincinnati Hospital last year. On going over the records these cases were found and will be given.

A child, aged 10 months, with a marked bronchitis, was admitted to the service of my colleague, Dr. A. Friedlander, at the Cincinnati Hospital, March 12, 1913, at 2 p. m. The child's head was retracted, and Kernig's sign was present.




Fig. 2.—Diagram of lower end of spinal cord and membranes in young children; *A*, pia mater; *B*, central canal of spinal cord; *C*, passage leading from central canal to subdural space in region of conus; *D*, dura mater.

At 2.30 p. m. by spinal puncture 20 c.c. of cerebrospinal fluid containing some accidental blood were obtained. No anesthetic was used, the child crying during the slight operation. Twenty c.c. of New York Board of Health serum were then slowly introduced; the injection consumed at least twenty minutes.

At the end of the injection the child ceased crying and the respiration ceased. The pulse was good. Five c.c. of fluid were allowed to escape from the needle. Artificial respiration was immediately instituted; a facial paralysis of the right side developed and after two minutes the child was dead.

The coroner's autopsy in the case showed an extensive catarrhal pneumonia, some fluid at the base of the brain, no pus or fibrin in the cerebrospinal fluid, and no meningococcus.

A colored male child aged 4 was admitted to the service of Dr. Friedlander at the Cincinnati Hospital, March 12, 1913, with a temperature of 104, pulse 124, respiration 70, a bronchopneumonia, rigidity of the neck and an intermittent Kernig sign.

Spinal puncture was made, March 14, at 11 p. m., and 20 c.c. of cloudy fluid obtained. The fluid contained numerous leukocytes and a large number of Gram-negative intracellular diplococci. At midnight 10 c.c. more fluid were removed and 30 c.c. of New York Board of Health serum slowly injected. The injection consumed fifteen minutes. At the beginning of the injection the pulse was 140; respiration 58. At 12:15 the pulse was 80; respiration had almost ceased, having fallen to two per minute.

Artificial respiration and 1/60 grain strychnin were administered. During this time the cornea was anesthetic and the intern, Dr. Robert Reed, who made the observation, said that all the extremities were paralyzed. After a few minutes the patient improved and the breathing became normal. By 1:35 a. m. the paralysis had disappeared. At 10 a. m. temperature was 103, pulse 144, respiration 60. At 3 p. m. the child died.

The records show three other deaths at the Cincinnati Hospital during the past year, immediately following the injection of the serum, all occurring in young children.

December 20, 1911, a child aged 3½ years was brought to the receiving ward unconscious, with rigidity and retraction of the neck very marked, and Kernig's sign present. Temperature was 100.5, pulse 106. Pupils were equal and reacted to light, and the heart and lungs were normal. A spinal puncture was made by Dr. Charles Jones, the receiving physician, and 20 c.c. of turbid fluid under light pressure were removed. Following this, 15 c.c. of serum were very slowly injected, the pulse and respiration being unaffected during the time of injection. In from three to five minutes later the respiration suddenly ceased, the pulse remaining good. Artificial respiration was instituted, but was of no avail. The action of the heart continued for about two minutes and then gradually stopped. Chloroform anesthesia was used, but the patient was never in a state of complete anesthesia.

March 4, 1912, a boy aged 7 was admitted to the service of Dr. B. K. Rachford with the history of the onset of headache two days previously. He was delirious on admission with intense headache, retraction of the head, neck rigid and marked Kernig's sign. Lumbar puncture with chloroform anesthesia yielded 45 c.c. of clear fluid under pressure. Forty c.c. of serum were then injected. Five minutes after the injection, respiration became feeble and suddenly stopped. Artificial respiration was instituted, without avail. Autopsy showed the meninges intensely congested; there was no pus or fibrin, but a large amount of clear fluid was present in the cistern at the base of the brain.

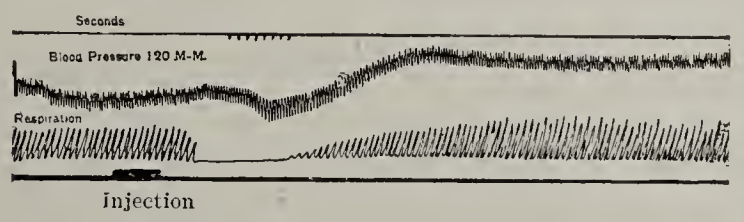



Fig. 3.—Tracing obtained by injecting 2 c.c. of antimeningitis serum into the left vertebral artery of a dog weighing 8 kg. (17½ pounds). In all experiments the blood-pressure was taken from the femoral artery by manometer. The respiration was recorded by means of a Paul Bert pneumograph, the upstroke represents inspiration.

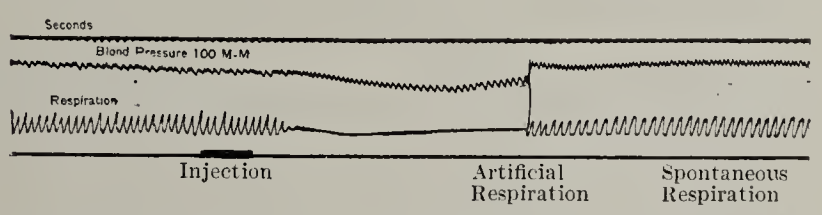



Fig. 4.—Tracing obtained by injecting 2 c.c. of 0.5 per cent. tricresol solution into the left vertebral artery of a dog weighing 8 kg. (17½ pounds).

Nov. 2, 1912, a well-nourished boy aged 5 was admitted to the service of Dr. Rachford, with severe headache, rigidity of the neck, and a marked Kernig's sign. Lumbar puncture yielded 25 c.c. of turbid fluid. Thirty-seven c.c. of serum were injected; the child became dyspneic, but soon improved. The next day at 6:30 p. m. the child was given another 30 c.c. of the serum with good results. The following day, November 4, at 7:30 p. m., 30 c.c. of turbid fluid were again withdrawn and 30 c.c. of serum injected. Immediately following the completion of the injection, respiration ceased and the child died.

March 19, 1913, Dr. L. W. Stacey saw a girl aged 10, who had been found by her mother unconscious in bed at 8 o'clock that morning, although apparently well on the preceding day. Marked rigidity of the neck and a positive Kernig's sign were present. The child had had two convulsions that morning. Temperature was 101; respiration normal. At 12:30 p. m. 40 c.c. of turbid fluid were removed by lumbar puncture and 40 c.c. of serum were slowly injected. The injection consumed twenty-five minutes and was completed at 1:30 p. m. No anesthetic was used. The child felt the insertion of the needle. At 2 o'clock Dr. Stacey was called; the respiration had ceased, but the heart was still beating. Artificial respiration was continued for one hour when the heart ceased to beat.

March 10, 1913, a girl aged 9, whose illness began that morning at 9 o'clock with headache, rigidity of the neck and the

Kernig sign, was admitted to the service of Dr. John E. Greiwe at the Cincinnati Hospital. Temperature was 102, pulse 130, respiration 18. The child was unconscious on admission. At 12:50 in the afternoon 50 c.c. of turbid fluid containing Gram-negative diplococci of the gonococcus type were removed and 40 c.c. of antimeningitis serum slowly injected. The injection was completed by 3:50 p. m. At 4:05, fifteen minutes later, the child had respiratory failure; the heart sounds were regular—160, dropping to 120. Artificial respiration and camphor stimulation were maintained for four hours, but were of no avail.

We have here six deaths coming on with respiratory paralysis a few minutes after the injection, and two cases in which the respiratory paralysis was relieved by artificial respiration, the children dying later of the disease.

Because of their great similarity to those cases of respiratory paralysis following the lumbar injection of cocain, I believe them to be toxic.

In a previous article[1] I offered an explanation for the cocain cases as being due to an open central canal of the cord leading directly to the fourth ventricle. It was shown in that article that methylene-blue injected into dogs *intra vitam* into the subdural space might find its way through the central canal to the ventricular system of the brain. This circulation upward toward the fourth ventricle is aided by the ciliated epithelium lining the central canal. The following is quoted from that article:

Available literature on the central canal is very limited. All authors agree that it is open in the lower animals and in young children. In the adult the results of investigation vary. Bidder, Wagner, Schroeder, van der Kolk and Stilling hold that the central canal persists in adults. Kölliker found that not infrequently the canal was obliterated in places, most frequently in the cervical region. Clarke also found the canal frequently blocked. Frommann found the canal open throughout the entire length in three out of twenty-five cords examined. In the human adult most of the evidence shows that the central canal is frequently closed at some point usually in the upper portion. It may, however, persist as a canal, and this may be the explanation for the nine per thousand deaths from cocain (stovain) lumbar anesthesia.

Attention was also called to the possible importance of the central canal in the pathogenesis of poliomyelitis.

The central canal is continued at the lower extremity into the filum terminale.

Sixty years ago Stilling asserted that the central canal opened into the posterior median fissure of the cord in the region of the conus medullaris, and during life it was probably filled with cerebrospinal fluid. This statement has been neglected or denied by most anatomists. Independently of this statement I have been able to demonstrate the opening by a new method in three spinal cords obtained from new-born children.

If a soluble anilin dye is injected into the substance of such a cord, in the lower dorsal region, for instance, and if by chance the central canal is struck, the dye will run down the central canal inside the cord, and will appear on the outside of the cord in the region of the conus medullaris and filum terminale.

If now that piece of cord which shows the dye on the outside is removed, and serial sections are made, the dye will be found staining the central canal and a passage leading from the central canal to the posterior median fissure and the outer surface of the cord.

Figure 1 is a drawing made for me by Dr. Leon Tedesche of such a section, which was prepared by Dr. E. S. May. The cord is otherwise unstained and for that reason could not be satisfactorily photographed. Figure 2 is a diagram illustrating the lower end of the spinal cord and its membranes when such a passage exists. If now, in a given case the passage exists, *or if a needle introduced for the purpose of making an injection should injure the filum and make an artificial opening into the central canal,* a direct channel lined with ciliated epithelium would be present which might in a few minutes deliver a toxic material injected into the subdural space to the fourth ventricle.

The problem then presented itself to determine whether antimeningitis serum would paralyze the respiratory center when applied to the fourth ventricle; and further, if this was found to be the case, to determine what the offending substance in the serum might be. In a previous article[2] I showed that the vertebral artery delivered blood to the hindbrain directly, without going through the circle of Willis, and that we had by reason of this fact a delicate pharmacologic method for investigating the action of drugs on the medulla oblongata.

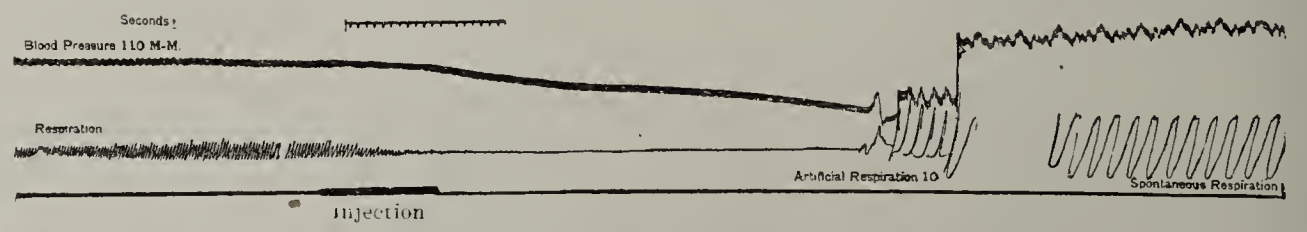



Fig. 5.—Tracing obtained by injecting 2 c.c. of 0.5 per cent. tricresol solution into the subdural space of a dog weighing 7 kg. (15½ pounds) with the posterior cranial fossa open.

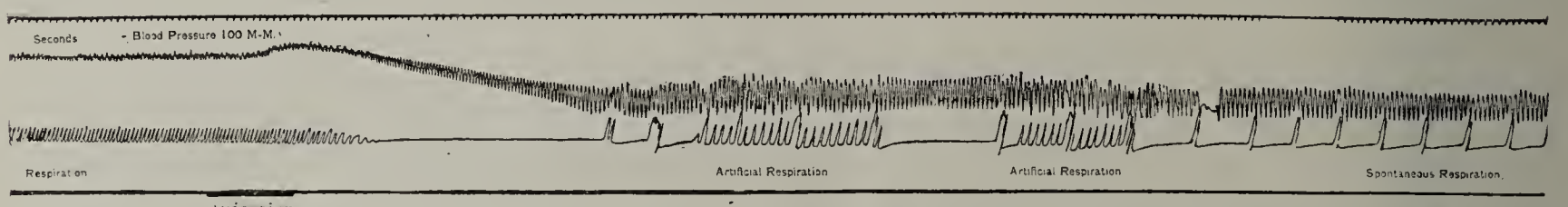



Fig. 6.—Tracing obtained from an experiment in which 2 c.c. of serum were injected into the lumbar subdural space of a young dog weighing 6 kg. (14¼ pounds). A few seconds after the injection respiration stopped. Artificial respiration for a half minute restored respiration which was, however, slow and irregular and five minutes later the animal died. The blood-pressure slowly sank after the injection.

1. Kramer, S. P.: Circulation of Cerebrospinal Fluid and Its Bearing on Pathogenesis of Poliomyelitic Disease, New York Med. Jour., 1912, xcv, No. 11; abstr., THE JOURNAL A. M. A., March 30, 1912, p. 975

2. Kramer, S. P.: Jour. Exper. Med., 1912, xv, No. 4.

Figure 3 is a tracing obtained by injecting into the vertebral artery of a dog 2 c.c. of antimeningitis serum. Immediately following the injection the respiration ceased, remained in abeyance for ten seconds and then slowly recovered.

Figure 4 is a tracing obtained by injecting 2 c.c. of 0.5 per cent. solution of tricresol in the same way with the same result.

Figure 5 is a tracing obtained from a different experiment. The posterior cranial fossa in a dog was opened, the dura was incised and the cerebellum exposed.

Two cubic centimeters of 0.5 per cent. solution of tricresol in water were then injected into the subdural space under conditions (since the dura was opened) that prevented excess of intracranial pressure. The respiration ceased a few seconds after the beginning of the injection, the blood-pressure fell very rapidly and immediate death of the animal was prevented only by artificial respiration, which was necessary for ten minutes before the animal breathed spontaneously.

Figure 6 is a tracing obtained from an experiment in which 2 c.c. of antimeningitis serum were injected into the subdural space of a young dog. A few seconds after the injection respiration stopped. Artificial respiration for half a minute restored respiration, which was slow and irregular, and five minutes later the animal died. The blood-pressure slowly sank after the injection.

### CONTROL INJECTIONS OF NORMAL BLOOD-SERUM INTO THE VERTEBRAL ARTERY OF DOGS PRODUCED NO EFFECT

In the U. S. Public Health Reports,[3] Dr. W. H. Frost has described similar deaths following the injection of antimeningitis serum. In THE JOURNAL Dr. Arthur H. Parmelee[4] has reported ten cases of respiratory failure. A letter from Dr. Parmelee states that respiratory failure in all these cases came on within fifteen minutes after the administration of serum.

Indeed, so common has this catastrophe become that in a circular issued by the New York Department of Health, directions are given as to what should be done when breathing stops following the administration of serum.

The toxicology of phenol (carbolic acid) poisoning bears out our experimental results and conclusions. It has long been known that death from phenol results by paralysis of respiration. That phenol has a great affinity for nervous tissue is shown by the fact that a considerable percentage of phenol ingested has been recovered from the brain in cases of phenol poisoning. The phenols are all readily miscible in lipoid substances and this may be the explanation for their toxicity on the nervous system. For the last suggestion, I am indebted to my colleague, Dr. Julius H. Eichberg.

From what has gone before I think the conclusion is justified that serum containing 0.5 per cent. tricresol, cannot safely be injected into the subarachnoid space.

832 Hutchins Avenue.

3. U. S. Public Health Reports, Jan. 26, 1912, p. 115.
4. Parmelee, A. H.: Epidemic Cerebrospinal Meningitis, THE JOURNAL A. M. A., March 1, 1913, p. 659.

**Political Health Departments.**—Certainly the very worst use which can be made of the health appropriation is to employ it for the purpose of paying political debts. Decreased efficiency is the sure result, and the community which permits such a misuse of the public funds will deservedly suffer an increasing toll of sickness and death.—Charles V. Chapin, *Am. Jour. Pub. Health.*

## THE CRIMINAL PHYSIQUE

### A PRELIMINARY REPORT ON THE PHYSICAL EXAMINATION OF ONE THOUSAND, FIVE HUNDRED AND TWENTY-ONE PRISONERS AT THE WISCONSIN STATE PRISON

ROCK SLEYSTER, M.D.

Physician in Charge, Asst. Secretary State Medical Society of Wisconsin, Member American Medical Assn., American Institute of Criminal Law and Criminology.

WAUPUN, WIS.

> The only legitimate question which sociology can put to anthropology is this: "Is the criminal, and in what respects is he, a normal or an abnormal man? And if he is abnormal, whence is the abnormality derived? . . . We must study the organ before the function, and the physical before the moral.—*Enrico Ferri.*

That a definite relationship exists between physical development and efficiency is generally accepted as fact. The world-wide investigations of schoolchildren reported by such men as Dr. Porter of Harvard, the late Dr. Christopher of Chicago, Hastings in Omaha, Byer in Cambridge, Leharzig in St. Petersburg, Burgerstein in Vienna and Roberts in London all agree that at the same age the average height and weight of pupils in the higher grades is greater than of those in the lower. These exhaustive reports prove the relationship in schoolchildren between a vigorous brain and a well-developed body—that those physically most precocious are mentally most precocious. That this rule should hold equally good after adolescence is a logical conclusion although there are few data to be had on the subject. This correlation of body and mind can, no doubt, be demonstrated in any class of individuals by a collective study of the particular class.

The mental and moral shortcomings of the criminal classes are accepted as facts without the necessity of presentation of data. That as a class they are physically defective is the belief, founded on general observation, of those who are thrown into intimate relationship with them. It was the desire for further scientific and accurate proof for this belief that prompted the work on this paper and the tables here given.

The anthropometric committee of the British Association for the Advancement of Science reported on the examination of 3,000 criminals and found them to be about 2 inches shorter and 17 pounds lighter than the average Englishman. Baer of Berlin, reporting on the German criminal, gives much the same results. Quetelet and Raseri find young offenders below normal height. Lombroso and others of the Italian school report a tendency among criminals to be taller and heavier than the average Italian. Few reliable data are to be found in American literature. Hamilton Wey, reporting on 529 boys at the Elmira Reformatory of an average age between 20 and 21 years, gives an average height of 65½ inches and an average weight of 133 pounds, which is below that of the college boys quoted in my tables. August Drahms, chaplain at San Quentin, reported the San Quentin prisoner's average height as 66.8 inches.

The results of my investigation of height at the Wisconsin State Prison are quite similar to those of the anthropometric committee of the British Association for the Advancement of Science, though I am able to report on only half the number. Taking the average of 221,819 Americans examined by forty-three old-line life-insurance companies, as reported in 1912 by the Actuarial Society of America, as a type of American for comparison, I find the Wisconsin convict, as shown in Table 1, to be 1.8 inches below the average American height. Taken as a whole, the 1,521 criminals reported on are,

at the average of 36 years and 6 months, mature men, and have reached their full growth and development. A study of Table 1 will show that the Wisconsin convict, who cannot differ radically from the average white convict of any other state, is physically most markedly inferior to the average American citizen in height. He, a man grown, lacks 1.4 inches of the stature of the average freshman at our state university, and is 2 inches shorter than the average Harvard student, and it must be remembered that few of these students have reached their full growth and development. Likewise, he lacks 1.3 inches of the height of the men and boys who enlisted in the Civil War and is 3 inches inferior in height to the Fellows of the Royal Society of England and English professional men.

That he is well nourished and weighs comparatively more than the British criminal and little, if any, less than the average American citizen is shown in Table 2, where detailed comparisons are given with citizens of the same age and height. His chest measurement is very fair. The expansion is small but this means little except that he has not learned to breathe properly.

TABLE 1.—COMPARISONS OF HEIGHT, WEIGHT AND CHEST MEASUREMENT AND EXPANSION

| | Number Reported | Average Age, Yrs. | Average Height Inches | Average Weight Pounds | Aver. Chest Measure, In. | Aver. Expansion, In. |
|---|---|---|---|---|---|---|
| Convicted criminals at Wis. State Pris. | 1,521 | 36½ | 66.7 | 144.1 | 35.5 | 2.9 |
| Murderers | 269 | 35½ | 67.1 | 142.8 | 37.3 | 3.1 |
| Thieves | 331 | 38½ | 67.2 | 143.5 | 35.6 | 3.1 |
| Criminals through fraud | 230 | 35⅔ | 67 | 148.1 | 36.1 | 2.9 |
| Sexual criminals | 282 | 38⅔ | 66.2 | 145.9 | 36.4 | 3 |
| Vagrants | 109 | 39 1/12 | 67.3 | 144.5 | 36.3 | 3.1 |
| Recidivists | 300 | 33⅓ | 66 | 141.2 | 34.3 | 2.5 |
| Americans examined by 43 old-line life-insurance companies | 221,819 | .... | 68.5 | ..... | .... | ... |
| Average Harvard student | ..... | .... | 68.7 | 143 | .... | ... |
| Freshmen at the University of Wisconsin | 800 | 19⅔ | 68.1 | 139.1 | 34.9 | .... |
| Students at Amherst College | 353 | .... | 68.5 | 143.4 | 36.9 | ... |
| Soldiers enlisted in Civil War | 753,666 | .... | 68 | ..... | .... | ... |
| English professional classes | ..... | .... | 69.8 | 160 | .... | ... |

For more thorough study I have, in collecting this and other data, divided the men examined into six broad classes. These classes are arrived at from a psychologic rather than a physical study point of view. They are made up of those convicted of crimes as follows:

1. Murderers: murder, manslaughter, assault with intent to kill, etc.

2. Thieves: burglary, larceny, horse-stealing, etc.

3. Criminals through fraud: forgery, embezzlement, obtaining money under false pretenses, etc.

4. Sexual: rape, incest, sodomy, taking indecent liberties, etc.

5. Vagrants: vagrancy, abandonment, habitual drunkenness.

6. Recidivists: those who have served one or more previous terms in a prison, reform school or reformatory (jail sentences not included).

A study of Table 1 shows the murderer to be well above the average criminal in height, somewhat below in weight, but leading in chest measurement and expansion. The thief is well above the average in height and slightly below in weight. It is of interest to find that the criminals through fraud, though most often in-door workers, outweigh all others, and have a good chest measurement though a small expansion, as would be expected. The sexual criminals are older than any of the other classes and the shortest in stature, excepting the recidivists.

The figures given for the recidivists or habitual criminals are by far the most significant and show the marked physical inferiority of the chronic offender. It is surprising to find them the youngest of the classes given. This is partially explained by the fact that I have included in this class the large number of young men we are receiving who have been previously committed to reform schools and reformatories. These men of an average age of 33 years lack 2.1 inches of the height of the average Wisconsin boy just out of high school, lack 2.5 inches of the height of the average American of their age and 2.7 inches of the height of the average Harvard student as reported by Professor Sargent. It will be noted that they are well nourished but are markedly deficient in chest and expansion measurements. These last measurements may be partially accounted for by the lack of physical exercise in the open air while subject to previous incarceration in this and other institutions. This could not by any argument, however, account for the degree of deficiency in stature, which can be explained only as a marked and unmistakable stigma of degeneracy. Associated with these, I find in this class the highest percentage of other physical stigmata, such as degenerate palates, ears, facial and cranial asymmetry, etc., though these are merely mentioned and not covered in this paper.

Table 3 is of special interest. A subnormal temperature associated with an accelerated pulse and respiration is noted in the last five classes, the greatest increase in pulse and respiration being, as one would expect, in the most imperfect class, the habitual criminal.

TABLE 2.—COMPARISONS OF WEIGHT

| Criminals at Wisconsin State Prison (Examined Without Clothing) | Wgt. Lbs. | Wgt. Lbs. | Citizens Examined for Insurance* (With Some Clothing) |
|---|---|---|---|
| 1521 convicted criminals (Age 36-6, ht. 66.7) | 144.1 | 151 | 893 citizens (Age 37, ht. 67) |
| 269 murderers (Age 35-6, ht. 67.1) | 142.8 | 151 | 930 citizens (Age 36, ht. 67) |
| 331 thieves (Age 38-6, ht. 67.2) | 143.5 | 153 | 783 citizens (Age 39, ht. 67) |
| 230 criminals through fraud (Age 35-8, ht. 67) | 148.1 | 151 | 930 citizens (Age 36, ht. 67) |
| 282 sexual criminals (Age 38.8, ht. 66.2) | 145.9 | 149 | 610 citizens (Age 39, ht. 66) |
| 109 vagrants (Age 39.1, ht. 67.3) | 144.5 | 153 | 783 citizens (Age 39, ht. 67) |
| 300 recidivists (Age 33.4, ht. 66) | 141.2 | 147 | 860 citizens (Age 33, ht. 66) |

*Report of Actuarial Society of America.

TABLE 3.—COMPARISONS OF TEMPERATURE, PULSE AND RESPIRATION

| | Number Reported | Aver. Age, Years | Aver. Temperature, F. | Aver. Pulse, (Sitting) | Aver. Pulse, (Standing) | Aver. Respirations |
|---|---|---|---|---|---|---|
| Convicted criminals at Wis. State Prison | 1,521 | 36½ | 98.2 | 81.9 | 88.5 | 20.3 |
| Murderers | 269 | 35½ | 97.8 | 72.1 | 89.7 | 20.1 |
| Thieves | 331 | 38½ | 98.3 | 83.3 | 90.1 | 20.3 |
| Criminals through fraud. | 230 | 35⅔ | 98.4 | 83.5 | 90.1 | 20.3 |
| Sexual criminals | 282 | 38⅔ | 98.1 | 81.6 | 89.1 | 20.2 |
| Vagrants | 109 | 39 1/12 | 98.2 | 79.1 | 88.2 | 20.3 |
| Recidivists | 300 | 33⅓ | 98.4 | 85.1 | 93.4 | 20.5 |

The pulse of the murderer alone is normal and contrasts strangely with that of the other classes. His temperature, so markedly subnormal, is a subject for speculation and a phenomenon I am unable to explain.

In accepting these or other comparisons between the criminal and the average American citizen, we must admit that they are more or less unfair. The proportion of convictions to crimes committed is small. The "normal" individuals taken for comparison would comprise some styled "normal" only for courtesy's sake; some undetected in crime; some who, because of favorable environment, have not been exposed to the necessity or temptation of crime; some who are degenerates and defectives yet non-criminal, and some who will become criminal later on. Then, too, it must be remembered that the prison population here averaged is made up of first offenders, habitual criminals, criminals by accident who are normal in every way and doubtless some innocent of crime. The preceding statement shows the difficulty of an accurate comparison, although it is the best that can be done in collecting data of this kind. A comparison of measurements of the strictly normal and the purely criminal would, no doubt, only emphasize the more the physical inferiority of the true criminal class.

---

## THE IDENTITY OF ENTAMOEBA HISTOLYTICA AND ENTAMOEBA TETRAGENA

A PRELIMINARY NOTE *

CHARLES F. CRAIG, M.D.
Captain, Medical Corps, U. S. Army
WASHINGTON, D. C.

Recent work on the entamebas found in the intestinal canal of patients suffering from dysentery has resulted in many authorities concluding that the entameba described by Schaudinn[1] as *Entamoeba histolytica* is really identical with the one later described by Viereck,[2] which he considered a new species and named *Entamoeba tetragena*. Until recently I have considered these two species distinct and the object of this communication is to place on record the opinion I now hold, as the result of the study of recent material, that *Entamoeba tetragena* is identical with *Entamoeba histolytica*, and that the life-cycle of this entameba, as described by Schaudinn and confirmed by myself and others, is incorrectly described so far as reproduction by the process of "budding" or spore formation is concerned.

My present opinion is the result of the study of preparations from three cases of histolytica infection occurring in Panama, sent to me by Dr. W. M. James of Ancon Hospital, and of the study of a case of histolytica infection in an inmate of the Soldiers' Home at Washington, the infection having been contracted in the Philippine Islands. The details of these cases and a full description of the various forms of entamebas observed in the preparations will be considered in a forthcoming paper, but I desire to state that in all these cases I have been able to observe every form of both *histolytica* and *tetragena*, so far as nuclear structure and reproduction goes, that has been described for either species, and as double infection in these cases can practically be ruled out, I am forced to conclude that there is only one species of entameba present and that all of the forms found belong to the life-cycle of *Entamoeba histolytica*.

I have based my objection to the identity of the two species under discussion on the fact that many cases of amebic infection are observed, in which, at no time during the course of the disease, were the four-nucleated cysts characteristic of *Entamoeba tetragena* seen in either fresh or stained preparations, and that in such instances the budding forms described by Schaudinn were sometimes encountered. From the study of the preparations already mentioned I am now convinced that the budding forms supposed to represent a stage in reproduction of *Entamoeba histolytica* are degenerative in character, as they were found in these preparations in small number along with typical four-nucleated cysts, and that the normal method of reproduction of *Entamoeba histolytica* in the cystic stage of development is by the formation of cysts containing four daughter nuclei. Encystment in this species evidently only occurs in a certain proportion of cases and under favorable conditions, and many cases are thus observed when the cysts cannot be demonstrated.

Much of the confusion that has existed regarding these entamebas has been the result of inadequate descriptions of the nuclear structure and life-cycle, but it is now evident that the nuclear structure of *Entamoeba histolytica* varies all the way from that first described as typical of it, to that on which so much stress has been laid as typical of *Entamoeba tetragena*. It is also true that many authorities have entirely overlooked the forms wrongly interpreted as budding forms by Schaudinn and others, including myself, and thus added to the confusion by denying their existence. In a more detailed contribution I shall discuss this subject more fully, but I believe that Schaudinn's interpretation had much to justify it, and coming from so great an authority it was accepted by many other observers.

As *Entamoeba tetragena* is, so far as our present evidence goes, identical with *Entamoeba histolytica*, the name *"tetragena,"* as a specific name, should be abandoned. Although Viereck considered that he had described a new species of entameba when he described *tetragena*, he really first correctly described the cystic stage of the life-cycle of *histolytica*; and as Schaudinn undoubtedly separated this species from the harmless *Entamoeba coli*, and gave it the name *"histolytica,"* this name must stand, as *tetragena* becomes merely a synonym of *histolytica* if we believe the two are identical. To Walker[3] belongs the credit of first definitely calling attention to the fact that *Entamoeba histolytica* presents nuclei of both the *histolytica* and *tetragena* type and that the name *tetragena* should give way to that of *histolytica*. I agree with Walker's statements in this matter and with that of Wenyon,[4] who says: "The common pathogenic ameba of man is still *Entamoeba histolytica*, but the life-history is not that described by Schaudinn, but that discovered by Viereck."

The work of James[5] and myself[6] has demonstrated that infections with *histolytica*, in which the majority

---

* From the Bacteriologic Laboratories of the Army Medical School.

1. Schaudinn, F.: Untersuchung ü. d. Fortpflanzung d. Rhizopoden, Arb. a. d. k. Gsndhtsamte., 1903, xix, 547.

2. Viereck, H.: Studien ü. die in den Tropen erworbene Dysenterie, Arch. f. Schiffs- u. Tropen-Hyg., 1907, xi, Beiheft 1, pp. 1, 41.

3. Walker, E. L.: A Comparative Study of the Amebas in the Manila Water-Supply, in the Intestinal Tract of Healthy Persons, and in Amebic Dysentery, Philippine Jour. Sc., 1911, vi, Section B, p. 259.

4. Wenyon, C. M.: Experimental Amebic Dysentery and Liver Abscess in Cats, Jour. London School of Tropical Medicine, 1912, ii, Part 1, p. 27.

5. James, W. M.: Infection with Entamoeba Tetragena, New York Med. Jour., 1913, xcvii, 702.

6. Craig, C. F.: Observations on Amebas Infecting the Human Intestine, etc., Am. Med., 1905, ix, 854, 897, 987; Studies on Amebas in the Intestine of Man, Jour. Infect. Dis., 1908, v, No. 3, p. 324; The Parasitic Amebas of Man, Ed. 1, 1911, Philadelphia.

of the organisms present possess the typical *histolytica* nucleus, do not, as a rule, show cysts. From this it is evident that further work should be done in order to determine why so large a proportion of such cases do not show cysts; what conditions favor encystment; and whether the cases presenting entamebas with this type of nucleus are characterized by a more acute course, as suggested by James,[5] than those in which cysts develop.

Since the preceding was put in type, an article by Dr. Darling has appeared in THE JOURNAL, April 19, in which he describes typical "budding and sporulating forms" of *Entamoeba tetragena* in infected cats, and concludes that such forms are degenerative in nature; that *E. tetragena* is the most common species of entameba concerned in the etiology of dysentery; and that *E. histolytica* is probably a spurious species described from senile forms of *E. tetragena*. I am fully in agreement with Darling so far as the nature of the budding and sporulating forms is concerned; I cannot, however, regard *E. histolytica* as a "spurious" species, but do regard *E. tetragena* as such, for it must be admitted that, while Schaudinn did not describe correctly the entire life-cycle of *E. histolytica*, he did differentiate the pathogenic species of entameba from the non-pathogenic; gave it the name *Entamoeba histolytica*; described a type of nucleus in this species that is found during one stage in the development of the so-called *E. tetragena*, and it therefore follows that the latter name should be discarded and Schaudinn's name retained. Amending the description of a species does not warrant the use of a new specific name, nor can it be said that a species is "spurious" because it was not properly described by its discoverer.

---

# A NEW METHOD OF TREATING NEURALGIA OF THE TRIGEMINUS BY THE INJECTION OF ALCOHOL INTO THE GASSERIAN GANGLION

JULIUS GRINKER, M.D.

Professor of Nervous and Mental Diseases, Chicago Postgraduate Medical School; Assistant Professor of Clinical Neurology, Northwestern University Medical School; Attending Neurologist, Cook County Hospital

CHICAGO

The greatest advance in the treatment of trifacial neuralgia was made when Schlösser, a Munich ophthalmologist, announced his method of injecting alcohol into the branches of the trigeminus nerve at their exit from the cranium. Ostwalt in Europe, and Kiliani and Hauck in America somewhat later adopted what was practically the same method with slight modifications. As the technic was extremely difficult, only the chosen few who had learned it directly of the master, after serving with him a more or less prolonged apprenticeship, were in a position to utilize it in their practice. It was not, therefore, until Lévy and Baudouin of Paris had discovered a comparatively easy technic that the alcohol-injection treatment of trifacial neuralgia had become a distinct addition to the physician's therapeutic armamentarium.

Though this has become the generally accepted method of treating true trifacial neuralgia, there are cases in which the benefits of the method cannot be realized, either because of variations in the given landmarks, or on account of skeletal anomalies interfering with the proper injection of alcohol into the nerves at their exit from the skull. Then there are patients in whom for some mysterious reason the alcohol, though properly placed into the peripheral branches, fails to influence the pain. And last, but not least, neuralgias having a purely central origin may not respond to the treatment by peripheral injections. All such patients are usually considered appropriate subjects for the radical gasserian ganglion operation, so-called gasserectomy. Though yielding splendid results in the hands of skilled operators, it is said to be a formidable operation even by daring surgeons. Thanks to an improved technic, the mortality has been greatly reduced, but it is still high. Hence this operation is one of last resort.

It was quite natural, therefore, that investigators should have labored hard to find substitute measures for this radical procedure. As alcohol had already proved its efficacy in peripheral nerve injections — its action being to cause degeneration of nervous tissues — it was planned to introduce this substance into the ganglion rather than have recourse to destruction by the knife, which is more dangerous and perhaps not more effective. The problem still remained, how to get the alcohol into the gasserian ganglion without resorting to a cutting operation. To Dr. F. Härtel,[1] of Bier's clinic, belongs the credit of having worked out such a method, the technic of which is but little more complicated than that of the peripheral nerve injection.

While in Berlin last November I had the opportunity of hearing Dr. Härtel on this subject at a meeting of the Berlin Surgical Association, when he also demonstrated cases in which there had been successful injection by his method. Owing to the limitations of its field of usefulness, I have had occasion to apply this method only once in my practice, but I deem it of sufficient importance to publish both a description of the method and a report of the case.

## ANATOMIC DATA

As in this method the point of entry into the skull is through the foramen ovale, it is necessary to review briefly the important anatomic details in connection with the region of which the foramen ovale constitutes the central point.

The foramen is located in the zygomatic or infratemporal fossa. The anterior wall of this fossa is formed by the convex posterior or zygomatic surface of the superior maxilla, which rises behind the socket for the last molar tooth to form the tuberosity. The inner wall of the zygomatic fossa is formed by the outer surface of the external pterygoid plate, whose lower border is usually curved and slightly everted; superiorly, it sweeps upward to become continuous with the broad under surface of the great wing of the sphenoid. The external pterygoid muscle has extensive attachments to both of the latter structures, while minute canals for the transmission of emissary veins pierce the great wing of the sphenoid alone. There is occasionally found one foramen larger than the rest (foramen Vesalii), the function of which is to permit a vein from the cavernous sinus within the cranium to join the pterygoid venous plexus situated in the pterygomaxillary region. Immediately behind the root of the external pterygoid process is seen the foramen ovale, through which passes the inferior maxillary division of the fifth nerve, together with its motor root, and the small meningeal artery. Behind the foramen ovale, and in line with the alar spine, is the smaller foramen spinosum, which permits the passage of the middle meningeal artery and its companion veins. With the lower jaw in position, the zygomatic fossa is concealed by the ramus of the inferior maxilla, the inner surface of which, in its upper half, forms the

1. Härtel, F.: Die Leitungsanästhesie und Injektionsbehandlung des Ganglion Gasseri und der Trigeminusstämme, Arch. f. klin. Chir., c, No. 1.

outer wall of the fossa. The ramus and coronoid process are so placed as to occupy a position intermediate between the zygomatic arch externally and the external pterygoid plate internally; their inner surface, therefore, forms the outer wall of the zygomatic fossa.

The foramen ovale, though often described as a mere hole, is in reality a bony canal, a little less than 1 cm. in length, which traverses the great wing of the sphenoid bone obliquely from below upward, backward and slightly outward. Measurements undertaken for the purpose of ascertaining the exact dimensions of the foramen ovale yielded for the long diameter a minimum of 5 and a maximum of 11 mm., while its width ranged from 2 to 7.5 mm. From these findings it becomes evident that we must use a small-calibered needle capable of passing through the narrowest opening. Anteriorly and externally the foramen ovale is guarded by the pterygoid plate of the sphenoid bone, posteriorly and internally, by the angular spine of its alae. As the distance between the foramen spinosum and the foramen ovale varies from 0 to 6 mm., there are possibilities for wounding the middle meningeal artery, which passes through the spinous foramen. The danger, however, is largely theoretical, and can be avoided by the operator feeling his way along the smooth bone from before backward until there is no more resistance. We are then in the foramen ovale. Should the finger holding the needle perceive the sensation of roughness or unevenness, we have probably reached the posterior border of the foramen and are passing into the region of the eustachian tube. In such event it is necessary to reintroduce the needle and take a more external and anterior direction.

The gasserian ganglion is situated in the depression on the tip of the petrous portion of the temporal bone, the superior border of which is about 1.9 cm. removed from the foramen ovale, which is directly parallel with it. A needle passed through the center of the foramen and pushed onward in the same direction must pierce the ganglion, this being the aim of the new method.

Assuming a needle to have been introduced into the foramen ovale, it will be seen that the trigeminus axis from the temporal bone, followed downward, will cross the zygomatic fossa about midway between the ascending ramus of the lower jaw and the tuberosity of the superior maxilla. Where will the needle emerge on the face? This is impossible to predicate in an individual case. In the majority of instances it will be found that the introduction of the needle into the cheek, opposite one of the three upper molars, will lead to the objective point — the foramen ovale. The point of introduction will vary with the anatomy of the superior maxilla, and with the steep or slanting direction of the trigeminus axis. One is compelled to go either forward or backward until the foramen is reached. There being no definite bony landmarks, we may be obliged to make several punctures before we succeed in entering the foramen ovale, which we do by feeling our way along the smooth bone until the bony resistance yields to something soft—an indication that we have entered the skull. This mode of reaching the objective point Dr. Härtel designates as the entry by the "concentric" road, opposing it to the "divergent" puncture, in the latter of which a needle is introduced through one opening and, remaining there, is moved in various directions until the desired point is reached. In his method, on the other hand, the needle is reintroduced at various points until the foramen in the skull is found; if the several punctures were continued onward as straight lines, they would appear to converge toward the foramen ovale.

TECHNIC

The principles underlying the technic of gasserian ganglion injections may be briefly summarized in the following paragraphs:

1. A correct appreciation of bone sensation.
2. Good finger-touch perception.
3. A knowledge of the approximate depth to which the needle must attain before reaching the foramen ovale.
4. Recognition of the direction which the needle is taking.

The needle is introduced through the cheek opposite the alveolar process of the second upper molar tooth (Fig. 1), but it may become necessary to reintroduce the needle from either more anterior or more posterior points. With the patient's teeth approximated, upper to lower ones, the operator places the index-finger of his left hand into the vestibule of the buccal cavity. When the needle has passed through the buccal fat-pad, this finger prevents the point from penetrating the

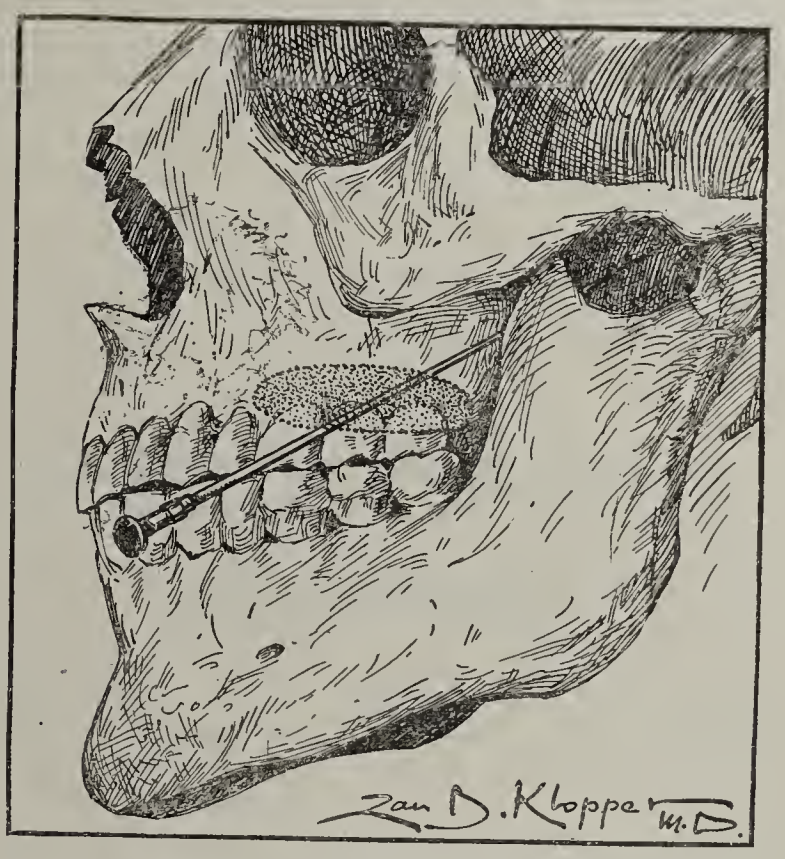



Fig. 1.—Needle, passed through area of anesthetized skin, in position.

mucous membrane, and guides it through the narrow pass between the border of the inferior maxilla and the tuberosity of the superior maxilla.

Causing the needle to sweep around the buccinator muscle, the operator pushes it onward between this muscle and the masseter, coronoid process of the lower maxilla and the temporal muscle externally, into the zygomatic fossa. Continuing in the direction upward, backward and slightly inward, the needle now reaches the broad under surface of the great wing of the sphenoid, having pierced the external pterygoid muscle, which fills the zygomatic fossa. At this juncture the finger can no more assist. A correct knowledge of the depth and direction which the needle has traversed is now of great importance in furthering the completion of the operation. According to the originator of the method, the needle engages in the foramen ovale at a depth of about 6 cm. from the point of entrance. It is well, therefore, to mark off this distance on the needle before beginning the injection. This can be done by placing the movable piece gliding over the needle, the

so-called "runner," at the desired spot, which has been previously measured off by the centimeter scale forming part of the injection outfit (Fig. 2).

While a knowledge of the depth which the needle has attained is of great value for purposes of orientation, it is almost as important to know what direction the needle is taking. We have fairly reliable data with reference to this subject. Dr. Härtel has discovered that the needle, when placed in the gasserian ganglion, points anteriorly toward the pupil of the same side; that is, when looked at from the front, a prolongation upward will bisect the pupil. The observance of the correct anterior position of the needle will do much toward preventing its going astray into the temporal fossa, the eustachian tube or the pharyngeal region. Should the needle follow a wrong direction, it will point either too far inward or too much outward.

A second valuable guide with reference to direction is that when the needle occupies a correct position its lateral end, if prolonged in an upward direction, would meet the eminentia articularis of the zygoma. With the invisible end of the needle too far forward, as for instance in the pterygopalatine fossa, or too far backward, in the carotid or jugular foramina, the visible portion of the needle will have changed its direction

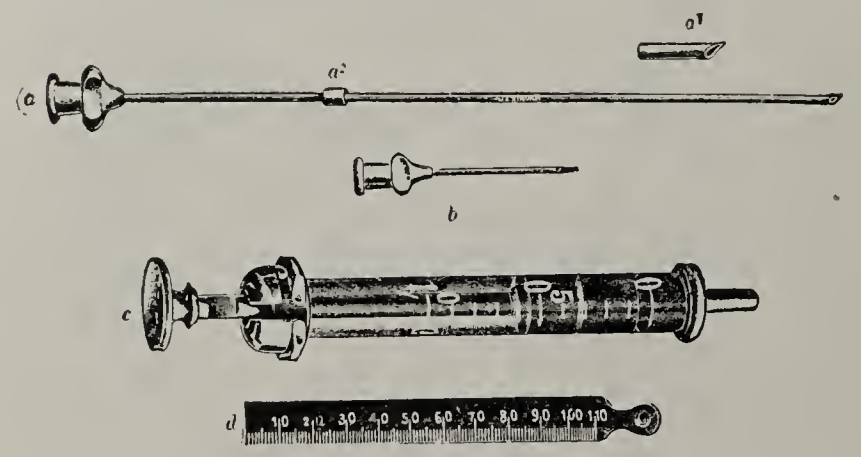



Fig. 2.—Dr. Härtel's complete outfit for trigeminus injections (Windler); *a*, hollow needle, 10 cm. long, 0.8 mm. wide; $a^1$, bevel-edged point of needle; $a^2$, "runner" attached; *b*, needle for infiltration anesthesia; *c*, 2-cm. record syringe; *d*, metal centimeter scale (reduced).

with reference to the articular eminence. Such possibilities should emphasize the importance of closely observing the needle direction as outlined.

As soon as the needle enters the foramen ovale, the patient experiences violent pain in the distribution of the inframaxillary nerve. The movable guide is now placed about 1.5 cm. outwardly, and the needle pushed in the same direction as before until it becomes flush with the skin. During this maneuver the patient usually experiences sharp pain in the upper teeth, indicating that the second branch of the trigeminus within the ganglion has been reached. The syringe, previously filled with 80 per cent. alcohol, is now attached to the needle and the alcohol slowly injected, the quantity not to exceed 1 c.c., the usual amount being 0.5 c.c. After a successful injection there is slight burning in the distribution of the fifth nerve, followed by complete anesthesia in the same area.

*Summary of Technic.*—1. Use local anesthesia, on the side to be injected, over a strip of skin opposite the upper three molars.

2. Before the introduction of the needle — 10 cm. long, 0.8 mm. thick, and bevel-edged at the taper—the probable depth to the foramen ovale should be marked off by placing the "runner" at a point about 6 cm. from the tip.

3. Puncture the skin and guide the needle, assisted by the finger in the mouth, so as to pass between the anterior border of the ascending ramus and the maxillary tuberosity, sweeping by the buccinator muscle and into the zygomatic fossa.

4. Carefully observe the direction of the needle; looked at from the front, it points toward the pupil of the same side; viewed from the side, it points to the eminentia articularis of the zygoma.

5. The foramen ovale is found by feeling one's way from before backward along the smooth hard bone of the broad under surface of the great wing of the sphenoid until its anterior external border is reached.

6. When the foramen ovale is reached, which is recognized by loss of bone resistance and the instant production of sharp pains in the distribution of the third branch of the trigeminus, the "runner" on the cannula is pushed out about 1.5 cm., and the needle advanced in the direction hitherto followed, until pain is also experienced in the second branch distribution of the trigeminus — a certain sign that the ganglion has been pierced.

7. Attach the syringe, previously filled with 80 per cent. alcohol solution, and inject slowly, drop by drop, from 0.5 to 1 c.c.

8. After a few minutes examine for complete anesthesia.

### CLINICAL REMARKS

There are certain dangers connected with this substitute for gasserectomy which are similar to those of the radical operation itself, the most important being the possible production of neuroparalytic keratitis. Dr. Härtel observed this complication in four out of his ten patients; three recovered, but the fourth patient retained a cloudy cornea in spite of expert treatment. To prevent corneal complications, it is advisable to place patients who are to receive the injection treatment in a hospital where the eye on the side to be injected may be treated prophylactically. Several times daily the eye should be washed out with mild antiseptic solutions; between washings and after the injection has been made a watch-crystal should cover the eye, thus keeping out the dust. Even after the patient has been discharged, the eye must receive attention for several months thereafter, as the keratitis may occur at a later date if proper precautions are not taken. It is a good rule not to treat the patients as ambulatory, but in every instance to have them go to a hospital several days before making the injection. The originator of the method himself has sinned against this rule; he now refuses to inject in the dispensary or in his office, and he advises others to follow the same course.

All the patients with trigeminus neuralgia treated by this method had remained free from pain to the time of Dr. Härtel's report[1] (Nov. 13, 1912), the first having been injected only five months previously.

Because of the possible corneal involvement, it is a method to be used only in the worst cases—after peripheral nerve injections have failed to relieve the pain, or after numerous recurrences. Briefly stated, this method should precede the cutting operations, but should follow the nerve injections. It is hoped that with an improved technic and when corneal complications can with certainty be prevented, the new treatment will supplant all others.

REPORT OF CASE

If it is borne in mind that the indications for the performance of what I venture to call a "medical gasserectomy" are limited to those cases that do not respond to the older methods of treatment, it is not surprising that my personal experience is limited to a single case. The patient had received altogether about ten injections of alcohol into the peripheral nerves at the base of the skull, only one of which gave him relief, for about a month. A nerve avulsion operation performed on the first two branches of the trigeminus was practically without effect on the symptoms.

J. B., a colored chauffeur, was admitted to my service at the Cook County Hospital for the second time, Feb. 12, 1913. He complained of severe pains resembling in their intensity electric shocks and pins and needles; they were confined to the forehead and middle portion of the left half of the face, including the upper lip. The beginning of this trouble was noticed about nine years before after an acute illness, said to have been malarial fever. About four years ago he was given several injections of alcohol according to the Lévy-Baudouin method without relief. Several months later he again received several alcohol injections while a patient in the Cook County Hospital; this time the relief after one of the successful injections lasted an entire month. Dec. 29, 1911, nerve operations were performed over the frontal and infra-orbital foramina, showing two visible scars; the remedial effects, however, were invisible. Three months previous to his second admission to the hospital his condition had become aggravated; he no longer could open his mouth or wrinkle the forehead without bringing on a severe attack of pain. As a result of the patient's fear of pain, the buccal cavity had become foul and sordes had accumulated on the teeth. For the same reason he had for some time been unable to eat a full meal. An examination for organic disease revealed negative findings. The diagnosis of true trigeminus neuralgia was made, and the new treatment was suggested because of the many failures with the other methods. He was pleased to learn that there was some new procedure to follow besides undergoing a gasserian ganglion operation. My first injection into the ganglion was not successful, owing to faulty technic and a weak needle which broke during my first attempt, Feb. 20, 1913. One week later, however, I made a successful injection into the gasserian ganglion according to the technic as described in the previous portion of the paper. The two lower branches of the trigeminus had become completely anesthetic and the patient left the hospital free from pain.

Fearing the development of corneal ulceration in spite of prophylactic treatment for the eye, I hesitated to push the needle to the full distance of 1.5 cm., but was content to introduce it an additional distance of only 1 cm., rather than the prescribed limit. Further observation of this case will demonstrate whether it is always necessary to pierce the ganglion in its entirety. Additional experience with the new method will undoubtedly bring some modification of the technic.

32 North State Street.

---

**Outline for Handling Venereal Disease Problem.**—The general remedy in the venereal disease question, lies, as it does in so many other public health problems, in the education of the public. Teach the public to do away with false modesty and instruct the youth as to the facts of the origin of life and the prevalence of social disease. Distribute literature showing the relation of prostitution and venereal disease. Require the compulsory reporting of gonorrhea and syphilis to the health authorities as in the case of other serious infections and contagious diseases. Require an absolute clean bill of health from both parties, or the men, at least, before marriage can be celebrated. Rigidly enforce the laws of state and nation regarding prostitution in general.—E. F. McCampbell in *Monthly Bulletin*, Ohio State Board of Health.

# PUZZLING GASTRO-INTESTINAL SYMPTOMS

REPORT OF A CASE

EDWIN D. WATKINS, B.S., M.D.
MEMPHIS, TENN.

This case is reported because of its puzzling nature and because of its apparently anomalous findings.

*Patient.*—W. W. J., aged 7, the first child of his mother, reared under the best hygienic surroundings, has always been delicate. During infancy he had dysentery almost constantly, the stools often numbering twelve to twenty in twenty-four hours, and often containing mucus and blood. He received only his mother's breast-milk up to 18 months of age. This he often vomited immediately after nursing. The dysentery continued for five years, gradually subsiding. Since then the patient has been constipated, requiring regular catharsis.

At the age of 2 years he began to have attacks of so-called "cyclic vomiting." The attacks would be ushered in by a mild tonsillitis or some exposure to cold or wet. He would then begin to vomit, first ordinary stomach contents with a little bile, then a fluid almost like water with brownish flakes floating in it. Everything ordinarily given to stop vomiting proved useless. A teaspoonful of water would precipitate an attack during which from 8 to 9 ounces of fluid would be projected from the stomach. When everything was withheld, he vomited every thirty minutes.

During these attacks the patient would lose weight rapidly, becoming alarmingly emaciated. They at first lasted one or two days when the vomiting would cease and he would regain his flesh and strength gradually.

The attacks occurred about four times a year, and each seemed to be worse than the preceding. The last one, in December, 1912, was so severe that a fatal termination was anticipated.

Between the attacks he looked fairly well but never robust and healthy, as one would expect a child to look who was reared with every care and had robust and healthy parents.

This patient came under my care in November, 1911, when he had one of these attacks following a mild tonsillitis. At that time he was ill four days after which the vomiting stopped and feeding could be begun. Since that time I have attended him in many of the attacks.

During my observation of him at these times there was always constipation with distention which had to be treated by enemas alone on account of the stomach sensitiveness. There was never diarrhea. He sometimes complained of slight pain across the abdomen about the level of the umbilicus. There was never tenesmus. The temperature ranged about 102 F. for three days. The mouth was dry and the teeth became covered with sordes. The lips were dry and cracked. The expression was apathetic. Dark bluish coloration appeared under the eyes with the onset of the vomiting, and did not entirely disappear between the attacks. The pulse was weak and rapid, being as high as 160 at times.

The clinical findings were always unimportant. The blood-count on several occasions showed from 8,000 to 12,000 total leukocytes, with 74 to 78 per cent. polynuclears. One examination in January, 1912, showed 3.5 per cent. eosinophils. Examination of the stomach contents on several occasions showed free hydrochloric acid 15 to 18. The urine contained a trace of albumin during each attack, the albumin persisting for four or five days after the subsidence of the vomiting. Microscopic examination was always negative. I never found indican in the urine although I made the tests for it sixteen times.

An attack in October, 1912, was ushered in by a severe chill which continued an hour. The temperature rose to 103 F. The spleen was palpable for three days. Vomiting commenced on the second day and continued for four days. Emaciation was extreme. Vomiting was not as frequent as in former attacks.

The last attack, in December, 1912, lasted two weeks and was the worst of all. On the second day the patient's heart and pulse became very irregular, this irregularity continuing for six days. There was a heavy cloud of albumin in the

urine; microscopic examination was negative. The vomiting was worse than usual, coming on oftener and persisting longer than formerly. For two weeks vomiting would be precipitated by introducing anything into the stomach. Emaciation was extreme. Convalescence was slow.

The only thing that ever produced any beneficial effects on the vomiting was normal saline by rectum, one pint being given every three hours. This worked better than anything else up to the last attack when nothing did him any good.

After the last attack the patient was slow in regaining his strength and looked weaker than ever before. The usual dark coloring under the eyes was much more marked.

*Examination of Feces.*—In January, 1913, I realized that I had made no examination of the stools of the patient and called for one to be sent to my office. It was sent on a cold day, placed in the laboratory at 9 a. m. and I examined it at 1 p. m. The specimen consisted of two hard lumps of dark fecal matter. I took up a sterile platinum loopful of the feces and mixed it with a drop of sterile distilled water on a slide, put it on a cover-glass and examined it with 4 mm. objective. Nothing was warmed in preparation of the specimen.

Immediately my attention was attracted to an organism resembling the *Entamoeba histolytica*. There were two or three in a field. After a few field changes I found one moving. I made certain that the movement was not due to currents in the fluid. The pseudopoda were thrown out and the whole organism followed. The organism was about 30 microns in diameter. The ectosarc was clear while the endosarc was granular and contained leukocytes and pigment. The nucleus could not be discerned. I then found five motile organisms in the specimen on the slide and many immobile ones. There was no doubt about their motility. In some of them a faint nucleus could be seen. Two subsequent examinations two days apart showed the same findings.

*Treatment.*—Unfortunately for verification, but fortunately for the patient, I immediately commenced treatment directed against the ameba. Colon irrigations of silver phosphate, copper phosphate and quinin phosphate were commenced. The bowel first emptied by catharsis and enema was irrigated with solution, the hips being much elevated and the solution held as long as possible. This was done twice a week. There was no ill effect from the treatment.

*Results.*—After the first two treatments the child began to look better. The dark coloration under the eyes disappeared. His appetite became normal and he acts and feels better than at any time in his life.

On March 2, 1913, I was called to see him. He had a typical acute tonsillitis with temperature 102.5 F. The tonsils were covered with spots. Local treatment was instituted and the patient was allowed liquid diet. In three days the tonsillitis subsided and the patient was allowed a more liberal soft diet. In five days he was well. At no time was there nausea or vomiting. He was cheerful throughout the illness. Convalescence was rapid and subsequently nothing has developed. Later he had another attack of tonsillitis through which he passed without a symptom of the usual "cyclic vomiting." He has also had a rather extensive herpes zoster without any gastric disturbance. The boy has gained in weight and looks really robust and healthy.

This case has been a puzzling one. It is hardly conceivable that the protozoon found alive in the constipated bowel movement was the *Entamoeba histolytica*. Yet the morphologic characteristics correspond with no other protozoon that I know of that has been described as an inhabitant of the lower bowel. I do not think that what was found could be the *Amoeba coli* Lösch, on account of its size, the absence of the pigmented nucleus and the rapidity of its movements.

Three subsequent examinations of the stools, nine weeks after beginning the treatment, showed no sign of the organism found before treatment was begun.

The undoubted improvement in the boy's condition, and especially the fact that he passed through an attack of tonsillitis without developing the usual "cyclic vomiting," a hitherto unknown occurrence, lead all who have considered the case to believe that the cause of the attacks of vomiting has been reached.

There are several possibilities to be considered. The ameba found in the stool may have been the cause, and the treatment directed against them has eradicated them or rendered them inactive. On the other hand, the amebas may not have had anything to do with the attacks of vomiting and the treatment may have affected some entirely different trouble still unknown. Moreover, the recovery from the tonsillitis without an attack of vomiting may have had nothing to do with the treatment directed against the ameba.

The treatment directed against the ameba, however, has produced such striking results that I am led to believe that the amebas must have had a causal effect on the attacks of vomiting and on the boy's general condition.

My only regret is that I did not have some of my colleagues see the amebas with me.

Memphis Trust Building.

---

# BENIGN MELANOSIS; A SUPPLEMENTARY REPORT.

J. CLARK STEWART, M.D.
MINNEAPOLIS

In June, 1907, I reported[1] "A Case of Benign Melanosis" before the Section on Surgery of the American Medical Association at Atlantic City. Briefly:

A laparotomy in 1892 exposed a right ovarian cyst, black in color, and multiple small nodules studding the peritoneum. The operation was abandoned, a diagnosis of melanosarcoma made and several of the small nodules were removed. These nodules proved to be not melanosarcoma, but cysts containing very dark material which showed no cells capable of taking a stain. During convalescence the patient's urine, milk and sweat were deeply pigmented, but she made a good recovery. In 1895, the patient passed through a normal confinement and was delivered of a healthy child. At this time the milk and urine again became black, the condition lasting only a few days.

In view of the extreme rarity of this condition the subsequent history is of great interest:

The patient remained well in every way up to 1909, when, after the establishment of the menopause, she began to suffer from pressure symptoms in the right side. An examination showed increase in the size of the original right-sided cyst, and observation showed that it was continuing to increase in size. At this time she was operated on by Dr. W. J. Mayo and a large cysto-adenoma of the ovary found with extensive adhesions. A smaller cyst was removed on the left side. The pathologic report, which I have by the kindness of Dr. L. B. Wilson, is malignant ovarian cyst, the malignancy being entirely inside of the cyst. Recurrence ensued, and a second operation was done by Dr. Mayo in July, 1912, the report being "carcinomatous cyst which had ruptured growing from the right surface in the cavity of the mesosigmoid, discharging some of its contents into the peritoneal cavity. No other secondaries. Large amounts of free fluid in abdomen."

She died March 7, 1913, of exhaustion due to recurrence of the malignant growth.

Dr. R. O. Beard, whose patient she was and who was present at all the operations, says it was interesting to note that at the second operation, occurring about twenty years after the first, the pigment masses, which were so

1. THE JOURNAL A. M. A., July 20, 1907.

numerous over the peritoneal surfaces, and all pigmentation in the primary growth had disappeared. Indeed, so complete was the disappearance of the former melanotic conditions that Dr. Mayo paused in his operation to inquire whether I was positive that this was the former melanotic case described.

The after-history of this unique case shows that I was correct in my original report in stating that the case could not be delayed malignancy in melanosarcoma. The patient lived over twenty years after the original operation, and died of cancerous change in an ordinary ovarian cyst, which showed no indications of pigment, under Dr. Wilson's careful study. No light is afforded by the subsequent history or the pathologic findings at the operations bearing on the condition of melanosis, and the case must remain on record as benign melanosis, a unique condition of unknown etiology.

616 Syndicate Building.

---

## AN EYE LESION FOLLOWING TWO INTRAVENOUS INJECTIONS OF SALVARSAN, BUT RELIEVED BY ITS FURTHER USE

HAROLD J. LEVIS, M.D., ROCHESTER, N. Y.

*Previous History.*—The patient, A. M., a man aged 22, in whom a primary lesion appeared in March, 1912, first consulted a homeopathic practitioner, who dispensed tablets of the protoiodid of mercury. After three weeks' use of this drug, the patient became badly salivated and consequently stopped mercurial treatment. He was then advised by a layman to treat with a certain Detroit physician, who, he was told, would cure him without the use of mercury. His adviser said that the father of this physician had "cured" him about twenty years before without mercury. The patient wrote to the Detroit physician, who replied that he could furnish any number of testimonials concerning the efficacy of his treatment, which he guaranteed contained no mercury. I found this claim to be untrue. A graduate pharmacist made a partial qualitative analysis and found that the preparation he used did contain mercury. The patient at this time showed three visible lesions by which he would be able to judge the efficacy of his treatment. He took two 8 ounce bottles for which he paid $13.20, including the expressage. He received no benefit whatever.

*Treatment and Course.*—The patient consulted me, June 10, and I administered 0.6 gm. salvarsan intravenously. Four days later the three visible lesions of the disease had vanished. Twenty-three days later he was given a second injection of like amount. At this time he showed not the faintest sign of the disease, and in spite of the fact that I advised him to persist longer in the treatment he did not present himself for a third injection at the appointed time.

I next saw the patient August 31. He consulted me at that time concerning a congestion of the bulbar conjunctiva and photophobia, which he said had appeared about one week previously.

It seemed improbable to me at that time that these symptoms could have been caused by the disease so soon after the two injections of salvarsan. I prescribed non-specific treatment and for the following two weeks was absent from the city. September 20, when he next consulted me, the congestion had disappeared and to all outward appearances the eye was normal. But at this time a diminution in vision was beginning to manifest itself in the eye previously affected.

I then told the patient that I thought the trouble was due to his disease. He could not be convinced that such was the case, and as he had heard that arsenic was prone to cause optic atrophy he said that his poor vision was due to it. In reality the trouble was retinitis. It was impossible to make him believe he was wrong until I told him that if his poor vision were due to arsenic, it should be bilateral, since arsenic would be distributed just as much to one optic center as to the other. This convinced him, and he agreed to a third injection, but not before vision in the affected eye had fallen to 3/100.

The patient took his third injection November 15. In four days his vision had improved to 15/50. One week later it was 15/40. When he appeared for his fourth injection, December 6, his vision was 15/30. Early in April, 1913, the patient had taken nine injections and at the time he took his ninth injection his vision had improved to 15/20.

This case is of interest to me because there is a possibility that some practitioners would have agreed with the patient and called the trouble optic atrophy and given a grave prognosis. In this way one case of optic nerve trouble would have unjustly been credited to salvarsan.

It also shows that salvarsan is not contra-indicated in active syphilitic eye disease, as many believe.

660 Lake Avenue.

---

## MEATOTOMY: A SIMPLE METHOD

SYLVAN H. LIKES, M.D., AND
HERBERT SCHOENRICH, M.D., BALTIMORE

Now that the fact is being more universally recognized that many of the chronic urethral discharges are due to more or less extensive infiltrations of the urethral mucous membrane, and that these infiltrations can be removed only by sufficient dilatation to restore the caliber of the urethra to its normal dimensions, the operation of meatotomy assumes a more important aspect.

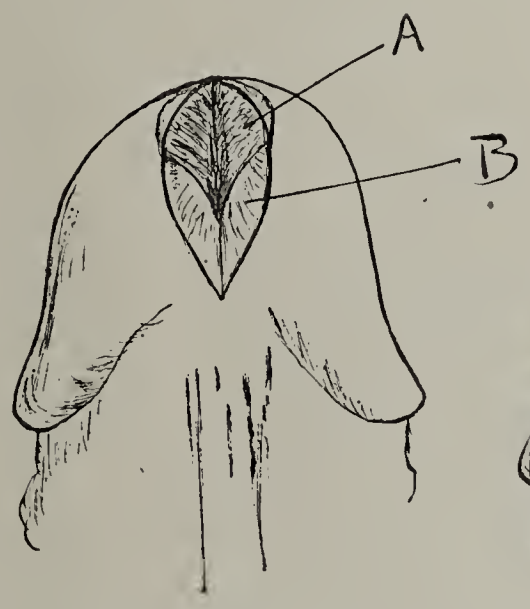



Fig. 1.—Retracted meatus after incision; *A*, urethra; *B*, raw surface after retraction of mucous membrane.

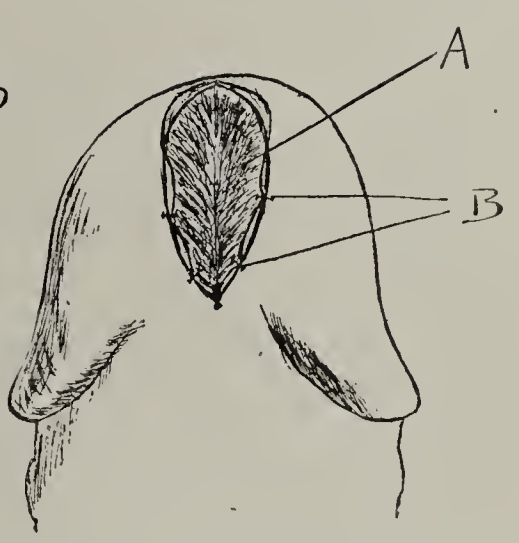



Fig. 2.—Retracted meatus after meatotomy. Note absence of raw surfaces. *A*, urethra; *B*, sutures.

There are many methods for performing this minor operation, but those described in the text-books and recent medical literature have many objectionable features. The idea in all of these methods is to control the hemorrhage at the time of the operation, as well as subsequently, by the employment of caustics and styptics and by the use of plugs and other mechanical contrivances to keep the lips of the meatus apart, thus preventing union of the cut surfaces.

In our experience, we have found that styptics and caustics invariably leave an ugly slough, prolonging the healing process, and that the resulting scar is disfiguring and the final result uncertain. The use of plugs to separate the cut surfaces is also bad, as when these plugs are removed for the purpose of urinating, bleeding is frequently produced and their removal is nearly always very painful.

Experience with these objectionable features has prompted us to describe a method which to us has proved most satisfactory for a number of years, and gives the patient the least pos-

sible amount of discomfort during the healing process; furthermore it has all the advantages of simplicity and freedom from bleeding and is practically painless at the time of and subsequent to the operation. It does away with plugs or other means to keep the cut surfaces apart and makes the use of caustics, meatotomes and all mechanical contrivances unnecessary.

After the usual aseptic precautions as regards cleansing the parts, etc., are observed, a few drops of a 0.5 per cent. solution of cocain, in a 1:3,000 epinephrin (adrenalin) solution is injected into the skin just below the meatus. A blunt-pointed bistoury is now inserted into the meatus and an incision is made straight downward in the median line on the floor of the urethra, the extent depending on the judgment of the operator. After this incision a picture as in Figure 1 will present. Next the edges of the skin and mucous membrane on each side are stitched together with No. 1 silk, requiring usually two sutures for each side (Fig. 2). This suturing of mucous membrane to the skin leaves no raw surfaces to give rise to troublesome bleeding, or possible agglutination and union of the cut edges. The site of the operation requires no further dressing other than a pad of cotton which may be entirely discarded after twenty-four to forty-eight hours. The stitches are usually removed in about five days but no attempt is made to dilate the urethra for at least fourteen days. We instruct the patient to separate the lips of the meatus at each urination.

Previous to the employment of this method, owing to the great discomfort experienced by the patient after meatotomy, we did not feel justified in making use of this operation as frequently as we should have liked, but now where we are able to assure the patient that the pain, annoyance and discomfort will be very slight, we no longer hesitate, for we believe that with a wide meatus so markedly facilitating the dilating process, one-half the battle is won in the cure of many chronic urethral discharges.

1134 Linden Avenue.

---

## *Special Article*

# BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

*(Continued from page 1299)*

### *THEORETICAL CONSIDERATIONS*

Bacterial vaccine therapy is designed to antagonize bacterial infections, either in advance of a disease (*protective* or *prophylactic*, illustrated by antityphoid inoculations), or after advent of the disease (*curative* or *therapeutic*, as by the use of staphylococcus vaccine in a patient afflicted with boils).

Vaccine therapy, although using artificial means, brings into action the natural processes for curing disease. No living, healthy animal organism passively permits itself to become the host of a harmful invading parasite. It resists actively, and the sum total of the factors which make up such resistance against harmful parasitism is known as *immunity*.[1]

In spontaneous infection with pathogenic bacteria the natural agencies of immunity are aroused, and if the invading bacteria are successfully antagonized, spontaneous recovery ensues. Such spontaneous recovery unaided by artificial agencies characterizes the self-limited infections. It is in these diseases with a tendency to spontaneous recovery that vaccine therapy is chiefly employed. If this fact were borne in mind, undue enthusiasm would be checked by a saner estimate of the part played by the treatment.

### VARIETIES OF IMMUNITY

Fortunately man is endowed with a *natural immunity* against certain diseases; he is not subject to attack by certain pathogenic bacteria (for example, the germ of chicken cholera). In other cases an *acquired immunity* is obtained by recovery from an infection (such as small-pox), or artificially produced (as by vaccination against small-pox). Immunity is distinguished as active and passive. Immunity is *active* when the body, in response to the introduction of infectious germs, achieves protection by producing its own antibodies; it is *passive* when, so to speak, ready-prepared immunity or protection is forced on it, as seen in the use of antidiphtheric serum (antitoxin of diphtheria) in which the antibodies formed in the blood-serum of another animal have been utilized.

### ANTIBODIES

As an outcome of the state of immunity, the fortunate individual becomes the possessor of a variety of protective substances commonly spoken of collectively as *antibodies*, which circulate in the blood, or reside in the organs, tissues and tissue juices. Many such antibodies have been demonstrated by recent researches, and those of a defensive nature include *antitoxins*, which act by neutralizing the poisons of bacteria, *bacteriolysins*, which destroy bacteria, and *opsonins*, which in some way alter bacteria and make them more easily a prey to certain defensive body cells or phagocytes.

### ANTIGENS

In contrast to these agents of active immunity are the *antigens*, which are substances that stimulate the production of antibodies. The poison or toxin of the diphtheria bacillus used to stimulate the production of diphtheria antitoxin is an antigen; bacterial vaccines, living or dead are antigens.

### FACTORS OF ACTIVE IMMUNITY

Let us consider how recovery is secured in a case of infection with pathogenic bacteria. Under the stimulus of the presence of the bacteria, or their products, in the body, the whole organism is aroused to the production of an active immunity through the formation of antibodies capable of neutralizing the poisons of the invading bacteria, or of destroying the bacteria themselves, or of stimulating the phagocytes to dispose of them. If the production of these antibodies is sufficient the blood is freed from the bacteria and their poisons, local foci of disease heal, and the infected person fully recovers. Thus in the case of pneumonia, the toxins absorbed into the blood from the lungs circulate to all the tissues and excite the participation of the whole organism in the struggle against the pneumococci until a sufficient amount of antibodies is formed to counteract the toxins in the blood and further to overcome the infection in the lungs. In this case the patient recovers; if the production of antibodies is insufficient he succumbs to the poison of the disease and dies, or lingers with chronic infection.

In some other cases of infection, while the stimulation of the organism results in the production of sufficient

---

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago, David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P Ohlmacher, Detroit.

1. It is obviously impossible in the present series of articles to consider at any length the subject of immunity with its ever-growing complexity. The student who would approach applied vaccine therapy with a fuller knowledge of this subject should consult the special works, of which Ricketts' "Infection, Immunity and Serum Therapy" may be cited as a type.

antibodies to counteract the general poisoning, the organism is not sufficiently sensitive to the antigen to produce the antibodies necessary to eradicate the local disease. This is well illustrated by latent or torpid tuberculous lymph-nodes. The bacteria in the lymph-node are in a state of siege, but not overcome by the insufficiently developed immunizing powers of the general organism. In this situation the system is sometimes aroused to efficient action by the escape of bacteria or toxins from the local focus. Such an invasion of the blood by bacteria or toxins is termed a self-inoculation or auto-inoculation. The aroused organism now produces antibodies which destroy not only the bacteria and toxins in the blood, but also those in the local infected focus. To reproduce this natural process, to accomplish by artificial inoculation what is thus secured by auto-inoculation, is the ideal aim of therapeutic immunization. Therapeutic immunization by tne agency of bacterial vaccines—that is, vaccine therapy—represents such an effort.

Various factors, some known, others still not understood, contribute to the failure of spontaneous auto-inoculation. Bacteria may multiply so rapidly and produce so overwhelming an intoxication as to cause death. Another element of great importance concerns the still little-understood matter of virulence of the invading bacteria, by which the pathogenic potency differs widely not only as regards species but even within a single species.

### VARIATION IN BACTERIA

Besides the virulence which characterizes certain bacteria as to species, wide variations seem to exist among the so-called "races" or "strains" of a given species. Take as an example the diphtheria bacillus: different races or strains of this species vary greatly as to the production of a potent toxin. In fact, it is only an exceptional strain from which it is possible to secure the intense toxin required to produce the highly antitoxic serum of the present day. Races or strains in bacterial species vary not only in virulence but also in many other biologic characteristics; furthermore, it appears that biologic characteristics of the varieties of a bacterial species are not fixed, but alterable, under both natural and artificial conditions of environment. This is shown, for example, in the unexpected return of fatal virulence in a strain of bacteria used for immunizing purposes and supposedly non-virulent or only slightly virulent. This is, perhaps, an opportune juncture at which to emphasize the fact, now apparently lost to sight in this day of indiscriminate usage of bacterial products, that virulence and many other important life phenomena of disease-producing bacteria are still far from thoroughly understood, even by the most industrious and talented of special workers in the field of microparasitology.

### OPSONINS

A clear conception of opsonins is extremely important to the student of vaccine therapy. In their first paper Wright and Douglas showed that by the action of the blood-serum bacteria are rendered a ready prey to the phagocytes. They spoke of this as an opsonic effect (from ὄψον, "seasoning," "sauce," because the opsonins are supposed to make the bacteria more appetizing to the phagocytes), and they employed the term "opsonins" to designate the elements in the blood-serum which produced this effect. Phagocytosis depends on the presence of whole blood or blood-serum. Leukocytes washed free of serum ingest few if any bacteria when mixed with an emulsion containing them. To demonstrate the presence of opsonin, a suspension of bacteria (alive or dead) is mixed with washed leukocytes and incubated. Imperfect phagocytosis or none at all results. A similar mixture of bacterial suspension and washed leukocytes, plus serum, is prepared and incubated. Phagocytosis is found to have taken place when a portion of such mixture is examined microscopically as a stained preparation. By enumerating the bacteria ingested in a certain number of leukocytes, and dividing to obtain an average, the so-called *phagocytic index* is obtained. The phagocytic index of the patient divided by the average phagocytic index of a number of normal persons gives the *opsonic index*.

### OPSONIC INDEX AND VACCINE THERAPY

In his earlier work Wright and his associates laid great emphasis on the importance of the opsonic index as furnishing an indication for vaccine therapy, and, when inoculations were instituted, as a guide to size of dose and interval between doses. That this procedure, in skilled hands, has real practical value can hardly be doubted when one notes the clinical results obtained by Wright and his co-workers. But vaccine therapy can be prosecuted without the guidance of the opsonic index, provided other essential factors like the nature, dose and dose-interval of the vaccine be correctly ascertained. This is not to say that so fundamental a procedure as valuation of opsonic power can be entirely discarded at present; indeed, it is to be regretted that the ability to make an opsonic index is not held a prerequisite to the practice of vaccine therapy, for this would assure for the practitioner a first-hand technical knowledge of paramount importance. And in certain obstinate infections in which therapeutic bacterial inoculations have failed, the study of the opsonins may furnish a valuable clue to the cause of failure. Still, as a routine, it may be dispensed with.

In the therapeutic use of a bacterial vaccine, Wright was able to substantiate by means of the opsonic index the *phases of reaction* which had previously impressed him in studying antityphoid inoculation. For instance, in the first period of from twelve to twenty-four hours after an inoculation the opsonic index fell below the previous level—a phenomenon defined by Wright as the *negative phase* of immunizing response. After an interval of two or three days a rise of opsonic power, the *positive phase,* was witnessed. In a series of therapeutic inoculations, after the fluctuations of the positive and negative phases, there comes a point of sustained positive phase — the "sustained 'high tide' of immunity," as Wright calls it.

*(To be continued)*

---

**No Compromise Permissible in Medical Advertising.**—There can be no compromise in medical advertising. The example is bad. If the prominent men do it, the less-known will get into print as soon as they can raise the price or work up enough pull with a magazine writer. Let there be no mistake on this point. Educating the public on general health problems and teaching them the lesson on how to live is the noblest duty of the physician. It is a duty that is self-sacrificing and is indicative of the priestliness of the calling. Would that physicians were so situated that they could teach health from the housetops and street corners! But when a description and photographs of a physician and his pill cupboard or of a surgeon and his amphitheater and instruments appear in public print, it is as if they are courting public patronage.—B. Joseph in *Vermont Med. Monthly.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, MAY 3, 1913

## SOME FEATURES OF UNDERDEVELOPMENT

Professor Rubner of Berlin has pointed out that the problem of growth involves two important and distinct factors. One of these is the nutrition element, without the satisfactory provision for which suitable growth is obviously impossible; the other factor is an inherent capacity to grow—the growth impulse or *Wachstumstrieb*, as it has been termed. Either of these may be upset in such a way as to inhibit development. In view of the increasing interest in the different forms of retarded growth and cessation of the normal developmental changes it has become more and more important to distinguish the causes which underlie these pathologic manifestations. Distinct types of so-called infantilism are now clearly defined by the clinical observer. The undersized adolescent, the dwarf and the cretin have little in common in the way of known abnormality aside from the eccentricities of stature and proportions. Yet the underlying causes of these defective conditions are for the most part unknown.

So far as the failures to grow are centered in perversions of nutrition they are likely to be more amenable to experimental elucidation than are defects which are associated with some obscure inborn imperfection of the organism. Inherited anomalies modifying the functional behavior of the body cells are rarely capable of direct control or modification. They are as fundamental as are familiar hereditary traits of character behavior and appearance. Disturbances of nutrition, on the other hand, may be acquired from invasion of the alimentary tract by undesirable organisms, from an unsuitable diet, or from chemical or physical injuries; and they may be remediable when once their origin is detected.

The late Professor Herter of New York published an admirable study of one type of retarded growth, to which he applied the designation "intestinal infantilism."[1] This pathologic state of childhood is marked by a striking retardation in the growth of the skeleton, the muscle and the various organs, and is associated with a chronic intestinal infection characterized by the overgrowth and persistence of bacterial flora belonging normally to the nursling period. The chief manifestations of intestinal infantilism are arrest in the development of the body; maintenance of good mental powers and a fair development of the brain; marked abdominal distention; a slight or moderate or considerable degree of simple anemia; the rapid onset of physical and mental fatigue, and irregularities of intestinal digestion resulting in frequent diarrheal seizures. Clinical features of secondary importance are excessive appetite, various minor signs of nervous instability, a subnormal temperature, cold hands and feet and slight signs of rickets.

In the pathology of such conditions two leading features obviously call for explanation: first, the retardation of growth; second, the chronic intoxication. The retardation of growth can apparently be explained on the basis of the imperfect absorption of nutritive material easily demonstrated in these cases. Herter believed that the intoxication which is so prominent a feature of intestinal infantilism at its height may be ascribed to the action of putrefactive products of intestinal origin on the central nervous system and muscles.

The hope of rational therapeutic interference to reestablish or reinforce the processes of growth presupposes a more exact knowledge of the nutritive factor. For valuable information in this direction we are indebted to the painstaking researches of Dr Francis H. McCrudden[2] of the Rockefeller Institute Hospital in New York. He has investigated the metabolism of a number of dwarfed individuals of different types and compared the results with the data furnished by healthy children. The examination of the urine in respect to the partition of the nitrogenous and sulphur-yielding components gave no evidence of a departure from the normal. Despite this fact, the frequent and protracted intestinal disturbances in some of these patients, and the occurrence of voluminous stools of highly fecal character with an unusual content of nitrogen, continually renewed the suggestion of inanition induced by such losses through the bowel as an explanation of the retarded growth. The possibility of loss of protein by undue putrefactive change or improper digestion always loomed up. Every attempt to find a justification of the undernutrition hypothesis so far as the nitrogenous intake was concerned failed to reveal any adequate explanation in this direction. It has become more and more certain that no abnormality of the digestion, absorption or assimilation of either proteins, fats or carbohydrates was involved in the types of infantilism investigated. The general nutritive condition of the soft tissues was satisfactory. The metabolism of energy as revealed by calorimetric observations was normal. Inanition or undernourishment in the usual sense was not the etiologic factor here concerned.

In certain of the types, however, anomalies in the metabolism of calcium have come clearly to light. Lime

1. Herter, C. A.: Infantilism from Chronic Intestinal Infection, New York, 1908.

2. A summary of the papers, several of which have appeared in the Journal of Experimental Medicine, 1913, will be found in the Deutsches Archiv für klinische Medicin, 1913, cx, 90.

disappears almost completely from the urine, while it is lost in large amounts with the stools. The cortical portions of the bones of these children are peculiarly thin and delicate, as revealed by the Roentgen-ray examination. Since no evidence of an impairment of kidney functions is at hand which would explain the failure of the urinary excretion of calcium in these cases, it must be assumed either that the calcium circulates in some form unavailable for bone development, or that the blood is very deficient in this element. The latter hypothesis, which is substantiated by the large losses of calcium with the feces, seems the more probable. The blood must be deficient in calcium in these cases in which the clinical investigation has revealed an underdevelopment and fragility of the bones; whereas the other cases of retarded development show normal bone structure, and fail to disclose a perverted metabolism of calcium so far as its normal excretion in the urine and the positive lime balance in the body can indicate.

The two types of dwarfing included in McCrudden's studies exemplify the rôle of the two fundamental factors in growth to which reference was made above. In the one series, with delicate bones and low metabolism of calcium, the inability to grow apparently arises from the failure of a sufficient supply of this element to satisfy the requirements of normal skeletal development. The soft tissues and organs grow as rapidly as the skeleton, and the latter as rapidly as the supply of building materials—the lime salts—permits. In fact, the skeletal growth may be even more rapid than what the production of strictly normal bones would call for. In the other type of underdeveloped individuals there is no apparent dearth of available nutriment. Here the inability to grow appears rather to be associated with a failure of what has been spoken of as the growth impulse or inherent capacity to grow.

A high degree of mental development is not incompatible with the condition known as intestinal infantilism. Perhaps the discovery of the fundamental defect in calcium metabolism will lead to the introduction of remedial measures whereby the lagging skeletal growth can be compensated for, so that a permanently undersized individual need not result. The ideal of development is indicated in the perfect correlation of mind and body: *mens sana in corpore sano.*

## THE PREVALENCE OF THE MORPHIN AND COCAIN HABITS

The researches of Martin I. Wilbert and Murray Galt Motter[1] into the legal enactments which have to do with the control of the sale of opium and cocain in the several states show that there is a most extraordinary lack of uniformity in the requirements in different parts of the country. Thus, in many states antinarcotic laws are so comprehensive that were an attempt made to enforce the law literally it would result in the fine or imprisonment of practically all the retail druggists. On the other hand, there are some states in which the exceptions and provisos to the law are so numerous as practically to nullify all efforts to control the traffic in narcotic drugs.

Although in most of the states there is some legislation which aims to abolish the evil, it is all of comparatively recent date, and has not kept pace with the increase in drug addiction. Commenting on this increase, the President of the United States in a recent message[2] says: "The enormous misuse of opium and other habit-forming drugs in the United States may be attributed to several causes: carelessness or ignorance on the part of the people; to ineffective state laws as well as the inability of the states with good laws to protect themselves against the clandestine introduction of the drugs from neighboring or distant states, and therefore in a larger sense to the lack of control by the federal government of the importation, manufacture and interstate traffic in them." Lack of federal control resulting in various conflicting state laws, or more properly speaking in giving rise to such a diversity of laws that stringency in one state can be overcome by ordering by mail from another state where the laws are less stringent, is undoubtedly the chief reason why our country compares so unfavorably with European countries in respect to the prevalence of morphin addiction.

Since 1860, when the various forms of opium and its alkaloids were separately enumerated in the tariff schedules, there has been an increase of 351 per cent. in the importation and consumption of all forms of opium, as against an increase of 133 per cent. in the population. In the United States during the last ten years there has been an annual importation and consumption of opium of over 400,000 pounds. Austria-Hungary, with a population of a little less than half that of ours, consumes annually less than one-hundredth this amount of opium. Germany with sixty million inhabitants consumes only about 17,000 pounds annually, while in Italy with thirty-three millions there is an annual consumption of only about 6,000 pounds. The appalling discrepancy consists in the fact that the most reliable authorities are agreed that one-eighth the amount of opium imported into the United States would amply suffice for the legitimate medical needs of our people. This country manufactures into morphin fully 300,000 pounds of the annual importation, and it is estimated that 80 per cent. of the morphin is used by victims of the habit.

When we consider cocain, the situation is no less alarming. Köller first introduced this drug to the medical profession in 1884. Thirteen years later was enacted the first legislation in the United States which strove to prevent the indiscriminate sale of the drug. In 1897 Illinois passed a law which made it unlawful

1. Wilbert, Martin I., and Motter, Murray Galt: Digest of Laws and Regulations in Force in the United States Relating to the Possession, Use, Sale and Manufacture of Poisons and Habit-Forming Drugs, Pub. Health Bulletin 56.

2. Senate Document 736, third session, Sixty-First Congress.

to give or sell any cocain or preparation containing cocain in any form except on prescription of a physician or dentist. The impracticability of all the legislation since that time is evidenced by the fact that although cocain is a drug which is utterly useless except in the hands of the physician or dentist, and should never be prescribed for continuous use under any circumstances even by them, there has nevertheless been such a steady increase in its use that it is now reliably estimated that its illegitimate use alone exceeds 150,000 ounces every year.

A consideration of the evils attendant on the use of morphin and cocain alone should tend to convince the most ardent advocate of states' rights that legislation regulating the sale of all dangerous habit-forming narcotics should be national in scope and absolutely uniform throughout the country. In matters which affect the health of the nation at large the laws should be made by Congress, and their execution should be in the hands of federal rather than state authorities.

## CHEMOTHERAPY OF TYPHOID

Recently we called attention[1] to the studies which are now under way in an attempt to apply to bacterial infections the principles of chemotherapy, so far successfully worked out only with protozoan diseases. Most of the work so far reported on bacterial chemotherapy has concerned the pneumococcus, as yet with encouraging but not startling results. In line with this work is an exhaustive review of the attempts so far recorded to secure a chemotherapy for typhoid, compiled by Berger,[2] which show nothing but desultory trials on an empiric basis. The systematic study of typhoid infection from the point of view of Ehrlich's principles of chemotherapy has yet to be begun, for empiricism has done nothing for the cure of the infection. Typhoid, of course, is mostly a disease which communities elect to give themselves in payment for a comfortable amount of sloth and filth, and the curative aspects are much less important than the preventive. Recent reports, however, show that an important step has been made toward making experimental typhoid infection available for the experimenter who wishes to study its chemotherapy, and this is the development of a method for making animal typhoid carriers.

It has always been an obstacle in typhoid research that ordinary laboratory animals when inoculated with typhoid bacilli do not show any of the characters of typhoid as seen in man; they develop a septicemic condition readily enough, but not the characteristic lymphoid infection which, according to the studies of Coleman and Buxton, is responsible for the typical course of clinical typhoid fever. Blackstein and Welch,[3] however, observed that rabbits which had received intravenous inoculations of typhoid bacilli retained them for a long time in the gall-bladder, and Uhlenhuth and Messerschmidt[4] found that rabbits injected in the gall-bladder with typhoid bacilli became carriers for as long as six months, while Marxer made dogs typhoid carriers for four years by the simple expedient of imitating gall-stones by implanting in the gall-bladder pieces of cork impregnated with typhoid bacilli. By these methods there has been made available not only experimental material with which to study the important problem of making the typhoid carrier harmless, but also a test object some value in chemotherapeutic studies.

Uhlenhuth made various attempts to sterilize the typhoid carrier rabbits by means of chemotherapeutic agents, but all without success. Marxer also failed to rid his dogs of typhoid bacilli by either active or passive immunization, or by chemicals, although a partial result was obtained in that chloracetyl-salol and iodo-salicylic acid reduced distinctly the number of bacteria. We record these experiments as the first steps in an expedition into an unexplored but apparently promising territory.

1. Chemotherapy of Pneumococcus Infections, editorial, The Journal A. M. A., Feb. 8, 1913, p. 447.
2. Berger: Ztschr. f. Chemotherap., 1913, ii, 193.
3. Cited by Gay, Frederick P., and Claypole, Edith J.: Induced Variations in the Agglutinability of Bacillus Typhosus, The Journal A. M. A., April 12, 1913, p. 1141.
4. Uhlenhuth and Messerschmidt: Deutsch. med. Wchnschr., 1912, xxxviii, 2397; abstr., The Journal A. M. A., Feb. 1, 1913, p. 404.

## THE MODERN TREATMENT OF DIABETES

Two recent papers[1] by physicians who have long been interested in the study of diabetes and the treatment of its manifestations must serve to awaken a hopeful attitude in those who have perchance allowed themselves to drift into a despairing mood in relation to this disease. Dr. Joslin has pointed out on the basis of his own extensive clinical experience in this field how much more satisfactory the management of diabetes has become through the rational dietotherapy which has been applied in the practice of recent years. When it is possible to report on diabetics of ten and even twenty years' standing, as he does, and to show the possibility of prolonging useful lives in cases that were once promptly despaired of or consigned to a fate of indifferent attention, the situation certainly shows progress.

Despite the occasional records of apparently good success attending the use of drugs in the treatment of the diabetic symptoms, Dr. Joslin has long contended—and with good reason, we believe—that no reports of this sort can begin to approach the evidence of reinforced health which the drugless therapy of diabetes has to offer when it is in the hands of those competent to advise suitable dietary measures. In fact, the reputed or actual improvement of patients who have exhibited the diabetic symptoms frequently takes them out of the care of the physician who instituted the therapeutic procedure. Relapses may occur and physical deterioration may return without the knowledge of those who act in a

1. Joslin, E. P.: Diabetic Standards, Am. Jour. Med. Sc., 1913, cxlv, 474. Lépine, R.: Fortschritte in der Behandlung des Diabetes mellitus seit 50 Jahren, Berl. klin. Wchnschr., 1913, l, 477; abstr., The Journal A. M. A., April 26, 1913, p. 1333.

transitory capacity—which is so often the case in diabetes—as advisers to patients who respond favorably to medical suggestions. Adequate clinical and chemical histories, therefore, are admittedly inadequate in the case of diabetics who are not maintained in hospitals or sanatoriums and who consult physicians only at intervals when impending troubles send a forceful warning.

Professor Lépine of Lyons has given an interesting review of the changes which fifty years have brought about in the knowledge and treatment of diabetes. Few practitioners of to-day realize that the favorable results of alkali therapy in this disease, which is now explained by its effect on the acidosis that forms a prominent symptom in certain stages of diabetes, were once ascribed to the supposed favorable influence of alkalies on the decomposition of sugars as exhibited *in vitro*. The rôle of acetone, or at least the present conception of the ketonuria and the causes of diabetic coma, is decidedly of recent interest. It was not long ago that the acetone was assumed to be derived from changes going on in the alimentary tract, and excess of meat in the diet, rather than faulty utilization of carbohydrate, was looked on as the causal factor. When at present, hoping by the retention of some carbohydrate to avert or lessen the ketonuria, some clinicians urge that carbohydrates should not be entirely excluded from the dietary of the diabetic, they are doing only what was advised by Bouchardat years ago on a purely empiric basis. That the combustion of fats is inadequate in the absence of carbohydrate metabolism is even more recent knowledge. The starving man shows ketonuria because he has no carbohydrate to burn; the diabetic exhibits the same symptom because he cannot burn the carbohydrate which is offered to him.

In the face of the well-demonstrated fact that bread is detrimental to the diabetic stand the paradoxic directions for the use of other cereals and tubers for the amelioration of the symptoms; and we have been assured, first by Professor Mossé of Toulouse, that there are diabetics who tolerate potatoes far better than bread. Von Noorden and his followers claim most unexpected therapeutic successes with oatmeal given in certain ways. Rice and analogous products have had less conspicuous champions. However contradictory such experiences may seem to be to accepted views regarding the general detrimental effect of high carbohydrate regimens on diabetics, there is in them in many cases an underlying element of success which we must attempt to explain rather than hastily to deny. Can it be that the occasional oatmeal or potato days profoundly alter the bacterial flora of the alimentary tract? Do they thus create conditions by which utilizable products of carbohydrate fermentation rather than the refractory sugar are offered to the diabetic organism to burn up? Or are the apparently good effects merely the expression of a lessened permeability of the kidneys for sugar so that, as has been maintained, less is excreted when certain natural dietary substances like oatmeal are ingested? Whatever the ultimate answer may be, these newer perplexing experiences have only enhanced the possibility of increasing the tolerance of the diabetic for carbohydrate—which is his greatest desideratum.

If there is unlike capacity to use different starchy foods in diabetes, the same variability may hold in respect to the different sugars. Of far greater promise is the prospect of finding a utilizable carbohydrate derivative (like the alpha-glucoheptonic acid lately proposed by Rosenfeld) which shall no longer meet the resistance in metabolism that the familiar sugars do in the diabetic. Drugs alone or combined with numerous unexplained or inexplicable devices of physical therapy have failed to "make good" in diabetes, except in so far as they may relate to purely symptomatic treatment or intelligent hygienic measures.

The incidence of diabetes has increased in many vicinities, or is perhaps more widely recognized than it once was; but we may probably fairly assert that the severer manifestations are less frequent. If diabetes is managed better by the clinician of to-day it is because his conception of the pathogenic factors is clearer and broader—because he has followed the suggestions of physiologic and pathologic research in nutrition and profited thereby. Accordingly it is possible to understand Lépine's contention that mortality in diabetes is not keeping pace with morbidity, because the best treatment of the disorder in these days represents a step in advance.

## FRIEDMANN'S DISGRACEFUL PIECE OF COMMERCIALISM

Last November Friedrich Franz Friedmann read a paper before the Berlin Medical Society announcing that he had succeeded in producing a race of avirulent tubercle bacilli by which he claimed to be able to produce curative effects in all but the most advanced cases of tuberculosis, and to immunize children against the disease. Immediately there appeared in the newspapers of this country, and to a less extent in those abroad, sensational accounts of this new treatment. It was lauded as a discovery that was to banish tuberculosis from the world. This was the beginning of a most remarkable and—on the part of those who were responsible—disgraceful newspaper exploitation. This has been kept up until the present time. As one looks back one is forced to the conclusion that, from the beginning, it was a premeditated, well-arranged scheme of free advertising. The press-agents of this obscure bacteriologist certainly have done their work well.

Until it was announced that Friedmann was coming to this country, the medical profession was generous in ascribing to newspaper enterprise the advertising he was receiving; but as soon as it was announced that he was coming for the million dollars offered by a wealthy philanthropist, many became suspicious. He was a registered physician in Germany, with the right to use his remedy there. The German government fully

secures to a discoverer by patent a monopoly of the financial benefits to be derived from his discovery. Germany certainly has as many sufferers from tuberculosis, in proportion to its population, as has the United States. If Friedmann has a remedy such as he claims, he could have secured in his own country financial returns which would have made him rich. In spite of this, he left his own land and came here; and his actions since he has been in this country have been such as to destroy any confidence which thinking physicians may have had in the man.

Now it is announced that a deal has been consummated through which he is to get a large sum of money immediately, with great prospects for the future. It is safe, therefore, for us to conclude that he has realized the ideal he had in mind when he landed on our golden shores. His complaint of non-recognition and jealousy on the part of his confrères in his own country and his expression of determination to seek professional recognition in an impartial land now appear to have been designed simply to allay suspicion until his real object had been achieved. Greeted with courteous open-mindedness by our profession, which determined not to disbelieve despite the suspicious circumstances until disbelief became inevitable, he seems also to have been received with open arms by shrewd and not too scrupulous promoters who were eagerly watching for a chance to reap a harvest in partnership with him. Unless there is some totally unforeseen governmental action, or unless some well-nigh impossible wave of skepticism sweeps over the land, it looks as if the sheaves of dollars to be wrenched from the wasted hands of the tuberculous would make a harvest which would outweigh the reapings of all the American quack remedies from Perkins' tractors to the worst nostrum of our time.

The American medical profession has listened to the claims of Friedmann with an open mind. It has waited patiently for him to prove his claims and to show his real intentions. To wait longer is now unnecessary. At present its most pressing duty is to lay the facts before the public through the agency by which Friedmann has so shrewdly secured the free advertising, from which he is preparing to reap his golden harvest. A united movement to warn the people on this important question will, we are sure, meet with a cordial response from the same agency—the American press. Even if it should ever merit scientific classification among the many more or less helpful methods of treatment, the sensational publicity that has been given this vaunted "cure" adds one more disgraceful chapter to the history of the exploitation of the sick for profit.

We can disregard the fact that the remedy is a secret one; we can ignore the unethical and dishonorable conduct of Friedmann as a physician; we can even forget the possible danger that lies in his treatment; we can let all this pass. But one fact stands out clearly and should be emphasized: Friedmann has presented no proof, no scientific evidence, clinical or otherwise, to justify the claim that he has developed a cure for consumption.

## Current Comment

### TETANUS FROM GELATIN

More than ten years ago Dr. John F. Anderson, the present director of the Hygienic Laboratory of the United States Public Health Service, called attention to the occasional presence of tetanus spores in samples of commercial gelatin.[1] The subject was investigated by him at that time because gelatin injections were being used somewhat extensively as a means of treatment for aneurysm and as a direct and prophylactic hemostatic. Instances of tetanus following the injection of gelatin in hemophilia and in other conditions had been recorded in the literature; and Levi and Brun of Strasburg reported that they had discovered tetanus bacilli in four out of six samples of gelatin examined. Anderson suggested that gelatin could easily become infected with tetanus spores while drying in the air during its preparation in conjunction with other procedures that go on in a large meat-packing house. Abderhalden, the well-known physiologist of Halle, has just recorded a typical death from tetanus in an experimental animal that had been maintained several weeks in a metabolism cage and fed with gelatin.[2] The case is one of exceptional interest inasmuch as no wound or injury which might serve as a portal of entry for the infectious agent could be detected after the most painstaking examination. Neither the mouth nor the remainder of the digestive tract disclosed any lesion whatever. It seems reasonable to suppose, therefore, that the infection was the outcome of the simple absorption directly from the intestine of tetanus spores present in the gelatin fed. So far as we know this is the first recorded instance of tetanus in which the intestine has been demonstrated to be the place of entry of the noxious organism.

### THE MOVEMENT FOR A NATIONAL DEPARTMENT OF HEALTH

On another page[3] will be found a brief history of the efforts made by the American Medical Association in the past forty-three years for the establishment of a national department of health. A careful reading of this article will show that from the first there have been two distinct plans for securing a federal bureau or department. The first has been by the attempt to create a board, council, bureau or department, *de novo,* without relation to existing governmental activities; the second, to reach the same end by the gradual development and expansion of existing bureaus into a larger organization. These two methods, while differing in plan, have the same ultimate purpose, namely, the

1. Anderson, J. F.: Presence of Tetanus in Commercial Gelatin, Bull. 9, Hyg. Lab., U. S. P. H. S., 1902.
2. Abderhalden, E., and Lampé, A. Ed.: Weiterer Beitrag zur Kenntnis der Wirkung von Ammonsalzen, Glukosamin und Gelatine auf die Stickstoffbilanz, Ztschr. f. physiol. Chem., 1913, lxxxiii, 424.
3. Medical Economics Department, this issue.

development of a government agency that will be devoted to the advancement of public health and the reduction of preventable diseases. Not merely is the final outcome of these two methods the same; they are not even antagonistic at any stage. There is no reason why the advocates of a great national department of health should refuse, while this desirable purpose is being advanced, to lend their influence and energies to strengthening and broadening the existing health organization. On the other hand, there is no reason why the advocates of the plan to develop the present bureau should fail to recognize the fact that a great independent national department of health is to be, must be, the ultimate outcome of their efforts to build up and strengthen the present machinery. In fact, instead of there being any conflict in aim or intention between these two plans, the difference is solely one of method and expediency. These two plans are not even necessarily alternative. They can both be carried on at the same time. While we are striving to secure a department we can also build up the existing bureau. While efforts are being made to broaden and strengthen the bureau, simultaneous efforts can be made to secure a department. The question, which plan, at present, offers the best chance of immediate results and of ultimate success, is not one of personality or of partisanship. It is purely practical, to be determined by calm and careful consideration, rather than by heated and partisan argument. Reading between the lines of the historical summary of this movement, one can readily detect the amount of personal antagonism and bitterness which has been injected into this discussion in past years. The time has gone by for such methods. Let us have, instead, a careful and dispassionate study of the facts, a calm and sagacious appreciation of the present situation and an agreement on a practical program which will offer the best chance of securing what is desired by all the friends of public health, namely, that unification of governmental activities which will best conserve the lives and the vitality of our people.

---

## THE LARGER ASPECTS OF SANITATION

A great actor declared as essential to an ideal dramatic performance the interaction of three factors: a good play, enthusiastic actors, and a sympathetic audience. In like manner wonders could be performed in communal sanitation by the interrelation of sound science, able health officers, and an educated, right-determining public. Science has done her part; she has demonstrated that very nearly all infectious diseases (tuberculosis, typhoid fever, diphtheria and the rest) can be banished from human experience. Secondly, there are many health officials ready and anxious to consummate this enterprise; but there are too few of these; incidentally, here is one of the crying needs of the time, for the health officer holds the key of the public health situation. Thirdly, there is needed a convinced, loyal and cooperating laity. Dr. Doty[1] summarizes the *modus operandi* to these ends, and emphasizes also a coming and most beneficent phase of modern sanitation, that of disease prevention (with efficiency development) among the employees in our huge business aggregations. He would have constant supervision, by trained hygienists, of large numbers of working men and women collected in factories and the like. Thus epidemics would be detected in their incipiency, fewer persons would be involved, suffering would be diminished, death prevented, material loss avoided, and the general well-being secured. Corporations having in their employ hundreds or thousands of people should perfect some form of organization for instituting methods to insure cleanliness in both shop and home, fresh air, pure water and proper toilet arrangements, with early detection of infection, through careful observation and the isolation of those wage-earners who have been stricken.

1. Doty, A. H.: Modern Sanitation, North Am. Rev., November, 1912.

---

## WHY THIS AMENDMENT?

Paragraph .6 of Section 7 of the federal Food and Drugs Act says that a food shall be deemed adulterated:

> If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or one that has died otherwise than by slaughter.

A bill has been presented in the House of Representatives to amend the act by striking out the words "or vegetable" in this paragraph. Why this amendment? Of what value will it be to the public? Is it in the interests of those manufacturers who would sell putrid tomato pulp and other decayed vegetable matter as food? We are curious to know.

---

## FRIEDMANN EVADING THE LAW

Dr. Friedmann's course, since he landed on our shores, has been one of constant evasion. His claims for his treatment rest solely on his own statements. He has not qualified as a physician in New York or Rhode Island. He has failed even to answer the letters of the officers of the Public Health Service. He has persistently refused to furnish any proof of the claims made for his preparation. Now comes the most startling development of all. According to newspaper reports, branch "institutes" are to be established in every state by a syndicate, formed by Dr. Friedmann and his promoters. Each "institute" will make its own serum or culture, or whatever Dr. Friedmann's remedy is. Thus, by a technicality, he will evade the federal law which, for the purpose of protecting the public against impure and dangerous serums and vaccines, places all these preparations which are subject to interstate commerce under the control of the Public Health Service. State laws are slow of enactment and slower of enforcement. This plan will sweep aside the strong arm of the Public Health Service, which otherwise would protect the unfortunate consumptives. It will allow the promoter to make and sell to the victims of disease, at any profit he sees fit, a secret product, the value of which rests entirely on Friedmann's unsupported statements. Suppose an American physician went to Berlin with unproved claims for some new treatment of consump-

tion. Suppose he refused to produce proof of his statements, refused to submit his remedy to other scientific men, attempted to evade the German laws, disregarded German officials and, finally, through a legal technicality, planned to bleed the German consumptive of his scanty means by selling him a preparation of unproved value and possible danger? Would the German people permit their sick to be the victims of such a scheme? Why did Friedmann come to the United States? Because we have, in Europe, the reputation of being "easy." Because this country is supposed to be the home of the get-rich-quick promoter. The American people have no respect for the man who uses legal technicalities for profit or to escape punishment. Will the American public and the American press tolerate this attempt to make our unfortunate consumptives a source of gain for a rapacious foreigner, promoting a remedy of unproved merit in violation of the spirit of our laws?

---

### A GOOD PRINCIPLE TO APPLY

"No physician has a right to employ any uncertain and possibly dangerous remedy in the treatment of disease in human beings until he knows all that anybody knows concerning its composition, character and action." This, from the leading editorial in a recent issue of *American Medicine*, expresses just what THE JOURNAL has believed and said for years and what THE JOURNAL has never expressed better. The sentiment occurs in a discussion of Friedmann's remedy for tuberculosis, but evidently it is meant to have a general application. Reasoning from this basis, one might be surprised to find in the advertising pages of the same issue of *American Medicine* such products as Phenalgine, Sanmetto, Bannerman's Consumption Cure, Campho-Phenique, Anasarein, Sal Hepatica, Phenol-Sodique, etc. All of these are "uncertain and possibly dangerous" remedies; does the editor feel that "he knows all that anybody knows" concerning their "composition, character and action?" If so, how much does anybody know concerning these things? This, at least, can be said: THE JOURNAL has given much valuable and accurate information concerning the "composition" and "character" of many of the preparations advertised in *American Medicine*. But, unfortunately, that journal has not seen fit to pass this information on to its readers. Why?

---

## *Medical News*

### ALABAMA

**New Officers.**—Lee County Medical Society at Opelika: president, Dr. W. J. Love; secretary, Dr. O. V. Langley, both of Opelika.

**Industrial Concern Establishes Health Department.**—The Tennessee Coal and Iron Company has created a health department in connection with its office in Birmingham. Dr. Lloyd Noland, formerly of the Ancon Hospital, Panama, has been appointed supervisor of the department.

**State Association Meeting.**—At the annual meeting of the Medical Association of the State of Alabama, held in Mobile, April 16-18, the following officers were elected: president, Dr. R. S. Hill, Montgomery; vice-presidents, Drs. Hugh W. Blair, Sheffield, and F. A. Webb, Calvert; secretary, Dr. J. A. Norment Baker, Montgomery (reelected); and treasurer, Dr. H. Gaither Perry, Montgomery (reelected). The next meeting will be held in Montgomery.

**Personal.**—Dr. J. M. Austin, Wetumpka, has been appointed physician inspector of the State Convict Board, vice Dr. J. T. Fowler, Wetumpka, term expired. Dr. Fowler has been appointed physician in charge of the tuberculosis hospital and of the main penitentiary, Wetumpka.——Dr. E. M. Prince, Birmingham, is reported to be critically ill with septicemia in the Union Protestant Infirmary, Baltimore.——Dr. Joseph Leland, for eight years district physician at the Bryce State Hospital, Tuscaloosa, has resigned.——Dr. and Mrs. Joseph Leland, Tuscaloosa, have sailed for Europe.

### CALIFORNIA

**Quarantine Station.**—The War Department has transferred to the Treasury Department six acres of land near Dead Man's Island, Los Angeles Harbor, to provide a quarantine station for the port. It is estimated that the cost of the necessary bulkheading and buildings will be about $150,000.

**Personal.**—After nine years of public service, Dr. George H. Aiken has resigned as city health officer of Fresno.——Dr. Thomas E. Shumate has been appointed police commissioner of San Francisco.——Dr. James H. McBride has been elected a member of the board of education of Pasadena.

**State Society Meeting.**—At the forty-third annual meeting of the Medical Society of the State of California, held in Oakland, April 15-17, the following officers were elected: president, Dr. Fitch C. E. Mattison, Pasadena; vice-presidents, Drs. Barton J. Powell, Stockton, and George E. Tucker, Riverside; secretary, Dr. Philip Mills Jones, San Francisco (reelected); councilors, Dr. George H. Kress, Los Angeles, second district; Dr. C. G. Kenyon, San Francisco, sixth district; Dr. James H. Parkinson, Sacramento, eighth district, and Dr. Oliver D. Hamlin, Oakland, councilor-at-large; delegates to the American Medical Association, Drs. George A. Hare, Fresno, and V. G. Vecki, San Francisco, and alternates, Drs. Lemuel Adams, Oakland, and Emmet Rixford, San Francisco. Santa Barbara was selected as the place of meeting for 1914.

### COLORADO

**New Members of State Board.**—Drs. Luke MacLean, Pueblo, and Charles B. Dyde, Greeley, have been appointed members of the State Board of Medical Examiners.

**New Hospital for Tuberculous Poor.**—The city and county of Denver have decided to build a hospital on a high piece of land, west of Valverde, 160 acres in extent, for the benefit of the poor of the city and county affected with tuberculosis.

**Personal.**—Dr. Rudolph Albi, chief medical inspector of the city and county of Denver and superintendent of the Steele Memorial Hospital, has resigned.——The offices of Drs. H. M. Thompson and Fritz Lassen were destroyed in the Swift Building fire, Pueblo, April 11.

### GEORGIA

**Contagious Ward Opened.**—In compliance with requests from the Atlanta Board of Health, Grady Hospital has opened a ward for patients suffering from cerebrospinal meningitis. The new ward will accommodate fifteen patients.

**State Health Boards Meeting.**—At the annual meeting of the Georgia State Municipal and County Health Boards, held in Savannah, April 15, Dr. Eugene E. Murphey, Augusta, was elected president, and A. V. Wood, Brunswick, secretary.

**Wesley House Physicians Organize.**—The physicians making up the staff of the Wesley House Clinics have perfected a permanent organization with Dr. Clarence A. Rhodes as president, Dr. C. B. Greer, vice-president, and Dr. William F. Shallenberger, secretary, all of Atlanta.

**Homeopathic Board Reappointed.**—The governor has reappointed the following members of the Homeopathic Board of Medical Examiners for a term of three years, beginning June 5, next: Drs. John Z. Lawshe, R. E. Hinman and C. M. Paine, Atlanta; Dr. Robert B. Cuthbert, Rome; and Dr. M. A. Cleckley, Augusta.

**State Association Meeting.**—At the sixty-fourth annual meeting of the Medical Association of Georgia held in Savannah, April 16-18, the following officers were elected: president, Dr. Ralston Lattimore, Savannah; vice-presidents, Drs. J. D. Chason, Bainbridge, and S. R. Roberts, Atlanta; secretary-treasurer, Dr. W. C. Lyle, Augusta (reelected); delegate to the American Medical Association, Dr. M. A. Clark, Macon; alternate, Dr. C. T. Nolan, Marietta, and councilors, Dr. W. L. Champion, Atlanta, fifth district; Dr. J. R. B. Branch, Macon, sixth district; Dr. H. Clay Willis, Rome, seventh district, and Dr. Edward Gallard Adams, Greensboro, eighth district. Dr.

William B. Hardman, Commerce, was reelected chairman and Dr. J. Lawton Hiers, Savannah, secretary of the council. Atlanta was selected as the next place of meeting.

## ILLINOIS

**Hospital Notes.**—The contract for the new building for St. Mary's Hospital, Galesburg, has been let. It will cost about $75,000.——The owners of the site of the new Alton State Hospital, comprising 1,032 acres, were paid $203,000 for their land by the state, April 11.——The tuberculosis sanatorium at the Elgin State Hospital has been completed and was opened for public inspection, April 13. The institution has accommodation for forty patients.

**New Officers.**—Hancock County Medical Society at Carthage, April 14: president, Dr. J. T. Jenkins; secretary, Dr. C. L. Ferris, both of Carthage.——Peoria Association for the Prevention of Tuberculosis, April 14: president, Dr. Sumner M. Miller (reelected); secretary-treasurer, Dr. Jeanette C. Wallace, both of Peoria.——Stephenson County Medical Society at its meeting in Freeport, April 10, authorized the organization of an auxiliary medical society to be known as the Freeport Section of the Society.——La Salle County Medical Society at La Salle, April 22: president, Dr. Roy Sexton, Streator; secretary, E. W. Weis, Ottawa, (reelected).——Jersey County Medical Association at Jerseyville: president, Dr. A. K. Van Horne; secretary-treasurer, Dr. Alexander M. Cheney, both of Jerseyville.

**Personal.**—Dr. J. E. Westerlund has been elected mayor of Cambridge.——Dr. C. T. C. Wilson has been elected president and Dr. James O. Pearman, a member of the Board of Health of Mahomet.——Dr. R. T. White has been reelected president of the village of Annawan.——Dr. H. W. Hand, White Hall, has returned after a winter in the South and located at Granite City.——Dr. Kimball W. Leland has been elected mayor of Utica.——Dr. F. W. Wilcox, Minonk, was operated on for appendicitis at the Henrotin Memorial Hospital, Chicago, April 12.——Drs. J. R. Tobin and F. C. Schurmeier, Elgin, are suffering from septicemia due to autopsy wounds.——Dr. Robert W. McInnes has been reelected mayor of Belvidere.——Dr. W. L. Eddy, Milan, has been appointed local surgeon for the Rock Island system.

### Chicago

**Washburn Gives Historical Talk.**—Dr. William H. Washburn, Milwaukee, delivered an address before the Society of Medical History of Chicago, April 17, on "Galen, Da Vinci and Vesalius," illustrated by lantern slides.

**Personal.**—Drs. S. R. Pietrowicz, Dr. and Mrs. John Francis Urie and Dr. W. W. Dicker have sailed for Europe.——Dr. and Mrs. L. S. Eastlake and family have returned from Europe.——Dr. Halford J. Morlan has been made professor of diseases of the eye, ear, nose and throat in the Illinois Post-Graduate Medical School.——Dr. Antonio Lagorio has been elected chairman of the board of directors of the Chicago Public Library.

**Hospital Notes.**—Petitions are being circulated for the establishment of the Northwest Side Polyclinic and Dispensary to be located at Division and Wood Streets. Dr. Joseph Shanks has been selected as physician in charge of the institution.——The cornerstone of the Mothers' Aid Pavilion of the Chicago Lying-In Hospital was laid April 30. Addresses were made by Dean Sumner and Rabbi Hirsch. This building will be the first of the three buildings to comprise the complete Chicago Lying-In Hospital.——Condemnation proceedings have been commenced by the city for the purpose of acquiring a site for the new municipal hospital for contagious diseases, south of the Bridewell.

## KANSAS

**State Society Meeting.**—The annual meeting of the Kansas Medical Society will be held in Topeka, May 7-8.

**New Officers.**—Golden Belt Medical Society at Junction City, April 3: president, Dr. R. C. Lowman, Kansas City; secretary, Dr. W. A. Carr, Junction City.

## KENTUCKY

**Damage by Fire.**—The store and residence of Dr. J. T. Hammonds, Stanford, was destroyed by fire, March 26, with a loss of $3,500.——By a fire in Marion, March 27, the office of Dr. A. J. Driskill was burned.

**Personal.**—Dr. Frank C. Wilson, Louisville, was seriously injured in a runaway accident in New Albany, April 16.—Dr. John L. Phythian, Dayton, is reported convalescent after amputation of his right index finger.

## LOUISIANA

**New Officers.**—Natchitoches and Red River Bi-Parish Medical Association at Coushatta, April 9: president, Dr. C. E. Edgerton, Coushatta; secretary-treasurer, Dr. E. W. Breazeale, Campti. The next meeting is to be held in Natchitoches.——Iberville Parish Medical Association at White Castle, April 2: president, Dr. A. A. Landry, Plaquemine; secretary-treasurer, Dr. R. D. Martinez, White Castle.

**Mental Hospital Report.**—Dr. E. M. Hummel, city alienist of New Orleans, in his report for the first quarter of 1913, stated that the city hospital for mental diseases had handled 909 patients in its two years of existence. Of the 176 patients under treatment during the last year, 19 were sent to the State Hospital, Jackson; 7 were received in transit to the State Hospital, Jackson; 3 were received at the Louisiana Retreat as pay patients; 4 were returned to other states; 16 died; 60 were discharged and sent to the care of their families or friends; 5 were cured; 27 improved; 52 not improved, and 9 were found to be not insane.

## MARYLAND

**State Society Meeting.**—The one hundred and fifteenth annual meeting of the Medical and Chirurgical Faculty of Maryland was held in Baltimore, April 22-24, when the following officers were elected: president, Dr. John Randolph Winslow, Baltimore; Drs. C. R. Winterson, Hanover; A. L. Franklin, Cumberland, and Gordon Wilson, Baltimore, vice-presidents; Dr. John Ruhrah, Baltimore, secretary (reelected); Dr. William S. Gardner, Baltimore, treasurer (reelected); Dr. G. Lane Taneyhill, Baltimore, delegate to the American Medical Association; Dr. E. B. Claybrook, Cumberland, alternate, and Drs. B. W. Goldsborough, Cambridge; A. L. Wilkinson and H. L. Homer, Baltimore, members of the state examining board.

### Baltimore

**Personal.**—Dr. Fannie E. Hoopes has returned from a trip around the world.——Dr. Louise Pearce has been appointed first assistant to Dr. Adolph Meyer, chief of the Phipps Psychiatric Clinic.

**Appeal for Medical School.**—The University of Maryland School of Medicine asks half a million dollars for endowment, to be divided equally among the departments of chemistry, anatomy, physiology, pharmacology and pathology.

**Osler in Baltimore.**—After delivering the Silliman Lectures at Yale University, Sir William Osler returns to Baltimore for a few days and on May 5 will deliver an address to the students of Johns Hopkins University and also a lecture to the nurses.

**Memorial Ward Opened.**—The Baltimore and Ohio railroad has just constructed at the University Hospital a new ward as a memorial to the late Dr. Summerfield B. Bond, for many years chief medical examiner of the railroad. The ward is to be under the care of Dr. Page Edmunds of the University of Maryland.

**Lectures on Tropical Medicine.**—Surgeon James Archibald Nydegger, U. S. P. H. S., is giving a course of lectures on tropical medicine at the Maryland University School of Medicine. The course commenced January 13 with the history of tropical medicine. In the succeeding lectures, the most of which were given by Dr. Nydegger, various tropical diseases were taken up seriatim, most of them being illustrated by lantern slides. One lecture on "Hookworm" was delivered by Surgeon Charles Wardell Stiles of the Hygienic Laboratory, U. S. P. H. S.; one was given by Senior Surgeon Henry R. Carter, U. S. P. H. S., on "Yellow Fever;" one by Assistant Surgeon-General William Colby Rucker, U. S. P. H. S., on "Plague." and one by Surgeon C. H. Lavinder, U. S. P. H. S., on "Pellagra." The series will close May 18.

## MASSACHUSETTS

**Presentation to Dr. Williams.**—The faculties of Tufts Medical and Dental schools presented Dr. Harold Williams, the retiring dean of the schools, with a handsome silver set consisting of a tankard, tray and pair of candlesticks.

**Sanatorium Opened.**—The Children's Sanatorium, Lynn, established by the White Plague Relief Association of Lynn, was opened April 19. The city has given a site for the institution on which an administration building with two wings has been erected.

**New Officers.**—Plymouth District Medical Society at Brockton, April 17: president, Dr. Charles E. Lovell, Whitman; secretary-treasurer and reporter, Dr. Alfred C. Smith, Brock-

ton.——Middlesex South District Medical Society at Boston, April 16: president, Dr. Godfrey Ryder, Malden; secretary, Dr. Lyman S. Hapgood, Cambridge.——Springfield Academy of Medicine, April 18: president, Dr. Walter R. Weiser; secretary, Dr. John M. Birnie. At the close of the business meeting Dr. John B. Deaver, Philadelphia, read a paper on "Cholecystectomy."

**Personal.**—Dr. Harold Williams has resigned as dean and professor of the theory and practice of medicine in Tufts College Medical School, Boston, and has been appointed professor of the theory and practice of medicine emeritus; Dr. Henry B. Chandler has been appointed professor of ophthalmology, emeritus; Dr. Elwood T. Easton, professor of ophthalmology, and Dr. Edmund W. Clap, associate professor of ophthalmology.——Dr. Edwin B. Harvey, Boston, has resigned as secretary of the State Board of Registration in Medicine but will continue as a member of the board.——Dr. Milton J. Rosenau has been appointed a member of the State Board of Health. ——Dr. Herbert B. Howard has resigned from the State Board of Insanity.

## MICHIGAN

**State Board Election.**—At the annual meeting of the State Board of Health, Dr. Victor C. Vaughan, Ann Arbor, was elected president and Dr. T. M. Koon, Grand Rapids, vice-president.

**Sanatorium Notes.**—Wexford County has invited Missaukee, Manistee, Kalkaska, Benzie and Grand Traverse counties to unite in building a tubercuIosis sanatorium at some central point in the district.——The electors of Midland have voted to purchase a site in Jerome Township for a tubercuIosis sanatorium.

**Open-Air School Opened.**—The open-air school connected with the Kalamazoo public schools opened April 21. The school is not for children having tubercuIosis, but for those who are anemic and predisposed to tubercuIosis. The capacity is about twenty and a house on East Lovell Street has been remodeled for the use of the school.

**Personal.**—Dr. H. H. Cummings, Ann Arbor, has been appointed university physician and Dr. Elsie S. Pratt, physician for the women students, at the University of Michigan. ——The Bay County Medical Society gave a dinner recently at Bay City in honor of Dr. Victor C. Vaughan who afterward delivered an address on "Prevention of Disease."——Dr. J. B. Kennedy has been reelected, for the fourth time, president of the Detroit Board of Health.——Dr. Jesse E. Wilson, Rochester, is reported to be critically ill.——Drs. Albertus Nyland, Grand Rapids; W. T. Dodge, Big Rapids; George Le Fevre, Muskegon; George W. Nafe, Fremont, and C. B. Burr, Flint, have been reappointed members of the State Board of Registration in Medicine.——Dr. John J. Reyeraft has been elected mayor of Petoskey for the third term.

## MISSOURI

**Personal.**—Dr. C. M. Jackson, dean of the School of Medicine of the University of Missouri, Columbia, has accepted the position of professor of anatomy at the University of Minnesota.——Dr. George L. McCutchan, Canton, has been appointed physician to the State Penitentiary, Jefferson City, vice Dr. A. H. Myerdiek, Jefferson City.

**Graduate Hospital Needed.**—Physicians of Kansas City believe that the General Hospital should be transformed from a local institution into a graduate hospital and preventive laboratories center. This would not necessitate great initial expense and would be of great benefit to the Southwest.—— Dr. B. E. Moody opened his new hospital at Clarence, April 1.

### St. Louis

**New Isolation Hospital.**—The new Isolation Hospital will be erected between the City Sanitarium and Infirmary, at a cost of about $160,000. Work will commence this month.

**Wyman Portrait Presented.**—A portrait of the late Surgeon-General Walter Wyman, U. S. P. H. S., was presented to the St. Louis Medical Society by Mr. Frank Wyman at its April 12 meeting. The oration was delivered by Dr. R. M. Funkhouser and the portrait was accepted by the president on behalf of the society.

**Alumni Meeting.**—The Alumni Association of St. Louis University Medical Department will hold its annual meeting during the week of the meeting of the Missouri State Medical Association. On May 12 the regular meeting will be held in the medical building at 8 p. m. with a program furnished by out-of-town members. The alumni dinner will be given May 14 at 6 p. m. at the Jefferson Hotel, and clinics have been arranged at the university hospitals during the week.

## NEW YORK

**New Officers.**—Hornell Medical and Surgical Society, April 6: president, Dr. Spencer H. Stuart; secretary-treasurer, Dr. George W. Mitchell.

**Asks Appropriation for Letchworth Village.**—The State Board of Health has sent a letter to the governor urging an appropriation of $717,000 for Letchworth Village, the state colony for tuberculosis.

**Clifton Medical Bulletin.**—The Clifton Springs Sanatorium and Hospital has commenced the publication of the *Clifton Medical Bulletin* to appear quarterly. The first issue is a very creditable production both mechanically and as to its subject matter.

**Personal.**—In the case of Grace Frost against Dr. William B. Jones, Rochester, in which the plaintiff urged that a pad of gauze had been left in the abdominal cavity after an operation, the supreme court jury brought in a verdict in favor of Dr. Jones, April 17, finding no cause for action.

**Hospital to Be Enlarged.**—The Crouse-Irving Hospital, Syracuse, which was opened ten months ago as a private hospital, is about to be incorporated as a public hospital under the auspices of the State Board of Charities. One story will be added to the building and in this story the free wards will be located.

**Would Have State Pay Doctors.**—Homer Folks, who recently delivered the third Kennedy lecture for 1913 for the State Charities Aid Association, stated that at present 6 per cent. of the medical men in New York were under the employ of the Department of Health. He made a plea for state control of all physicians and said that "Not until the whole medical profession is under control of state authorities can war be successfully waged on disease. Under such a system every individual in the community could be subjected to medical inspection and receive medical treatment."

### New York City

**Orthopedic Service.**—The Bronx Hospital and Dispensary has established a daily service in the department of orthopedic surgery, for three days of the week in charge of Dr. Irving D. Steinhardt and on the alternate days in charge of Dr. Edgar D. Oppenheimer.

**The Childrens' Preventorium.**—The Fresh Air Preventorium, Lakewood, N. J., celebrated the anniversary of its dedication on April 25. No tuberculosis cases are handled, the institution devoting itself entirely to children coming from homes where consumption exists and where the surroundings would tend to make them a prey to the disease. The institution now houses 300 children and has cared for 800 during the four years of its existence.

**Skyscraper for Professional Men.**—The construction of a thirty-five story office building for professional men, doctors, dentists, architects, etc., will be commenced next month on the southeast corner of Seventy-Second Street and West End Avenue and will be completed by the spring of 1914. Unusually complete equipments will be provided for physicians. An operating-room will be constructed on the top floor for the use of tenants and there will be an inner court and turn-table for ambulances.

**Money Distributed to Hospitals.**—The Hospital Saturday and Sunday Association has apportioned $105,000 among forty-six hospitals according to the number of days of free treatment given to the poor. On this basis the Montefiore Home with a record of 166,036 free days received the largest check, $10,500; Mount Sinai Hospital ranked second with 108,943 free days and gets $9,129. Among the general hospitals $49,323 was distributed; among special hospitals, $16,082; among hospitals for women and children, $22,376, and among hospitals for convalescents and incurables, $17,217.

**New Sea View Hospital.**—This institution built by the Department of Charities of New York City at a cost of $3,400,000 and located on Staten Island, is now complete, and will be opened in the near future. Over one thousand patients can be accommodated. Thus far no definite policy has been outlined as to the class of patients to be received though it is planned at first to take in patients not later than the second stage of the disease. A requirement that will be strictly enforced is that patients shall be respectable and self-supporting and not vagrants or alcoholics; preference will be

given to those with families, who might become infected by their stay at home.

**Honor Dr. Billings.**—A number of distinguished people met in the Stuart gallery of the public library April 25, to honor the memory of Dr. John Shaw Billings, the late director of the New York Public Library, who died March 11. Dr. Billings was praised as a leader in medical science, as an organizer of medical knowledge and practice and as a bibliographer and librarian unsurpassed in the classification of knowledge in all branches of letters. In the Surgeon-General's Department he collected one of the largest and most complete medical libraries in the world, now numbering more than 500,000 volumes and 5,000 portraits, and compiled the first series of his great catalogues. The second series is now nearing completion and is an exhaustive index of all medical literature in all its departments and subjects, a catalogue of comprehensive proportions and marvellous accuracy. Among those who spoke were Dr. S. Weir Mitchell, Sir William Osler and Dr. William H. Welch.

**Open Nation-Wide Campaign Against Cancer.**—A meeting was held at the home of Dr. Clement Cleveland, April 22, for the purpose of forming an organization to fight the spread of cancer. It is intended to establish a central office with secretary and assistants in New York, and to perfect organizations in all of the states. The general lines of the National Association for the Study and Prevention of Tuberculosis will be followed out both in organization and in campaign work. Dr. LeRoy Broun is chairman of the committee on organization. A report from the committee will be submitted to the Physician's Congress at Washington next month, cooperation being expected from that body. The work of the organization will include the publication of articles in newspapers and magazines, distribution of pamphlets, seeking cooperation on the part of women's clubs, special instruction in nurses' training schools, and lectures before mother's clubs and groups of nurses and physicians.

**Plan Gigantic Sewer for City.**—The Metropolitan Sewage Commission through its chairman, George A. Soper, has presented a plan for disposing of the city's sewage. The report shows that the East River has reached a dangerous state of pollution and that as the population increases it will become more and more a menace to health. It is estimated that freeing the waters around New York of infectious dirt will cost about $37,000,000. The commission plans to accomplish this by building a great sewer system which shall pass under the East River, Brooklyn, and Coney Island, to an artificial island which will be constructed beyond Coney Island and at which place the sewage will be separated and purified, the sludge being carried away by tank steamers fifty miles out to sea. The Metropolitan Sewage Commission has just been continued by an act of legislature for another three years, but it is said that by the end of another year it will have completed its plans so that the building of the sewers can go on under the direction of a new commission.

## NORTH DAKOTA

**State Meeting.**—The annual meeting of the North Dakota State Medical Association will be held in Minot, May 7-8.

**Personal.**—Dr. G. J. Gislason, Grand Forks, sailed for Europe, April 23.——Dr. C. J. McGurren, Devils Lake, has been appointed president of the State Board of Health.——Dr. G. J. McIntosh, Devils Lake, has been appointed superintendent of health of Ramsey County.

## OHIO

**New Officers.**—Logan County Medical Society at Bellefontaine, April 10: president, Dr. Frank B. Kaylor; secretary-treasurer, Dr. Guy H. Swan, both of Bellefontaine.

**Personal.**—Dr. P. D. Reefy, Elyria, suffered a cerebral hemorrhage, April 14.——Dr. George Kerns, Springhill, was found unconscious on a road near Bellefontaine, suffering from a fracture of the skull.

**Hospital News.**—Niles Sanatorium, Urbana, has been sold to Winfield Rowe of Dayton for $10,400. It will be continued in operation under the management of Dr. G. W. Pickering, Urbana.——The Union Hospital Company, Cleveland, has been incorporated. It is composed of ex-members of the Eddy Road Hospital Corporation which was sold at receiver's sale, recently. The hospital will be reorganized and it is planned to enlarge it to twice its present size.——Mercy Hospital, Hamilton, was damaged by the recent flood to an extent estimated at $25,000.——Plans have been completed for the new building for the German Hospital, Cleveland. The building is to be fireproof throughout, 136 feet long by 60 feet wide and three stories and a basement in height. The campaign for the raising of $85,000 required for the new hospital was opened April 16.

### Cincinnati

**Personal.**—Dr. Mark A. Brown left May 1 for a two months' trip abroad.——Dr. Clark W. Davis is taking a vacation in Cuba and the Bermudas.——Dr. Clifford C. Kennedy has been appointed assistant superintendent of the Cincinnati Antituberculosis Hospital, vice Dr. F. J. Boyd, resigned.

**Munsterberg in Cincinnati.**—Prof. Hugo Munsterberg of Harvard, delivered an address at the Hughes High School auditorium April 14, on "Psychology in Business." On the following evening a dinner was given by the Harvard Club of Cincinnati to Professor Munsterberg and Dr. Frederick Forcheimer, who was recently given the degree of LL.D. by Harvard University.

## PENNSYLVANIA

**Portrait Presented to Medical Society.**—A portrait of the late Dr. William Grubb, who died in 1885, was presented to the Medical Society of Franklin County.

**Campaign for Reading Hospital.**—A campaign to raise $50,000 for improvements and additions to the Homeopathic Hospital of Reading was begun April 21 with a preliminary meeting and banquet at the Rajah Temple. More than two dozen teams were organized.

**Higher Entrance Requirements.**—The University of Pittsburgh School of Medicine states that hereafter the entrance requirements are, in addition to a standard four-year high school education, two years of collegiate work which must include courses in physics, chemistry, biology and a modern language in addition to English. There are now thirty-two medical colleges in the United States exacting this or higher entrance requirements.

### Philadelphia

**Hospital Reopened.**—The Central Hospital of Philadelphia reopened at 2219 Chestnut Street. It will be conducted in affiliation with the Philadelphia School for Nurses. It is now a modern hospital, adapted for medical, surgical and obstetrical cases. Patients are under the personal care of their own physicians.

**Baby-Saving Show.**—A baby-saving show opened April 30 at 1720 Race Street, and will continue until May 11. The show is held under the auspices of the Child's Hygienic Association and is the sixth of the series of shows given in different parts of the city for the instruction of mothers since the city-wide one held last May.

**Orthopedic Hospital Organizes Health Class.**—Every Saturday afternoon a number of girls ranging from 10 to 16 years of age meet at the Orthopedic Hospital and are given instruction in caring for themselves. All the members of the class are suffering from curvature of the spine or nervous defects and they are taught the principles of hygienic living, the need of fresh air, plenty of water, bathing and exercise.

**Phipps Institute to be Dedicated May 10.**—The building of the Phipps Institute at Seventh and Lombard will be formally dedicated May 10. Prominent physicians from all parts of the country will attend the exercises. The principal feature will be the conferring of the degree LL.D. on Henry Phipps, the donor, by the University of Pennsylvania. A paper on the history of the institution will be read by Dr. Lawrence F. Flick, and Dr. Hermann M. Biggs of New York will make the address of the afternoon.

**Personal.**—At the meeting of the American Philosophical Society, April 17, a portrait of Dr. William W. Keen was presented to the society by Dr. W. G. Rosengarten.——Dr. Rufus B. Scarlet has gone abroad.——Dr. Howard Childs Carpenter has resigned from the dispensary of the Childrens' Hospital.——Dr. Ralph Pemberton has been appointed to the staff of the Presbyterian Hospital, vice Dr. S. S. Stryker, retired.——Dr. L. C. Peter has been elected ophthalmologist to the Rush Hospital for Consumption and Allied Diseases, vice Dr. Wendell Reber, resigned.

**Housecleaning Week.**—Preparations for the "All Philadelphia Clean Up Week" were completed at a meeting held April 23 in the Mayor's reception room at City Hall. Clean up week was inaugurated April 28 and lasted until May 3. Placards announcing the scope of the work were posted in every trolley car in the city April 24 and 200,000 posters outlining the features of the campaign for a clean city were distributed by policemen. The children of various public schools were organized to help clean up vacant lots and Archbishop Prendergast sent a communication to the rector of

every church in the diocese urging them to announce at all masses, held April 27, the scope of the movement.

## SOUTH CAROLINA

**College Gets Funds.**—As the result of a whirlwind campaign conducted by the faculty of the Medical College of South Carolina, Charleston, recently taken over by the legislature as a state institution, it is reported that, within ten days' time, $76,000 was subscribed by the citizens of Charleston. The fund thus secured is to be used to erect a new college building on a site opposite the Roper Hospital.

**State Association Meeting.**—The sixty-fifth annual meeting of the South Carolina Medical Association was held at Rockhill, April 15-17, and the following officers were elected: president, Dr. William Weston, Jr., Columbia; vice-presidents, Drs. J. R. Miller, Rockhill, W. Ouzts, Edgefield, J. H. Miller, Cross Hill, and secretary-treasurer and editor of the *Journal of the South Carolina Medical Association*, Dr. E. A. Hines, Seneca. Florence was selected as the place for the next annual meeting.

**Medical Society Notes.**—Physicians of Cherokee County met in Gaffney, recently, and organized the Cherokee County Medical Association, electing Dr. J. T. Darwin, Gaffney, president; Dr. Mason W. Smith, Gaffney, vice-president, and Dr. Victor Roberts, Blacksburg, secretary.——At the last meeting of the Chester County Medical Association held in Chester, the association endorsed the movement looking toward the erection of a monument to Dr. J. Marion Sims, in Columbia.

## GENERAL

**Canal Zone.**—Dr. Lloyd Noland, chief of the surgical clinic at Colon Hospital, has resigned and has been succeeded by Dr. C. E. Phillips.——Dr. J. C. Perry has returned to the Canal Zone from leave of absence.

**Gastro-Enterologists Meeting.**—The sixteenth annual meeting of the American Gastro-Enterological Association will be held at the New Willard Hotel, Washington, D. C., May 5-6, under the presidency of Dr. Jacob Kauffman, New York City. The subject of the presidential address will be "Remarks on the Rôle which Functional Disorders Play in the Pathology of the Stomach."

**American Society for Physicians' Study Travel.**—A meeting of the executive committee was held April 14 in Philadelphia. The charter of the society was exhibited. The secretary read the names of about 150 prominent physicians from various parts of the United States, who had consented to serve on the general committee of 200. A nominating committee was appointed to present a list of officers and a tentative program to the general committee at a meeting in June, probably in connection with the meeting of the American Medical Association.

**Infectious Diseases During April.**—The apex of the curve of measles was probably reached during April, and a rapid subsidence of the disease may now be expected. Scarlet fever, whooping-cough and diphtheria continued to prevail widely, but with a gradual decrease in the number of cases. Small-pox is still widely prevalent, probably existing more generally and in larger number of cases during the past winter than during any year since the Spanish-American war. Opposition to vaccination, legal and otherwise, crops up here and there, but probably has not affected materially the thorough vaccination measures in most places. In one or two instances death has been reported following vaccination, but no doubt investigation would determine a different cause. The occurrence of a case of small-pox in a female employee of one of the officers in the Naval Academy at Annapolis caused some alarm, with the report that vaccination measures would be immediately carried out among officers and midshipmen. This suggests the inquiry as to why vaccination is not the absolute rule among all persons in the Army and Navy services. Meningitis has gradually subsided, though a few cases have occurred in the formerly reported chief foci of the disease. Meningitis, as reported April 12, broke out among the men aboard the flagship *California* of the squadron in command of Rear-Admiral Cowles at Guaymas, fifteen or more cases having occurred, with two deaths. Serum for the treatment was dispatched from San Diego immediately, and later reports were to the effect that the disease was under control, no new cases having occurred. Drs. Lumsford D. Fricks of the Public Health Service has been ordered to Victor, Mont., to continue the measures against Rocky Mountain spotted fever in the carrying out of which Dr. T. B. McClintic became infected with the disease and died in 1912.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, April 19, 1913.

### The International Medical Congress

In previous letters (THE JOURNAL, Dec. 21, 1912, p. 2269; Jan. 25, 1913, p. 298). some of the arrangements for the Seventeenth International Congress of Medicine, which will be held in London August 6-20, were reported. Further details can now be added. The congress will be opened by Prince Arthur of Connaught as the representative of the King at Albert Hall, at 11 a. m., Wednesday, August 6. The last time the congress was held in London was in 1881, when Sir James Paget was chairman. This year the president is Sir Thomas Barlow. The central office of the congress will be in the Albert Hall. The sectional meetings will be held in the University of London, the Imperial College of the Royal School of Science, the School of Science, the School of Art and the Central Technical College. These buildings are all close together in South Kensington. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas' Hospital, the Royal Army Medical College and the Royal Dental Hospital are also offering accommodations for sectional meetings. In all there are twenty-six sections and subsections. The morning sessions will be devoted to discussions on fixed subjects which will be introduced by eminent physicians from every part of the world who have been invited for the purpose. Five general addresses have been arranged: medicine, Professor Chauffard; surgery, Prof. Harvey Cushing; pathology, Professor Ehrlich; heredity, Professor Bateson; public health, John Burns, president of the Local Government Board. It is estimated that 5,000 physicians will attend the congress.

The organizing has been going on for three years. The reports drawn up by those chosen to introduce the discussions are being put into type. These reports will be bound in separate volumes for each section before the congress opens. Subsequently a second volume will be published containing the speeches delivered and the independent papers presented to the congress itself. On April 30 a circular will be issued giving information as to traveling facilities, hotels, boarding-houses, the location of the various sections and other points. Early in June the final program will be published. This will include the list of independent papers accepted by the sections. The office of the congress is at present at 13 Hinde Street, London W., where information can be obtained from the secretary. The membership subscription is $5, but this suffices only to meet the expenses of producing the volume of transactions which will be delivered to each member after the congress. The entire cost of organization and conduct of the meetings has to be provided by private subscriptions to the general fund.

### Plague Investigation in India

The Advisory Committee for Plague Investigations in India on Saturday issued its seventh report. It is stated that with the exception of a single epidemic in 1905 and 1906, plague infection has never gained a foothold in the city of Madras. The city has a population of 509,346, and in some of the native quarters there is much crowding. For several years past Madras has undertaken rat destruction, a reward of half a cent being offered for each rat brought in. Since February, 1906, the number of rats destroyed was 1,220,686. There is a seasonal variation in the abundance of rat fleas. Although rats and rat fleas are not so plentiful as in other plague-infested places in India, there are probably enough of each to maintain plague, though perhaps few enough to render implantation difficult. The rats, moreover, were exceptionally susceptible to plague. Statistics of the occurrence of plague in man and in rats in Bombay from 1907 to 1911 are given. Since the Commission brought the inquiry to a close, the collection of rats on a large scale had been continued by the Bombay City Municipal Health Department, and the animals have been examined for plague. The results showed how the rat epidemic precedes the human epidemic.

### The British Journal of Surgery

There has never been in this country a journal specially devoted to surgery. The publication of a new periodical, the *British Journal of Surgery*, which will fill this gap, is now announced. Its object will be to represent all that is best in the surgery of the British Empire and to produce a periodical which may rank with the highest in the world. It will be produced under the direction of an editorial committee of which Sir B. G. A. Moynihan is the chairman, and

the following well-known surgeons are members: A. E. J. Barker, Sir William Bennett, F. F. Burghard, Sir Watson Cheyne, E. M. Corner, T. Crisp English, C. H. Eagge, Sir R. J. Godlee, Sir A. Pearce Gould, W. Sampson Handley, W. Arbuthnot Lane, G. H. Makins, A. W. Mayo-Robson and D'Arey Power, London; F. M. Caird, H. J. Stiles and H. A. Thomson, Edinburgh; Sir Charles Ball, Sir Thomas Myles and E. J. Taylor, Dublin; Rutherford Morison, Newcastle on Tyne; R. H. Parry, Glasgow; J. Lynn Thomas, Cardiff; William Thorburn, Manchester; Robert Jones, Liverpool, and E. W. Hay Groves, editorial secretary of Bristol. The publishers are John Wright & Sons, Bristol. The address of the London office is Stationers' Hall Court, E. C. The *Journal* will be finely illustrated in black and white and colors. The first number is now in active preparation.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, April 11, 1913.

### Seventh Annual Meeting of French Gynecologists, Obstetricians and Pediatrists

The seventh Congrès français de gynécologie, d'obstétrique et de pédiatrie was held at Lille, March 25 to 28. It was the last one at which all these specialists will be united. The Association de pédiatrie de langue française was recently formed, and Professor Bar of Paris at this meeting brought forward his project for an Association des obstétriciens et gynécologues de langue française which had already been approved by the similar societies of Belgium and French-speaking Switzerland, and it was unanimously accepted. Among the subjects discussed, the most interesting from the clinical point of view was the relation between ovarian tumors and pregnancy.

#### OVARIAN TUMORS AND PREGNANCY

Drs. P. Puech, adjuvant professor of the Faculté de médecine de Montpellier, and J. Vanverts, *agrégé* professor of the Faculté de médecine de Lille, read a paper on ovarian and parovarian tumors and their relation to pregnancy, labor and the sequelae of childbirth. The existence of an ovarian tumor does not prevent impregnation, but it diminishes its frequency. This influence is still more marked in the case of bilateral ovarian tumors. Interruption of pregnancy occurs on an average in 12.5 per cent. of cases. The cause is generally an additional complication. In other cases it is the volume of the cyst preventing the development of the uterus, or pulling due to adhesions of the tumor to the uterus, etc. The growth of ovarian tumors seems to be little influenced by pregnancy except when they are malignant. They are subject to various complications like those which may affect them apart from gestation. Torsion of the pedicle occurs more frequently (17 per cent. of cases) than in the absence of pregnancy (from 5 to 14 per cent. of cases). It occurs with special frequency during the first half of pregnancy (90 per cent. of cases) and becomes infrequent in the latter half (10 per cent.). Other complications, such as rupture, suppuration and intracystic hemorrhage, are rare. With regard to influence on labor, a distinction must be made between the abdominal and the pelvic tumors. The presence of an abdominal tumor ordinarily has no harmful influence on the course of labor. It causes trouble (generally unimportant) in only 6 per cent. of cases. Pelvic tumors, on the contrary, are frequently the cause of dystocia (94 per per cent. of cases); immobility and resistance of the neoplasm, as in dermoid cysts and solid tumors, are particular causes. Vicious presentations are favored slightly by these pelvic tumors. More often they cause prolapsus of the umbilical cord. This sometimes causes a secondary uterine inertia. Pelvic ovarian tumors prevent a normal course of labor, especially, however, by creating a mechanical obstruction to the passage of the fetus. Obstruction of the pelvic outlet sometimes causes a rupture of the uterus; but labor may be terminated spontaneously either by rupture or by descent of the cyst before the fetus (very serious complications) or by ascent of the cyst to the upper portion of the canal, or by its flattening out (favorable but rare occurrences). On these accounts, the indications are for a speedy operation in the first half of pregnancy. In the latter half most obstetricians prefer to temporize because of the dangers to which an operation exposes the fetus. Nevertheless, expectant treatment is justified only if the woman can be kept under incessant observation. If the evolution of the neoplasm is rapid and justifies the fear that it may be cancerous, an operation is urgent at any period of pregnancy. Urgency is no less when complications such as torsion, rupture or suppuration develop in addition to the tumor. Abdominal ovariotomy, which is the only operation practicable when the tumor occupies the abdomen, ought to be preferred to vaginal ovariotomy. In cases of pelvic tumors, vaginal ovariotomy presents risks which can be avoided by the suprapubic route, in which the manœuvers are less blind. During operation it is prudent to avoid useless traumatism of the uterus, but fear of such traumatism (which indeed is generally exaggerated), ought not to prevent the application of the ordinary rules of ovariotomy. The surgeon should give his best attention to hemostasis and the restoration of the wall. Ovariotomy should be preceded and followed by the administration of a uterine sedative. During labor, since the presence of an abdominal ovarian tumor ordinarily causes no difficulty, there should be no thought of interference. The case is different with regard to a pelvic tumor preventing the engagement of the presenting fetal part. To push back the tumor gently is not dangerous and may give excellent results. Version and forceps are, on the other hand, to be absolutely rejected because of the danger to mother and child. The same of course should be said of cephalic embryotomy. Puncture of the cyst is a simple procedure which has given success in a number of cases and is not very dangerous (10 per cent. mortality for the mother, 13 for the child). It cannot, however, be considered as perfectly safe, and it has the disadvantage of leaving a tumor which must be removed soon. This is necessary when the cyst is situated low down and dips deep into the pelvic cavity and threatens uterine rupture. Ovariotomy then remains the procedure of choice. Following the delivery it seems preferable to refrain from operation, if the case proceeds normally, as it usually does, but in about one-third of the cases there are complications such as suppuration, or gangrene of the cyst with a possibility of gangrene of the walls of the birth-canal, torsion of the pedicle, rupture of the cyst, etc. In the presence of such complications and even of doubt, early operation is urgent.

According to Dr. Barnsby of Tours there are only two indications for expectant treatment: (1) ovarian tumors fixed in the pelvis, very adherent and not capable of being compressed or pushed backward, for which it is desirable to await the end of labor and to perform a cesarean operation followed by removal of the cyst; (2) frankly abdominal ovarian tumors at the eighth month, laparotomy at this period favoring premature delivery. In all other cases operation is indicated. In twenty-two operations Barnsby has had twenty-two recoveries of the mother, twenty living infants, one abortion and one premature delivery. He has always been able to perform unilateral ovariotomies. He advises making a large incision in order to operate quickly and to see clearly. He makes a point of removing the cyst without puncture. He avoids traumatism of the uterus and endeavors to ligate the pedicle as far as possible from the uterine cornu. Dr. Fourmestraux emphasizes the difficulties presented by the differential diagnosis of ovarian tumors at the beginning and end of the sexual life of woman. Examination under general anesthesia is necessary in most cases. Dr. Muret of Lausanne particularly recommends for pelvic cyst in the last month of pregnancy, pushing back under general anesthesia. During labor, pushing back should be the first procedure, to be attempted at least by the general practitioner. If it does not succeed there is still time to take the patient to a hospital or clinic.

Professor Pinard of Paris advocates operation in the first half of pregnancy. In the second half it should be remembered that even if there are no complications, the compression of the gravid uterus prevents its development and contra-indicates the expectant policy. The physician ought to watch carefully to see if the development of the uterus occurs normally and act if it does not. In these operations there is no absolute rule. No procedure is to be rejected, neither crowding back nor puncture of pelvic cyst by the vaginal route. As for ovariotomy, Pinard agrees with Dr. Barnsby that it is necessary to act quickly and for that purpose to see clearly.

#### ABUSES OF VAGINAL DOUCHES

Dr. Langenhagen of Luxeuil called attention to the abuses of too hot vaginal irrigation in gynecology. There is a class of patients who cannot endure very hot water, which causes vaginal burns, tumefaction of the mucosa, and intense desquamation. In other patients, very hot water may revive old inflammatory lesions and it is necessary to be content with injections at 39, 40 and 42 C. (102.2, 104 and 107.6 F.). Injections at 50 or 52 C. (122 or 125.6 F.) ought to be reserved for hemorrhage after labor and for metrorrhagia due to fibromas or the menopause. Professor Pinard believes that accidents often result from injections given at too great

pressure. Professor Pozzi obtains much benefit from speculums with lateral holes which prevent traumatism of the cervix by the injection. Dr. Jayle of Paris recommends the use of hot air at from 100 to 120 C. (212 to 248 F.) and of hot-air baths on the abdomen.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, April 18, 1913.

### Annual Meeting of German Surgical Association

*(Continued from page 1312)*

#### ANESTHESIA IN ABDOMINAL OPERATIONS

Sprengel of Brunswick discussed the choice of anesthetics in operations for acute inflammatory processes in the abdominal cavity. He has entirely abandoned chloroform for such operations having had three fatalities from its use in six months in 1911. He regards chloroform as absolutely contraindicated for this group of affections, and recommends instead —what is doubtless less dangerous for such cases and probably to be generally recommended—morphin-ether anesthesia.

In the discussion, Kümmell of Hamburg stated that in 200 cases he had had good results with intravenous ether anesthesia (infusion of common salt solution with the addition of ether), and had never seen any complications. For abdominal operations, Finsterer of Vienna recommended local anesthesia in connection with primary ether anesthesia, the *Etherrausch*. Meisel of Konstanz referred to his observations previously published (1903) on the occurrence of acute yellow atrophy of the liver after chloroform anesthesia in cases of peritonitis.

#### DUODENAL ULCER

Küttner of Breslau made a report on duodenal ulcer. His material, consisting of his own cases and those obtained by a letter of inquiry, amounted to 800 cases. The difference noted between the observations of German and American authors depends not on geographic variations, but is to be explained by accidental causes, such as the kind of the material and of the observation. Recent pathologic investigations show the relation as to frequency between ulcer of the duodenum and ulcer of the stomach in the proportion of 3:5 or 1:3. According to the experience of German clinicians, the symptom of hunger-pain or pain occurring late after taking food is not pathognomonic, since it may also occur with adhesions, cholelithiasis, ulcer and carcinoma of the stomach and chronic appendicitis; on the other hand, it may be absent with ulcer of the duodenum. Nevertheless, it is a valuable aid in diagnosis. The recognition of the periodicity of the disturbances is important. Among the objective symptoms the determination of recurring hyperacidity and intermittent motor insufficiency has special significance (von Bergmann). The demonstration of occult bleeding may fail even in the florid stage. Spontaneous pain is found in the epigastrium mostly to the right of the middle line, but the location of the pain on pressure does not differ from that resulting from ulcer of the pylorus. With reference to the important aid of radiology, the observations of Haudek were cited. The diagnosis of an ulcer when the abdomen has been opened is favored by the internal palpation recommended by Wilms and Körte. The prognosis as to life is worse and the tendency to a spontaneous cure is less than with ulcer of the stomach, while the transformation into carcinoma occurs more rarely than in the latter affection. Internal treatment gives only temporary relief; it is yet to be seen whether the atropin therapy of von Bergmann will yield better results. Surgical treatment by a direct operation on the ulcer by excision, intussusception or resection is rarely indicated on account of the difficulty of the technic. Resection is justified only when carcinoma is suspected, and should be performed by the method of Billroth II. The method of choice is an indirect operation consisting in gastro-enterostomy, which, when there is no organic stenosis, should always be supplemented by closure of the pylorus. The closing of the pylorus, by von Eiselsberg's method can be done only when the technical conditions are very simple; otherwise shutting off the pylorus according to the method of Wilms (with a strip of fascia) or that of Bier (crushing) should be resorted to. Secondary bleeding and relapses may occur in rare cases even after closing of the pylorus. The internal after-treatment is very important. Perforated ulcer of the duodenum should be operated on as early as possible. The ulcer is sutured in, reenforced with omentum if necessary. Gastro-enterostomy should be added if the strength of the patient permits it; otherwise it should be performed later. Hemorrhages if acute and alarming should be treated conservatively but, if chronic, by operation.

In the discussion on the diagnosis of duodenal ulcer, Bergmann of Altona emphasized the importance of the local pressure point. Roentgenoscopy showing increased periastalsis and shortened time of evacuation, are important in the diagnosis, although not pathognomonic. The very frequent combination of ulcer of the duodenum with symptoms of a neurosis of the stomach seems to justify the assumption that there exists a connection between the two affections. Von Bergmann was able to show in each of thirty cases of ulcer of the duodenum the existence of local or general neurotic stigmata, which indicate a participation of the visceral nervous system (vagus and sympathetic). Also the pains with duodenal ulcer are mostly to be referred to spasm of the pylorus, and the hyperperistaltic and hypersecretory stages indicate likewise neurotic influences. For operation permanent stenosis of the pylorus is demanded.

#### SKIAGRAPHY OF DUODENAL ULCER

Haudek of Vienna discussed the interpretation of the roentgenoscopic findings: 1. Stenosis induced by cicatricial changes or spasm. Its location is mostly in the lower part. 2. A persisting shadow in the upper duodenum. This may be occasioned by stenosis, by the formation of a pocket as a result of an ulcer, but also by kinking as the result of periduodenitis. 3. The niche. This is generally a very small bismuth shadow outside of the normal shadow of the duodenum bismuth content. This niche represents the crater of a deep ulcer. 4. A circumscribed tender point which is exactly over the duodenum. 5. Abnormal rapidity of passage of the contents of the stomach into the duodenum. The period of evacuation is frequently shortened; but there is often delay in expelling the last portions and residues after six hours. Marked retention and dilatation of the stomach are never observed. The peristaltic waves of the stomach, as a rule, are very pronounced and the muscle tonus exaggerated. 6. Fixation of the pylorus as the result of periduodenitis. 7. The Roentgen findings characteristic of gastric ulcer are lacking.

Positive roentgenoscopic findings may support the diagnosis and occasionally make it sure, but the reliability and positive significance of the Roentgen findings in ulcer of the duodenum are by no means so great as those of positive findings in ulcer of the stomach. Skiagraphs showing apparently normal conditions in the stomach and duodenum must never be taken as justifying the conclusion that ulcer of the duodenum is absent. If the clinical picture suggests that an ulcer is probable, normal Roentgen findings indicate that the suspected ulcer is located in the duodenum rather than in the stomach.

Schmieden of Berlin stated that the constant occurrence of a bismuth shadow in the upper part of the duodenum, which is so frequently demonstrable by roentgenoscopy, is an important indication of the etiology of duodenal ulcer. The almost constant change of form of the stomach by ptosis kinks the upper part of the duodenum, and there is retention of its contents. This kink hinders the neutralizing alkaline intestinal juice from reaching the upper part of the duodenum and so favors the formation of an ulcer by the constant presence of acid chyme. From this point of view, duodenal ulcer appears to be an indirect result of the erect position of the body in man. Also the second most common change of form of the stomach with duodenal ulcer, the fixation of the pylorus on the right by adhesions to the colon and gall-bladder, is not to be regarded as a result but rather as a preexisting cause of duodenal ulcer. Here also abnormally constant fulness of the duodenum may be demonstrated. Under these circumstances the duodenum is unable to pass its contents along. A peptic ulcer once formed constantly retains thereafter acid masses in its depths. Analogies to the method of origin described are found abundantly in the rest of the intestinal tract. Schmieden called attention to the fact that the other accompanying symptoms of ulcer of the stomach and duodenum, such as the digestive hypersecretion and hyperacidity and especially the spastic conditions in the region of the ulcer (according to von Bergmann's view), are no longer to be regarded as symptoms of the disease but as being etiologically concerned in its production.

Friedrich of Königsberg called attention to the frequent coexistence of disease of the pancreas with duodenal ulcer — a condition which he has observed in six out of fourteen cases: in three carcinoma was present and in one a large pancreatic calculus was found. Bier of Berlin has operated in forty-nine cases of duodenal ulcer, twenty-six of them in the last year.

According to A. Schmidt of Halle, the diagnosis is usually made in advanced cases. In every case of hyperacidity, ulcers should be searched for, and to this extent the estimation of

acid retains its value. Between ulcer and neurosis there exists a vicious circle, of which as a rule the ulcer is the primary factor. Schmidt doubts the opinion that it is impossible to cure duodenal ulcer by internal measures alone. The circumstance that pathologists find no healed ulcers is of no import for the contrary view, as the scars of a healed ulcer of the mucous membrane can be found only with the greatest difficulty. The internal treatment must be systematically carried on by clinical measures for a sufficiently long time. Even after the operation an internal treatment is required.

*(To be concluded)*

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, April 11, 1913.

### Number and Distribution of Practitioners in Austria in 1912

A few days ago the official figures of the number of medical practitioners in this country were published in a report dealing with the sanitary statistics of the Board of Health. Thus in the year 1912, we had 13,599 medical men practicing, or an increase of 355 (2.5 per cent.) over the preceding year. The year before the increase had been only 62, or 0.5 per cent. In comparison with the population, the increase is more than proportional, for in 1911 there were 4.60 doctors per ten thousand of the population; in 1912 the figure was 4.68. As the average duration of the life of the practitioners was 59 years, and the average duration of their practice thirty years, the bulk of the doctors are now between the ages of 30 and 45 years, and the enormous increase in the number of medical students (mentioned in my previous letter) comes much too early to replace those who die. Therefore, a rapid increase of the doctors is to be expected within the following years. The conditions in Germany are very much like those with us. There too a marked increase is evident after a temporary fall in numbers before 1910, and there too a rapid increase in the number of medical students is taking place (120 per cent. within seven years), while the relation of the population is 5.06 doctors per ten thousand. This compared with Bulgaria (1.64 doctors per ten thousand) or Servia (0.9) shows how much space there is yet left in Europe for trained doctors.

The distribution of medical men in Austria in regard to the territory was 4.92 per hundred square kilometers (about 40 square miles) in 1911, and 4.53 in 1912. The main increase in numbers took place in Vienna (154 men) and then in the country districts of Galicia. In all towns except Lemberg the number has gone up; the increase was greatest at Innsbruck (11 per cent.), Brünn (8 per cent.) and Graz (5 per cent.). In Lemberg it decreased 2 per cent. Vienna has now 3,235 doctors; a year ago it had 3,081. The increase was 4.8 per cent.; a year ago it reached only 1.1 per cent., and there are now 15.4 doctors per ten thousand inhabitants (last year 15). Berlin has only 11 per ten thousand. In the smaller towns and villages of Lower Austria, the number has gone down, and in the flat country it went down more, so that instead of 4.99 per ten thousand in 1910, and 4.85 in 1911, it was only 4.21 last year. Olmütz with 25,000 population holds an exceptional position. There were 56 doctors, or 25 per ten thousand. A year ago the relative figure was 27.7 and the decrease is only too welcome. One feature is distinctly visible in the report. In the German provinces, the number of practitioners living outside of the towns or larger villages is constantly decreasing, while in the Slavic provinces it is at least stationary where not increasing. The reverse holds good for towns and cities. The explanation is a most unexpected one. The majority of medical students are Jewish, while the German population is anti-Semitic. Therefore in German countries the German non-Semitic doctors obtain easily the better-paid appointments in the towns, while the Jewish doctors flock to the countries where they are more tolerated. The non-Semitic doctor is thus not forced to accept the badly paid country appointment.

A further marked increase has taken place in regard to the specialists. Even in smaller towns we already find dermatologists, gynecologists and ophthalmologists. In larger towns the increase is strikingly rapid. The following figures show the actual conditions:

| | 1905 | 1910 | 1911 | 1912 | Increase Per cent. | Total Doctors Per cent. |
|---|---|---|---|---|---|---|
| Vienna | 361 | 475 | 504 | 579 | 60 | 17 |
| Graz | 52 | 71 | 74 | 87 | 70 | 24 |
| Prague | .. | 200 | 213 | 229 | 15 | 22 |

These conditions are due not to the need for so many specialists, but to the fact that so many young doctors obtain excellent instruction in the numerous hospitals. Meanwhile suggestions have been made to create whole-time appointments for specialists in hospitals, so as to do away with a number of them in private practice. The number of female doctors has gone up by twenty-five per cent. and is now 125, while a year ago it was 100. The relative figure as regards the total number of doctors, is now 9 per thousand; it was 7 per thousand a year ago. The majority (55, last year 46) live in Vienna, 40 in Galicia and in other by towns we find from 2 to 15. It seems that the movement of female medical study is gradually ebbing off, perhaps on account of the moderate prospects offered to women in medical practice. It is interesting to note that the number of vacant appointments is increasing. This is partly due to the boycott of such posts by the medical organizations, partly to the religious prejudices mentioned above. Altogether the rural appointments are badly paid, especially those of the state. A doctor is expected to take care of a very extended borough and the medical provisions under the poor law have caused wide-spread dissatisfaction among the profession. It is no rarity to find not more than one doctor in areas of 20 or 30 square miles in certain districts, and as the population is very poor and the standard of hygiene low, private practice does not pay. Hence the numerous vacant posts, some of them vacant for over two years. While wide areas lack the necessary medical help, in certain places there is overabundance. The health resorts especially show such overcrowding that the conditions are extremely bad. In Carlsbad there were last year 172 doctors (3.5); in Marienbad 76 (3 per cent.); in Franzensbaden 56 (7.5 per cent.); and in Baden 41 (5 per cent.). In the Tyrol, there were in Meran 52, in Bozen 29, and in Arco and Riva 22 each, the last being small towns or large villages. In Abbazia we had 60 doctors, in Hall 24. These figures work out about one doctor for two or three hundred visitors at these health resorts, but it must be kept in mind that, owing to their short stay, hardly 50 per cent. of the visitors really ever require the services of a doctor. Thus it happens that the average income of a practitioner, as pointed out recently in an investigation conducted by the Union of Medical Councils, does not reach $1,000 a year from his practice, from which resulted the increasing number of conflicts between sick clubs and other friendly societies on one side and the various medical organizations on the other side. The latter try to obtain better renumeration for professional work than that paid hitherto. Together with the highly increased cost of living, the rise in duties and taxes to be paid by the practitioner and the increase in competition, the outlook for the coming generation of doctors is gloomy enough to justify the advice to take up another vocation, if possible.

## Marriages

WALTER MIDKIFF CRANDALL, M.D., Taboga Sanitarium, C. Z., to Miss Esther Mildred Watson of Northwood Narrows, N. H., at Cristobal, C. Z., April 6.

EZRA POLK DICKINSON, M.D., Hastings, Pa., to Miss Leonore M. Richardson of Berlin, Md., at Philadelphia, April 14.

ROBERT BEECHER CARSON MURDY, M.D., Aberdeen, S. Dak., to Miss Hazel Brown of St. Cloud, Minn., May 1.

J. WILEY THIMLAR, M.D., Fort Wayne, Ind., to Miss Edith Rolf of New Haven, Ind., in Chicago, April 16.

FRANCIS GOODELL BARNUM, M.D., to Miss Ida Etta Teague, both of Hyde Park, Boston, April 16.

BERNARD B. NEUBAUER, M.D., Detroit, to Miss Florence B. Nusbaum, at Baltimore, April 16.

LOUIS N. BURLEYSON, M.D., Concord, N. C., to Miss Alice R. Boylan of Baltimore, April 12.

VICTOR P. DIEDERICH, M.D., Madison, Wis., to Miss Anna O'Leary of Chicago, April 30.

DUNCAN EVE, JR., M.D., to Miss Louise Stubblefield, both of Nashville, Tenn., April 16.

LORENZO ROUNDS, M.D., Lewiston, Neb., to Mrs. Mary Russell of Howe, Neb., recently.

JOSEPH SAMUEL COHN, M.D., to Miss Mamie Bishkow, both of Chicago, April 6.

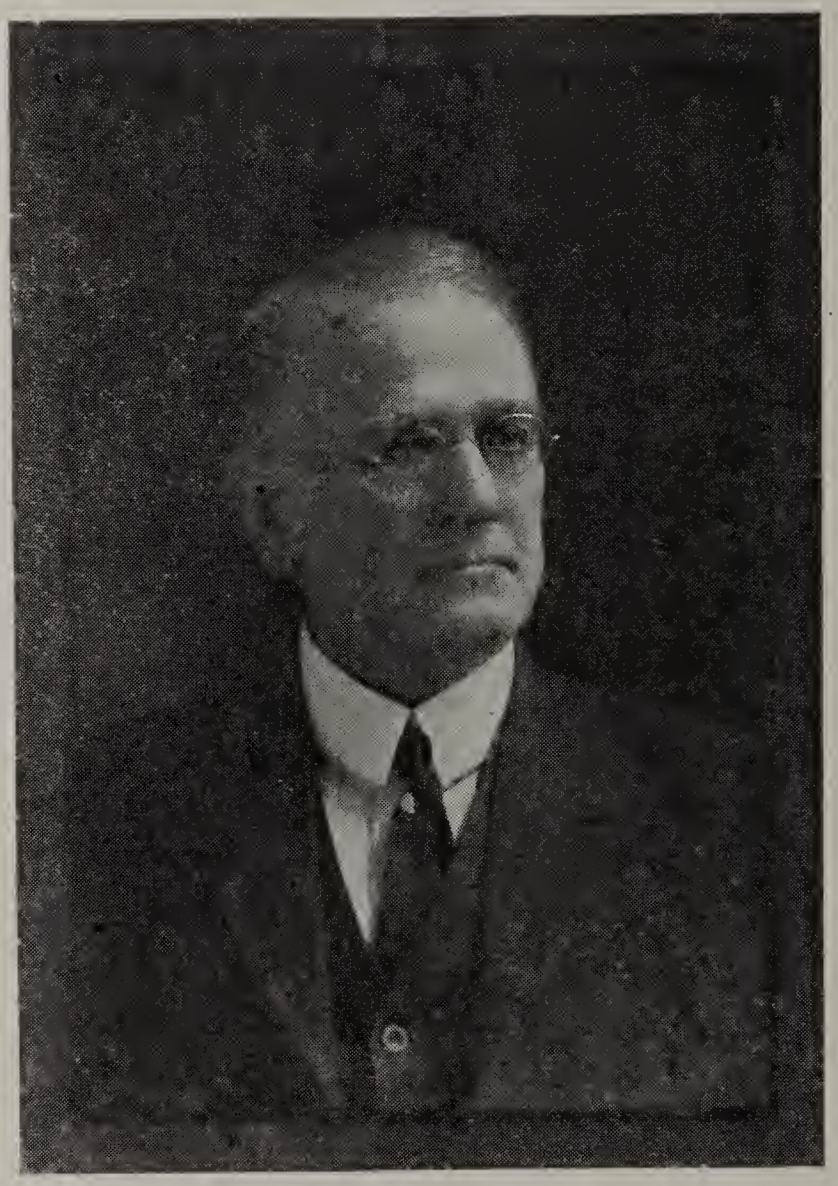
# Deaths

**Charles A. Daugherty, M.D.** Bennett Medical College, Chicago, 1874; Medical College of Indiana, Indianapolis, 1879; a member of the Board of Trustees of the American Medical Association; once president of the Indiana State Medical Association; and one of the most prominent and beloved practitioners of northern Indiana; died at his home in South Bend, April 23, from malignant disease, aged 62. Dr. Daugherty was born in Wooster, O., Nov. 23, 1850, and received his preliminary education at Mishawaka High School, and Hinsdale (Mich.) College. Immediately on his graduation in medicine he began to practice in South Bend, where he soon attained a reputation for skill, care and thoroughness.

He was a member of the American Medical Association for many years; for six years councilor of the Thirteenth District and a charter member of the St. Joseph County Medical Society. He was a member of the staff and lecturer on surgery at the Epworth Hospital and Training School for Nurses, South Bend; he was also chief surgeon for the Northern Indiana Railway, district surgeon for the Grand Trunk system and local surgeon for the Vandalia road. For twelve years he was a member of the board of education and at one time its president. He began to suffer from symptoms which he referred to the gall-bladder in October last.

At the time of the last meeting of the Board of Trustees of the Association, Dr. Daugherty was in attendance and at that time consulted Dr. A. J. Ochsner of Chicago who advised an exploratory operation. This revealed the existence of an inoperable carcinoma involving the gall-bladder head of the pancreas and common duct. The incision was closed and Dr. Daugherty, after a short time in hospital, returned to his home in South Bend to await death.

**Alvah F. Whitman, M.D.** University of Michigan, Ann Arbor, 1865; one of the oldest practitioners of Minnesota; since 1896 necrologist of the Ramsey County Medical Society; died at his home in St. Paul, April 20, from cerebral hemorrhage, aged 81.



CHARLES A. DAUGHERTY, 1850-1913

**Charles James Fox, M.D.** New York University, New York City, 1876; a member of the American Medical Association and Association of Military Surgeons of the United States; surgeon-general of the National Guard of Connecticut in 1886; once president of the National Association of United States Pension Examining Surgeons; of Hartford, Conn.; died in a hospital in that city, April 18, from diabetes, aged 58.

**George L. Stubinger, M.D.** Chicago Homeopathic Medical College, 1892; National Medical University, Chicago, 1894; formerly of Kewanee, Ill., but for the last three years a practitioner of Watts, Okla.; was burned to death in a hotel fire in that place, April 6.

**Thomas W. Mulhern, M.D.** College of Physicians and Surgeons, Keokuk, Ia., 1882; aged 68; a member of the Iowa State Medical Society; of Greenfield, Ia.; died near that place, April 19, while attempting to crank his automobile.

**Francis O. Ilstrup, M.D.** University of Minnesota, Minneapolis, 1894; of Grasston, Minn.; died in the Minnesota State Prison Hospital, Stillwater, April 1, from cerebral hemorrhage.

**Joshua William Beede, M.D.** Bellevue Hospital Medical College, 1864; formerly professor of materia medica and therapeutics, and of diseases of children in the Lewiston (Me.) Medical School; a trustee of Colby College, Waterville, and a member of the medical staff of the Central Maine General Hospital, Lewiston; died at his home in Auburn, Me., March 21, from senile debility, aged 80.

**Parley H. Johnson, M.D.** College of Physicians and Surgeons, New York City, 1865; assistant surgeon in the Navy during the Civil War; a member of the Medical Society of the State of New York and a practitioner of Adams for forty years; died suddenly in the New York Central station in Watertown, April 16, from cerebral hemorrhage, aged 74.

**Isaac W. Scott, M.D.** Transylvania University, Lexington, Ky., 1850; colonel of the Fifth Kentucky Volunteer Cavalry during the Civil War; for eight years surgeon-general of the state; since 1871 a resident of New Orleans; died at his home in that city, April 11, from senile debility, aged 86.

**Robert Lindsey Carter, M.D.** Hahnemann Medical College, Chicago, 1894; formerly town physician of Rockport, Mass.; died at his home in Gloucester, Mass., April 10, aged 41.

**W. G. Carter** (license, Kentucky, forty-seven years' practice, 1894); a pioneer practitioner of Morgan County; died in his home at West Liberty, April 12, from senile debility, aged 91.

**Isaac Ardis, M.D.** University of Louisville, Ky., 1874; once postmaster of Greenville, Texas; died at his home in that place, April 18, aged 62.

**Frederick William Darner** (license, Connecticut, 1893); formerly of New York City; died at his home in Putnam, Conn., April 15, aged 47.

**Joseph J. Currie, M.D.** Hahnemann Medical College, Philadelphia, 1866; died at his home in Beverly, N. J., March 24, aged 68.

**William S. Kendall, M.D.** Tulane University, New Orleans, 1868; died suddenly in his office in Ruston, La., April 14.

**Frederick A. Cribbins, M.D.** Jefferson Medical College, 1911; of Saginaw, Mich.; died in that city, April 13, aged 30.

**Denis Aloysius O'Brien, M.D.** Harvard Medical School, 1892; died at his home in Boston, March 30, aged 45.

**Philip G. Trunnell, M.D.** University of Louisville, Ky., 1871; a Confederate veteran and a member of the famous Orphan Brigade; at one time a member of the board of school trustees of Louisville; died at his home in that city, April 14, from nephritis, aged 67.

**James T. Hensley, M.D.** Washington Homeopathic Medical College, 1894; a veteran of the Civil War and for more than thirty years an employee of the War Department; died at his home in Washington, about April 12, aged 69.

**Frank Graham, M.D.** Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association and a prominent practitioner of Lisbon, O.; died in the City Hospital, Youngstown, Ohio, April 14, aged 62.

**Bryan B. Ashbrook, M.D.** Columbus (O.) Medical College, 1882; of Pataskala, O.; aged 55; while crossing the Pennsylvania tracks in his automobile, April 21, was struck by a train and instantly killed.

**Joel Yingling, M.D.** University of Maryland, Baltimore, 1878; died at his home in Baltimore, April 14, from pulmonary hemorrhage, aged 66.

**Emma Ardella Buck Runnion, M.D.** Syracuse (N. Y.) University, 1888; for twenty-five years a resident of Syracuse; died at the Syracuse Hospital for Women and Children, February 13, from lobar pneumonia, aged 58.

**Frank Atwood Shurtleff, M.D.** Albany (N. Y.) Medical College, 1864; for more than forty years a member of the school committee of Somerset, Mass.; died at his home, April 9, from senile gangrene, aged 75.

**James Van Brakle, M.D.** New York University, New York City, 1865; for more than forty years a practitioner of Brooklyn; died at his home in Forest Hills, L. I., April 14, from senile debility, aged 85.

**Harriet Adaline Thompson, M.D.** Woman's Medical College of Pennsylvania, Philadelphia, 1893; a member of the Connecticut Medical Society; died at her home in Bridgeport, Conn., April 18, aged 64.

**Mary Elizabeth Edsall McCartney, M.D.** Electropathic Institute, Philadelphia, 1885; a practitioner of Rochester until two years ago; died at her home in Avon Park, Fla., April 11, aged 65.

**Charles M. Jones, M.D.** St. Louis Eclectic Medical College, 1883; for four terms mayor of Baxter Springs, Mo.; died at his home in that place, April 11, from pneumonia.

**Christopher M. Monroe, M.D.** Cincinnati College of Medicine and Surgery, 1880; a veteran of the Civil War; died at his home in Canton, O., April 17, from heart disease, aged 68.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## TRUTH IN ADVERTISING

### Law Enacted by Some States and Considered by Others

Advertising is such a tremendous force in modern business and so many abuses have grown up in it that its regulation by law has become an absolute necessity. Advertising men themselves have now realized the necessity for regulation, and have taken the first practical steps toward this end. The common law and general statutes in regard to fraud and false pretense are supposed to cover the question of deception in advertising, but in practice these have not been sufficient. Therefore, *Printer's Ink*, a publication devoted to the advertising business, encouraged by organizations of advertising men who realized that it was to their interests and even essential to the life of the advertising business that fraud should be eliminated, had prepared a model law intended to overcome the weakness of the common law and general statutes as applied to advertising. This model law is as follows:

AN ACT RELATIVE TO UNTRUE, DECEPTIVE AND MISLEADING ADVERTISEMENTS

*Be it enacted, etc.*

Any person, firm, corporation or association who, with intent to sell or in any wise dispose of merchandise, securities, service, or anything offered by such person, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein, makes, publishes, disseminates, circulates, or places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated, or placed before the public in this state, in a newspaper or other publication, or in the form of a book, notice, hand-bill, poster, bill, circular, pamphlet, or letter, or in any other way, an advertisement of any sort regarding merchandise, securities, service, or anything so offered to the public, which advertisement contains any assertion, representation or statement of fact which is untrue, deceptive or misleading, shall be guilty of a misdemeanor, and shall be punished by a fine.

Through the action of vigilance committees appointed by advertising clubs throughout the country, this model law has been embodied in a bill and introduced into the legislatures of a number of states. This bill, where introduced, has been reported on favorably by the legislative committee to which it was referred, in all states except South Carolina. The bill, with slight modifications which in no wise seriously impair its effect, has been enacted into a law in Ohio, Minnesota and Washington. April 26 the first case under the new law in Minnesota came up in the district court in Minneapolis. A local shoe-store was accused of having advertised a certain line of shoes in a manner declared to be fraudulent. The vigilance committee of the organization of advertising men furnished the evidence on which the prosecution was based.

In Maine the bill with some changes was passed by both houses of the legislature but was vetoed by the governor. When the attempt was made to pass it over the governor's veto, it lacked one vote of being carried.

While the bill was received with the greatest favor in all of the states in which it was introduced, and in Congress as applying to the District of Columbia, yet in some states, probably through the influence of those who oppose any legislation of this sort, efforts were made to change the bill. In Indiana, New York, Oklahoma, Pennsylvania, South Dakota, Utah and West Virginia attempts were made to amend the model bill by inserting the word "knowingly," and in the bill affecting the District of Columbia the word "wilfully," which would of course greatly weaken the force of the measure by making it necessary to establish the fact represented by those elusive terms. In Oregon an attempt was also made to cripple the bill by making it necessary to find some one who is injured by the advertising complained of. While these changes do not at first sight seem unreasonable, they make exactly the loop-hole of escape for the dishonest advertiser which it is desired to avoid and they are not needed by the advertiser who wishes to be truthful in his advertising. Such terms were intentionally left out of the model bill by its framer. It is the word "knowingly" which has rendered an existing statute in the state of New York practically a dead letter, and the vigilance committees of the advertising organizations in that state in attempting to enforce the law have had that difficulty to overcome. Pennsylvania and Massachusetts have enacted statutes embodying the word "knowingly," and in that respect have practically nullified their efforts to regulate the advertising business. In Missouri the model bill was introduced and promoted through the influence of the National Federation of Retail Merchants, but was voted down in the legislature without much discussion. One or two members said they did not believe it was a good bill. It is asserted that the bill was killed through the influence of the newspapers in the large cities, as every member from Kansas City, St. Louis and St. Joseph voted against it. The legislature passed a "blue sky" law to prevent the selling of bogus stocks and bonds, but would not stand for a law to prevent advertising them. In view of the fact that the state of Missouri, and particularly the cities named, as well as Joplin in the zinc district, are hotbeds of advertising quacks, the failure of the statute against fraud in advertising is to be deplored.

The governor of Maine gave among his grounds for vetoing the bill that as enacted it was "too drastic a departure from the usual type of criminal statutes against practices, in that neither fraudulent intent nor actual injury to any one was regarded as an element of the crime created." He did not "believe that public policy required that the business world should be subjected to this hazard of criminal liability for acts which the most honorable and careful man might occasionally commit without harm to anyone." He called attention to the fact that the terms usually employed in criminal statutes, such as "knowingly," "wilfully," "maliciously," "with intent to defraud" and "with intent to deceive," were not included in the act. He believed that such a law would unnecessarily discourage the genius of the American people for advertising, and that it would be difficult to find a jury that would convict or a court that would impose a fine for a publication that might be construed as "misleading." It was his conviction that the statutes already existing were sufficient, and if not, they could be amended so as to meet all reasonable demands. Aside from these lawyer's objections

to the bill, the opposition has come chiefly, as might be expected, from the "patent-medicine" interests, from the loan sharks, clairvoyants, those having fraudulent stock schemes, and others who feel that it will curtail or abolish their business, which, it would seem, would be a most desirable effect of the law. Some objections were also raised by the publishers of newspapers and periodicals, who felt that the law would penalize them for publishing misleading advertisements; but this, it is declared by the author of the bill and by those in a position to judge, would not be the effect of such a law. The purpose and effect of the law would be to place the burden of guilt on the originators of the advertisements, those intending primarily to profit by them, who should bear the responsibility for publishing untrue, deceptive or misleading advertisements. To overcome this objection of the newspapers, an amendment to the model bill was enacted in Washington especially exempting newspapers and periodicals from the penalty of the act. Though this is believed to be entirely unnecessary, it in no way impairs the effect of the law. The advertising men's associations, through their vigilance committees, have exercised, as far as possible, a beneficial censorship over the advertising matter handled by them, and where this model bill has been enacted into a law, they are actively engaged in seeing that its provisions are carried out. This aid would seem to be from the right source to make the law effective. In the states which have not as yet enacted this or a similar law, or those in which laws have been enacted which, on account of amendments, do not prove to secure the desired effect of truthfulness in advertising, experience would undoubtedly suggest the enactment of such model laws or the amendment of those in force, so that the situation is at present most encouraging.

*Printer's Ink* says that when you kill a dishonest advertiser you make ten honest ones. When the truth of this maxim is demonstrated, as has been done in the case of at least one of the great New York dailies which, under this policy, in fifteen years increased its advertising space over 400 per cent. and its circulation over 800 per cent., and attributes its growth to this policy, the opposition on the part of advertising mediums will cease and the dishonest advertiser will disappear from the advertising columns.

## DR. EDWARDS' OLIVE TABLETS

Dr. Edwards' Olive Tablets are purgative pills sold under claims that are either directly or inferentially false. The public is given the impression both by the name of the preparation and by the claims in the advertising that these pills owe their value to the presence of olive-oil. For instance:

"They oil the bowels."
"They are a purely vegetable compound mixed with olive-oil."
"A combination of vegetable materials mixed with olive-oil."

They are also referred to as "olive-oil colored" tablets—a misnomer as the pills are a vivid green. They are very small and a dose consists of one or two tablets. If they were composed wholly of olive-oil, the amount of oil taken at a dose would be so absurdly small as to be negligible and worthless for the purpose recommended. As a matter of fact, instead of being composed of oil they are hard, black, green-coated tablets. Cursory tests in the Association's laboratory indicated that they were essentially an aloes pill, although they go to the public as "a new laxative."

## ONE OBJECTION TO PRESCRIBING PROPRIETARIES

The real objections to the prescribing of proprietaries are those based on considerations of public health and scientific medicine. But there is an economic phase to the question, too.

"If you prescribe Antikamnia, Cystogen or Purgen and your patient feels better or gets well," said an old druggist to a young practitioner, "the patient will be a walking advertisement for the respective proprietaries. If, on the other hand, you prescribe acetanilid, hexamethylenamin or phenolphthalein, in the form of a regular prescription, he will recommend the prescriber—you—to his best friends."

# Correspondence

### Farinaceous Diet and Auto-Intoxication

*To the Editor:*—Dr. von Noorden's article ("Intoxication Proceeding from the Intestine, Especially Polyneuritis," THE JOURNAL, Jan. 11, 1913, p. 101), has interested me greatly, for I enjoy criticism and find that it is useful, even when it is incorrect and unjust.

I do not exactly understand why Dr. von Noorden declares my theory of auto-intoxication unscientific. Is it because it has not been proved in all details? On this point he and I are in agreement, for I have always hoped to see the scientific proof that the works of Charrin alone have announced. Is it because I advised (ten years ago, page 292) the estimation of the natural aromatic substances to demonstrate intestinal auto-intoxication since the sulpho-ethers [ethereal sulphates] do not give an exact idea because they do not contain the group combined with glycuronic acid (page 293)? If so, why does Dr. von Noorden employ exactly the same method and why does he use exactly the same reasoning to-day? How does it happen that these ideas are not scientific when they come from my pen while they are so in his writings? Can it be that Dr. von Noorden forgot to read my book before criticizing it? In fact, if intestinal auto-intoxication is not yet scientifically proved in all details—which is fully recognized—this is due to the insufficiency of our knowledge of the microbic decomposition of the albuminous molecule at the time when I first presented my theory. But, thanks to the works of Fischer, Kutscher, Abderhalden and many others; we are brought nearer to the long-anticipated moment.

Among the pediatricians no one doubts this theory any longer. All the pediatricians, Finkelstein and Czerny at their head, affirm and demonstrate medically and clinically that the symptoms of dyspepsia, athrepsia and intestinal catarrh of infants are due to intestinal auto-intoxication. And have not the magnificent researches of recent years on the decomposition of albumin demonstrated the direct relation existing between intestinal microbic action and the production of the sepsin studied by Bergmann and Schmiedeberg, and especially of histamin, whose extraordinary toxic action has been explained by Berges and Dale? Now this histamin has been demonstrated in the feces quite recently by two English authors, Mellanby and Trout. Thus, stone by stone, has been built up the scientific demonstration of intestinal intoxication, of which, I believe, I caught a glimpse clinically and which German medicine has always rejected with disdainful smiles. Here and there, to be sure, even in Germany, some credit is given to this theory. Did not a professor of the University of Vienna, Professor Piek, write a few days ago: "The fermentative action of the intestinal flora may, in pathologic cases, produce albuminous decomposition up to the point of the production of extremely toxic substances. Therefore, serious attention is beginning to be given, in recent times, to microbic action, and the facts which are already known make it possible to assume that the doctrine of intestinal auto-intoxication will receive an important demonstration from this study (*wesentlichen Ausbau.*)"

Dr. von Noorden, who has always, up to the present, combated and defied the theory of auto-intoxication, sees which way the wind is blowing and trims his sails accordingly. I am very glad of it; but why does he feel the need of destroying whatever has been said or written on the subject before? This is very human but not very scientific.

Dr. von Noorden does not understand that I use starchy diet to combat albuminous putrefaction. But this principle is Viennese in origin and due to Escherich, and it has a very scientific base, which has quite recently been illustrated by the researches of Mellanby and Trout which demonstrate that the presence of carbohydrates and the acids derived from them prevents the production of histamin.

Finally let us not forget that if one may judge a tree by its fruits, clinical practice has shown us without any possible doubt the remarkable results given us by a starchy diet in the prevention of intestinal putrefaction.

Dr. von Noorden says that "protective diet," as he calls my diet, weakens the intestine. I cannot demand that Dr. von Noorden should read my books before critieizing them; that would be expeeting too much devotion of him; but this would have enabled him to realize that on every page I insist on the neeessity of ehanging the starchy diet as soon as the result is obtained and of gradually modifying it toward a normal diet. Here is a passage seleeted at random from page 309 of my book on the treatment of enteritis: "When under the influenee of the farinaeeous diet that has just been described, the intestine has beeome less sensitive and the attacks of colic have ceased, when the general eondition has improved considerably, this first diet of ehronic enteritis should be modified. This will be most generally after the sixth month of treatment. Too prolonged employment of this uniform and too digestible diet renders the intestine mueh more sensitive to dietary ehanges. Therefore it is neeessary to introduee into the menu, little by little, slowly and progressively, substanees whieh are more putrescible and more difficult to digest than the starches, in order to stimulate the intestine and to ineite its antitoxie funetion." This example shows how far my treatment is an "exereise cure" rather than a "proteetive diet," and that, after ten years, it has eonformed to the rules laid down to-day by Dr. von Noorden.

To summarize, von Noorden begins to admit the theory of intestinal auto-intoxieation, whieh he has always condemned. It is, for him, the first step on the way to Damascus. Let us applaud! And let us, by this joyous gesture, terminate our strife.

ADOLPHE COMBE, M.D., Lausanne, Switzerland.

A eopy of this letter was sent to Dr. von Noorden, who replies:

*To the Editor:*—I thank you that you were kind enough to send me the letter of Dr. Combe. I hope the diseussion and the mutual eritique will be of service to medieal seienee and prove the congeniality of our opinions rather than the eontrasts.

Dr. Combe is not right in saying that hitherto I have been an antagonist of the auto-intoxieation theory. I never published a paper about this question, with the exeeption of the remarks in my old text-book on the disorders of metabolism (published 1893), and other remarks on the connection between diseases of the skin and intestinal fermentations in "Handbueh der Pathologie des Stoffweehsels" (1907). The first remarks were of mere eritical nature and in the meantime proved to be quite right; the seeond ones show that I aeeepted the theory. Indeed, I never lose these questions from sight and my assistants and I followed them earefully by observations and by experiments.

There is not the slightest doubt that for years I have agreed with Dr. Combe that there exist pathologie intestinal fermentations. But there are different opinions on the extent we are allowed to give this coneeption. I agree with Dr. Combe in regard to some disorders, but I am eonvineed—not by theory but by experienee—that he goes much too far and often puts matters together which do not depend one on another. Therefore I used the words "uniformity of eonception." But there is one word printed in the English text whieh I very much regret. It is the word "unfairness." In the German text there stood the word *Einseitigkeit* (uniformity), and this word is also found in the German edition of my lecture. Your translator made the mistake, and I am sorry that this error escaped my notice when I read over the English draft which you submitted to me.

[In the original the passage referred to reads: "Die Einseitigkeit betrifft nieht nur den theoretisehen Teil seiner Deductionen, sondern spiegelt sieh aueh in den therapeutischen Folgerungen und Nutzanwendungen wieder." A later sentenee says: "Es herrscht eine Einförmigkeit der Auffassung und der Behandlung, wie beim militarischen Drill." "Einseitigkeit" cannot be translated "uniformity." "Einseitigkeit" is defined as meaning one-sidedness; bias; partiality, unfairness; one-sided (or narrow) view or judgment of things. It will be noted that in the second passage quoted, when he wished to convey the idea of uniformity, Dr. von Noorden used the word "Einförmigkeit," whieh was correctly translated "uniformity." —ED.]

I fully agree with Dr. Combe that the etheric sulphuric aeids [ethereal sulphates] cannot be considered as a reliable measure for bacterial destruction of albumin; but the same must be said about the aromatie substanees themselves. The exeessive increase only is to be trusted.

Of course Dr. Combe gets by his "proteetive treatment," when time goes on, the result that the patient ean return to ordinary food, and indeed that protective treatment is often the only right method, as I freely admitted in my paper. But there are a great many cases (as eoliea mueosa and as eonstipation with toxic eonsequences), in whieh this way is unnecessary and only leads to a prolongation of the diseased state. Years ago I insisted that one should prefer in sueh cases the "exereise therapy." Often enough I compared both ways and I think everybody who has done the same must agree with me that the definite results of the exercise treatment are the more satisfactory ones. I have to eomplain that this elear matter of fact, which is proved by every-day experienee, is by many authors negleeted and is treated as non-existing. Perhaps I used rather strong words when emphasizing the importanee of that method of therapy, but surely it was only my eonviction and not in any way personal animosity whieh dietated them, as I fully acknowledge the scientifie exertions of Dr. Combe, and as I often use his own ways in eases whieh I think to be appropriate, as mentioned in my lecture.

The end in view was to warn against generalizing the "proteetive treatment" in eases I quoted.

CARL VON NOORDEN, M.D., Vienna, Austria.

---

### Digestible Bread and Newspaper Fakes

*To the Editor:*—In your issue of February 15, under the title "Digestible Bread and Newspaper Fakes," you publish an editorial in whieh you implieate the *North American* as the medium and myself as the author of a "fraudulent elaim" and "misguiding pronouneement" in eonneetion with my artiele of January 6 eoneerning Mrs. Lydia Coale Sharpless' method of bread-making. I eannot allow your refleetion on my integrity to pass unchallenged.

Before writing the artiele in question, I diseussed every phase of the matter with Dr. Edward Tyson Reiehert, professor of physiology in the Medieal Sehool of the University of Pennsylvania, whose standing in the profession is, I am told, very high. I based my technieal statements on information he gave me, and to insure that degree of aeeuraey with whieh I invariably seek to aeeompany every artiele written by me, whether signed or unsigned, I read to Dr. Reiehert the finished article, prefaeing the performanee with a request that he correet me wherever I might be wrong, for I am not a scientist. He suggested only one change. I had said Mrs. Sharpless' diseovery indieated a skill in ehemistry whieh, if developed, might have entitled her to a plaee beside Mme. Curie, one of the diseoverers of radium. "Why not say that undoubtedly her diseovery will be of greater benefit to humanity than Madame Curie's?" he interposed. I made the ehange and he said "That is better." When I eoneluded the artiele, he said he wished more seientifie matters might be so "aeeurately presented to the general publie." Ten days later he aeknowledged that he had unintentionally misinformed me, admitting that all the information he had given me was based on experiments made fifteen years ago and a U. S. government bulletin issued at that time.

As soon as I was able to verify Dr. Reichert's revised statements, I wrote and signed a second artiele which was published in the *North American* of January 25 and printed on the same page of the paper as the first artiele. For the benefit of those misled by your charaeterization of this as a "semiveiled" retraetion, I submit the following extracts therefrom:

"Two weeks ago the *North American* printed an extensive artiele about a new method of bread-making diseovered by Mrs. Lydia Coale Sharpless, of this city. The ehief feature of this

bread as therein emphasized was its remarkable digestibility, due, as was stated upon the authority of Dr. Edward Tyson Reichert, professor of physiology in the University of Pennsylvania, to its high content of gelatinized starch. . . .

"A few days after its publication, the *North American* was informed by Prof. Charles H. La Wall that he had tested two samples of baker's bread, bought in the regular way at large grocery stores, and had found in them slightly more gelatinized starch than existed in a sample of Sharpless bread examined at the same time. At his request, I repeated these tests, with results similar to his.

"Then I saw Professor Reichert, who . . . authorized the publication of this statement:

"'I have been engaged for some days past in examining various specimens of bread and crackers, and I am inclined to believe that the modern methods of making the dough and the better methods of baking are yielding products in which, as in the Sharpless bread, practically all of the starch is gelatinized. In other words, what Mrs. Sharpless has accomplished is also being done by all of our first-class bread and cracker bakers.' . . .

"Further tests by Professor La Wall, in each instance corroborative of his own previous ones and of those made by Professor Reichert after publication of the interview he authorized, seem to offer conclusive evidence that, in so far as gelatinization of the starch is concerned, there is no material difference between ordinary baker's bread and Sharpless bread.

"As to other qualities which may make the latter especially digestible by weak or disordered stomachs, the *North American* has nothing to say."

I wrote another article about the Sharpless bread which, though never printed, is of paramount importance, in view of your statements that "hundreds of credulous and well-meaning laymen and not a few physicians were beguiled into the belief that the 'staff of life' is indigestible," and "to add to the irony of the situation, the readers are now told that white bread has long been free from raw starch, but that the doctors didn't know it."

This article was an interview I had with the professor of the theory and practice of medicine and of clinical medicine in one of the three largest medical colleges in Philadelphia—an authority whose standing is evidenced by the fact that one of his books is advertised in the same issue of THE JOURNAL which contains your editorial reflection on my veracity.

This professor freely discussed the digestibility of bread, and when the manuscript was submitted to him for correction, he made no change other than the substitution for his name of the words "a physician"—though he did add this autographic comment: "Article excellent, but 'ethics' prevents use of my name"—signing his initials.

In the article thus personally and autographically authorized, he says: "It is well known, of course, that the raw starch in ordinary white bread is one of the commonest causes of dyspepsia and intestinal fermentation. . . . Bread is such a common and necessary food that many persons never stop to think about it as a trouble-maker. Yet it is the source of much suffering, especially when eaten fresh-baked." So I furnish you with documentary evidence that at least one doctor didn't know!

By the time this article was O. K.'d Dr. Reichert had acknowledged his mistake, so it was not published. I cannot personally object to your remarks about the "offences" of the press against public welfare, since the *North American* always has served both the public and the medical profession in the fairest and most useful manner.

LEIGH MITCHELL HODGES, Philadelphia.

---

**Analogy Between Meningitis and Poliomyelitis.**—The two diseases are analogous in their constant endemic occurrence in sporadic form, and their occasional occurrence in epidemics, which are characteristically of irregular distribution. They are further analogous in their comparatively small incidence in the total population, their preponderating incidence in childhood, the scattering of cases with no obvious lines of contact, and in the fact that each has a distinct though not absolutely limited seasonal prevalence.—W. H. Frost, *Am. Jour. Pub. Health.*

# *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

## INSTITUTIONAL TREATMENT OF EPILEPSY

*To the Editor:*—I have been much interested in your recent editorials on the subject of epilepsy. May I trouble you to tell me where may I learn more about its care in institutions? What states make institutional provisions? What organizations are working along this line and what literature is there to be had? R. A. C.

ANSWER.—The following is a list of the institutions which are exclusively devoted to the care of the epileptic:

OHIO.—Ohio Hospital for Epileptics, Gallipolis. Dr. G. G. Kineon, superintendent. Founded 1892. Census, 1,431. Cares for both sane and insane epileptics. The buildings are rather large detached buildings.

NEW YORK.—Craig Colony for Epileptics, Sonyea. Dr. William T. Shanahan, superintendent. Census, 1,428. Founded 1894. Intended originally for high-grade cases only, but now contains all classes, except the markedly insane.

Letchworth Village, at Thiels, Rockland County. Dr. C. S. Little, superintendent. Cares for both feeble-minded and epileptic of the metropolitan district.

MASSACHUSETTS.—Massachusetts Hospital for Epileptics, at Palmer. Dr. Everett Flood, superintendent. Census, 835. Only sane epileptics received. The care of epileptic children is an important part of the work. Small cottages.

NEW JERSEY.—New Jersey State Village for Epileptics, Skillman. Dr. David F. Weeks, superintendent. Census, 345. Small cottages. The feeble-minded males have also been placed by law at this institution, and buildings are in course of erection; also a hospital building. Educational and psychopathologic study are important parts of the work.

KANSAS.—Hospital for Epilepties, Parsons. Dr. M. L. Perry, superintendent. Census, 484. Takes both sane and insane epileptics. The size of building varies with the mental grade of the patient; the higher the mentality, the smaller the building.

TEXAS.—Epileptic Colony, Abilene. Dr. T. B. Bass, superintendent. Census, 375. All classes of epileptics received except the low mental grades.

INDIANA.—Indiana Village for Epileptics, New Castle. Dr. W. C. Van Nuys, superintendent. Sane epileptics only are received. The buildings are small cottages. Census, 115.

VIRGINIA.—Virginia State Epileptic Colony, Madison Heights, near Lynchburg. Dr. A. S. Priddy, superintendent. Census, 121.

CONNECTICUT.—An institution has been opened at Mansfield Depot under the superintendency of Dr. D. L. Ross.

It must be remembered that epileptics are also cared for in hospitals for the insane and in homes for the feeble-minded, in neither of which can they be properly classified, unless what amounts to a separate institution is formed within them. There are also semiprivate enterprises caring mostly for epileptics as follows:

The Passavant Memorial Homes for the Care of Epileptics, Rochester, Pa.

The Emmaus Asylums, St. Charles and Marthasville, Mo.

The Pennsylvania Epileptic Hospital and Colony Farm, at Oakbourne, Pa.

The Silver Cross Home, at Port Deposit, Md., also cares for a number of epileptics.

Illinois is the only state as yet without a colony in which a fairly active movement is being made for one.

There are associations dealing with epileptics as follows:

The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics, president, Mr. W. C. Graves, Chicago; secretary-treasurer, Dr. J. F. Munson, Sonyea, N. Y.

The Liga Internationale contra l'Epilepsie, president, Dr. David F. Weeks, Skillman, N. J.; secretary, Dr. L. J. J. Muskens, 286 Overtoom, Amsterdam. Official organ of the American National Association and of the Liga Internationale is *Epilepsia*, a quarterly periodical.

Among the publications on the subject of epilepsy are the following:

Annual Transactions of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics. Information may be had from the secretary, Dr. J. F. Munson, Sonyea, N. Y.

Binswanger: Die Epilepsie, new edition just out; in German only.

Turner: Idiopathic Epilepsy, Macmillan, New York.

Spratling: Epilepsy and Its Treatment, W. B. Saunders Company, Philadelphia.

Letchworth: The Care of Epileptics at Home and Abroad, G. P. Putnam's Sons, New York, 1899.

Weeks: The Inheritance of Epilepsy, Transactions First Eugenic Congress, 1912, London. Reprint may be obtained from Dr David F. Weeks, Skillman, N. J.

Transactions National Conference of Charities and Corrections. May be obtained from the secretary, Alex. Johnson, Angola, Ind.

Transactions various state conferences on charities and corrections, especially New York and Illinois. Pamphlet, How the Uncared-For Epileptic Fares in Illinois, published by the Committee of Fifty, Mr. Sherman C. Kingsley, 315 Plymouth Court, Chicago, Ill.

Report of Craig Colony for Epileptics, Sonyea, N. Y., for 1912.

Among other articles on the subject are the following:

Accidental Death in Epilepsy, editorial, THE JOURNAL, July 23, 1910, p. 317.

Epilepsy, Therapeutics Department, THE JOURNAL, Oct. 8, 1910, p. 1287.

Munson, J. F.: Death in Epilepsy, *Med. Rec.*, New York, Jan. 8, 1910.

Shanahan, W. T.: Pulmonary Edema, *New York Med. Jour.*, Jan. 11, 1908.

Davenport and Weeks: First Study of Inheritance in Epilepsy, *Jour. Nerv. and Ment. Dis.*, xxxviii, 641.

Drewry, W. F.: State Pensions for Epileptics, *Charities Review*, January, 1896, p. 117.

Weeks, D. F.: What New Jersey Is Doing for the Epileptic, *Arch. Pediat.*, April, 1912.

Pfannebecker, W.: Molding Public Opinion Regarding the State Care of Epileptics, *Jour. Iowa State Med. Soc.*, October, 1912.

McWhorter, G. T.: State Care of Epileptics, *South. Med. Jour.*, December, 1911.

O'Reilly, A.: Care of Epileptics in Epileptic Institutions in the United States, *Jour. Mississippi State Med. Assn.*, April, 1912.

Healy, W.: Epilepsy and Crime; The Cost. A Report from the Juvenile Psychopathic Institute, Chicago. *Illinois Med. Jour.*, February, 1913, p. 193.

## CHEMICAL REACTIONS OF CITRUS JUICES IN THE BODY

*To the Editor:*—In THE JOURNAL, Nov. 23, 1912, p. 1888, in your article on the treatment of endocarditis (Disturbances of the Heart, Therapeutics Department), you say: "And it should be remembered that lemon and orange burn to alkalies in the system and do not act as acids." Please explain the chemical reactions that occur.

R. H. BURNEY, M.D., Fowler, Colo.

ANSWER.—The juices of lemons and oranges, contain a considerable amount of free citric acid, which when burned in the body produces carbon dioxid and water. The carbon dioxid is promptly eliminated and hence produces little or no effect on the alkalinity of the blood or tissues. But these juices also contain a considerable amount of salts, chiefly citrate of potassium. The citrate when burned produces potassium carbonate, which is alkaline in reaction. Consequently the final result of the consumption of lemons or oranges is an increase in alkalinity.

## ARTICLES ON SODIUM FLUORID

*To the Editor:*—Kindly refer me to articles pertaining to the action of sodium fluorid on man and animals.

B. L. SCHUSTER, M.D., Brookline, Mass.

ANSWER.—The following articles deal with this subject:

Locvenhart and Peirce: The Inhibiting Active Effect of Sodium Fluorid on the Action of Lipase, *Jour. Biol. Chem.*, 1907, ii, 397.

Amberg, S., and Locvenhart, A. S.: Further Observations on the Inhibiting Effect of Fluorids on the Action of Lipase, Together with a Method of the Detection of Fluorids in Food Products, *Jour. Biol. Chem.*, 1908, iv, 149.

Brandl and Tappeiner: Ueber die Ablagerung der Fluorverbindungen im Organismus nach Fütterung mit Fluornatrium, *Ztschr. f. Biol.*, 1891-1892, N. F., x, 518.

Waddell, L. A.: The Physiologic and Medicinal Action of Hydrofluoric Acid and the Fluorids, *Indian Med. Gaz.*, 1883, xviii, 97, 126, 183, 217, 248, 284, 312, 337.

## METHOD OF SEPARATING BLOOD-SERUM

*To the Editor:*—1. Can you give me a method of separating the serum from fresh blood?

2. What percentage of moderately clear serum can be obtained from normal blood?

A. L. M., M.D.

ANSWER.—1. Blood-serum for bacteriologic purposes is obtained by allowing blood which has been drawn as aceptically as possible to stand in sterilized jars in a cool place for twelve hours. The clot having separated by this time, the clear serum is pipetted off with a sterilized pipet.

2. About 50 per cent.

## COMPOSITION OF CHINOSOL

*To the Editor:*—Will you please inform me as to the ingredients of Chinosol, put out by Parmele Pharmacal Co.?

E. L. MEREDITH, M.D., Yutan, Neb.

ANSWER.—Chinosol is normal oxyquinolin sulphate. It is described in New and Nonofficial Remedies 1913, p. 65.

# Book Notices

ARBEITEN AUS DEM PHARMAZEUTISCHEN INSTITUT DER UNIVERSITÄT BERLIN. Herausgegeben von Dr. H. Thoms, Professor und Direktor des Pharmazeutischen Institutes der Universität Berlin. Ninth Volume. Cloth. Pp. 256, with illustrations. Berlin: Urban & Schwarzenberg, 1912.

The ninth volume of the "Arbeiten" has made its appearance under the able editorship and direction of Prof. H. Thoms, corresponding member of the Council on Pharmacy and Chemistry, and well known for his achievements in the pharmaceutical sciences.

The largest part of the book is devoted to reports of investigation of purely scientific interest, the nature of which shows the high scientific standing of the Pharmazeutisches Institut. Among the more practical investigations of interest to the medical and pharmaceutical professions there are such reports as studies on menthol production in Germany and the colonies, chemical studies of adalin, codein and dionin, and the isolation and investigation of the constituents of several plants. Of greater interest to physicians is the paper by Thoms which is a review of the new therapeutic agents which have appeared in the last year, and includes a bibliography of the literature discussing these remedies.

Although the volume contains reports of analyses of proprietary medicines, it is noted with regret that this volume contains a very small number of them. As the reports on proprietary medicines emanating from this institute have been of great aid in protecting the medical profession in Germany from deception and fraud, it is to be hoped that the institute will show greater activity in this direction during the coming year.

HEALTH AND LONGEVITY THROUGH RATIONAL DIET. Practical Hints in Regard to Food and the Usefulness or Harmful Effects of the Various Articles of Diet. By Dr. Arnold Lorand. Cloth. Price, $2.50 net. Pp. 416. Philadelphia: F. A. Davis Company, 1912.

The author has had a large experience in the regulation of diet in his practice at Carlsbad, and his work reflects the attitude of one who is accustomed to the instruction of the laity in these matters. One of the striking features is the attention given to what one might call comparative dietetics, as shown by the illustrations drawn from the animal and vegetable kingdoms. Particular attention is given to the function of the mineral constituents of the food, a subject which has to a great extent been neglected or at least underrated in ordinary works on dietetics. It is hard to say in the present state of knowledge whether or not the assertions of the author can be accepted without question; but at any rate, the matter is worth the attention both of physicians and of laymen. Methods of cooking are described and interesting remarks are made as to the size and distribution of the meals.

Several chapters are devoted to the consideration of the ill-effects arising from various special and one-sided diets, such as vegetarianism, insufficient diets, lack of protein, a meat diet, etc. The influence of the ductless glands in the utilization of food, and in nutrition in general receives full recognition. On the whole the book will prove useful to a large class of readers, and it is full of valuable hints from which all can profit. It may be recommended to the layman as well as to the practitioner.

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D., Assistant Professor of Medicine in Harvard University. Cloth. Fifth Edition. Price, $3. Pp. 519, with 268 illustrations. New York William Wood & Co., 1912.

The work of Dr. Cabot is the expression of his individuality in that it gives no space to methods with which the author has no personal familiarity. The advance of diagnostic methods has rendered necessary a recasting of the entire book with thorough revision for the fifth edition. New sections are added on the phlebogram and arteriogram, and a more adequate notice is given of the bismuth Roentgen-ray examination of the stomach. Thus improved there is every reason to anticipate a continuation of professional favor to this excellent treatise on an extremely important subject.

Diseases of the Eyes. By C. Devereux Marshall, F.R.C.S., Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. London Medical Publications. Cloth. Price, $3.75. Pp. 303, with 95 illustrations. New York; Oxford University Press, 1912.

This is essentially a book for the student and general practitioner, and is therefore intentionally incomplete. Still one regrets the seeming hurry that has occasioned careless English and the omission of some important matters. The use of cycloplegics and the need of complete correction of astigmatism are not given due weight. No mention is made of the Credé method of prophylaxis in ophthalmia neonatorum. Tuberculosis as an etiologic factor in eye diseases is scarcely emphasized enough. In contrast to these omissions, one is pleased to note the excellent character of the work as a whole, and especially the treatment of the subject of trauma and of uveitis resulting from septic mouth conditions. The theory of color-vision and color-blindness, with tests, is given more space than usual in such works.

Du Strabisme. Recherches étiologiques; pathogénie; mécanisme du traitement. Par Dr. Pierre Lagleyze, Professeur d'Ophtalmologie a l'Université de Buenos-Aires. Paper. Price, 15 francs. Pp. 409, with 43 illustrations. Paris: Jules Rousset, 1, Rue Casimir-Delavigne, 1913.

This monograph is one of the best expositions of this rather complicated subject. The author discusses the various forms of strabismus, the relation of refraction to them and the numerous procedures for operative relief. The last chapter is of great value, and discusses the question whether an operation should be done on one eye only or on both eyes.

# Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

## PROPOSED TARIFF CHANGES ON MEDICAL AND SURGICAL SUPPLIES

The proposed tariff bill for 1913, in so far as it affects drugs, surgical instruments, etc., shows at least a slight reduction in the rates, as compared with the Payne-Aldrich Law of 1909. The new measure has made no very sweeping reduction on drugs, instruments, hospital utensils and the like as a whole. Certain articles have been subjected to no change whatever; for example, under Schedule A of the new bill a rate of 25 per cent. ad valorem is provided on salol, chloral hydrate, phenolphthalein, urea, terpin hydrate, antipyrin, glycerophosphate of lime, acetylsalicylic acid, guaiacol carbonate and thymol. These drugs were not specifically mentioned in the 1909 tariff measure, but it would seem that nearly all of them could be placed under either Section 1 or Section 21 of Schedule A in the present law. Both of these sections provide a rate of 25 per cent. ad valorem "for any other drugs not specially provided for."

On certain other drugs there is an appreciable reduction; for example, calomel and other mercurial preparations are reduced from 35 per cent. ad valorem to 15 per cent. ad valorem; chloroform from 10 cents a pound to 2 cents a pound; drugs, such as barks and berries, which have been advanced in value by shredding, from 0.25 cent a pound and 10 per cent. ad valorem to 10 per cent. ad valorem; ethers from 8 cents a pound to $1 a pound, or 30 per cent. ad valorem, in accordance with the variety, to not more than 5 cents a pound or 20 per cent. ad valorem on apparently the same classification; iodoform from 75 cents a pound to 15 cents a pound, and strychnin from 15 cents an ounce to the free list.

Again, on other drugs, it would seem that the duty has been raised; for example, certain medicinal preparations containing alcohol were taxed uniformly 55 cents a pound. The new measure changes this to a graduated scale according to the percentage of alcohol, varying from 10 cents a pound and 20 per cent. ad valorem up to 40 cents a pound and 20 per cent. ad valorem, while on other drugs the duty is frankly raised, as on ergot from the free list to 10 cents a pound.

Under Schedule B, microscopes, optical instruments and frames and the like are reduced from 45 per cent. ad valorem to 30 per cent ad valorem; spectacles and eye-glasses, which were graded from 20 cents a dozen and 15 per cent. ad valorem to 50 per cent. ad valorem, are now to be uniformly taxed 35 per cent. ad valorem.

Under Schedule C, scissors, shears and blades, whether finished or unfinished, have been shifted from a sliding scale, varying from 15 cents a dozen and 15 per cent. ad valorem up to 75 cents a dozen and 25 per cent. ad valorem, to a straight ad valorem tax of 30 per cent. Hospital utensils have been reduced from 40 per cent. ad valorem to 25 per cent. ad valorem; surgical instruments in general, whether finished or unfinished, so long as they were sufficiently advanced to be definitely classed at all, have been admitted at the uniform rate of 45 per cent. ad valorem. They are now to be admitted at 25 per cent. ad valorem. Other articles will be classed with the articles they most nearly resemble which are specially mentioned; therefore they may or may not be reduced, depending on whether the articles with which they are classed are reduced or not.

Finally, besides strychnin, all the antitoxins and serums, as well as vaccine virus, have been put on the free list.

## THE MOVEMENT FOR A NATIONAL DEPARTMENT OF HEALTH

The campaign for the adoption of what is popularly known as the Owen bill is only one chapter in the history of a campaign, covering over forty years, for a national health organization. The first mention of such an organization in the proceedings of the American Medical Association appears in 1871; during the annual session Dr. George Houston, secretary of the California State Medical Society, presented a preamble and resolutions calling attention to the growing importance of hygiene and preventive medicine, and to the recent establishment of state boards of health in Massachusetts and California, at that time the only states to have such organizations. The resolution further recommends that the Association take steps, as soon as six states should establish state departments of health, to bring about the formation of a national health council, for the study of vital statistics and the diffusion of sanitary knowledge. These resolutions being adopted, a committee was appointed, consisting of one member from each state, to secure the organization of state boards of health.

The following year (1872), at the meeting held in Philadelphia, Dr. T. M. Logan of California, chairman of the Committee on a National Health Council, appointed at the previous meeting, presented a report and asked that the committee be continued as a special section on state medicine. By this time Minnesota and Virginia had also established boards of health. The committee devoted most of its efforts to stimulating the creation of state health organizations. After the report of the committee had been adopted, Dr. J. C. Tucker of California introduced a resolution asking Congress to establish a national sanitary bureau, and presented an act drafted for this purpose, which unfortunately does not appear in the records. This resolution was laid on the table.

In 1873, at St. Louis, there is no mention of the subject except that the committee reported progress. Dr. Thomas M. Logan of California presided at the St. Louis meeting, and in his presidential address referred to the development of preventive medicine and stated that a bill had recently been introduced into Congress for the establishment of a national bureau of sanitary science to be located in Washington. He said, "What seems to be required is to effect a union of views as to a method of action so as to bring every state into immediate communication by means of state boards of health with a central office in Washington to be presided over by a com-

missioner or secretary of public health. . . ." He also strongly urged active methods for the education of the public, recommending "the judicious instruction of the community in the knowledge of the science of life." He added, "Let us throw away all puerile notions about the dignity of our calling, and approach the people through the only channels by which they can be reached—the newspaper and the lecture-room. This is our work for the future, to educate the people."

In 1874 the Association met at Detroit. Nothing appears in the transactions of the Association, but in the minutes of the Section on State Medicine and Public Hygiene, which had developed from the committee, it is stated that a resolution was introduced by Dr. R. C. Kedzie of Michigan, asking the Association to petition Congress at once to establish a national sanitary bureau. The chairman of the section, Dr. A. N. Bell of New York, argued that local and state health organizations should precede any attempts to secure a national bureau, but Dr. Kedzie's resolution was adopted. The chairman of the section, in his address on the subject, "The Waste of Life," discussed most of the subjects that would now be considered under conservation of vitality, and recommended the speedy organization of boards of health in each state.

In 1875 Dr. Henry I. Bowditch, then chairman of the section, sent to each member a circular letter asking for opinions regarding the proposed "health council for the nation." In his chairman's address he summarizes the replies received and proposes the organization of the "United States Public Health Commission, its object being to gather, from all possible sources, opinion bearing on the life and health of the people, and to devise plans for the better protection of the lives and health of the people in the United States." The replies received indicate a great variety of personal opinions.

In 1878 at Buffalo, the president, Dr. T. G. Richardson, stated in his presidential address that although ten years before there had not been a single state board of health, there were now twenty. In this address is found for the first time the suggestion of a national Department of Health, whose head should be a member of the President's cabinet.

Before the next meeting of the Association, the first national board of health had been organized through the passage of a law in the last hours of the Forty-Fifth Congress. The causes which brought about this organization are given in detail by Dr. John S. Billings of the United States Army, in the transactions of the Association for 1880. He states that the first bill for a national health organization was prepared by Dr. C. C. Cox in 1871, and was introduced into the Senate in the summer of 1872. This bill provided for a national sanitary bureau under the Department of the Interior. The bill was not pressed and never came to a vote. In 1873 the yellow fever epidemic in the South resulted in the introduction of a bill providing for national quarantine service, as the result of which a number of conferences and hearings were held. Dr. Billings states that the plan proposed by Dr. Bowditch in 1875 was derived mainly from that sketched years before by Jeremy Bentham. In 1878, owing to yellow fever epidemics in the South, the quarantine question again came to the front and a law was enacted, making it the duty of consular officers to report regarding contagious diseases in any port, of the departure of vessels from infected ports to any port in the United States. In 1878 came the great yellow fever epidemic followed by the formation of a commission at the expense of Mrs. Elizabeth Thompson, to investigate the cause of the epidemic. When Congress met in December of 1878, special committees on epidemic diseases were formed in both the House and the Senate, and a special congressional commission was created to investigate the causes of the epidemic. Senator L. Q. C. Lamar of Mississippi introduced a bill creating a Department of Public Health, abolishing the office of Surgeon-General of the Marine-Hospital Service, and providing for a Director-General of Health to be in charge of the department and of the Marine-Hospital Service and of all quarantine measures. This bill was not supported by sanitarians or medical men. In January, 1879, the Congressional Yellow Fever Commission presented its report, recommending national quarantine and a central health authority at Washington. Senator Harris of Tennessee, chairman of the Senate Committee on Epidemics, introduced a bill creating a bureau of public health, whose duties, however, were limited to quarantine. The bill also created the office of Director-General of Health, who should have charge of the Marine-Hospital Service. Under him was to be a board of health consisting of seven members appointed by the President, and of the Surgeon-General of the Army and Navy, ex-officio. This bill passed the Senate but was defeated in the House.

In the meantime, Mr. McGowan of Michigan introduced a bill just at the close of the session to establish a national board of health, which passed both the House and Senate in the last hours of the Forty-Fifth Congress and became a law, March 3, 1879. It created a national board of health, consisting of seven members appointed by the President, one medical officer from the Army, the Navy and the Marine-Hospital Service, and one officer from the Department of Justice. Its duties were to obtain information and advise the various governmental departments. It was also directed to report to Congress a plan for a national health organization. A board was organized, April 2, 1879, by electing Dr. James L. Cabell of Virginia, president, and Dr. James J. Turner, U. S. N., secretary.

For some strange reason there is no mention of the establishment of this board anywhere in the minutes of the session of 1879. It made various recommendations and started some investigations during its brief existence, but Congress failed to make any appropriation for its maintenance, and in 1883 it went out of existence.

Little attention was given to the subject until in 1886, when a bill was introduced into the House of Representatives by Dr. Robert T. Davis, a member of Congress from Massachusetts. This bill provided for the establishment in the Department of the Interior of a bureau of public health under the management of the Commissioner of Health, who was authorized to organize a permanent national board of health, and to relieve the Marine-Hospital Service from further duties in this direction. It provided for the appointment by the President of a commissioner. It also provided that the Department of State should obtain information regarding sanitary conditions in foreign countries, and that the bureau of health should obtain through all accessible sources weekly reports of sanitary conditions in the United States. The bureau was authorized to make investigations into the nature, origin and prevention of contagious diseases. Commenting on this bill editorially, THE JOURNAL for April 10, 1886, said: "The introduction of this bill is the first move we have seen relating to health and sanitary relations by the general government, which is in the right direction and founded on correct principles. The propositions hitherto made to establish national boards of health consisting of several members representing different sections of the country and somewhat different interests, have two radical defects; first, they are too cumbersome, and second, they inevitably contain more or less elements of discord." No further information appears in THE JOURNAL regarding the final disposition of this bill. Evidently there was considerable discussion in Congress on this subject, as Dr. John H. Rauch, in his address as chairman of the Section on State Medicine, delivered at the St. Louis session of the Association in May, of 1886, states that three different bills were introduced during the pending session of Congress for the creation of a national health service. He adds, however, "that there is little hope of any of them receiving favorable consideration."

In 1891 Dr. W. L. Schenck of Topeka, in his address on state medicine at the Washington session of the Association, discussed the necessity of national health organization, and suggested a Department of Public Health, in which should be gathered the Marine-Hospital Service, the Bureau of Education, the divisions of Vital Statistics, Animal Diseases and the Weather Bureau, and any other bureaus or divisions pertaining to the health and development of the people. He states that a bill for this purpose had been introduced into Congress during the preceding year. This is the first sugges-

tion of the creation of a health department by the transfer and rearrangement of existing bureaus. At this session, the Committee on a Secretary of Public Health presented a report recommending the appointment of a committee of five to prepare a memorial to Congress on this subject.

In 1892 Dr. Henry O. Marcy, in his presidential address, reviewed the history of the movement. The committee in its report stated that a petition to Congress had been prepared and printed in pamphlet form and also in THE JOURNAL. This petition had been presented in the Senate by John Sherman and in the House of Representatives by John A. Caldwell. A bill for a national Department of Health accompanied the petition. The report states that the House Committee on Judiciary was in favor of the bill, and that the chairman of the Senate committee opposed it, because he objected to increasing the appropriations. The bill introduced into the Senate, provided for a national Department of Health in the Treasury Department, to consist of three scientists appointed by the President, one officer each from the Army, Navy and Marine-Hospital Service, and one member from the legal department. The committee objected to this bill for a number of reasons which are set forth in its report, the principal one being the objection to having the Secretary of the Treasury exercise supervision of a health department. The bill introduced into the House by Mr. Caldwell provided for a department and a medical secretary of public health. The provisions regarding investigations, etc., were very much like the preceding bill.

In 1893 Dr. Hunter McGuire, in his presidential address, refers to the action of the Association, and states that a bill introduced into Congress for this purpose was "entirely ignored."

In 1896 the Committee on a National Department of Health, of which Dr. Jerome Cochran of Alabama was then chairman, reported at the Atlanta meeting, reviewing the work of the committee since its appointment in 1891. He stated that in 1890 the Marine-Hospital Service had already been invested with some important public health functions, and in 1893 was converted into a national health department with very large and far-reaching powers and abundant means. He says: "It is not called a Department of Public Health, but it is a Department of Public Health in fact." His report continues, "Since 1893, until the effort was abandoned last year, our committee has been engaged in the hopeless and unwise enterprise of endeavoring to induce Congress to establish another Department of Public Health—a very weak and inconsiderable department by the side of a very powerful department." He then proceeds to argue in favor of the gradual improvement of the Marine-Hospital Service, and its development into a national Health Department. He recommends that the committee be authorized to draw up a new bill along such lines, and to invite the cooperation of the Conference on State Boards of Health and of the American Public Health Association in securing the adoption of such a bill. The report with its recommendations was adopted.

In 1897 Dr. U. O. B. Wingate reported as chairman in place of Dr. Jerome Cochran, who had died during the preceding year. As a part of his report, he submitted a lengthy bill providing for a national Department of Public Health, under the control of a commissioner, who should be "a regularly educated physician" and should "hold membership in one or more reputable sanitary or medical associations in the United States." Provision was also made for an assistant commissioner having the same qualifications, and for an advisory council composed of the secretary of each state board of health. This department of health should succeed to the powers and duties of the Marine-Hospital Service. The bill provided lengthy quarantine regulations, authorized the investigation of sewage-disposal, water-supply and the collection of vital statistics. This bill, which later came to be known as the Spooner bill, was very long and detailed in quarantine provisions, but it contained little in the way of specific provisions for organization. Interest in the proposition was stimulated by the yellow fever epidemic of 1897.

In the report of the committee at the annual meeting in 1898, Dr. Wingate states that the bill referred to above had been introduced into the Senate by Senator Spooner of Wisconsin, and into the House by Mr. Otjen. The agitation in favor of this bill and its consideration by Congress were interrupted by the Spanish-American War and nothing definite resulted. The committee reported in 1899 and 1900 but nothing was done.

There was no further agitation on the subject until Feb. 10, 1910, when Robert L. Owen, Senator from Oklahoma, introduced into the United States Senate, S. B. 6049. This bill, the original Owen bill, provided for a Department of Public Health, under the supervision of a Secretary of Public Health, who should be a member of the cabinet. In this department should be assembled all divisions and bureaus belonging to any department, except the Department of War, and the departments of the Navy, affecting the medical, surgical, biologic and sanitary services, including the Public Health and Marine-Hospital Service, the Revenue Cutter Service, the Medical Staff of the Pension Office, Indian Bureau, Department of the Interior, Old Soldiers' Homes, Government Hospitals for the Insane and the Freedmen's Hospital, the bureaus of Entomology, Chemistry and Animal Industry of the Department of Agriculture, the hospitals of the Immigration Bureau of the Department of Commerce and Labor, the Emergency Service of the Government Printing Office, and all other agencies in the United States government for the protection of human or animal life. This bill undertook the organization of a Department of Health by assembling existing parts of the government machinery in a new department, instead of creating a department *de novo*. The Department of Public Health was given jurisdiction over all matters within the control of the federal government relating to human or animal health and life. The establishment of bureaus of biology, chemistry, veterinary service and sanitary engineering were authorized. This bill was referred to the Senate Committee on Public Health and National Quarantine, before which were held during the year following its introduction, a large number of hearings. It was never reported on, and died in committee with the expiration of the Sixty-First Congress.

The second Owen bill (S. B. 1), was introduced by Senator Owen, April 6, 1911. This bill provided for a Department of Health, presided over by a Director of Health and an assistant to be known as the Commissioner of Health, both to be appointed by the President. The commissioner was required to be a skilled sanitarian. The director was to be an executive officer. The Department of Health was to foster and promote all matters pertaining to the conservation of public health, and to collect and disseminate information relating thereto. It was expressly provided that this department should not exercise any function belonging to a state without express invitation from the governor of the state, or enter any premises in any state without the consent of the owner or occupant thereof. These two provisos were to meet the objections of the advocates of state rights and personal liberty. To this department were to be transferred the Public Health and Marine-Hospital Service from the Department of the Treasury, from the Department of Agriculture that part of the Bureau of Chemistry charged with the administration of the Food and Drugs Act, and from the Department of Commerce and Labor the Division of Vital Statistics of the Bureau of the Census. The President was authorized to transfer at any time, either in whole or in part, any bureau or division of the government, engaged in work pertaining to public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy. Provision was made for the organization of the following bureaus: Sanitary Research, Child Hygiene, Vital Statistics and Publications, Foods and Drugs, Quarantine, Sanitary Engineering, Government Hospitals and Personnel and Accounts. An advisory board of seven was provided for, and provisions were made for cooperation with the health authorities in the various states.

This bill was referred to the Senate Committee on Public Health and National Quarantine, where it remained for almost a year, at the end of which time it was reported on favorably, but with amendments that practically amounted to a new bill. As reported out of the committee, April 13,

1912, the bill provided for an independent establishment known as the United States Public Health Service, with a Director of Health as the head. Under the director were to be three assistants known as commissioners of health, two of whom were to be skilled sanitarians and one a skilled statistician. The present heads of the Public Health Service, the Bureau of Chemistry and the Division of Vital Statistics were constituted the three commissioners. The duties of this health service were practically the same as those in the previous bill, with the proviso that the health service should have no power to regulate the practice of medicine or to interfere with the right of any citizen to employ the practitioner of his choice, and that all appointments should be made without discrimination in favor of, or against any school of medicine or healing. These restrictions were inserted in order to meet the objections of those who thought that the liberty of the individual in selecting his medical attendant would be interfered with. The bureaus created were slightly different from those in the preceding bill, being bureaus of the Public Health Service, Foods and Drugs, Vital Statistics, Child Conservation, Sanitary Engineering, Personnel and Accounts, and Publications.

Following the report of the committee, April 13, 1912, the bill was placed on the Senate calendar as Calendar No. 561, where it remained until Feb. 3, 1913, when it was called up on motion of Senator Owen that the Senate proceed to the consideration of this bill. On this motion the vote was a tie, 33 to 33. The bill was, accordingly, not taken up, and died at the expiration of the Sixty-Second Congress.

April 7, 1913, in the opening sessions of the Sixty-Third Congress, Senator Owen introduced as Senate Bill 1 a third bill, the text of which appeared in full in THE JOURNAL last week.[1] This bill was referred to the Senate Committee on Public Health and National Quarantine.

Since 1878 the American Medical Association has consistently favored the creation of a national health organization independent of all other departments of the government and organized on a scale proportionate to the importance of the subject. The advocates of this measure have been divided into two parties; namely, those who favored the creation of a national department of health *de novo*, and those who favored the gradual development of the Marine-Hospital Service and its expansion into a real national health department.

Without going minutely into the history of the Marine-Hospital Service, it is worth noting that it was organized in 1789, very early in the history of the government, for the purpose of caring for sailors of the merchant marine, and as it was supported originally by the tonnage tax paid by vessels registered under the United States commerce laws, and as this tax was a form of revenue, the Marine-Hospital Bureau was created a part of the Treasury Department. For nearly one hundred years its work was limited to the care of sailors. Contrary to the general impression, it has never had any connection with either the Army or the Navy.

In 1871 Congress placed the supervision of national quarantine in the hands of the Service. In 1899 a law was passed practically reorganizing the Service, and changing the name from the United States Marine-Hospital Service to the United States Public Health and Marine-Hospital Service. At the same time the hygienic laboratories were established, and last year (1912) the passage of the personnel bill placed the pay and rank of Marine-Hospital surgeons on the same basis as those of medical officers in the Army and Navy, and again changed the name from the United States Public Health and Marine-Hospital Service, to the United States Public Health Service. During all this time the functions of this bureau have been steadily widening. The question of the advisability of expanding this service into a real department of public health is still worthy of careful consideration; in fact, the last draft of Senator Owen's bill practically recognizes this fact by transferring this service intact to the new public health organization and making it a basis for further expansion.

1. The New Owen Bill, Medical Economics Department, THE JOURNAL A. M. A., April 26, 1913, p. 1320.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

FLORIDA: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

GEORGIA: Regular, State Capitol, Atlanta, May 8-10. Sec., Dr. C. T. Nolan, Marietta; Homeopathic, Atlanta, May 8. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

LOUISIANA: Homeopathic, 702 Macheca Bldg., New Orleans, May 5. Sec., Dr. Edward Harper.

MASSACHUSETTS: State House, Boston, May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee.

## Oregon January Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, Jan. 7-9, 1913. The number of subjects examined in was 15; percentage required to pass, 75. The total number of candidates examined was 92, of whom 68 passed including 11 nongraduates and 6 osteopaths, and 24 failed including 4 nongraduates and 2 osteopaths. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| **PASSED** | | |
| University of Colorado | (1911) 80.6; (1912) | 76.6 |
| Georgetown University | (1912) | 86.6 |
| Bennett Medical College | (1901) | *71.1 |
| Northwestern University Medical School | (1911) 82.2, 84.5, 85; (1912) 84.4, 86.2. | |
| College of Physicians and Surgeons, Chicago | (1904) | 84.1 |
| Hering Medical College | (1912) | 79.7 |
| Rush Medical College | (1893) 84.1; (1912) | 78.4 |
| Chicago Homeopathic Med. College | (1894) 72.5*; (1895) | 88.2 |
| Kansas Medical College | (1896) | *71.5 |
| Hospital College of Medicine, Louisville | (1907) | 76.4 |
| Medical School of Maine | (1912) | 84 |
| Johns Hopkins University | (1911) | 85.4 |
| University of Maryland | (1894) | 87.7 |
| Harvard Medical School, | (1900) 86.4; (1910) 80.1; (1911) | 78.9 |
| Tufts College Medical School | (1907) | 75.9 |
| Detroit College of Medicine | (1904) | 77.8 |
| University of Michigan, Dept. of Med. and Surg., | (1887) (1908) 80.2. | 87.3; |
| Barnes Medical College | (1904) | 80.1 |
| Creighton Medical College | (1907) 76.8; (1912) | 75 |
| Lincoln Medical College | (1909) | 76.6 |
| Columbia University, College of Phys. and Surg. | (1895) | 80 |
| Bellevue Hospital Medical College | (1889) | 76.1 |
| Ohio Medical University | (1906) | 75.2 |
| Eclectic Medical Institute, Cincinnati | (1903) | *73.2 |
| Cleveland-Pulte Medical College | (1911) | 75.6 |
| Willamette University | (1908) 75; (1912) | 76.2 |
| University of Oregon, | (1910) 78.1; (1911) 75; (1912) 75, 77.6, 79.2, 80.9. | |
| University of Pennsylvania, | (1897) 80.7; (1898) 83.9; (1910) 79.3. | |
| Jefferson Medical College | (1908) 77.6; (1912) | 78.6 |
| University of Virginia | (1901) | 79.2 |
| Manitoba Medical College | (1886) | *69.2 |
| Nongraduates, | 72.3, 77.1, 77.7, 77.8, 81.1, 81.7, 82.7, 83.5, 85.1, 86.4, 88.9. | |
| **FAILED** | | |
| College of Physicians and Surgeons, San Francisco. | (1903) | 72.7 |
| Hahnemann Medical College of Chicago | (1904) | 71.2 |
| Keokuk Medical College, Coll. of Phys. and Surg., | (1908) | 72.4 |
| Kentucky School of Medicine | (1903) 73.7; (1908) | 64.7 |
| University of Louisville | (1908) | 67.3 |
| Barnes Medical College | (1908) | 68.1 |
| Kansas City Homeopathic College | (1891) | 68.1 |
| New York University Medical College | (1871) | 48.8 |
| University of Oregon | (1910) 70.5; (1912) | 71 |
| Willamette University | (1905) 56.8; (1912) 68.2, 72.2, 76.5 | |
| Jefferson Medical College | (1912) | 73.1 |
| University of the South | (1908) | 74 |
| University of Texas | (1897) | 82.6 |
| Non-graduates | 69.8, 71.3, 71.5, 72 | |

* Allowance for years of practice.

## Iowa March Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, March 4-6, 1913. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates exam-

ined was 14, of whom 12 passed and 2 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

| PASSED College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Chicago | (1911) | 92.1 |
| Northwestern University Medical School | (1912) | 86.7 |
| Hahnemann Medical College and Hospital, Chicago | (1906) (1911) | 76; 81.7, 83. |
| Rush Medical College | (1908) 94; (1910) 95.5; (1911) | 92.2 |
| State University of Iowa, Homeopathic College | (1913) | 91 |
| State University of Iowa, College of Medicine | (1913) | 92.6 |
| Barnes Medical College | (1904) | 79.6 |
| University of Pennsylvania | (1911) | 91.5 |

| FAILED | | |
|---|---|---|
| National Medical University | (1902) | 70.5 |
| St. Louis College of Physicians and Surgeons | (1910) | 69.1 |

| LICENSED THROUGH RECIPROCITY College | Year Grad. | Reciprocity with |
|---|---|---|
| University of Colorado | (1911) | Colorado |
| Bennett Medical College, Chicago | (1912) | Nebraska |
| Chicago College of Medicine and Surgery | (1912) | Missouri |
| University Medical College, Kansas City | (1902) | Missouri |
| Creighton Medical College | (1910) | Nebraska |

### Wyoming March Report

Dr. J. B. Tyrrell, secretary of the Wyoming State Board of Medical Examiners, reports the written examination held at Cheyenne, March 5-7, 1913. The total number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Two candidates were licensed through reciprocity. The following colleges were represented:

| PASSED College | Year Grad. | Per Cent. |
|---|---|---|
| Medical College of Indiana | (1894) | 84.3 |
| University of Louisville | (1910) | 82 |
| Detroit College of Medicine | (1892) | 75 |
| McGill University, Quebec | (1903) | 96.9 |

| LICENSED THROUGH RECIPROCITY College | Year Grad. | Reciprocity with |
|---|---|---|
| College of Physicians and Surgeons, San Francisco | (1907) | Utah |
| University of Pennsylvania | (1908) | Penn. |

## *Medicolegal*

### Boards of Health Not Abolished

(*Istvan vs. Naar* (*N. J.*), *85 Atl. R. 1012*)

The Supreme Court of New Jersey holds that the act of 1911, known as the "Walsh Act," relating to regulating and providing for the government of cities, etc., does not have the effect of abolishing boards of health organized under the general act of 1887 in municipalities which adopt it as a governmental scheme. The court says that the question arose directly as bearing on the legality of two convictions for violations of the local sanitary code in suits which were brought in the name of "the inhabitants of the city of Trenton." That was evidently done on the theory that the board of health itself no longer existed as such, and was wrong.

Prior to the adoption by the city of Trenton of the act of 1911, suits to recover penalties for such violations must have been brought in the name of the local board of health. By the Walsh Act the departments of public affairs, revenue and finance, public safety, streets and public improvements, and parks and public property are created. There is no department of public health, and no mention of any board of health. The act provides that the board of commissioners shall assign the powers and duties of the several departments; also that it shall create such subordinate boards and appoint such officers as it may deem necessary for the proper conduct of the affairs of the city. By section 8 all cities adopting the act are empowered to enact and enforce, by fine or imprisonment, ordinances necessary for the protection of life, health, and property; to declare and prevent, and summarily to abate, nuisances, etc. Section 17 makes an exception as to formalities of enactment in favor of ordinances "for the immediate preservation of the public peace, health, or safety." The word "health" does not occur elsewhere in the act.

It can hardly be denied that the legislature intended to confer on cities adopting the act of 1911 some power to legislate in matters of public health. But, granting that the legislature, by enactment of the statute of 1911, wished to create a scheme for the centralization of responsibility and authority, the court should pause before construing the act as meaning, in the absence of plain words to that effect, that, after its adoption, there was to be no such thing as a board of health in the city of Trenton, and that the state-wide system of health boards, which had existed for nearly a quarter of a century, was to be abrogated in cities adopting the act of 1911. The very catalogue of the departments would indicate that no interference with the health act was intended, for the functions of a board of health have no special relevancy to any one of those departments, though they are in some aspects germane to all of them.

The secondary control of the board of commissioners, however, over the public health, is ample. By the health act itself the members of the local board of health are "appointed in such manner and hold office for such terms as the governing body may by ordinance provide." By the Walsh Act the terms of all officers expire upon the organization of the board of commissioners. This left that board in absolute control of the situation, with power to fill the vacancies and to fix the terms of office of members of the board of health, subject to certain limitations. What the board of commissioners of the city of Trenton seem to have done by its resolution declaring that the "services" of the members of the board of health were "discontinued and ended, to the end that the powers and duties pertaining to the public health now vested in this board (i. e., the board of commissioners), by reason of the operation of chapter 221 of the laws of 1911, may be exercised and discharged by this body," was to appoint its members as a board of health; at least, the court deems this to have been the effect of their action. But, when so appointed and so acting, they were the board of health of Trenton, and not the board of commissioners, and as such board of health should have appeared as plaintiff in the suits before mentioned.

### Rights Antedating Birth

(*Nugent vs. Brooklyn Heights R. R. Co., 139 N. Y. Supp. 367*)

The Second Appellate Division of the Supreme Court of New York affirms a judgment dismissing the complaint of the plaintiff, who, by his guardian ad litem, sued to recover damages for injuries received thirty-six days before his birth, through the negligent starting of the defendant's car, while his mother was alighting therefrom, the statement in the complaint being, in effect, that the injuries to the mother affected the plaintiff's body, resulting in deformity at birth and less than normal nervous and physical condition, and otherwise injured him.

The court says that the question thus presented for the first time in New York state was worthy of consideration, inasmuch as, if this action on proper pleading could not be maintained, there was no remedy unless in an action by the mother for damages to her by reason of injuries to her son, and that would be inadequate. The fact that the child was deformed, and would suffer thereby, would cause the mother mental pain, and, even if she could recover from that, the mental pain the child would suffer and the mere fact of deformity with its consequent diminution of the value of capacities and faculties could not be included in her recovery. The father, in case he could recover at all, could do so only so far as the injury enlarged the expense of the child's maintenance and entailed loss of service. So, however the subject be viewed, there was a residuum of injury for which compensation could not be had save at the suit of the child, and it is a question of grave import whether one may wrongfully deform or otherwise injure an unborn child without making amends to him after birth.

The identification of an unborn child with the mother, and the merger of its individuality in her own, would seem justly to be limited by her ability to recover full compensation for the injury done both to her and to him. In this case certain of his injuries could be segregated, but she could not represent him for the purposes of recovery for them.

If one should assault the mother, whereby violence would be transmitted injuriously to an unborn child, there seems to be no reason to deny him an action after his birth for his injuries. It would be no answer to the trespasser that the child was concealed in the mother's womb. The wrongful act initiated by the assailant would reach the child, as it might result in tortious contact with any third person, although that was not within the purpose of the actor.

An unborn child has, conditioned on its birth, usual rights of property, and the remedies that pertain to them for actionable injuries inflicted before his birth. And yet shall the incidents be valued in legal cognizance and the owner not? But when in legal apprehension for the purposes of property rights does the entity begin? And what are its capacities? It is sufficient for present purposes to state that it begins before birth, and that it has all the capacities of born persons to receive property, and after birth to enjoy it, and redress prenatal injuries to it. It is in being for the purpose of measuring the valid limitation of estates. An estate may be given to it or to another person for its life, and a guardian may be appointed for it. The death of its father by the wrongful act of another by culpable negligence may injure it so as to permit recovery therefor after birth. Is not the right to be born with normal faculties and capacities for its benefit? If so, he who takes it away deprives the child of the highest good.

It is to the conclusion that an unborn child is not in existence so as to be entitled to the protection of his person as well as his property that the court dissents. It is not helpful to characterize its existence as fictitious as to property rights. The rights are accorded to it. The indisputable fact is that one is answerable to the criminal law for killing an unborn child who to that end is regarded as in being, and the further fact is that the unborn child, so far as the property interests are concerned, is regarded as an entity, a human being with the remedies usually accorded to an owner. But the argument then proceeds that one must respect the rights of ownership, and, so far as a civil remedy is concerned, disregard the safety of the owner. In such argument there is not true sense of proportion in the protection of rights. The greater is denied; the one lesser and dependent on the very existence of a person in being and entitled to protection is respected.

Justice should not be turned aside and wrongs go without remedies because of apprehension of what may happen in jurisprudence if it be decided that an unborn child has some rights of the person. But here is reached the critical stage of the inquiry. This was an action for negligence, for violation of the defendant's duty as a carrier, and the defendant could not be judged as a trespasser. What duty did the defendant as a carrier owe the unborn child? The child in its distinct entity was not a passenger, and the company owed it as a separate person no duty in the matter of safe carriage. It is not the duty of a carrier to scrutinize its passengers for the detection of unborn children, to the end that they, although latent, may be regarded as passengers. It undertakes to carry as passengers the born, and not the unborn. It carries by compulsion those visibly offering themselves. So the mother presents herself and her living children, and the carrier is bound by the law of the realm to receive and to carry them. Its duty begins with receiving and ends with discharging them, and due care is required. The plaintiff stood in no such relation to the carrier as to earn such obligation on its part, and liability to respond for injury for the negligent carriage and discharge of the mother was coincident with the limits of its duty to her. The obligation arises from implied convention with the state that the carrier shall transport persons with due care, and the remedy is given to the one injured by the breach. The obligation is the same whether the action is in form based on breach of contract or of duty to carry.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Association of American Physicians, Washington, May 6-7.
Conference of State Boards of N. Amer., St. Paul, June 13.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9
Kansas Medical Society, Topeka, May 7-8.
Massachusetts Medical Society, Boston, June 10-11.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New Jersey Medical Society, Spring Lake, June 10-12.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29
Texas State Medical Association, San Antonio, May 6-8.
West Virginia State Medical Association, Charlestou, May 21-23.

## MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

*Annual meeting held at Mobile, April 15-17, 1913*

The President, DR. HARRY T. INGE, Mobile, in the Chair

### Officers Elected

The following officers were elected for the ensuing year: president, Dr. S. R. Hill, Montgomery; vice-president, Dr. F A. Webb, Calvert; secretary, Dr. James N. Baker, Montgomery; treasurer, Dr. Henry G. Perry, Montgomery.

Montgomery was selected as the place for holding the next annual meeting.

### Fevers of Obscure Origin in Children

DR. LOUIS E. BROUGHTON, Andalusia: Nervous reaction plays an important rôle in the regulation of the temperature in children. Nervous irritability varies in different children. A mild constipation may elevate the temperature in one child, while it will remain undisturbed in others with very severe constipation. Elevated temperatures also vary in length, being of short duration in some and long in others, with seemingly the same prime cause, namely, constipation. Nervous excitement, sufficient to cause convulsions, is not necessary for the rise of temperature, as the highest temperature may be reached from the slightest provocation. Fever may be due to reflex acts, but repeated attacks of obscure fevers are evidently due to the impregnation of the organism with soluble substances. The principal soluble substance is bile, accumulated in the gall-bladder and ducts, the irritated or chronically inflamed gall-bladder being probably the cause of retention. While many insist that these fevers are the result of intestinal toxemias and constipation, these conditions are not relieved without a thorough purgation, showing that the accumulation of foodstuffs is not the only cause of the toxemia; the real cause is the diminished amount or total absence of bile in the intestinal tract. Heroic treatment is necessary to prevent the recurrence of the attacks; while mild treatment will reduce the temperature and relieve the attack, it

does not relieve permanently. Calomel, properly administered, seems to be the sine qua non. Children bear calomel well; when it is followed by salines and laxatives there is no danger of ptyalism.

### The Drugging Habit of the Busy Practitioner

DR. BENJAMIN BRITT SIMMS, Talladega: Many of us to-day cherish vicious delusions regarding the treatment of diseases, but let us adopt scientific and modern methods of giving medicine for the cure of diseases. From 50 to 75 per cent. of all patients require no medicine at all. It many we may be required to give a well-selected harmless placebo. I condemn the habit of giving indiscriminately patent and proprietary remedies.

DISCUSSION

DR. W. W. HARPER, Selma: The more we know of pathology and etiology, the less medicine we give. We should learn to use a few remedies well, and not a whole lot of proprietaries that are carried around and given to the doctors free, many of which are absolutely worthless.

### Trifacial Neuralgia

DR. THOMAS C. MCCLELLAN, Cochrane: A negro, aged 84, was having fifty or more severe paroxysms a day. The middle branch of the nerve was affected. This condition persisted for several years. After the superficial injection of 15 mimims of chloroform on alternate days for two weeks, he was entirely relieved. The patient died about one year afterward from other causes, but had no more paroxysms. Another patient was given ten superficial injections of chloroform with relief for two years. Since then, I have had two failures with superficial injections of chloroform. In the next case I intend to follow Patrick's or Levy-Baudouin's method and directions.

DISCUSSION

DR. E. P. WEBB, Laurel Hill, Fla.: At what intervals would you use these injections?

DR. MCCLELLAN: The injections of chloroform were given every other day. The patient is given two or three injections if more than one branch is involved at the same sitting, but most injections are given every week or ten days.

### Post-Partum Hemorrhage and Its Treatment

DR. OTIS W. LITTLE, Pennington: The fluidextract of ergot is usually given after the third stage of labor, but it may be given at the second stage of labor when there is active hemorrhage. The hypodermic administration of preparations of ergot is more valuable. The German obstetricians have shown that the administration of pituitary extract is without doubt the most valuable agent we possess for the control of uterine hemorrhage. The uterus goes into marked tonic contraction at once.

DISCUSSION

DR. PAUL RIGNEY, Courtland: I would like to call attention to hyperthyroidism as a causative factor of post-partum hemorrhage. I have attended the same patient on three different occasions, and for identically the same condition each time. It became active for a short period each time and gave a great deal of trouble.

DR. WILLIAM HENRY SLEDGE, Mobile: In thirty years I have found nothing equal to saturating a piece of cloth with vinegar, squeezing it all out, and passing the gauze into the uterine cavity. It stops the hemorrhage at once.

DR. HENRY GREEN, Dothan: As to the use of drugs, I agree with Dr. Sledge that when we have a real post-partum hemorrhage we have no time to drug the patient. The hemorrhage must be stopped at once. I have seen several women bleed to death before we could give them a hypodermic of any thing.

DR. G. H. FONDE, Mobile: A good big dose of castor oil, for the purpose of overcoming intestinal paralysis and peristalsis, seems in my experience to forestall the tendency to uterine inertia, and make the nervous mechanism under the control of labor easier. When you get the effect of the castor oil, you seem to get a more orderly progress of the uterine contraction.

DR. WILLIAM F. BETTS, Evergreen: In these cases I have been giving ergot in doses of 10 or 15 drops, and I find that the contractions will pick up and the patients get along nicely, and I have not been troubled with hemorrhage afterward. I would make the suggestion that the ergot be used in small doses, and not in large ones, as there is danger of rupture of the uterus.

DR. ISAAC L. WATKINS, Montgomery: It is the habit of a great many doctors to be in too big a hurry to deliver the placenta. In Germany they have a custom in hospitals of requiring the doctor to wait two hours before the placenta is expelled. There are two reasons for this, one of which is that young men learn patience thus and another is that the women are better off. Too early delivery of the placenta is a frequent cause of hemorrhage.

DR. THOMAS NORTHEN, Ashland: I recall one case of post-partum hemorrhage in which the placenta consisted largely of an osseous deposit. It was very brittle. It is my belief that if the proper time is taken, and not too much traction made on the cord, the patient seldom needs any treatment. I have had a few cases of retained placenta, and in removing it with the hand I have found that the uterus responds very quickly to the manipulation. I believe that would be a good plan in cases of uterine inertia. I have tried ergotin in these cases and I have been favorably impressed with it. It is given hypodermically.

DR. JOHN C. MCLEOD, Bay Minette: Secondary post-partum hemorrhages which occur several hours after labor have not been mentioned. Most post-partum hemorrhages take place soon after the delivery of the child. I had been practicing medicine for eleven or twelve years before I saw the other kind, but in the last eighteen months I have had two cases of alarming and dangerous post-partum hemorrhages, occurring about four hours after the delivery of the child. A word in regard to the prevention of this occurrence. I believe it is a good idea, in addition to administering a dose of ergot at the time of the birth of the child, to leave a full dose of ergot to be administered two hours after the delivery, after the doctor has left the woman, and the application of a firm abdominal binder. The ergot at that time will take effect before secondary hemorrhage may take place.

DR. F. M. INGE, Mobile: The regulations of the New York Lying-In Charity Hospital have served a good purpose in my experience. The principal instruction in that institution is that no ergot should be given until the placenta is delivered. The junior in that hospital is instructed in all cases from the time the child is delivered to keep the hand on the uterus without massage, without any treatment of the uterus, but simply watching it. The instructions further state that no placenta should be delivered within twenty minutes after the birth of the child. Gradual massage is then made on the placenta and it is delivered. I saw ninety cases within a month's time in that hospital without a single case of the slightest post-partum hemorrhage.

### The Physician in Public Affairs

DR. HARRY T. INGE, Mobile: Fifty per cent. of those who apply for licenses to practice medicine in the State of Alabama fail to pass the examination. This is because there are too many men studying for the profession, or rather it is because the choice of occupation in this country has not the appropriate relation to the ability of the individual. I do not wish to see Websters plowing, but I think we have too many plowmen trying to be Websters, and I am sure our people are making a great mistake in attempting to confer degrees on too many men who are incapable of filling the positions in life which the honor of conferring the highest degree on them leads them to seek. Just so long as the doctor permits himself to be classed as a negative factor in politics, just so long as he takes the position that it is unprofessional for him to devote any real part and attention to political matters, just that long will he be held responsible for the public health without being vested with the control or influence that

his responsibility demands. As the matter now stands, every quack and charlatan exercises more influence over the legislation which pertains to health and sanitation than does the learned and retiring physician. I would, therefore, stir you to a real, positive, aggressive interest in public affairs to the end that the medical profession may demand and receive proper recognition, and that its advice may be listened to and accepted in all legislation which pertains to the health and physical welfare of the nation.

### Roentgen-Ray Treatment of Epithelioma

DR. JOHN N. EDMONSON, Birmingham: I deem the Roentgen-ray the proper treatment of epithelioma for the following reasons: first, its freedom from pain; second, its lack of scarring; third, its thoroughness in covering the field surrounding the growth, as well as the attack on the growth proper; fourth, and by far the most important, the results obtained as compared with any other method.

### Bacillary Dysentery in Infants

DR. W. W. HARPER, Selma: In bacillary dysentery infants dispose of fats poorly and in returning to a sweet milk diet the fat element should be low, say 1 per cent. This can be cautiously increased to 3.5 per cent.; and this percentage should not be exceeded. In infants over 6 months of age the caloric value of the milk can be increased by using cereal diluents. I advise the administration of Flexner's antidysenteric serum in the pure Flexner bacillus infection. The dose is 10 c.c., repeated every six hours, until three or four doses are taken. In some cases it has a marked beneficial effect, while in others I have seen no appreciable results.

#### DISCUSSION

DR. DANIEL P. MCCALL, Mobile: While we have the same clinical manifestations in the fermentive type of dysentery yet in the bacillary form there is a deep-seated ulceration over the colon probably extending to the stomach. In the gas bacillus infection we have more of a pseudomembranous condition of the colon, probably affecting the small bowel, or the lower portion of the small bowel, and with a congested adherent membrane behind the original intestinal infection. With the gas bacillus infection we get excoriation of the buttocks. You will get a gaseous stool and also an acid stool, whereas the putrefactive or proteid form gives a non-gaseous, non-acid stool. As to the clinical appearance of the patient, you will find that the one who is affected with the putrefactive organisms is much more prostrated with a higher temperature. On the other hand, with the gas bacillus infection you rarely find a temperature which ranges above 101 F.

DR. J. L. BOWMAN, Union Springs: These cases have occurred not only in my practice, but also in the practice of several of my colleagues who have called attention to this condition following cases of what seemed to be bacillary dysentery. After all the conditions, so far as the bowels were concerned, had disappeared, and temperature had reached normal, there was a sudden rise of temperature, the child became fretful and remained so anywhere from three days to a week. Digestion seems to have reached nearly the normal again, and when you are called to see the patient some morning, the mother tells you that the child has had trouble in the ear, and otitis media is the cause of the fever. I have seen in the course of ten years about three such cases, and my colleagues have called my attention to about three others. But the moral is that whenever we have a fever in a child that we cannot account for, it might be well to examine the ear for an otitis media.

DR. W. W. HARPER: With reference to handling the napkins, my practice is to take a square of cloth of three or four folds of gauze and place it within the napkin. That receives the stool, and after it has been inspected by the doctor, it is burned. I find in making use of that method it is easier to cleanse the napkins, and it lessens the chance of reinfection. Another caution I insist on in the case of female infants is that they be wiped down instead of up. By wiping up one is liable to force some of the contents of the bowel into the vagina and urethra, and a penalty for this may be later a colon bacillus infection of the ureter and pyelitis, which is often a frequent cause of obscure fever in infants.

### Acute Pancreatitis

DR. T. BRANNON HUBBARD, Montgomery: I have had two cases of acute pancreatitis. An accurate diagnosis is rarely possible. At the outset perforated gastric or duodenal ulcer, and later acute intestinal obstruction is simulated, while cholecystitis, appendicitis, ruptured ectopic pregnancy or tumor with torsion may be thought of. In perforation of an ulcer previous symptoms are more frequent, and rigidity of recti, instead of the distended but not rigid abdomen of pancreatitis. In acute obstruction collapse is not so frequent, and the pain is not so localized. Dr. M. H. Richardson said that the indications for treatment will be fulfilled when the indications for exploration of acute and grave abdominal symptoms have been fulfilled, and that is when immediate exploration is resorted to. Resort to exploratory laparotomy should not be delayed too long.

### Cecal and Pericecal Adhesions

DR. JOSEPH D. WINTHROP, Mobile: It must not be concluded that all the various forms of adhesions give rise to identical symptoms, or that a common operation is advised for all alike. Etiologically, pathologically, and clinically, they may all be different conditions. I have grouped and considered them together from their anatomic location rather than as considering them a common pathologic entity.

### Acute Hematogenous Infection of the Kidney

DR. JAMES M. MASON, Birmingham: Acute hematogenous infection or septic infarct of the kidney is of comparatively frequent appearance and is often overlooked. Serious injury to or disease of one kidney acts as a predisposing cause. While nephrectomy is demanded in the fulminating type, early diagnosis and operation will permit of decapsulation with incision and drainage of infarcts in certain milder cases, thereby saving some kidneys which would require removal, if treated later. The relation of movable kidney to the development of septic infarct offers an indication of nephropexy worthy of consideration. When explorations in supposedly acute abdominal conditions fail to reveal lesions sufficient to account for the symptoms present, the possibility of septic renal infarct should be borne in mind and the condition of the kidney ascertained before completing the operation.

### The Medical Profession and Medical Education

DR. W. F. R. PHILLIPS, Mobile: The responsibility of the medical profession in respect to medical education is not solely to the profession itself, but is, if anything, more to the community, which gets its estimate, its impressions and its ideals of medicine from the work, activity, and education of the profession in its midst. The survey of our present medical schools shows two facts: first, that we have some of the best schools in the world, schools of the highest grade and conducted on the best educational principles known—schools that are without superiors anywhere; second, that side by side with the best we have the poorest to be found in the universe. Between these extremes we have gradations. In this respect we contrast strongly with European conditions, where but one standard prevails, and that is the best. I hope we are going to see that from now on there shall be but one standard of medical education in this country, and that the best. That before long there shall be no such thing as Class A plus, Class A, Class B, and Class C medical schools, but that they all shall be Class A plus.

### Rural Sanitation

DR. CHARLES A. MOHR, Mobile: The first step to raise the country to a higher sanitary plane is the education of the people. The teachers are logically the persons who understand the principles and questions involved, and first among these are the legal guardians of the public health, the doctors of the organized profession. Every intelligent man and

woman who is informed on this subject is a competent teacher and should be a helper, and that there are many such is common knowledge. Education is so much needed that as many teachers are required as can possibly be obtained. The fundamental principles of communal hygiene and sanitation are contained in the following topics, everyone of which is an important factor in rural sanitation: 1. Collection of vital and mortuary statistics. 2. Reports of the occurrence of communicable diseases. 3. The fly as a disseminator of disease and its extermination. 4. The mosquito, the essential factor of the spread of malaria and the extermination of the insect. 5. Garbage, collection and disposal. 6. Water supply, care and service. 7. Sewerage, and the care and disposal of night-soil. Whatever the duty of the individual, the town authorities and the county authorities must be made to realize that they must part with some of their money in the interests of the public health. If public health is a purchasable commodity, these authorities must be made to pay for some of it.

## MISSISSIPPI STATE MEDICAL ASSOCIATION

*Forty-First Annual Meeting, held at Vicksburg, April 7, 1913*

The President, DR. S. W. GLASS, Lyon, in the Chair

### Officers Elected

The following officers were elected: president, Dr. L. C. Feemster, Nettleton; secretary for five years, Dr. E. F. Howard, Vicksburg (reelected); delegate to the American Medical Association, Dr. S. W. Glass, Lyon.

Columbus was selected as the place of next meeting.

The secretary's report consisted chiefly of an account of the proceedings of the conference of state secretaries held in Chicago, October, 1912, with comments, and suggestions for a campaign for increased membership.

One hundred dollars were appropriated for a special medal to be given Dr. C. C. Bass of New Orleans, formerly a member of this association, for services rendered the profession in his studies of malaria.

### Menstrual Disorders in Schoolgirls

DR. E. F. HOWARD, Vicksburg: I studied thirty or forty girls for three years, and believe that most of their menstrual troubles are due to ignorance. Parents should be taught to consider such matters when selecting the schools to which they propose to send their girls. A properly conducted school is one in which undue mental excitement is avoided, where outdoor exercise and proper food are provided and watch kept on the menstrual life of the pupils.

DISCUSSION

DR. MAY F. JONES, Columbus: In the past fifteen years I have had under my care about five hundred girls, for the most part country girls. I have found that about 10 per cent. have amenorrhea and a larger percentage dysmenorrhea. The parents seem to think that when a girl misses two or three menstrual periods she is doomed to illness the rest of her life: I do not believe that this is true. I believe that Nature enforces the law of compensation, and that when great mental activity is going on she is certainly not going to waste elsewhere any blood that should be given to the brain. I have not found that physical exercise lessens amenorrhea very much. At Columbus we have an excellent gymnasium. The amenorrhea lasts from October to February or April, and after that the girls become as regular as girls usually are—because I find that the majority of girls do not menstruate regularly every twenty-eight days, but anywhere from twenty-one to twenty-eight days, in periods. A great many who are anemic suffer from amenorrhea. In dysmenorrhea sitz baths have proved beneficial. We have had a number of cases of menorrhagia. These girls are required to rest in bed. We do not examine any patients, except under strict necessity, as I think that young girls should not have that done unless absolutely necessary.

The teaching of sex hygiene in the public schools, proper dress and proper care would help this condition materially.

DR. N. L. CLARKE, Meridian: If I were going to build a college for girls I would make it a one-story building, without stairs. Climbing stairs during the menstrual period will injure any girl or woman. I attribute a great deal of the menstrual disorders to-day to lack of regulation in the girls' schools. Somebody ought to instruct mothers, for they do not know the pathologic conditions that obtain during the menstrual period, and therefore cannot instruct their daughters.

DR. J. W. DULANEY, Greenwood: A frequent cause of dysmenorrhea and also of amenorrhea is laceration of the cervix. I am inclined to think that dress has a great deal to do with the disturbances we find at schools.

DR. M. F. JONES, Columbus: An ill-fitting corset can do a woman a great deal of injury; but to have a well-fitting corset acting as a band around the abdomen will help the uterus. A great many of these girls assert that they are just as irregular at home. Menstruation should be a physiologic factor, but in our modern civilization it has ceased to be. Dress and mode of living have a great deal to do with it. I think that our tall school buildings have much to do with the congestion at the time of menstruation. All girls should be urged to rest and quiet. At the Hattiesburg Normal not only are they urged not to study at that time, but absolutely no notice is taken of their absence from the classroom during the menstrual period.

DR. W. L. LITTLE, Wesson: A girl at the period when she is just entering womanhood ought to be instructed how to live, so as to develop her into a strong, healthy woman.

DR. R. M. DONALD, Hattiesburg: It has always seemed to be the fixed policy of the medical profession to condemn the corset. I have known of patients with menstrual irregularities being absolutely cured by going to the corset fitter and getting an absolutely correct corset. I have had a few cases of menstrual irregularities among schoolgirls, but have attributed most of them to mental strain.

### Some Observations in Obstetrics

DR. W. J. GRADY, Amory: I believe that the failure of obstetricians to interfere in labor has much to do with race suicide. Assistance can be rendered to shorten the duration of labor.

DISCUSSION

DR. P. R. BROWN, West Point: Those of us who have been in practice for quite a number of years have changed largely from the habit we used to have of making frequent examinations of women in labor. While the labor seems to be progressing normally the effect of repeated digital examinations is to wipe away the material that expedites or facilitates the passage of the child, and naturally increases the danger of sepsis. I have found that I usually obtain better results by making only one examination.

DR. J. S. ULLMAN, Natchez: Wiping away the mucus by frequent examinations is readily done away with if the physician uses rubber gloves, and it lessens the danger of infection.

### Cesarean Section

DR. H. R. SHANDS, Jackson: I have had three of these cases and believe that the recorded mortality of 4 per cent. may easily be maintained if the patient receives prompt attention and is not infected by examinations and attempts to deliver by vagina.

DISCUSSION

DR. W. A. JOHNS, Corinth: I have had only one case of cesarean section; the child proved to be a fetal monster, double-faced, hydrocephalic, with a head as large as a man's. We delivered the feet and then our efforts failed to budge it. The only indication was for cesarean section, and the conditions under which it was done were about as bad as could be found. The house was little, with only three rooms; we had to use a kitchen table, and send out to the neighbors to borrow soap and a vessel in which to heat water. The incision was made high up. The uterus was sewed up with catgut and the abdomen closed in the usual manner. The patient had fever for a week but made an uneventful recovery. A woman who has a markedly contracted pelvis ought not to be allowed to bear a child.

I consider forceps one of the greatest blessings to womankind. They are indicated when you have made up your mind that the child cannot be delivered without them. With the forceps skilfully applied I have had no more tears than when they were not used. I think that in the presence of eclampsia, or too much bleeding, version ought to be done at once. In those cases of eclampsia that I have had the children have generally been small and the version performed without much trouble. I believe that the hand is the safest instrument one can use inside the uterus. I agree that cesarean section is about as safe as any other major abdominal operation when one has good facilities for abdominal surgery.

DR. J. W. BARKSDALE, Winona: Cesarean section has a much wider scope than is usually accepted by the profession at large. In a number of cases it becomes an operation of election, and not of necessity. In cases in which the menace to life is great cesarean section is much more feasible and easily done than a version under ordinary circumstances. My experience has been that of all the abdominal operations a man can do, cesarean section is, perhaps, one of the simplest. A free incision, taking the uterus out of the abdominal cavity in the case of a large fibroid, and walling off the rest of the abdominal cavity, offers an easier solution than allowing the uterus to remain in the abdomen and holding it to prevent leakage.

The chief danger lies in the possibility of infection prior to the operation, though under modern usages the chances of infection are greatly reduced. In no case do we do cesarean section with a feeling of assurance when there has been much manipulation of the uterus. For suturing, I prefer catgut and the method of suturing the uterus as described by Dr. Shands. I think that it should be adopted under all circumstances.

DR. F. D. SMYTHE, Memphis: In my opinion mortality to the mother is infinitely higher in the hands of an unskilled manipulator than is the mortality attendant on cesarean section even in the same man's hands. Version or the forceps operations require a great deal more skill than cesarean section, and it is on the relative indications for the operation that we balk. I do not believe that we are justified in dragging a fetus through the bony pelvis simply because, as the result of strength, it can be done.

Which procedure offers mother and child the greatest chance for recovery? The mother is entitled not only to be delivered of her child, but also to be delivered in a manner that we are justified in assuming will permit the child to grow to maturity. My observation has been that the forceps operations, when indicated, are attended by frightful lesions of the soft parts, and are more menacing to the patient's comfort and health, and even to life itself, by subsequent infection, than is cesarean section. We note that a good many babies which are drawn through the pelvis have serious disorders of the nervous system, which would be obviated by cesarean section, and without any great risk to the mother—in the hands of a competent man. The mortality under such circumstances is only 3 or 4 per cent. It is the cases in which the women have been tampered with for three or four days that produce most of the deaths. Death, however, is more often due to infection prior to the operation than to the operation itself. Cesarean section has come to stay, and with a more careful preliminary examination of the pelvis, and a history of prior conditions, the operation will be more frequently performed, in the interests of both mother and child.

DR. C. J. MILLER, New Orleans: I was for a long time an unbeliever in the good results of cesarean section until I was brought face to face with serious cases of deformity, etc. I saw the good results of the operation. In cases of contracted pelvis the indications are plain—but it is ferreting out the border-line cases that now concern us most. I would trust a man who does only surgical work to do an elective cesarean section, who knows how to clean and scrub up and keep the field clean. It is not the damage to the soft parts, but the damage to the cervix that we want to be most careful about. If a man decides to do cesarean section, he can eliminate the question of infection. If you can press the head well down into the pelvis or the cervix, let the patient alone, but in the cases in which it cannot be done, the elective operation is its indication. We have passed the point in version where we are trying to save the mother altogether. The child has almost as many rights here as the mother, and we know that version is not the best treatment for placenta praevia. I am certainly against the indiscriminate use of cesarean section in placenta praevia. You lose just as many patients from infection after delivery as during the hemorrhage at the time.

*(To be continued.)*

---

## NEW YORK NEUROLOGICAL SOCIETY

*Meeting held March 4, 1913*

The President, DR. SMITH ELY JELLIFFE, in the Chair

### Case of Acute Infective Encephalitis, probably of Gonococcic Origin

DR. JOHN H. LARKIN and DR. SMITH ELY JELLIFFE: The patient was a Hungarian, aged 33, who had apparently enjoyed perfect health up to the time of his last illness. He was admitted to the hospital Jan. 13, 1913, suffering from a urethral discharge. After he had spent a day or two in the genitourinary ward, it was observed that he was not quite clear in his mind, and he was transferred to the neurologic service. At this time he complained of pain in the legs and bladder, and he had so much difficulty in passing urine that he was catheterized. There was a slight discharge from the penis, and constant priapism. Because of his mental condition, it was impossible to elicit a satisfactory family history. With the exception of a slight increase in the reflexes of the lower limbs, some spasticity and a doubtful Babinski, the neurologic examination proved negative. There was no temperature elevation at this time. Shortly afterward beginning choked disk was noted. Gradually the spasticity of the lower limbs increased, the patient's mental condition became worse, he became more apathetic and less and less responsive, the choked disk became more apparent, especially on the right side, and these symptoms, together with the prominence of the spastic phenomena on the left side, led to the determination to make an exploratory opening over the right frontal lobe in the hope of finding a tumor or other lesion to explain the symptoms. The patient's temperature, which had been normal at the time of his admission, gradually rose to 101 F., then fell to normal and again rose to 100, where it remained until the day of his death, when it fell to subnormal.

A necropsy was performed. The brain, which weighed 1,400 gm., was somewhat flattened on the left side, and was the seat of an acute form of encephalitis, in which the preponderant cells were of a large, irregular type, invading the white matter, with marked infiltration of the walls of the blood-vessels. The gray matter was not involved. At the time of his death, this patient had a gonorrheal infection of the posterior urethra, and smears, taken from the brain, showed a Gram-positive bacillus, which by culture on serum-agar gave a light growth corresponding closely to that obtained from gonococci. On retransplantation, however, the culture died out, and it was impossible to assert positively that encephalitis was of gonococcic origin, although that was our belief.

### Tumor of the Spinal Cord

DR. WILLIAM M. LESZYNSKY: A woman, aged 49, complained for nine years of characteristic root pains and pains in the course of the left sciatic and anterior crural nerves. At the end of the fourth year the right lower extremity became similarly affected. Subsequently there were paresthesias, attacks of transient loss of power in the extremities, and a band-like feeling at the level of the lower thoracic region. Ultimately, she became completely paraplegic, with bilateral foot-drop, loss of patellar, Achilles and plantar reflexes, and incontinence of urine. Hypalgesia and thermo-anesthesia extended upward to several inches above the level of the umbilicus. Tactile sensibility was preserved. Wassermann reaction was negative. Although several lumbar punctures were made, no cerebrospinal fluid could be obtained.

The diagnosis was made of a tumor involving the cauda equina, with secondary implication of the cord. At the operation a large tumor was exposed which filled the entire lower part of the spinal canal and extended to and over the conus. Most of the growth was removed within its capsule. No improvement followed, and death took place from exhaustion three months later. At the necropsy, a tumor mass was found involving the cauda and filling the sacral canal. This was a glioma. There were syringomyelic cavities in the lumbar and thoracic regions, chiefly in the anterior portions of the posterior column, with borders of pronounced gliosis. Both the ascending and descending tracts showed advanced degeneration.

### Spinal Decompression for Meningomyelitis

DR. ALFRED S. TAYLOR and DR. J. W. STEPHENSON: The patient was a watchman, aged 62, whose previous history was negative with the exception of an attack of pleurisy and pneumonia seven years ago. His family history was unimportant; there was no history of lues and no cough. Present illness began in May, 1912. While at work he was seized with an intense pain in the chest and back, which became very sensitive to the touch. He was taken home, and for several days the pains persisted. He was delirious and was said to have had fever. His condition was diagnosed as rheumatism and was so treated. Two weeks after the onset of his illness an abscess developed on the right chest; this was incised and its contents evacuated. At this time he also suffered from retention of urine, and the testicles became swollen. This, however, soon cleared up.

The pain and fever persisted intermittently, recurring at variable intervals, and early in August, the pain "seemed," according to the patient's statement, to locate in the neck and back of the head, and was followed by a heaviness of the legs and consequent difficulty in walking. The legs gradually became stiff, and in place of the pains he began to have "cramps" which would double him up. In the course of time he also noticed that the upper extremities were growing weak and stiff, and all symptoms gradually progressed until about the middle of August, 1912, the patient became bedridden. He also complained of considerable pain over the region of the bladder, and examination revealed retention, with overflow. There was obstinate constipation.

Nov. 13, 1912, he was unable to walk or stand, having been bedridden for three months, and complained of paroxysmal cramps in the legs. Examination revealed a marked spastic paraplegia, with decided weakness of both upper extremities. He was unable to feed himself, and voluntary movements of lower extremities were impossible. The bladder was distended and there was impaction of the colon. There were no distinct atrophies, though the leg muscles were flabby. There was no tenderness over the vertebrae, but on the right side of the neck, over the lower three cervical vertebrae, there was a distinct infiltration which was tender on pressure and which somewhat limited the movements of the neck. Over the right chest, just underneath the clavicle, there was slight infiltration which was attributed to the old abscess. The knee-jerks were plus plus and equal; the ankle-jerks were plus and equal; there was a double Babinski and Oppenheim. There was double ankle-clonus; the right inexhaustible, the left exhaustible. The abdominal and epigastric reflexes were very sluggish; those of the upper extremities were plus, left greater than right. There was a diminution of the thermal, pain and there were tactile sensations up to the level of the first dorsal. The eyes were negative excepting for a slight irregularity of the pupils. Temperature was 98; pulse, 68; respirations, 18; blood-pressure, 140 mm. A blood examination showed 4,778,000 red blood-cells, with 9,600 leukocytes. A differential count showed neutrophils, 62; large lymphocytes, 15; small lymphocytes, 22; transitionals, 1. The morphology was negative. Wassermann test, urinalysis and von Pirquet test were negative.

The patient was kept under observation for twenty-eight days, during which time there was a gradual progression of symptoms: areas which previously showed a sensory diminution became anesthetic, the abdominal and epigastric reflexes disappeared, and the left exhaustible clonus became inexhaustible. The cramp-like pains became more severe and frequent, requiring the use of morphin. Frequent catheterizations became necessary and the bowels were evacuated only by means of enemas. A roentgenogram showed a circumscribed shadow on the right side of the spinal column opposite the sixth cervical vertebra, which was apparently just in front of the transverse process. A hemilaminectomy was done December 10. Four days after the operation, an examination revealed an exhaustible clonus, and pin-pricks were felt acutely by the patient over the previously anesthetic areas. December 18, the patient was able to move his legs voluntarily, and from this time on his condition gradually improved. December 26, with some assistance, he was able to walk the length of the ward, and the bladder and rectal functions were restored. He had an occasional "cramp," but never required opiates.

#### DISCUSSION

DR. ALFRED S. TAYLOR: I performed the operation in this case. There were one or two points that should be brought out with a little more emphasis. Early in the course of this man's illness he developed what was regarded as an abscess at the junction of the sternum and the second costal cartilage. This was opened, but after two or three months it still contained some old, chronic inflammatory material: it appeared as a distinct swelling, slightly tender, and was very suspicious of a gumma. Of course, the fact that the Wassermann reaction was negative rather militated against that theory, and the abscess was possibly of tuberculous origin. The von Pirquet test, however, was also negative. Another suggestive point was the evidence of the presence of inflammatory material on both sides of the spine over the actual seat of the trouble. The transverse processes of the fifth, sixth and seventh cervical vertebrae were more or less indistinct in outline on account of the presence of this material.

The operation in this case was an exploratory right hemilaminectomy. There was nothing unusual observed in the laminae themselves. When, however, the laminae were removed, the dura seemed to fill the entire spinal canal. The cord itself was somewhat congested, so that it entirely filled the dural cavity, interfering with the flow of spinal fluid. The cervical canal, instead of widening as it ordinarily does, was distinctly narrowed. Apparently there must have been a combination of a congenital malformation, plus some inflammatory condition of the cord. When the operation was being completed, the dura was not sutured. The bone was not replaced and the muscles were sutured.

DR. J. R. HUNT: Syphilis of the vertebral column is rare, but should always be considered in cases of spondylitis. The cervical region is most frequently involved in this group of cases, and the meninges or the cord might be compressed or directly involved by the syphilitic process at the same level. In the case reported a syphilitic periosteitis and osteitis with consecutive peripachymeningitis should be considered as a possible clinical diagnosis.

DR. L. P. CLARK: I do not think that we were justified in ascribing the condition in this case to syphilis, as that diagnosis was not borne out by the serologic tests. While these spinal decompression operations often prove apparently beneficial, I am inclined to believe that these cases should be investigated a little more closely and sifted out a little finer before an operation of this kind is recommended. Although a decompression operation is beneficial in a certain few cases, it is still a rather questionable procedure in cases in which the diagnosis is obscure.

DR. J. H. LARKIN: I do not think that a diagnosis is possible. A syphilitic osteitis or periosteitis could easily have been demonstrated from its objective features. A specific inflammation of the meninges of the dura spinalis would certainly have shown some objective features to give rise to such phenomena as this man presented.

DR. FOSTER KENNEDY: I do not agree with Dr. Larkin that a syphilitic pachymeningitis always presents such clear objective features that it cannot be mistaken for anything else. When one has cut down on the cord and finds an

inflammation of the dura mater, it is not always easy to say whether it is tuberculous or of specific origin. I see no objection to advising an exploratory operation in a case of this kind. The man had certain definite symptoms pointing to a certain area of the cord. He was obviously growing worse, and even if the operation had failed to produce any improvement in his condition, it would still have been warranted.

DR. S. P. GOODHART: Conditions similar to this are not so very uncommon. I recall a case in which Dr. Taylor operated about two years ago. The condition was practically the same, and the operation, as in this instance, consisted of a decompression. That patient was seen by Dr. Dana, who concurred in the diagnosis of suspected neoplasm. A decompression was done, both for relief of pressure and for exploration, and although no tumor was found, the patient improved very much. There was no other way in which she could possibly have obtained that relief. The cord at the site of operation showed congestion. The motor and sensory symptoms before operation pointed positively to a localized lesion approximately at the second dorsal segment. Decompression and exploration in these cases were justified and even imperative.

DR. J. F. TERRIBERRY: Antisyphilitic treatment was not given a trial in this case, as it was taken for granted that the condition was not specific, based on the pathologist's report. Is that a safe and sound doctrine? Is it right to proceed surgically in a case of this kind before giving the patient the benefit of a thorough course of antisyphilitic treatment? I recently saw a case with a condition of the ribs similar to that described in this instance, and the lesion cleared up entirely under specific treatment.

### The Traumatic Neuroses: A Retrospect and a Forecast

DR. PEARCE BAILEY: Considered retrospectively, the traumatic neuroses fall naturally into three periods: (1) the initial, organic period of Erichsen; (2) the functional period, made possible by the work of Charcot, and (3) the modern, analytic period, which has encouraged the psychologic dismemberment of hysteria. While these disorders existed before Erichsen's time, their history dates from the appearance of his book. As knowledge of the anatomy and physiology of the nervous system and the symptoms of its diseases progressed, some of the errors of Erichsen's work became apparent. It became evident that a fracture of the spine was the same whatever the accident that caused it, and that locomotor ataxia, developing in direct sequence to a railway collision, did not disprove that the man who developed it had syphilis, or that he would not have become ataxic without any accident. But while these frankly organic cases found their true place with advancing knowledge, it took much longer for the purely functional nature of imposing physical symptoms to be recognized, and when this happened, in Charcot's great days at the Salpêtrière, the traumatic neuroses entered on the second or functional period of their history. For many years during this period the traumatic neuroses consisted of traumatic hysteria, such as Charcot described, and of traumatic neurasthenia. There were other neuroses advanced from time to time as characteristic of accidents, but these two were the chief and most important ones.

A true traumatic neurosis, in which the question of fraudulent simulation can be excluded, may be regarded as a more or less subconscious expression on the part of the plaintiff of his wishes or of his fears, his mind having been thrown back to a more primitive state by the accident. With the high money premium put on personal injuries, it is easy to see in what way these wishes might point, but the desire for financial profit, while it was doubtless important, had been much overestimated in the original genesis of this affection. A desire for revenge against the person who had injured him was a much more potent force in determining the changes in personality. The study of the traumatic neuroses has always been hindered by the fact that it has rarely been possible to get at all the conditions of the case, and they have rarely been studied from the analytic point of view which has thrown so much light on neuroses of other origins. If the hypothesis set forth is correct, the explanation of every traumatic neurosis must be found in disturbances of consciousness: the accident affects consciousness more or less violently, and at once begins to loosen restraint in the subconscious regions. The individual symptoms of traumatic neuroses, namely, hemiplegia, the paraplegia, the blindness, etc., which have been regarded hitherto as the most important, seem important only in so far as they give a clue to mental motives: they are the clinical expression of fear or desire; their particular form is determined partly by the general make-up of the patient, and partly by environmental conditions. My experience with cases designated as traumatic hysteria has been that before the legal case was terminated, there was little or no improvement; that after the case, as such, was terminated, there was eventually disappearance of the physical symptoms, such as paralysis, etc., in almost every case. This recovery did not occur immediately, as claim-agents maintained, and might be delayed several months or years.

---

# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Boston Medical and Surgical Journal

*April 17, CLXVIII, No. 16, pp. 561-600*

1 Hand Lesions Following Injuries of Upper Extremities. C. H. Bucholz, Boston.
2 Head Injuries of Newborn. D. C. Wilcox. Boston.
3 Self-Mutilation by Insane. J. M. Keniston. Middletown, Conn.
4 Fecal Form. F. L. Burnett. Boston.
5 Suggestion for Improving Training of Ophthalmologists. W. B. Lancaster, Boston.
6 *Operation for Cure of Vaginal Hernia. H. A. Lothrop. Boston.

**6. Operation for Cure of Vaginal Hernia.**—The type of pelvic hernia passing down behind the uterus in the fossa of Douglas, pushing the upper portion of the posterior vaginal wall into the vagina and then out the vulva, is the variety which Lothrop says has been called vaginal hernia. He describes his operation in one case as follows:

Patient in Trendelenburg position. Median incision. Intestines packed away from the pelvis with long wet gauze strips. The broad ligaments divided close to the uterus; the anterior half of the uterus removed down to the cervix, the canal of the uterus being included in this excised portion. The broad ligaments and remaining half of the uterus utilized later to help form a support to the floor of the pelvis.

The next step is to dissect up the peritoneum from the lining of the sac and deeper portion of the pelvis. A transverse incision is made at the level of the cervix uteri and just behind it, and continued in front across to either side of the pelvis. The posterior edge of the peritoneum is then dissected up and the stripping continued until the rectum and floor of the pelvis are exposed. With care and patience this is accomplished without tearing the peritoneum and the whole lining of the hernial sac is freed. It is obvious that it would be easy to fail in attempting to elevate the peritoneum from the sac and deep portion of the pelvis. This is done by rolling the peritoneum over dry gauze held in one hand, and with the other hand the parts are pushed away, using blunt dissection by means of gauze, smooth forceps or fingers. The lax vaginal wall forming part of the sac, is then pushed down out of the way, to be disposed of later.

A pelvic floor is then made by suturing with chromicized catgut the broad ligaments stretched horizontally across the pelvis and overlapped. The remaining half of the uterus is tilted back over the ligaments, and its two free corners sutured to the pelvic fascia on either side of the rectum, leaving just room for the passage of the rectum. Finally, the peritoneum, which is held out of the way posteriorly, is drawn forward over the floor of the pelvis and sutured to the free edge of the peritoneum in front. Thus the general abdominal cavity is shut off and the pelvic cavity left covered entirely with peritoneum. The abdominal wound is closed by layers in the usual manner.

The next step is the treatment of the posterior vaginal wall from below. Patient is put in the lithotomy position. A curved incision is made, as in the ordinary splitting operation for rectocele at the vaginal outlet, and the posterior vaginal wall is separated from the rectum and the tissues lateral to it. The edges of the levator ani muscle are freed and held together with interrupted stitches. After the excess of the posterior wall has been removed at its lower free edge, the closure is the same as in any operation for rectocele.

## Bulletin of Manila Medical Society

*February, V, No. 2, pp. 13-22*

7 Sanitation in Smaller Filipino Towns. F. C. Baker, U. S. Army.
8 Experiences in Anesthesia in Philippine General Hospital. E. J. Oehsner, Manila.

## Colorado Medicine, Denver

*April, X, No. 4, pp. 109-145*

9 Hemorrhage of Newborn. J. W. Amesse, Denver.
10 Recent Interpretations of Feeding Disturbances in Infants. F. P. Gengenbach, Denver.
11 *Immediate Treatment of Fractures. W. W. Grant, Denver.
12 *Fractures About Joints. B. O. Adams, Pueblo.
13 *New and Apparently Accurate Modification of Wassermann Reaction. W. Burdick, Denver.

11. **Treatment of Fractures.**—The larger the external wound, says Grant, the greater the danger of infection and necessity for operation. The more extensive the laceration and contusion of soft parts in open fractures—with or without comminution of bone—the greater the probability of infection and necessity of final operation. In such cases, operation should be delayed until the soft parts are in a state of healthy repair, when bone repair will proceed more rapidly and satisfactorily. Penetration of the skin by a fragment of bone does not of itself justify operation. When dirt and filth are ground into the wound, operation should not be delayed. In open patella fractures, operation should be immediate. In such fractures as separation of epiphyses of long bones, especially with dislocation, operation should be immediate. In fracture of the tibia and fibula, immediately above the ankle joint, operation will secure the best and most satisfactory anatomic and functional result. Noticeable deformity and functional incompetence, not otherwise remediable, always demand operation. In closed fractures, operation is required in the absence of reasonably accurate adjustment and maintenance, without perceptible deformity. In operative cases the importance of casts or splints, and extension should be recognized as valuable aids. In all fractures, the first essential consideration is to prevent sepsis.

12. **Fractures Near Joints.**—Adams pleads for the more general, frequent and repeated use of Roentgen-ray in emergency bone surgery and insists that operative interference is justified in order that adjustment of disarranged parts may be accomplished with precision and maintained persistently. He says:

> When we are confronted with serious fractures into or close to important joints, as the elbow, knee, hip, shoulder, etc., we are prone to be satisfied with a "grave prognosis" and to let the patient nurse the notion, which he usually has, that to open into the articulation would let the "joint-water" out and give him a stiff joint anyway. And so we are apt to leave a condyle tipped, a tuberosity displaced or an articular process dislodged, whereas a four or six penny nail or a slender screw would hold the part in perfect apposition, reduce the callus and restore the joint. Especially is this true of the condyles and tuberosities of the limb bones. These are the structures most apt to be displaced by muscle pull and the parts most difficult to retain in position by any sort of external splint or appliances. Without the almost exact replacement of these bony structures entering into the formation of joints, there is, of necessity, a larger or lesser amount of bone bridge or callus and consequent defunctionating of the articulation.
>
> Bone pegs and ferrules were introduced by the late Dr. Senn and have the advantage of being absorbable. The wire nail was first used by Von Langenbeck and first in America by Willy Meyer. Its use has so far been largely restricted to fractures of the trochanter and at the neck of the femur, but it is quite as serviceable in retaining the condyles of that bone as well as those of the humerus, although Adams is of the opinion that the slender screw, threaded to the head with threads as deep as is compatible with the required strength, will eventually supplant nails and pegs entirely, particularly because they admit of more accurate application.

13. **Wassermann Reaction.**—Burdick describes his modification of the Wassermann test as follows: Ten test-tubes about 12 by 1 cm. in size are placed in a row. This size tube is used in order that the comparatively small volume of fluid used in the test will assume a column longest in its vertical diameter which facilitates the final readings. The tubes are marked from one to ten to indicate in tenth cubic centimeters the corpuscle content of each tube. Into each tube is placed 1 c.c. of 0.9 per cent. salt solution. Into tube No. 1 is now placed 0.1 c.c. of 2½ per cent. washed sheep blood-corpuscles, in tube No. 2, 0.2; in tube No. 3, 0.3, and so on up to 1 c.c., in tube No. 10. Into each tube is now placed exactly 0.1 c.c. of fresh, unheated serum to be tested. (By repeated experiments Burdick has arrived at the fact that two drops from the average capillary pipet, such as is used in blood-serum work, when held at an angle of about 50 degrees, with just enough pressure exerted on the teat to promote the collection of the drop at the point of the pipet, is equivalent to 0.1 c.c.) The tubes are now slightly agitated to insure the mixture of their contents and placed in a water bath at 37 C. for exactly ten minutes. At the end of this time they are all removed and observed.

In the vast majority of cases the hemolytic power of the serum under observation will be revealed by this titration in terms of tenths of a cubic centimeter of the 2.5 per cent. solution of sheep blood-corpuscles which have been completely hemolyzed during the ten-minute incubation. The serums which Burdick has thus far tested have shown an average hemolytic strength of 0.45 c.c. Occasionally a serum is very rich in hemolysin which will hemolyze 1 c.c. of a 2.5 per cent. sheep corpuscle suspension in much less than ten minutes. It is then necessary to carry the titration on up to perhaps 2 c.c. and over in order to find its exact hemolytic power. An active serum may in itself, contain an enormous excess of hemolysin, thereby defeating this purpose. On the other hand a serum may be so poor in hemolysin that one-tenth cubic centimeter of it will not hemolyze the one-tenth cubic centimeter of sheep blood-corpuscle solution in tube No. 1. In this case it is necessary to titrate 0.2 c.c. of the serum in the same manner as described for 1 c.c.

Burdick has thus far found it necessary to use 0.2 c.c. of serum in only 10 per cent. of serums worked with. Two per cent. of serums worked with were found to be so poor in hemolysin as to be incapable of hemolyzing 0.1 c.c. of the sheep corpuscle suspension when used in 0.2 c.c. amounts. In this case the serum is unfit for use in this reaction. Having arrived at the exact inherent hemolytic power of the serum under observation, the test is carried out in the following manner: Into four tubes marked A, B, C and D, is pipetted 1 c.c. of saline solution as was done in the titration tubes. Into all four tubes is pipetted 0.1 c.c. of serum (0.2 c.c. if the previous titration calls for that amount). Into tube "D" place the previously determined dose of antigen, double the amount of which must be used in case it is necessary to use double the amount of serum. These are now placed in the water bath and incubated for twenty-five minutes, in which time, in case the serum contains luetic antibody, the complement will become fixed in tube "D."

Complement is more or less thermolabile. This susceptibility to heating is more marked in some serums than in others. The twenty-five minute exposure to incubation temperature may therefore be expected to lessen the hemolytic power of the serum to about three-fourths that indicated by the titration. Therefore, at the end of the twenty-five minute incubation, tubes "A," "B," "C" and "D" are removed from the water bath, whereupon tube "A" receives three-fourths the titrated dose of sheep-corpuscle suspension and is returned to the water bath for ten minutes, at the end of this time being removed and observed. If complete hemolysis has taken place in tube "A," tube "B" may be discarded. If, however, complete hemolysis has not taken place in tube "A," tube "B" receives three-fourths of the corpuscle dose which failed to hemolyze in tube "A" and is incubated ten minutes. Burdick has never observed hemolysis failing to take place in tube "B," which in fact seldom need be resorted to, tube "A" usually showing complete hemolysis in ten minutes.

This observation being completed one may proceed to the test, tube "C" being the control tube and tube "D," which contains the organ extract, or antigen, being the reaction tube. It is necessary still further to reduce the amount of sheep blood in tubes "C" and "D" to three-fourths the amount used in tubes "A" and "B." These precautionary measures allow a certain leeway for the effectiveness of the hemolytic action of the serum and eliminate certain sources of error which might lead to an unspecific binding. When working with active serum one of the most important requirements for success is the freshness of the serum to be examined. It is, therefore, absolutely necessary that serum be preserved on ice if it is not possible to use it at once. After standing over

ten or twelve hours it is not fit for use in this reaction. It is also important that serum to be used in this reaction be absolutely free from blood particles and corpuscular substance. The presence of the minutest trace of blood particle can negative a positive reaction.

### Illinois Medical Journal, Springfield

*April, XXIII, No. 4, pp. 353-470*

14 *Fulguration Treatment of Bladder Tumors. H. L. Kretschmer, Chicago.
15 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
16 Diseases of Uveal Tract Due to Auto-Intoxication. C. W. Hawley and M. H. Mack, Chicago.
17 Facilitating Early Treatment of Mental Disorders. H. J. Smith, Watertown.
18 Occupation in Treatment of Insane. C. Rickshcr, Kankakee.
19 Diffuse and General Peritonitis with Plea for Early Diagnosis. H. M. Hayes, Peoria.
20 Preventive Medicine. W. C. Bouton, Waukegan
21 Arteriosclerosis Not Disease of Old Age Alone. D. Lichty, Rockford.
22 Report of Four Years' Work on Cancer. T. A. Hogan, Chicago.
23 What Shall We Do with Members Who Cut Prices? O. C. Church, Woburn.

14. Abstracted in THE JOURNAL, June 1, 1912, p. 1709.

### Journal of Nervous and Mental Disease, Lancaster, Pa.

*April, XL, No. 4, pp. 217-287*

24 Punctiform Hemorrhagic Pigmentation of Cerebral Pia Mater. E. M. Williams, Philadelphia.
25 Present Knowledge of Status of Apraxia with Study of Case. A. Glascock, Washington, D. C.

### Journal of Outdoor Life, New York

*April, X, No. 4, pp. 96-126*

26 Safe and Cleanly Disposal of Sputum and Organic Wastes. T. S. Carrington, New York.
27 Disinfection and Disinfectants. F. Schneider, New York.
28 Efficiency of Refrigerators. P. A. Lewis and B. I. Barker, Philadelphia.
29 Nature of Serums, Vaccines and Tuberculins, with Special Reference to Their Use in Treatment of Tuberculosis. T. W. Hastings, New York.

### Medical Record, New York

*April 19, LXXXIII, No. 16, pp. 691-736*

30 Montessori Method from Physician's Viewpoint. G. W. Jacoby, New York.
31 Successful Splenectomy in Primary Splenomegaly of Gaucher Type. W. A. Downes, New York.
32 Method of Classification, Diagnosis and Therapy of Kidney Disorders, Based on Functional Testing. H. E. Baright, New York.
33 Barlow's Disease in Infant Fed on Pasteurized Cow's Milk. C. A. Pfender, Washington, D. C.
34 Some Common Forms of Insanity. E. Gillespie, Binghamton, N. Y.
35 *New Treatment for Acute Gonorrhea. O. L. Mulot, Brooklyn.
36 Case of Acute Septicopyemia. T. G. Orr. New York.

35. **Treatment for Acute Gonorrhea.**—Mulot injected a 5 per cent. tincture of iodin and zinc sulphocarbolate in eight patients with good result. The injections were given one to three times daily until the discharge had ceased completely.

### Michigan State Medical Society Journal, Grand Rapids

*April, XII, No. 4, pp. 189-246*

37 Recent Progress in Ureteropyclography. W. F. Braasch, Rochester, Minn.
38 Heat Factor in Alimentary Disturbances of Infancy. J. H. Crosby, Plainwell.
39 Intratracheal Insufflation: Principles and Uses. J. J. Fabian, Grand Rapids.
40 Salvarsan in General Practice. H. L. Arnold, Owosso.
41 Medical Inspection of Schools. F. S. Root, Monroe.
42 Life Insurance Examinations. W. J. Stapleton, Detroit.
43 Medical Jurisprudence. Workman's Compensation Act. A. H. McMillan, Bay City.
44 Garbage and Sewage Disposal in Germany. C. B. Burr, Flint.
45 Tracheobronchoscopy for Removal of Foreign Body: Report of Case. J. R. Rogers, Grand Rapids.

### New York Medical Journal

*April 19, XCVII, No. 16, pp. 797-852*

46 Vaginal Surgery. S. W. Bandler, New York.
47 American Assassins: Their Prospective Prevention. W. Browning New York.
48 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
49 *Contra-Indications to Curetting. R. T. Frank, New York.
50 Gastric Ulcer: Its Non-Surgical Treatment. E. E. Cornwall, New York.
51 Hematologic Equilibrium in Pulmonary Tuberculosis. C. Rayevsky, Liberty, N. Y.
52 Chronic Interstitial Nephritis. S. E. Earp Indianapolis, Ind.
53 *Convalescing Children. L. Kerr, New York.
54 The Nose and Throat. E. Danziger, New York.
55 *Whooping-Cough: Its Treatment with Vaccine. S. M. Wilson, Philadelphia.
56 Blood Catalase in Malignant Tumors. G. L. Rohdenburg, New York.
57 Instruction in Sex Hygiene. M. S. Macy, New York.
58 Beriberi. S. B. Doyle, New York.

49. **Contraindications to Curetting.**—As a basis for his paper Frank uses mainly 2,000 consecutive cases taken from dispensary records, in which careful note was made of the number of curettings, and the reason for which this interference was practiced. His statistics show that of 2,000 patients more than one patient out of every five had been curetted at some time. Total number of cases, 2,210; no record of abortions or curettages, 210; number of cases with records, 2,000; curetted, 458 or 22.5 per cent.; abortion, 721 or 36 per cent.; of 721 cases of abortion, curetted, 330 or 45.7 per cent.; 473 cases with one abortion curetted, 200 or 42 per cent.; 166 cases with two abortions curetted, 76 or 46 per cent.; of 82 cases with three or more abortions curetted, 54 or 66 per cent.; of 1,279 cases who had never aborted, curetted, 128 or 11 per cent.; of 1,279 cases who had never aborted, 1,151 not curetted. Of these, curetted post partum, 20; curetted for sterility, 32; curetted for menorrhagia or metrorrhagia, 36; curetted for leukorrhea, etc., 40.

53. **Convalescing Children.**—In institutions, particularly in hospitals that have any considerable number of children as patients, Kerr says, there should be added to the hospital force a trained kindergartner or at least some one who is sufficiently trained to stimulate and guide the increasing powers for mental and moral development. It is just as important to provide thus for the child during convalescence as it is to provide adequate and skilled nursing during acute illness.

55. **Whooping-Cough.**—Wilson reports on a series of twenty-four patients treated with pertussis vaccine. Every child who was not in the beginning stage of the disease, was given forty million killed organisms. After the second injection, given forty-eight hours later, the discolorations began to fade in the two children previously mentioned, and the nosebleeding ceased as the paroxysms diminished in frequency and in severity. The characteristic whoop subsided, and the cases soon became, clinically, simple cases of bronchitis.

This was the history of twenty-four cases, excepting that in two bronchopneumonia developed, but the patients recovered. One case of phthisis florida was, at first, mistaken for whooping-cough, or perhaps was excited from latency into violence by the latter. In every case seen during the early stage of the whooping, one flask of vaccine, representing twenty million killed bacteria, was administered. In those few for whom this could not at first be procured, the dose was larger, forty million, but the subsequent doses depended on the temperature range and the severity of the cough. If a child had a daily temperature range of two or more degrees, with a rigor and free diaphoresis after injection, his second dose was not larger than the first. If this reaction occurred a second time, the third dose was no larger, but as soon as the range fell to one degree or less, the dose of vaccine was increased to double, triple, or more.

In some cases the reaction was always feeble, and in these the improvement was likewise, as a rule, less striking, but nevertheless evident. In several of the cases a good reaction appeared after a combined injection of cacodylate of sodium, gram 0.03 or even 0.025, with twenty or thirty million bacteria when it failed without the cacodylate. Many of these children showed tuberculous stigmata, many syphilis, or a combination of these. Among these twenty-four cases, the shortest duration of treatment was nine days, the longest forty-eight, and the average twenty-three.

### Northwest Medicine, Seattle, Wash.

*April, V, No. 4, pp. 89-116*

59 Congenital Hypertrophic Stenosis of Pylorus with Report of Three Cases. J. B. Eagleson, Seattle, Wash.
60 Pathology and Treatment of Some Common Joint Disorders. E. A. Rich, Tacoma, Wash., and Portland, Ore.
61 *Correction of Congenital Equinovarus: Report of Thirty-Six Cases. C. F. Eikenbary, Spokane, Wash.
62 Clinical and Prophylactic Suggestions for Difficult Feeding Cases in Infants. C. E. Carter, Salt Lake City, Utah.
63 Recent Developments in Infant Feeding. W. T. Hasler, Lehi, Utah.
64 Cataract and Smith Operation. P. B. Wing, Tacoma, Wash.
65 Extirpation of Lacrimal Sac. S. E. Wright, Portland, Ore.
66 Improved Oblique Illuminator. J. L. McCool, Portland, Ore.

61. **Correction of Congenital Equinovarus.**—In four cases out of his series of thirty-six Eikenbary found it necessary to remove a wedge from the outer side of the foot in order to make the correction. In all four of these cases the deformity was extreme, in two instances the feet pointing directly backward. This operation is, he believes, superior to the Phelps, as it does not give a chance for the relapse and is not followed by a weak foot, although the foot is slightly shortened. Within the last four and a half years forty cases have come under Eikenbary's observation. Thirty-six of these have been treated. Twelve patients were under five weeks of age and all of these have been treated by manipulation with gradual correction, the feet, in the intervals between the manipulations, being supported by plaster casts. In one instance adhesive plaster was used instead of plaster of Paris. Nine of these patients have been dismissed as cured and have had all supports discarded for periods ranging from three months to three years; three are still wearing supports. In four of the cases a subcutaneous division of the Achilles was necessary. Eight were from three months to eighteen months of age. All of these were anesthetized and the feet over-corrected at one operation. Tenotomy of the Achilles tendon in all cases, no other tendons divided, no incision made.

Five of these patients have been dismissed as cured, the casts being discarded from two months to four years. Two are still wearing plaster supports. One patient is wearing the adhesive support. Seven were from two to five years of age. Overcorrection was made in one operation. Subcutaneous tenotomy of the Achilles in three cases, lengthening of the Achilles in two cases, no other tenotomies and no other incision in any of the cases. Three have been dismissed as entirely cured; two patients are still wearing plaster supports, one is not wearing any supports and, by reason of this, has a slight tendency toward pigeon-toe. One case has been lost sight of and the result is therefore unknown. Six were between 5 and 11 years of age. Forcible correction alone with the division of the Achilles was the method used in two cases. Forcible correction following the removal of a large wedge from the outside of the foot in four cases, tenotomy of the Achilles in all cases. Two patients dismissed as cured, four still under treatment. Two were 14 years of age; forcible correction and tenotomy of the Achilles, no incisions. One patient was dismissed as cured, the supports having been discarded six months ago, one still wearing plaster supports. One was 22 years of age. This deformity was of moderate grade and the correction was accomplished by the so-called bloodless method. Tremendous force had to be used in the correction and the end result was perfect. Eikenbary says that there are no incurable cases of congenital equinovarus. There are cases that are very hard to correct, cases that are so severe that the correction may have to be done in two sittings, cases that may relapse and have to be done over again, but there are no cases that are incurable.

### Ohio State Medical Journal, Columbus

*April, IX, No. 4, pp. 165-206*

67 Tuberculin and Roentgen Ray in Recognition of Early Pulmonary Tuberculosis. C. O. Probst, Columbus.
68 Causes of Perforation of Nasal Septum. W. B. Chamberlain, Cleveland
69 Radium Treatment in Tumor of Orbit. C. F. Clark, Columbus.
70 Bacteriology of Ear. E. M. Weaver, Akron.
71 Intracapsular Cataract Operation from Viewpoint of Assistant. J. W. Millette, Dayton.
72 Speech Defectives. C. S. Means, Columbus.

### Ophthalmic Record, Chicago

*March, XXII, No. 3, pp. 117-174*

73 Infectious Suppurative Keratitis. E. A. La Mothe, Chicago.
74 Dystrophia Epithelialis Corneas. R. G. Reese, New York.
75 Practical Electric Perimeter. N. M. Black, Milwaukee, Wis.
76 Case of Cerebello-Pontine Tumor, Diagnosed and Located Three Years Before Death. C. A. Veasey, Spokane, Wash.

### Surgery, Gynecology and Obstetrics, Chicago

*April, XVI, No. 4, pp. 341-462*

77 *Fetal Peritoneal Folds of Jonnesco, Treves and Reid, and Their Probable Relationship to Jackson's Membrane and Lane's Kink. J. R. Eastman, Indianapolis.
78 *Etiology of Lane's Kink, Jackson's Membrane and Cecum Mobile. F. G. Connell, Oshkosh, Wis.
79 Bilocular Hernia. V L. Sehrager, Chicago.
80 *Chorio-Epithelioma. E. Cary, Chicago.
81 Indications for and Results of Operative Treatment of Otitic Meningitis. E. W. Day, Pittsburgh.
82 Prostatectomy. E. S. Judd, Rochester, Minn.
83 Acute Perforative Cholecystitis Complicated by General Peritonitis. C. M. Remsen, Atlanta, Ga.
84 *Postoperative Results of Amputation of Cervix. V. N. Leonard, Baltimore.
85 Primary Traumatic Dorsal Complete Radiocarpal Dislocation. A. M. Miller, Danville, Ill.
86 *Prognostic Value of Leukocyte Count in Pelvic Suppurative Conditions. J. T. Smith, Cleveland.
87 Goiter and Its Relation to Its Structural and Physiologic Units. W. C. MacCarty, Rochester, Minn.
88 *Abderhalden's Biologic Test for Pregnancy. P. F. Williams and R. M. Pearce, Philadelphia.
89 Employment of Protective Enzymes of Blood as Means of Extracorporeal Diagnosis. C. P. McCord, Detroit.
90 Radical Operative Cure of Double Obturator Hernia. C. Van Zwalenburg, Riverside, Cal.
91 Prostatectomy by Composite Method. A. E. Rockey, Portland, Ore.
92 Open Treatment of Fracture of Femur. A. McGlannan, Baltimore.
93 Amputation Flaps. J. N. Jackson, Kansas City, Mo.

77. **Fetal Peritoneal Folds.**—Eastman calls attention to the striking similarity of the fetal peritoneal fold described by Jonnesco and Juvara, and designated by them "the parietocolic fold," to the adult peritoneal anomaly described as membranous pericolitis. He further calls attention to the probable causal relationship between the bloodless fold described by Treves and a pocket-like, anomalous peritoneal reflection, which is not rare in the adult and which passes from the mural peritoneum on the right side quite low down, extending upward and inward over the caput coli and vermiform appendix, to be attached to the last two or three inches of the ileum and to the peritoneum of the caput coli. It forms the boundary of a precolic fossa in which the cecal head and the appendix may rest as in a pocket. It is likely that the caput coli with the appendix are, not rarely during operations for appendicitis, shelled out of this peritoneal pocket, the peritoneal fold, that is the bloodless fold of Treves, which forms the pocket being looked on by the operator as an affair of adhesion formation.

Moreover, although conceptions of Lane's ileopelvic band, the structure to which is ascribed an important part in the causation of Lane's kink, are somewhat varying, Eastman recalls that Douglas Reid of the University of Cambridge, has described under the name "genito-mesenteric fold" a rather common fetal fold of peritoneum which passes from the terminal portion of the ileum into the pelvis. Concerning this genito-mesenteric fold, which may be found readily in a surprisingly large percentage of fetuses after the seventh month, or even after birth at term, the question is fairly raised as to whether it is not related to angulations or gravitations or other deformities of the terminal ileum to which it is attached. Twenty-eight fetuses were examined by Eastman. The findings are reported in detail.

78. Abstracted in THE JOURNAL, January 11, p. 148.

80. **Chorio-Epithelioma.**—The three most exceptional features in Cary's cases are, first, the presence of villi in the secondary tumor growths; secondly, the long lapse of time after operation before fatal termination of the condition from metastatic growths; and lastly, the peculiar lesion in the cord that gave such interesting clinical manifestations of par-

aplegia. The first two conditions have been noted in the literature, but the lesion in the cord is unique.

84. **Postoperative Results of Amputation of Cervix.**—An analysis of 128 cases reported by Leonard shows that hemorrhage after amputation of the cervix is not uncommon (5 per cent.), and may occur weeks after operation. Cases of late postoperative hemorrhage are due to infection rather than faulty suture of the cervix. After amputation of a diseased cervix, 90 per cent. of the patients show noticeable improvement in general health. Persistent leukorrhea of cervical origin is cured in 60 per cent. of cases and improved in 30 per cent. About half the patients experience less menstrual pain after the operation. Four-fifths of the women remain sterile after operation; yet in certain selected cases of persistent sterility amputation of the cervix seems to be the only practicable procedure. This postoperative sterility is probably mechanical in origin, and may be due either to a narrowing of the external os through encroachment by the edges of the vaginal mucosa or to a stenosis of the cervical canal, consequent on the iris-like contraction of the cicatrix which invariably follows the operation. A pregnancy following amputation of the cervix has not more than an even chance of progressing to full term, in which event serious dystocia due to cicatricial rigidity of the cervix is the operation of choice in elderly women, but the procedure should be applied to those in the child-bearing period only when more conservative methods of treatment, such as Hunner's linear cauterization or thorough curettage of the cervix, have failed.

86. **Leukocyte Count in Pelvic Suppurative Conditions.**—In a series of 100 such cases studied by Smith the leukocyte counts were decidedly of more prognostic value than the preoperative temperatures. With pus in the pelvis and a leukocytosis above 14,000 some trouble arose during the convalescence in a majority of the 100 cases. With pus in the pelvis and a white count of less than 14,000 trouble developed during the convalescence in only a small minority of the 100 cases. The numerical average of all the hundred leukocyte counts was 16,200. The highest count was 38,000; the lowest, 5,700.

88. **Abderhalden's Biologic Test for Pregnancy.**—This test (which THE JOURNAL has discussed editorially more than once) is based on the assumption that a protein that is foreign to the blood will cause the development in the body fluids of an enzyme capable of splitting such foreign protein. The use of Abderhalden's test for pregnancy, employing the dialysis method and the ninhydrin color reaction, gave the authors positive results with each of twenty-eight serums from pregnant women and eight from women in the post partum period, including one after abortion. The test has never been negative in a known pregnancy. On the other hand, the serum of pregnancy reacts with tissues (kidney, heart, uterus) other than placenta, and indeed with other than human tissues (e. g., dog's kidney). Also serums of two cases of nephritis, one of tabes and one of infection (carbuncle), and occasionally of some individuals apparently in perfect health, have given the reaction with placenta and other tissues.

The ninhydrin reaction seems far superior to the biuret reaction. It is also important that Schleicher and Schull's smaller dialysis sacks should be used rather than the fish-skin membranes originally recommended. Results as satisfactory as those by dialysis are obtained by mixing tissue and serum in tubes and, after incubating for twenty-four hours, testing the filtrate obtained on coagulation by heat and acetic acid with ninhydrin. Inactivation of the serum causes a great diminution in the degree of reaction but does not cause it to disappear entirely. At zero temperature no reaction occurs. The power of a serum to cause the reaction persists, when the serum is kept under proper conditions of temperature, for at least seven days. As the result of their studies the authors feel that this test cannot be accepted as an accurate clinical method until it has been more thoroughly investigated and the possible sources of error corrected. This conclusion, however, applies only to Abderhalden's dialysis method, and not to his optical method, with which they have had no experience.

### Texas State Journal of Medicine, Fort Worth

*April, VIII, No. 12, pp. 321-352*

94 Plea for More Care in Diagnosis of Abdominal Surgical Conditions: Some Newer Methods of Diagnosis. C. H. Harris, Fort Worth.
95 Some Medicolegal Aspects of Inguinal Hernia. T. T. Jackson, San Antonio.
96 Some Impressions of Oxford Ophthalmologic Congress and Ophthalmologic Section of British Medical Association at Birmingham. J. O. McReynolds, Dallas.
97 Subcutaneous Medication in Anemias. M. K. Robbie, San Antonio.
98 Tuberculosis from an Economic Viewpoint. H. B. Decherd, Dallas.

### United States Naval Medical Bulletin, Washington, D. C.

*April, VII, No. 2, pp. 165-320*

99 Mental and Moral Training for War. J. F. Leys, U. S. Navy.
100 Detention and Probation System of Punishment and Classification of Offenses of Personnel of United States Naval Disciplinary Barracks. W. L. Mann, U. S. Navy.
101 Laboratory Notes on Bacillus of Dysentery. C. S. Butler, U. S. Navy.
102 Traumatic Dislocation of Patella. M. B. Miller, U. S. Navy.
103 Value of Studying Pulse-Rate with Blood-Pressure in Croupous Pneumonia. H. A. Hare, U. S. Navy.
104 Treatment of Frambesia with Salvarsan. E. U. Reed, U. S. Navy.
105 Cutaneous Anthrax, with Report of Case. E. C. White, U. S. Navy.
106 Essence of Orange-Ether Anesthesia. C. M. Oman, U. S. Navy.
107 Iodin Sterilization as Now Used at United States Naval Hospital, Norfolk, Va. W. M. Garton, U. S. Navy.
108 Hygiene of Personnel Below Decks. B. F. Jenness, U. S. Navy.

### West Virginia Medical Journal, Wheeling

*April, VII, No. 10, pp. 325-360*

109 After-Treatment of Surgical Operations. C. S. Hoffman, Keyser.
110 Paresis, or General Paralysis of Insane. A. H. Kunst, Parkersburg.
111 Venereal Prophylaxis. P. S. Keim, Elk Garden.
112 Prophylactic Vaccine Treatment of Typhoid. C. L. Moore, Upper Tract.
113 Hereditary Alcoholism is an Undeniable Fact. J. W. Williams, Richmond.
114 Actinomycosis of Lower Jaw. W. Golden, Elkins.
115 Shock and Its Management. I. Hardy, Morgantown.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### Annals of Tropical Medicine and Parasitology, Liverpool

*March 31, VII, No. 1, pp. 1-181*

1 Trypanosomiasis of Domestic Animals in Northern Nigeria. J. W. S. Macfie.
2 Further Measurements of Trypanosoma Rhodesiense and T. Gambiense. J. W. W. Stephens and H. B. Fantham.
3 *New Mosquito-Proof and Storm-Proof House for Tropics. T. F. G. Mayer.
4 Study of Color Marking and Other Variable Characters of Anophelinae with Special Reference to Systematic and Phylogenetic Grouping of Species. S. R. Christophers.
5 Study of Posterior Nuclear Forms of Trypanosoma Rhodesiense in Rats. B. Blacklock.
6 Animal Trypanosomiasis in Lado (Western Mongalla) and Notes on Tsetse Fly Traps and on Alleged Immune Breed of Cattle in Southern Kordofan. A. Balfour.
7 Sanitation on Panama Canal Zone, Trinidad and British Guiana. D. Thomson.
8 *Cultivation of One Generation of Benign Tertian Malarial Parasites (Plasmodium Vivax) in Vitro, By Bass' Method. J. G. Thomson and D. Thomson.
9 *Fulminating Cerebrospinal Meningitis in Jamaica. H. H. Scott.

3. **New Mosquito-Proof and Storm-Proof House for Tropics.**—The house described by Mayer is constructed almost entirely of steel; wood-work is reduced to a minimum, and, where its use is unavoidable, is especially treated to withstand the attacks of insects, especially white ants. The house is built on a plinth of concrete and has a floor and a low wall of similar material. Their surfaces are cement-rendered. The walls are continuous with a steel framing, filled in completely with mosquito netting made of a specially woven composite material

proved to be stronger and more durable than any other. This netting is sandwiched between perforated metal sheets, which prevent bulging and render entry impossible, except by the spring doors at each end of the lobby-entrances. The roof is covered with non-conducting fibro-cement slates and is ventilated by means of louvre windows at each end. It is completely shut off from the room below by an asbestos ceiling. There are no walls or partitions within the mosquito proofing, so that whatever breeze there may be, blows straight through the house from one side to the other. Should this wind be too cold or too strong, as for instance during storms, it can be cut off at will, by shutters which are provided all round the house and which are capable of closing the whole of it. These are manipulated from within by turning a handle, and can be made either to come down from above, or to move upward from below. The division of the interior of the house is left to the occupant, the ideal being the minimum required for privacy, and it is suggested that by the use of sun blinds, screens and curtains, the open character of the house may be preserved, but permanent brick or stone walls may be built if desired. It is possible to make the house of any number of stories, and to build it on piles if desired.

8. **Cultivation of Benign Tertian Malarial Parasites by Bass' Method.**—The authors claim that the benign tertian malarial parasite is capable of being cultivated up to the stage of sporulation, for at least one generation. In their cultures the growth of the parasite from young rings to sporulating forms took place more rapidly than in the blood of the patient. The cultures of benign tertian differed from those of malignant tertian in that there was no tendency to clumping of the parasites in the former, either before or during sporulation. This difference appears to the authors to explain in a satisfactory manner why only young forms of malignant tertian are found in the peripheral blood, as the clumping tendency of the larger forms causes them to be arrested in the finer capillaries of the internal organs. It also explains the tendency to pernicious symptoms, such as coma, in malignant tertian malaria. All stages of the benign tertian parasite are found in the peripheral blood, and there are seldom pernicious symptoms, because there is no tendency to clumping. Heavily pigmented, compact parasites were found in their cultures of benign tertian on the fifth day. On the eighth day these had grown larger, and their appearance suggested the development of gametocytes. The malignant tertian parasite (*P. falciparum*) is capable of producing, in maximum segmentation, thirty-two spores. On the other hand, benign tertian (*P. vivax*) produces, as a rule, during maximum segmentation, sixteen spores; sometimes more may be produced, but the number is never thirty-two. The pigment in *P. falciparum* collects into a definite, circular and very compact mass early in the growth of the parasite. On the other hand, during the growth of *P. vivax* the pigment remains scattered in definite granules throughout the body of the parasite, till just before segmentation, when it collects into a loose mass of granules in the center of the full-grown plasmodium.

9. **Fulminating Cerebrospinal Meningitis in Jamaica.**—In several cases of illness with sudden onset in apparently healthy subjects, terminating fatally in a high percentage of those attacked, Scott isolated a Gram-negative diplococcus from the spinal fluid. This organism gives the morphologic and cultural characters of Weichselbaum's *Diplococcus intracellularis meningitidis*, except that in galactose it does not always give a definite reaction, the medium in some instances not being affected. The maltose and dextrose, however, are always typically acted on. These cases exhibit in some instances a symptom-complex which has for years been spoken of in Jamaica as "vomiting sickness." The disease breaks out in localized epidemic form in various parts of the island during cold weather, that is, from about the middle of December to the end of February or beginning of March. The disease occurs at other times as sporadic cases, but apparently does not spread extensively. It is a curious thing that practically all the cases are of the hyperacute variety, either recovering in a few days, or dying in a few hours. One rarely sees the subacute cases during the epidemic times, and never, so far as Scott is aware, the chronic ones, unless some of the natives one meets with who are chronically deaf, or have seriously defective vision, or who suffer from fits, are instances of cerebrospinal meningitis with permanent sequelae. Of this there is no proof. In two instances a spirochete-like body, or long curving bacillus, has been seen in the smears made directly from the fluid obtained by lumbar puncture. What part, if any, this takes in producing the symptoms Scott had no means of discovering. The disease is very rare among the white population; Scott has known of only three instances so far during the past year. Possibly this is due in part to better hygienic conditions, less crowding, and so forth, but not entirely, because he has not personally met with the condition once among the East Indian population, where overcrowding and bad hygiene are nearly, if not quite, as marked as in the case of the native. For this, also, Scott offers no explanation at present, though it may be noted that the food supply of the East Indian is usually better than that of the West Indian.

## British Journal of Children's Diseases, London

*April, X, No. 112, pp. 145-192*

10 *Jaundice in Childhood: Report of Cases. F. J. Poynton.
11 *Fatal Case of Wide-Spread Ulceration Limited to Small Intestine. S. Phillips.
12 Hysteric Phobia in Child; Principles of Treatment. T. A. Williams.
13 *Congenital Renal and Ureteral Anomaly. J. D. Rolleston.

10. **Jaundice in Childhood.**—Poynton reports four cases of prolonged jaundice dating from birth and in nature apparently obstructive. The first patient, a female, aged 3 months, had been jaundiced from birth. The conjunctival mucous membrane and skin were yellow, the motions white and undigested, the urine very dark, the liver was large but not hard, the spleen was not felt, the umbilicus was healthy, the temperature generally subnormal. There was no evidence of congenital syphilis and the one other child was very healthy. From time to time a little bile appeared in the motions and at these times the skin became less yellow. The child had not been breast-fed. Gradually, by about the twelfth month, the jaundice disappeared and complete recovery followed. The second patient was a male, aged 4 weeks, a first child of healthy parents. No cause was apparent for the jaundice, which appeared on the third day and had persisted. This child was definitely jaundiced, the stools were large, white and undigested, the urine contained bile-salts, the liver was large but not tender or hard. Here again it had been noticed that some bile appeared in the motions occasionally and that then the color improved. Two months later the motions were mustard-colored and the liver distinctly smaller. At about the seventh month the jaundice had disappeared and the liver had still further diminished. This child was circumcised later, and died of spreading gangrene. He was never breast-fed, but given cow's milk. The third patient, a male infant, aged 4 weeks, showed jaundice in the first week. Here, again, the jaundice was persistent, the liver was enlarged but the spleen was not felt, the motions were white and undigested. Again, also, some bile was occasionally seen in the stools. Slowly, after many weeks, the jaundice disappeared, the liver became smaller, and in this case complete recovery resulted. The child was never breast-fed, but given at first cow's milk. The fourth patient was an adult of some 30 years. She had been born with jaundice, and from early days an enlarged spleen was noticed. In addition to this there was congenital morbus cordis of slight degree and congenital absence of the left upper extremity below the middle of the arm. This patient was always a yellowish color, and had from time to time severe attacks of intense jaundice with dead-white stools and an urine almost black with bile-pigment. These attacks lasted about ten to fourteen days. Curiously obstinate ulcers of considerable size broke out from time to time on the legs above the ankles and required much care in their treatment. In this case the spleen was greatly enlarged, and during the attacks of acute jaundice the liver also enlarged very considerably. This patient had passed through about fifty acute attacks of obstructive jaundice. Attention is directed by Poynton to the

fact that in view of the other congenital defects, there might have existed a congenital maldevelopment or hypoplasia of the common bile-duct. Three additional cases of syphilitic origin are also reported.

11. **Wide-Spread Ulceration Limited to Small Intestine.**—A boy had an attack of rheumatism at the age of 7, a second attack after scarlet fever when he was aged 9, and a third attack when he was aged 10. Two months later he began to suffer from acute abdominal pain and vomited everything he took. By medical advice he was kept in bed and given only hot water, and after forty-eight hours the vomiting ceased, but occasional paroxysms of abdominal pain continued; the bowels were opened daily, and no blood was ever passed. The boy's parents and five sisters and brothers were all healthy. The abdomen was tumid, and there was deep tenderness in the umbilical region; no other sign of disease in any other organ could be discovered. Seven days after admission (January 25) he had slight recurrence of pain in the abdomen, but the temperature never rose above 99.2 F. He improved in general health and left the hospital on February 8; after that, while at home, he had occasional attacks of abdominal pain, and on May 15, he got headache, and the pain in the abdomen became very severe, especially on the left side. There was no vomiting or diarrhea. He was readmitted into hospital on May 18, in a collapsed condition, with feeble pulse and clammy sweats; the abdomen was tumid as before, but much more tender. On the following day the abdomen was opened in the middle line. The appendix was swollen and there were a good many adhesions in its neighborhood, which were freed, and the appendix was removed. The small intestine was noticed to be intensely gorged with blood. The patient died on the following day.

At the post-mortem the peritoneum was found to contain a little blood-stained fluid. The coils of the small intestine were a little distended, and were slightly glued together and to the abdominal wall by a small amount of recent plastic lymph; the small intestine for about the middle third was extremely congested on the outer surface and of a deep red color, and there was a considerable amount of hemorrhage into the mesentery under the peritoneal reflection; the congestion faded gradually away toward its upper limits. On the outer wall of the congested part were two or three small rounded areas of light yellow color, with sharply defined margin; they had almost the appearance of infarcts; the peritoneum was not thickened over them. There was no thrombosis of the mesenteric vessels. On opening the small intestine its inner surface was seen to be intensely congested, and over large irregular areas was entirely denuded of mucous membrane, the submucous and muscular coats being exposed. The yellow areas noted above appeared as shallow ulcers, but except for this there were no solitary ulcers; above and below the congestion and ulceration gradually became less marked until they finally gave place to apparently healthy bowel about 3 inches above the cecum. The large intestine was quite healthy. The other organs were healthy except for some old pleuritic and slight pericardial adhesions.

13. **Congenital Renal and Ureteral Anomaly.**—The anomaly described by Rolleston was found at the necropsy of a boy, aged 12 years, who died from generalized paralysis following very severe faucial and nasal diphtheria on the forty-seventh day of disease. The amount of urine passed during the first eighteen days passed from 21 ounces to 37 ounces in the twenty-four hours. Albumin was present in the urine from the third to the thirty-eighth day. The necropsy, which was held on the day after death, showed hypostatic congestion of both lungs, thickening of the left ventricle and dilatation of the right ventricle. Examination of the abdominal cavity showed that the right kidney was absent, together with the corresponding renal artery, vein and suprarenal. The right ureter, however, was present, and extended upward from the bladder to the mid-lumbar region, where it ended blindly. The left kidney was situated in the usual position and was considerably enlarged. There was partial duplication of the ureter, the upper branch, 4 in. long, supplying the upper third, and the lower branch, 3½ in. long, supplying the lower two-thirds of the kidney. The branches united 3 in. from the bladder at the brim of the pelvis. On opening the bladder the right and left ureteral orifices were seen to be of the same size. The patency of the right ureter was proved by the readiness with which a platinum culture needle could be passed from the vesical orifice to the blind upper extremity. There were no congenital abnormalities of the genital, circulatory or other systems.

### British Medical Journal, London

*April 5, I, No. 2727, pp. 697-752*

14 *Cancer of Tongue. C. Ryall.
15 Enucleation of Tonsils and Removal of Adenoids Under Gas Anesthesia. J. F. O'Malley.
16 Case of Polycythemia with Plethora, and Splenomegaly (Vaquez' Disease). H. L. Watson-Wemyss.
17 Tuberculoma of Larynx. W. Sanderson.
18 Teratoma of Unusual Size Affecting Testicle of Horse. H. Blakeway.
19 *Distilled Water vs. Salvarsan in Treatment of Syphilis. G. A. Stephens.
20 Genital Functions of Ductless Glands in Female. W. B. Bell.

14. **Cancer of Tongue.**—Ryall claims that the thorough treatment of syphilis would well-nigh abolish cancer of the tongue. He emphasizes the importance of wide removal in definite epithelioma; microscopic examination of suspicious lesions; the avoidance of tobacco by those who have syphilitic lesions of the tongue; and radical treatment of all syphilitics till serologically they are pronounced free from signs of the disease.

19. **Distilled Water in Syphilis.**—The treatment for syphilis recommended by Stephens consists of the hypodermic injection of 6 to 10 c.c. of distilled water every three days for two to four weeks. He was induced to give this treatment a trial as the result of some research work on surface tension. He claims that the addition of distilled water to blood corpuscles so affects the osmotic pressure as to cause a passage of water into the cell, which gets larger and eventually scatters its contents. In disease the rapid catalytic changes and the rapid production of antibodies are interdependent, and if one can induce these marked catalytic changes with or without a vaccine, one stands the chance of setting free a number of very useful and remedial antibodies. In such a chronic disease as cancer it seemed to Stephens that the process was allowed to continue owing to the absence of sufficient antibodies, or at least a sufficient number to act together at the same time, and if one could set free any catalytic antibodies in sufficient numbers one might get a good result. Knowing of no vaccine to induce this antibody effect, it occurred to him that the injection of distilled water might so affect the surface tension as to bring about the osmotic effects. The marked effect produced by the injections of distilled water made him feel certain that in any similar disease of less malignancy their effect ought to be still better, so with that object he undertook the treatment of syphilitic patients. The Wassermann reaction is, in his opinion nothing but a very roundabout way of determining the surface tension at which hemolysis occurs, and if, he says, this view is correct, the time ought not to be far distant when a simpler and more scientific method is introduced, and one that is not open to so many pitfalls. He cites six cases.

### Glasgow Medical Journal

*April, LXXIX, No. 4, pp. 241-319*

21 Scleroderma with Subcutaneous Calcareous Deposits. W. K. Hunter.
22 Myopia: Review of Five Hundred Cases, with Special Reference to Etiology. J. A. Wilson.

### Journal of Laryngology, Rhinology and Otology, London

*April, XXVIII, No. 4, pp. 169-224*

23 Sir Felix Semon: His Work and Its Influence on Laryngology. P. McBride.
24 Scarlet Red as Dressing After Radical Mastoid Operation, Based on Observations of Fifteen Cases. T. W. E. Ross.
25 *Three Fatal Cases of Pneumococcal Infection of Throat. A. R. Tweedie.

25. **Pneumococcal Infection of Throat.**—Two of his patients Tweedie regards as representing the asthenic, and the third the sthenic type of the disease; the former were "chronic" conditions almost to the last, whereas the latter ran a comparatively

rapid course from its commencement up to the end. All three cases were charaeterized by their absolute lack of response to every kind of general or local treatment employed, and no cause or connection—apart from the presence of the pneumococcus in the throat—could be ascertained. This organism was present in large numbers in pure culture on the swabs or sputa. There was no apparent ulceration of, or membranous deposit on, the mucous membrane concerned, which was, however, intensely injected and edematous at the commencement of the illness. The main focus of the local lesion in each case appeared to the naked eye as an indolent, necrotic, more or less localized, sloughing area quite distinct from any pathologic state usually associated with the term "abscess." Up till the last few days of the disease there was no impairment of appetite or malaise corresponding with the progressive weakness, raised temperature or severity of the disease generally.

### Journal of Tropical Medicine and Hygiene, London

*April 1, XVI, No. 7, pp. 97-104*


26 Porocephaliasis in Man. L. W. Sambon.
27 Tropical Diseases Observed in Republic of Colombia. J. M. Santamaria.
28 Broncho-Oidiosis. A. Castellani.


### Practitioner, London

*April, XC, No. 4, pp. 645-776*


29 Automatism. G. H. Savage.
30 "Responsibility"—In Regard to Certain Forms of Unsoundness of Mind. R. Jones.
31 *Chronic Cystitis and Retention of Urine, Treatment by Drainage and Its Beneficial Effect on Damaged Kidneys. D. Newman.
32 Modern Urinary Surgery: Points for Practitioner. H. Curtis.
33 Recent Work in Genito-Urinary Surgery. J. W. T. Walker.
34 Modification of Spengler's Rapid Precipitation Method for Estimation of Approximate Immunity Against Tuberculosis. W. H. Fearis.
35 Literature on Heart Disease. C. W. Chapman.
36 Recent Work on Dental Surgery. J. G. Turner.
37 Diagnosis of Neurasthenia. I. G. Cobb.
38 Heredity, Eugenics and Falling Birth-Rate. G. P. Young.
39 *Influenza with Repeated Rigors. W. H. M. Telling and R. G. Hann.
40 Three Cases of Acute Abdomen. W. B. Russell, F. L. Wood and W. E. Barrett.


31. **Chronic Cystitis.**—Obstruction to the free escape of urine, involving increased tension in the kidneys, Newman says, may lead to the development of symptoms—polyuria, albuminuria and toxemia—resembling those of interstitial nephritis, which form serious complications of the bladder trouble, and, if not relieved, ultimately lead to toxemia. Suprapubic cystotomy, he believes, is the best method of draining. By free continuous drainage of the bladder these symptoms diminish and ultimately disappear, and the patient is placed in a more favorable condition for operation should further treatment be required. Free continuous drainage is also followed by diminution in the size of the kidneys and contraction of the ureters, so that the orifices regain their normal valvular action. In chronic cystitis, free drainage by suprapubic cystotomy is the surest method of giving relief to the symptoms or of curing the disease.

39. **Influenza with Repeated Rigors.**—The patient whose case is reported by Telling and Hann was a healthy man of 21, and had been engaged in a chemical laboratory for some time in experimental work on para-nitraniline. He was in the best of health until the onset, with absolute suddenness, of his illness at a supper party, on Nov. 10, 1912; he then had a slight rigor, felt sick and was compelled to return home and go to bed. In the night, he had a longer and more severe rigor with a temperature of 103 F. On the following morning he dressed, but another rigor sent him back to bed; temperature 103 F., pulse 110, regular and remarkably dicrotic. He complained of feeling ill, of nausea, and of pain behind the eyes. He vomited once only (bile) Skin very dry and hot. Bowels normal, without aperient. Respirations 20, noticeable for the frequent sighing; no other irregularity; no cough, no sore throat. Pupils not dilated, normal. He was mentally alert. There was nothing abnormal to be detected on examination of the chest or abdomen. In the evening, he had a rigor with a temperature of 103 F.

The progress was as follows: November 12.—Had two rigors; temperature remained steady at 103-104 F. Condition as before; complained much of nausea, but did not vomit. Bowels normal. Urine alkaline, smelling strongly of ammonia, not offensive; contained albumin in small quantity, much mucus, but no blood, pus, or casts. November 13.—Temperature 104 and 103 F. No rigor. Bowels normal. Spleen enlarged and easily felt for the first time. November 14.—Temperature 103 and 101 F. One rigor. November 15.—No rigor. November 18.—Temperature 105 and 100 F. Two severe rigors in the morning (one lasting 20 minutes) and one (the twelfth and last) in the evening. No attempt was made to recover the influenza bacillus as, with the unexpected and abrupt termination on the following day, the diagnosis was only made retrospectively.

### Annales de Médecine et Chirurgie Infantiles, Paris

*April 1, XVII, No. 7, pp. 201-236*


41 Hemophilic Arthritis Simulating Osteomyelitis. (Deux cas d'hémophilie familiale.) H. Méry, H. Salin and A. Wilborts.


### Journal d'Urologie, Paris

*March, XXX, No. 3, pp. 289-424*


42 *The Constant Ratio Between the Urea in the Blood and in the Urine. (Valeur clinique et interprétation de la constante uréo-sécrétoire.) F. Legueu.
43 Cystoscopy with Calculi in the Bladder. G. Marion and J. Ferron.
44 *Early Diagnosis of Renal Tuberculosis. (De la précocité du diagnostic et de l'intervention dans la tuberculose rénale.) L. Bazy.
45 *Improved Technic for Prostatectomy. (Un procédé pour l'extirpation large du cancer de la prostate.) G. Gayet, Champel and Fayol.
46 Device for Immobilizing the Cystoscope. (Boule amovible pouvant se fixer extemporanément sur n'importe quelle pince cystoscopique. Pour servir à l'immobilisation des cystoscopes.) G. Marion.
47 Individual Prophylaxis of Gonorrhea. (Prophylaxie de la blennorragie chez l'homme et chez la femme.) J. Janet.


42. **The Constant Ratio Between the Urea in the Blood and in the Urine.**—Legueu states that he has applied 800 times Ambard's formula for the *constante uréo-sécrétoire*, and he regards it as a most remarkable aid in determining the functional capacity of the kidneys, especially in cases with enlargement of the prostate. In this case it is more exact and reliable than all other functional tests. It warns against operating in certain cases in which, with other tests, the findings would indicate that an operation was practicable, and yet the patients would have died after it. On the other hand, its variations in a case show when the auspicious moment has arrived for operative measures with the least danger. It is impossible to give any rules for its use, as each individual case must be considered separately, weighing all the circumstances. The formula is based on the law of the constant ratio between the urea in the blood and the square root of the urea excreted in the urine, with due regard to the weight, as the weight of the kidneys is generally proportional to the weight of the body. Also with due regard to the concentration of the urine, accepting 25 per thousand as the usual unit. (The formula was described in THE JOURNAL, 1912, lix, 229 and 818.) The bladder is emptied completely with the catheter; this urine is thrown away. Then the urine is drawn again an hour later for examination; then 40 c.c. of blood is drawn by cupping or from a vein. The normal constant ratio is about 0.07; when this drops to 0.069 or 0.056 there is either a defect in the technic, or nephritis with a tendency to dropsy should be suspected. He discusses in detail the information to be derived, especially in regard to whether one or both of the kidneys is affected and whether the disturbances noted are of a transient or permanent nature. In many cases everything seemed to indicate that conditions forbade nephrectomy, but the ratio proving constantly under 0.11 testified that both kidneys could not be affected and consequently that the diseased one could be safely removed. The findings proved a safe guide in every instance of this kind; only two patients suggested a query, as he describes in detail. The formula has revealed an unexpected intensity of disturbance in the elimination of urea following an operation. It has shown that the majority of patients who succumbed after prostatectomy died from their kidneys. Another lesson taught

by the formula is the remarkable benefit from dieting and local measures in improving the condition of the kidneys before a contemplated operation. The formula is instructive only when it is associated with other findings, especially in regard to the elements which characterize dropsy-producing nephritis, namely, albumin and the elimination of water. With these restrictions, Legueu lauds the Ambard formula as belonging in the first rank of methods for exploring the functioning of the kidneys. He adds that no other method can even approach it in precision and the wealth of information it imparts. He cites a large number of clinical cases to show the exact technic and interpretation of the findings.

44. **Early Diagnosis in Renal Tuberculosis.**—Bazy thinks that the case he reports is about the earliest diagnosed of any on record. The patient was a young woman who began to urinate three or four times a night; after a few months she noticed blood in the urine. The urine seemed absolutely normal except that it had a dull look; it had lost its brilliancy. This P. Bazy has long taught is a sign of impending tuberculosis of the urinary apparatus. On these three symptoms, and learning that at the time of the hematuria there had been pain in the right side, Bazy advised catheterization of the ureters which revealed tubercle bacilli, and the kidney was removed. The diagnosis was confirmed by discovery of a minute tuberculous ulceration, the rest of the kidney sound.

45. **Cancer of the Prostate.**—Gayet, Campel and Fayol give an illustrated description of the technic they have applied in two cases with excellent results. It is a combination of several methods, rendering the operation more complete.

### Presse Médicale, Paris

*March 15, XXI, No. 22, pp. 205-220*

48 *Cholecystectomy from the Back Forward. (De la cholécystectomie d'arrière en avant.) A. Gosset and E. Desmarest.
49 Pneumothorax in the Tuberculous. L. Bernard.
50 *Diagnosis of Aneurysm of the Aorta. M. Letulle.

*March 26, No. 25, pp. 241-248*

51 *Adenoma in Intestines Simulating Stenosis of the Pylorus. (Adénomes végétants de la partie supérieure de l'intestin grêle simulant la sténose pylorique.) H. Hartman.
52 *Subcutaneous Injection of Oxygen in Treatment of Permanently Weak Pulse. A. Martinet and F. Heckel.
53 *Chronic Arthritis and Tuberculous Rheumatism. A. Poncet.

*March 29, No. 26, pp. 249-260*

54 Dosage of Strychnin. P. Troisfontaines.
55 *Sphygmomanometer for Determining Persisting Pulse in Asphyxia Neonatorum. (L'oscillomètre de Pachon. Critère de la persistance de la circulation dans la mort apparente du nouveau-né.) P. Balard.

48. **Technic for Cholecystectomy.**—Gosset and Desmarest give an illustrated description of their method of removing the gall-bladder commencing at the back of the organ and working forward, as it is often done in this country but does not seem to have been adopted in France. All their thirty-two patients treated by this technic promptly recovered; the operation was comparatively short and simple, and all danger of hemorrhage was more certainly obviated. The details of these experiences are given in full.

50. **Diagnosis of Aneurysm of the Aorta.**—Letulle remarks that roentgenoscopy has revealed an astonishingly large number of cases of aneurysm of the aorta causing no appreciable symptoms. During the last three years he has applied it systematically in every case of chronic disease in his service and has thus discovered absolutely latent aneurysm of the aorta in twenty-seven cases. The shadow cast by the aneurysm moves with the pulse and it is generally accepted that a shadow at this point showing no pulsation must be a tumor of some other nature. He gives an illustrated description of a case which demonstrates that this assumption is not always tenable. The patient was a woman of 42, previously healthy, with negative Wassermann, who recently developed symptoms of a tumor in the mediastinum which cast a shadow blending with the fifth to eighth dorsal vertebrae. Roentgenoscopy by three experts showed apparently that the tumor was independent of the aorta and did not pulsate. They declared that it consequently could not be an arterial aneurysm. These findings suggested the possibility of removing the tumor, but the incision revealed a large aneurysm at the origin of the descending aorta, adherent to the vertebrae. The woman died a few days later and necropsy showed that the old clots in the aneurysm had packed and obliterated it to such an extent as to prevent the pulse impulse from being perceived. The vertebrae were ulcerated and formed the posterior wall of the aneurysm pocket.

51. **Adenoma in Intestine Simulating Stenosis of the Pylorus.**—Hartmann reports two cases in which the vegetating adenomas had developed in the small intestine and were accompanied by temporary invagination, tardy pain and retention of the stomach contents. One patient was a woman of 49, the other a boy of 15; both were speedily cured by removal of the tumor through a lengthwise incision in the intestine, a simple and easy operation.

52. **Subcutaneous Injection of Oxygen for Weak Pulse.**—Martinet and Heckel make a practice of injecting from 300 to 750 c.c. of oxygen into the subcutaneous tissue once or twice a week in patients with a permanent tendency to weakness of the pulse. They give the history of this method of treatment, and a number of charts showing the effect on the blood-pressure, viscosity of the blood and hemoglobin percentage. They give illustrations of the double vial apparatus used, and state that they have not hesitated to inject up to several liters a day without mishap. Ramond has injected up to 12 liters in one day. They take from five to twenty minutes for injection of half a liter of oxygen, and comment on the benefit derived in conditions of hyposphyxia, especially in acute and chronic tuberculosis, in pneumonia, acute endocarditis, toxic and mechanical dyspnea, and all conditions in which there is an acute or chronic tendency to asphyxia. Nothing else is known to compare with it, they declare, in its action in reducing the viscosity of the blood.

53. **Tuberculous Rheumatism.**—Poncet here continues his arguments on the tuberculous nature of chronic arthritis in a large proportion of cases. The discovery of a tuberculous process elsewhere or the development of one shortly afterward confirms the tuberculous origin of the joint process. In many cases he was at a loss to confirm the tuberculous nature of the joint trouble until after a few months the tuberculosis pulled off its mask and supplied the proof which he had been vainly seeking before, as for example, in a case of arthritis of the elbow with ankylosis which had finally healed but three months afterward tuberculous pleurisy had developed. The practical import of his arguments is that it is safer to treat a chronic joint affection as if it were known positively to be of a tuberculous nature; such patients should be treated as for tuberculosis and not for the gouty tendency, the arthritic diathesis. They should be encouraged to eat heartily and live out-of-doors. Cod liver oil should alternate with arsenic, phosphates and iodids, and he insists that patients with tuberculous rheumatism should keep up this line of treatment all their life, just as syphilities should return to specific treatment from time to time. Local treatment should not be omitted and the most effective is exposures to the direct rays of the sun. For twenty years he has been teaching, "The sun is the most effective agent for revulsion and sedation;" very few patients fail to benefit by the heliotherapy. As a rule, patients with inflammatory tuberculosis have a peculiar plasticity of the tissues which permits unusually fine results from operative measures. Although the processes may heal spontaneously and especially under heliotherapy, yet operative treatment may be necessary in case of ankylosis. Resection with early mobilization give brilliant and durable results.

55. **The Sphygmomanometer in Asphyxia Neonatorum.**—Balard calls attention to the importance of the information to be derived from a particularly sensitive sphygmomanometer—such as Pachon's oscillometer—to determine the persistence of the heart-beat when a new-born child is apparently asphyxiated beyond resuscitation. He gives four cases to illustrate the advantage of the information thus derived, the instrument showing the gradual increase in the force of the heart-beat. One infant showed no sign of heart action when born, neither to the eye, the ear or the touch for thirty minutes. The first

inspiration did not occur for an hour, but the oscillometer revealed that the heart was alive and it was finally revived although the child succumbed not long afterward to the effects of the obstetric meningeal hemorrhage.

### Revue de Médecine, Paris

*February, XXXIII, No. 2, pp. 81-160*

56 Symptoms from Loss of Fluids in Diarrhea with Vomiting. (Syndrome de deshydratation aigue par diarrhée cholériforme et vomissements incoercibles d'origine toxique.) M. Labbé.
57 *Autoserotherapy of Cirrhosis with Ascites. (Phénomènes critiques de la résorptiou de l'ascite cirrhotique.) G. Vitry and A. Sézary.
58 Elimination of Chlorids in Simple Polyuria and Influenee of Sodium Bicarbonate. J. Goldberg and R. Hertz.
59 Bacillary Elephantiasis. A. Sézary and G. Salès.
60 *Diabetes Merely a Sign of Intoxication with Chlorids. (Vues nouvelles sur le diabète.) A. Rodriguez.

57. **Absorption of Ascitic Fluid in a Case Treated by Autoserotherapy.**—Vitry and Sézary describe a case of advanced ascites from cirrhosis of the liver. The ascites had persisted for six months. They treated the patient with subcutaneous injections every other day of 10 c.c. of his own ascitic fluid. On the third day there was a marked increase in the urinary output and a beginning absorption of the fluid which continued until the eleventh day, when injections had to be stopped for want of fluid. Tables are given showing the output and analysis of the urine. As the amount increased, its concentration in sodium chlorid also increased. The acidity was diminished by the elimination of alkaline fluid. The nitrogen content was praetically unchanged. They think the good effect was undoubtedly to be attributed to the autoserotherapy.

60. **New Views of Diabetes.**—Rodriguez thinks that one of the most important factors in the causation of diabetes is an excess of chlorids in the diet. The essential point in treatment, therefore, is not the avoidance of carbohydrates, but the giving of a salt-free diet, whether it be nitrogenous or carbohydrate. Mossé advocates a potato diet to furnish more than 350 gm. of glucose. The beneficial effect is due to the fact that the salts of potassium contained in the potato bring about the elimination of the retained sodium chlorid as potassium chlorid. Rodriguez describes the cases of six patients treated successfully by him on a salt-free diet moderately rich in carbohydrates.

### Revue Pratique d'Obstétrique et de Gynécologie, Paris

*March, XXI, No. 3, pp. 65-92*

61 Why the Fetal Head Rotates. (Considérations sur les dispositions anatomiques qui rendent nécessaire la rotation intrapelvienne de la tête du foetus.) Berthaut.
62 *Sterility after Cesarean Section. (La féeondité de la femme après l'opération eésarienne eonservatrice.) M. Plauchu.
63 Treatment of Placenta Praevia. (Le traitement des hémorragies de la puerpuéralité, doit-il être chirurgieal ou obstétrieal?) G. Ficux.

62. **Cesarean Section Likely to Entail Sterility.**—Plauchu states that 75 per cent. of twenty women on whom he performed conservative cesarean section never had another pregnancy. The same proportion of women sterile thereafter was reported by Bar in 1912 in his experience with 135 operations of the kind, even although his list includes sixteen cases in which the same operation was done twice, six in which it was done three times, and one in which the cesarean section was done four times.

### Beiträge zur klinischen Chirurgie, Tübingen

*February, LXXXIII, No. 1, pp. 1-223*

64 Phlegmonous Inflammation in Small Intestine. (Die phlegmonöse Enteritis im Duodenum und Anfangteil des Jejunums.) G. Frising and E. Sjövall.
65 Treatment of Perforated Gastric and Duodenal Uleer. L. Simon.
66 Forcign Bodies in Intestines. (Ueber Fremdkörper des Darmes und Wurmfortsatzes.) O. Retzlaff.
67 Suture of Braehial and Femoral Arteries. (Fall von partieller Naht der Arteria braehialis und Fall von zirkulärer Naht der Arteria femoralis.) H. Fowelin.
68 Stab Wound of Heart. (Stichverletzung des Perieards und der rechten Pleura.) H. Fowelin.
69 Operative Treatment plus Aspiration of Pleural Empyema. W. Lawrow.
70 The Clinieal Value of Searlet Red and Amidoazotoluol. N. Dobrowolskaja.
71 Extrarenal Hypernephroma. (Ueber einen extrarenalen Nebennierentumor.) H. Harttung.
72 Hard Tumefaction of the Thyroid After Partial Thyroidectomy. (Fall von Riedel'scher Struma, naeh Strumektomie aufgetreten.) H. Simon.
73 Histology of the Thyroid in Exophthalmic Goiter. (Das histologische Bild der Basedowstruma in seinem Verhältnis zum kliuisehen Bilde der Basedow'schen Krankheit.) J. Oehler.
74 Intravenous Anesthesia. (Erfahrungen mit den intravenösen Aether- und Isopral-Aether-Narkosen.) W. Graef.
75 Danger of Infection from Torn Gloves. (Handschuhverletzungen und Händedesinfektiou.) F. Ahlfeld.

### Berliner klinische Wochenschrift

*March 24, L, No. 12, pp. 525-572*

76 Exophthalmic Goiter. (Behandlung der Basedow'sehen Krankheit.) A. Rubino.
77 *Importanee of Bovine Tuberele Baeilli. (Bedeutung der Rinderbacillen für den Menschen.) A. Weber.
78 *The Stasis Reaetion in Arteriosclerosis. (Die Stauungsreaktion bei Arteriosklerose.) C. Hertzell.
79 The High Frequeney Electrle Current in Therapeutics. (Die praktische Bedeutung der Hoehfrequenzbehandlung—d'Arsonvalisation—insbes. bei inneren und Nervenkrankheiten.) E. Tobias.
80 Metals in Treatment of Cancer. (Die Wirkung von Schwermetallen auf die bösartigen Tiergeschwülste.) C. Lewin.
81 *Two Fatalities after Salvarsan. (Status thymolymphaticus und Salvarsan.) W. Rindfleisch.
82 The Cell Inelusions in Scarlet Fever. (Zur Bedeutung der Döhle'sehen Zelleneinschlüsse.) J. C. Schlppers, C. de Lange and H. Bongartz.
83 The Non-Medullated Superfieial Nerves. (Färbung der marklosen Hautnerven beim Mensehen.) K. Kreibieh.
84 Surgery of the Gall-Bladder. S. Adler.
85 Athletics and Stimulants. (Sport und Reizmittel.) F. Hueppe. Commenced in No. 11.

77. **Bovine Tubercle Bacilli.**—Weber's remarks were summarized in the Berlin Letter in THE JOURNAL, April 12, p. 1167.

78. **The Stasis Reaction.**—Hertzell sequestrates the blood in the legs and one arm of a reclining patient and then examines the blood-pressure in the other arm. With a normal vascular system, the blood-pressure in the free arm rises on an average about 5 mm. mercury, which he calls the "stasis reaction." With arteriosclerosis, however, the blood-pressure runs up to 60 mm. or over. The amount of the increase depends on the extent of the arterioselerosis and its predominant localization. This stasis reaction is a sign that the vascular system is more or less pathologic, and this warns against hydrotherapeutic measures, light baths, etc., unless applied with extreme caution.

81. **Danger from Neosalvarsan in the Lymphatic Diathesis.**—One patient was a woman of 50, the other a robust boy of 12 at the second day of scarlet fever. The positive Wassermann reaetion in the first case suggested a probable syphilitic origin for the recurring liver affection. Death followed in both cases so soon after the intravenous infusion of neosalvarsan that a causal connection seemed beyond question. Necropsy in both cases revealed the status thymo-lymphaticus in a pronounced form. The cases teach the necessity for caution in giving salvarsan or neosalvarsan when there is reason to suspect this condition. At necropsy after salvarsan fatalities it should be sought for with special care. As exophthalmic goiter is so often accompanied by persisting thymus, it is unsafe to give salvarsan in this affection, Rindfleisch insists.

### Deutsches Archiv für klinische Medizin, Leipsic

*CIX, Nos. 5-6, pp. 417-620. Last indexed, March 1, p. 704*

86 Experimental Polyuria with Subaeute Nephritis. G. Bachr (New York).
87 *Orlgin of Idiopathie Pernieious Anemia. H. Lüdke and L. Fejes.
88 *Relations Between Permanently High Blood-Pressure and Kidney Disease. (Beziehungen zwisehen anhaltender Blutdruckstcigerung und Nierenerkrankung.) J. Fischer.
89 Influenee of Electrie Stimuli on Gastric Motility and Seeretion. (Einfluss elektrischer Reize auf Magenperistaltik und -Sekretion beim Mensehen.) A. Weil.
90 Sphygmobolometry Technie and Findings. (Sphygmobolometrische Untersuehungen an Gesunden und Kranken mittels des Sahli'sehen sphygmobolographischen Verfahrens.) L. Lipowetzky. (Bemerkungen zu dem verbesserten und vereinfachten Sphygmobolometer.) T. Christen. (Erwiderung.) Sahli.

91 Quantitative Blood-Tests. (Blutmengebestimmungen nach v. Behring und andere quantitative Untersuchungen der Blutbestandteile.) H. Kämmerer and A. Waldmann.
92 The Bound Chlorin in the Gastric Juice, especially with Gastric Cancer. (Das fest gebundene Chlor im Magensaft, speziell bei Magencarcinom.) G. Grund.
93 The Sugar in the Blood in Diabetes. (Verhalten des Blutzuckers und die klinische Bedeutung der Blutzuckerbestimmung beim Diabetes mellitus.) H. Tachau.
94 *Tumors Caused by Diphtheria Bacillus. J. E. Müller.
95 The Negative Pressure in the Thorax. H. v. Wyss.

87. **Etiology of Idiopathic Pernicious Anemia.**—Lüdke and Fejes have produced in various species of animals clinical conditions and pathological findings corresponding closely to those of pernicious anemia in the human being. They injected subcutaneously and intravenously solutions in alcohol or ether of the toxins of different intestinal bacteria, colon, typhoid, typhus, dysentery, etc. These toxins were thermostatic and actively hemolytic. The virulence of the bacteria was greater from diseased than from healthy intestines, and virulence was increased by growth on inflamed intestinal surfaces. No explanation is as yet found for the fact that these bacterial toxins produce pernicious anemia only in exceptional cases.

88. **Relations Between High Blood-Pressure and Kidney Disease.**—Five hundred and fifty patients with continuous high blood-pressure were examined. In 62 per cent. of those with blood-pressure above 140, there were signs of pronounced kidney disease, and in 80 per cent. of those with pressure above 160, of 42 examined post-mortem every one showed anatomical changes indicating progressive kidney disease, even those in which there had been no clinical evidence of it, and congested kidney or idiopathic dilatation of the heart had been diagnosed.

94. **Unusual Diphtheritic Affections.**—Müller describes the cases of two children, brother and sister, brought to his clinic. The girl had a tumor on the left labium majus extending to the inguinal region. For eight days the child had complained of sore throat and was admitted with diagnosis of diphtheria. Her brother was also admitted with diphtheria, and coincident with the appearance of the sore throat a swelling had appeared at the root of the nose. Both children died and microscopic examination showed numerous diphtheria bacilli in the tumors. Deutschländer has collected forty-eight cases of similar diphtheritic tumors from the literature, 14 per cent. of which proved fatal. Müller further describes a case of his own and one of Günther's in which there were swollen, necrotic areas in the large intestine containing diphtheria bacilli. In such cases the bacilli were demonstrated in the feces.

## Deutsche medizinische Wochenschrift, Berlin

*March 20, XXXIX, No. 12, pp. 537-584*

96 *Treatment of Convulsions in Young Children. (Behandlung der Krämpfe im frühen Kindesalter.) M. Thiemich.
97 *Vascular and Nervous Disease in Syphilitics. (Zur Frage der "Parasyphilis.") S. Schoenborn and W. Cuntz.
98 Cholesterin in the Blood in Various Diseases. (Untersuchungen über den Cholesteringehalt des menschlichen Blutes bei verschiedenen inneren Erkrankungen.) Baemeister and Henes.
99 The Adrenals and the Metabolism of Fat. (Nebenniere und Fettstoffwechsel.) M. Landau.
100 Gold Preparations in Treatment of Tuberculosis. (Zur Chemotherapie der Tuberkulose mit Gold.) A. Feldt.
101 *Etiology of Rachitis and the Metabolism of Calcium. (Aetiologie der Rachitis und der Kalkstoffwechsel.) W. Dibbelt and Diesing.
102 Roentgenoscopy of Gastric Ulcer. (Ergebnisse der Röntgenuntersuchung beim Ulcus ventriculi.) E. Schlesinger.
103 Omentum Cuff for Perforated Gastric and Duodenal Ulcer. (Weitere Erfahrungen mit der Verwendung der Netzmanschette, insbes. bei der Behandlung des perforierten Magen- und Duodenalgeschwürs.) A. Neumann.
104 *Injury from Injection of Oil Into the Peritoneum. (Die intraperitoneale Oelanwendung.) Momburg.
105 Congenital Scoliosis. J. Lewy.
106 Treatment of Fractured Jaw. (Interdentalschiene oder extraoraler Verband bei Behandlung von Kieferbrüchen.) A. Frenzel.

96. **Convulsions in Children.**—Thiemich refers only to the convulsions which occur in the absence of meningitis or special intoxication. Although they can be called idiopathic, yet there are always accompanying signs of spasmophilia, that is, abnormal irritability of the peripheral motor and sensory nerves to mechanical and electric stimuli. The easiest sign to elicit when this spasmophilia is suspected in a latent form, is the facialis phenomenon, but the response to galvanic electricity applied to the median nerve in the bend of the elbow is more delicate and more reliable. Treatment of this eclampsia infantum or laryngospasm has passed through a phase based on an assumed gastro-intestinal origin for the spasm until it was recognized that the phenomena observed did not fit into the frame of reflex convulsions. Then came Kassowitz' theory that the trouble was merely the nervous manifestations of rachitis, and hence that it should be treated the same as rachitis. His theory was evidently wrong but the treatment he based on it has proved extremely effectual although for other reasons than those he advanced. This treatment is with phosphorus and cod-liver oil; neither alone is effectual, but the combination is proving extremely useful in both rachitis and spasmophilia, as has frequently been announced in these columns. If the child has been overfed with cow's milk, the amount should be restricted; Thiemich reduces it to considerably less than a tenth of the body weight per day. The danger from this form of alimentary disturbance is greater the younger the child; a child over 2 can do without milk for several weeks without serious injury. With repeated convulsions, Thiemich gives chloral in large doses, generally by the rectum. An infant of 6 months or younger can be given a rectal enema of 0.5 gm. chloral in a 2 per cent. warm solution, pressing the buttocks together so that the fluid is retained for ten minutes. This usually arrests the convulsion and the child then sleeps or rests for six or ten hours. The dose can be even as high as 0.75 gm. of the chloral hydrate. The child must be carefully protected against chilling and overheating while it is under the influence of the chloral. He has never had to keep up the drug for more than two or three days or four at most, giving once or twice a day the above dose. If the attacks are not arrested by this, the case is of such extreme severity that nothing can help. Bromids have never been of any use in his experience, but the phosphorus-cod liver oil treatment should always be started at once, whether the case is severe enough to warrant the chloral or not, and kept up as the most effectual measure and in some cases sufficient alone, without dieting or other drug. The proportion is 0.01 gm. phosphorus in 100 gm. cod liver oil; substitutes for cod liver oil are absolutely worthless, he adds. The necessity for fresh air for the child must be emphasized, especially as the majority of cases occur in the late winter and early spring months.

97. **Vascular and Nervous Disease in Syphilitics.**—Schoenborn reviews the cases of parasyphilis in his service during the last four years, including sixty-five with heart or vascular affections; ten of these patients had at the same time tabes, two taboparalysis, one paralysis and eight nephritis. In the fifty-two cases in which the Wassermann reaction was investigated, a positive reaction was obtained in forty-six. The interval between infection and the cardiovascular disease ranged from five to forty-one years. In thirteen other cases the liver was the seat of the parasyphilis (including two from the cardiovascular group). There were also four other cases of kidney disease in addition to the eight counted in the cardiovascular group; there were also two cases of paroxysmal hemoglobinuria. In all these cases a causal connection with syphilis seemed to be beyond question. He protests against the term "parasyphilis" or "metasyphilis" for these affections, declaring that they are manifestations of syphilis pure and simple and that any other name for them is superfluous. This assumption is confirmed by recent discovery of spirochetes near the brain cortex in cases of progressive paralysis. He rejects further Danlos' suggestion that tabes and paresis are due to organic impregnation with antibodies after the original syphilis has long healed.

101. **Etiology of Rachitis.**—Dibbelt reiterates that disturbance in the calcium metabolism is the essential factor in rachitis; the metabolism of lime is peculiarly unstable and is

affected by various injurious influences. Diesing suggests that the lack of sunlight in the northern countries is one or the essential factor, and he explains the physiologic bases for this assumption.

104. **Prophylactic Injection of Oil Into the Peritoneum.**—Momburg has made prophylactic intraperitoneal injections of oil in sixteen cases and this experience impels him to warn most decidedly against the procedure. At most he would permit application of oil directly to the point of the operation and its immediate vicinity alone, carefully removing all excess of the oil and not attempting this except with the stronger patients and only when the peritoneum has been soiled with stomach or intestinal content. He has been much impressed, on the other hand, with the advantages of application of superheated air to the abdomen after a laparotomy. He applies it three hours after the operation, the temperature not over 80 or 90 C, and only for half an hour, repeating this three times a day during the first days after the operation. The dressing is turned back and only the lowest layers of gauze left over the wound. He has applied this to 108 patients and has not had a death from perforation since he has made a practice of it. The patients say that the hot air is soothing and reduces the pain; it also starts peristalsis, and for this reason he used it also in his forty-three hernia cases.

## Deutsche Zeitschrift für Chirurgie, Leipsic

*February, CXXI, Nos. 3-4, pp. 199-392*


107 *Traumatic Epilepsy After Gunshot Wounds of the Head. (Zur Kenntnis der traumatischen Epilepsie nach Kopfverletzungen im Japanisch-russischen Kriege.) T. Eguchi.
108 Subcutaneous Emphysema after Laparotomies. E. Gergö.
109 *Present Status of Roentgenotherapy of Surgical Tuberculosis. (Wirkung der Röntgenstrahlen bei chirurgischer Tuberkulose.) H. Neu.
110 Cyst, Encircling the Pancreas. (Ueber eine peripankreatische zwischen den Blättern des Mesocolon transversum entstandene Cyste.) E. A. Delfino.
111 *Fibrous or Ossified Plaques in the Penis. (Induratio penis plastica.) M. zur Verth and K. Scheele.
112 Histology of Egyptian Bladder Stones. E. Pfister.
113 *Treatment of Spontaneous Gangrene by Measures to Reduce the Viscosity of the Blood. G. Koga.
114 Sarcoma of Upper Jaw. (Interessanter Fall von Oberkiefersarkom.) E. Schottländer.


107. **Traumatic Epilepsy After Gunshot Wounds of the Head.**—Eguchi states that traumatic epilepsy developed in about 3 per cent. of the head injuries in his charge during the campaign in Manchuria. It generally does not manifest itself until after the scar has healed, but the scars are very sensitive to contact. When the defect in the bone was closed only with soft parts, pulsation could be seen in the brain; conditions thus were similar to those which Kocher has proposed in treatment of epilepsy, namely, a soft-part flap for a safety valve. These experiences show that this method has no apparent basis. Drugs alone were unable to dispel the epilepsy but they proved useful in connection with an operation.

109. **Roentgenotherapy in Surgical Tuberculosis.**—Neu lauds the efficacy of Roentgen exposures in treatment of tuberculous lymph-nodes and processes in bones and joints, in laryngeal tuberculosis and in tuberculous peritonitis. His conclusions from study of the literature are that the experiences of the sixteen years since the introduction of roentgenotherapy show a long array of favorable results from various clinics, so that the method has passed beyond the tentative stage into that of well established achievement and it deserves wider appreciation and more extensive application.

111. **Hard Patches in the Penis.**—Three personal cases are described in detail and ninety-seven from the literature are tabulated. The possible factors mentioned include gout (13), diabetes (12), inflammation of the joints (15), trauma (6), arteriosclerosis (15), syphilis (13), and gonorrhea (21), but in a very large number no attempt is made to suggest a possible cause. Excision of the hard body is the best treatment.

113. **Causal Treatment of Spontaneous Gangrene.**—Koga remarks that spontaneous gangrene of the extremities from sclerosis of blood-vessels seems to occur more frequently in the young in Japan than in Europe. Ito is inclined to attribute this to the preponderant vegetable diet. Koga discovered in a number of these cases that the viscosity of the blood was very high. By infusion of saline or Ringer's solution the gangrene was very favorably influenced as the blood became more fluid. He never noticed any benefit from potassium iodid in this line. In the thirteen cases reported the patients were men between 24 and 48, free from syphilis and glycosuria. As the viscosity of the blood became reduced under the infusion, the swelling went down, the cyanosis grew less, a line of demarcation formed, ulcerations cleaned up and healed over and the previously imperceptible peripheral arteries began to pulsate, while the pains subsided and the patients were able to sleep at night and ceased to be troubled by intermittent claudication. There has been no recurrence of the gangrene for two years in one case and five months in the latest. The progress of the gangrene compelled amputation later in only one case. Koga insists that the viscosity of the blood should be supervised and the infusions resumed as soon as it is seen to be going above normal.

## Jahrbuch für Kinderheilkunde, Berlin

*March, LXXVII, No. 3, pp. 243-382*


115 Permeability of Gastro-Intestinal Tract for Alien Albumin in Sick Infants. (Die Durchlässigkeit des Magendarmkanals für heterologes Eiweiss bei ernährungsgestörten Säuglingen.) F. Lust. Concluded in No. 4.
116 Rachitis in the Newly Born. (Ueber Rachitis. III.) M. Kassowitz.
117 *Whey in Treatment of Dysenteric Enteritis in Infants. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank. Commenced in No. 2.


117. **Whey in Treatment of Diarrhea in Infants.**—Frank describes seventy cases of diarrhea in infants at the Göttingen children's hospital, in which the children were treated with whey. Thirty-seven of these had simple mucous stools, the others bloody and mucopurulent ones. The results were excellent; the character of the stools improved rapidly, the children became brighter and more cheerful, and did not lose in weight except the first day. The whey is prepared by adding a teaspoonful of extract of rennet to one-fourth liter of milk and setting it in boiling water. As soon as it curdles it is strained through a cloth. The treatment is begun by giving the child a teaspoonful of castor oil and flushing out the colon. Children under 2 years are given nothing but tea for twenty-four hours; the older ones are given a half cup of gruel the first evening and the next morning. If they have been fed on infants' foods or other improper nourishment and have no appetite, or vomit, the stomach is filled with warm water introduced through a Nélaton catheter. This stops vomiting, supplies necessary moisture and arouses the appetite. About 50 gm. of the whey and 50 gm. of gruel are then given, increasing to 60 or to 75 gm. of whey and 100 of gruel are given. The stools begin to improve almost immediately and in mild cases by the third to the fifth day the substitution of milk for the whey may be commenced. In more severe cases it is better to wait till the fifth to the eighth day. The substitution must be carried out gradually so that by the twelfth to the fourteenth day the child is getting 400 gm. milk, 400 gm. gruel and 200 gm. gruel and meat broth. The child should not be kept on pure whey treatment more than eight days or it will begin to run down. But in treatment of dysenteric diarrhea in infants it supplies the most easily assimilated nourishment, with plenty of salts which prevent the child's falling off rapidly in weight, while it permits gradual resumption of the ordinary food, so that Frank does not hesitate to extol it as the most certain and the simplest method of tiding the child past the danger stage without its suffering from hunger.

## Medizinische Klinik, Berlin

*March 23, IX, No. 12, pp. 441-484*


118 *Duodenal Ulcer. S. Kreuzfuchs.
119 Necessity for Early Appendicectomy. (Zur Förderung der Frühoperation bei Perityphlitis.) Wagner.
120 Symposium on Preparation of Field of Operation. (Vorbereitung des Operationsfeldes.) W. Körte, T. Kocher, H. Schloffer and others.
121 *Thyroid Implants. (Transplantation von Schilddrüse in die Milz und das Knochenmark.) W. Kotzenberg.
122 Household Remedies for Accidents. (Volkshcilmittel und Unfallheilkunde.) M. Mayer. Commenced in No. 11.
123 Tumor Growths in Cold-Blooded Animals. W. Carl.

118. **Duodenal Ulcer.**—Kreuzfuchs found twenty-eight cases with a typical history and typical Roentgen findings among 2,595 patients with internal affections at the Charité in Vienna last year. The diagnosis based on the triad: case history, hyperacidity and typical Roentgen findings, proved correct in every case in which operative treatment was applied. He discusses this material from various standpoints. It is characteristic of the pains with duodenal ulcer that they may wake the patient in the night, generally about 2 a. m. The patients say, "When I eat, the pain goes away; the pains come when I begin to get hungry." Many learn to carry a cracker in their pocket or keep some food beside their bed. Exclusively fluid foods bring the pains earlier and they last longer than with mixed food. The stomach expels its contents unusually early with duodenal ulcer. Another important finding which we owe to roentgenoscopy is the discovery that the tardy pain is due to spasm of the pylorus elicited from the duodenal side of the pylorus. This explains why unilateral exclusion of the pylorus puts an end at once to the pains. Kreuzfuchs advocates unconditionally Eiselsberg's technic for this. He insists on an operation when there is hemorrhage but otherwise only when the patients long for relief after failure of internal measures. He remarks that it is astonishing how a small but ever recurring disturbance can bring the most robust person finally to despair. These duodenal ulcer patients drift into the class of neurasthenics, and he urges careful investigation in every case of neurasthenia as to gastric hemorrhage having ever occurred. He has long been converted to the idea that neuroses, especially neuroses of the stomach, are merely the result of some unrecognized organic trouble. He urges internists to be more systematic and persevering in their internal treatment, and then, if this fails, to call in the surgeon.

121. **Thyroid Implants.**—Kotzenberg reports the cases of two children with congenital myxedema who showed no improvement under thyroid treatment but who displayed marked benefit following grafting of a piece of the mother's thyroid into spleen or tibia, after a preliminary operation to prepare the pocket for the graft.

### Münchener medizinische Wochenschrift

*March 25, LX, No. 12, pp. 625-680*

124 *Therapeutic Paralysis of the Diaphragm in Pulmonary Disease. (Beeinflussung von Lungenerkrankungen durch künstliche Lähmung des Zwerchfells—Phrenikotomie.) F. Sauerbruch.
125 Experimental Research on Inheritance of Tendency to Tumor Growths. (Zur Frage der Vererbung der Anlage zur Geschwulstentwicklung.) B. Morpurgo and A. Donati.
126 *Measles Pneumonia. (Einfluss hygienischer Verhältnisse auf die Morbidität und Mortalität der Masernpneumonie.) L. Maier.
127 Experiences with Mixed Anesthesia. (Erfahrungen mit dem Skopolamindämmerschlaf in Verbindung mit Morphium, Pantopon und Narkophin.) H. Reichel.
128 *Beriberi in Europe. (Ist die Beriberi eine auch in Europa heimische Krankheit?) W. Schüffner.
129 Testing Vision of School Children. (Ueber Augenuntersuchungen bei Schulkindern.) Gastpar.
130 Technic for Systematic Insufflation of Air as First Aid in Asphyxia. (Die erste Hilfe bei Asphyxien mittels direkter Einblasung von Luft.) Kuhn.
131 Personal Prophylaxis of Syphilis. (Zur persönlichen Prophylaxe der Syphilis.) F. Bruck.
132 Resection of Stomach. (Ulcus callosum ventriculi totale—Schrumpfmagen. Bemerkungen über den dauernden Verlust des Magens sowie über die Technik der Magenresektion.) F. Sasse.
133 *Psychology of Blunders in Bibliography. (Zu der Psychologie der falschen Literaturangaben.) H. Berger.

124. **Induced Paralysis of the Diaphragm in Pulmonary Disease.**—Sauerbruch states that on account of Schepelmann's experimental research on surgery of the lungs (summarized in THE JOURNAL, April 26, abstr. 64, page 1333) he feels inclined to report his own research in this line although it is rather premature for clinical deductions. He has severed the phrenic nerve on one side in five cases for the purpose of favorably modifying a tuberculous process in the lung, rebellious to internal measures. The interval since is too short to determine the ultimate outcome, but this experience has confirmed the ease and simplicity of phrenicotomy. The patients were all able to be up in two or three days, and there were no disturbances on the part of the heart and respiration, not even the acceleration of the respiration noticed after injuries of the phrenic nerve. In all the cases the cough was improved and the expectoration reduced. He states that Stürtz proposed in 1911 to treat severe chronic unilateral processes in the inferior lobe by means of severing the phrenic nerve. The results of his experimental research have been confirmed by Sauerbruch's clinical experience. After severing the nerve the diaphragm rises and ceases to participate in the respiration; only small excursions occur, and they are paradoxic, as the diaphragm is sucked up in inspiration while it is depressed in expiration, thus moving directly opposite to the sound half. Bardenheuer on these premises severed the phrenic nerve on one side in a case of bronchiectasia in the inferior lobe and some improvement was realized. Sauerbruch insists that the immobilization of the lung by phrenicotomy must be supplemented by resection of the chest wall to permit the retraction of the lung tissue, as this is of the utmost importance for the healing of a tuberculous process in the superior lobe. The technic of phrenicotomy is simple: The patient lies in a semireclining position, the head held far over on the sound side, stretching the muscles of the neck. The skin is then incised for 10 cm. along the posterior margin of the sternocleidomastoid muscle to the clavicle. The muscle is pushed forward and the omohyoid drawn down, thus exposing the phrenic nerve. It is about 3 mm. in diameter, and is readily isolated and severed. As the nerve is isolated, the patient says he feels a dull pain in the "lung."

126. **Measles Pneumonia.**—Maier discusses the reason why pneumonia in measles has become so much less frequent in Pfaundler's service in the last few years and the mortality so much less. He ascribes it to the rebuilding, which materially improved conditions in regard to hygiene.

128. **Beriberi in Europe.**—Schüffner writes from Sumatra to emphasize anew the way in which beriberi has lost its epidemic character. It occurs sporadically, like polyneuritis in Europe, and he declares that in every case of polyneuritis, in any country, the conditions in regard to an alimentary origin should be carefully investigated. Polyneuritis occurring after typhoid is generally regarded as the work of the typhoid virus, but Schüffner suggests the possibility that the one-sided diet after a wasting disease may be responsible for it. His experience in the West Indies has indicated that rudimentary forms are unexpectedly frequent in these conditions; formication in the hands and feet, numbness, weakness in the legs and palpitations. As polyneuritis requires six or eight weeks to develop, the diet by the end of this time has become more abundant and the typical fully developed affection is thus warded off, the neuritis healing without ever having revealed its true nature. He declares further that the pseudotabes of diabetics belongs also in this category, and is explained by the restriction of carbohydrates. The same danger is liable with pregnant and nursing women whose diet is liable to be influenced by whims and prejudices. In the old text-books it was taught that nursing women should wean the baby if formication developed, with cramps in the arms and neck, pains in the shoulders, syncopes and palpitations—all symptoms common in beriberi. The partial starvation of the body is felt in the milk, and the infant may suffer from beriberi. It is possible that many forms of nutritional or developmental disturbances in infants may be rudimentary forms of beriberi. The ascending neuritis of hard drinkers may be due to the perverted and often one-sided appetite in such cases. The neuritis heals under institutional treatment, and the abstention from alcohol gets the credit for it when in reality it is the result of the more rational diet. The afebrile forms of Landry's paralysis have also a close resemblance to severe beriberi. Thirty-two years ago Leyden described in Europe the clinical picture of polyneuritis. This threw light on oriental beriberi. Then came Eykman's discovery of the connection with rice feeding, and now the polyneuritis of the orient returns to Europe as the better known disease, polyneuritis, no longer with a question but with the

demand to be regarded as beriberi, to wit, a disturbance of alimentary origin to be influenced by the diet.

133. **Psychology of Blunders in Bibliography.**—Berger is at the head of a bureau of bibliography, and he bewails the errors that creep into bibliographic references even with the greatest care, and warns of a few blunders that may be avoided: especially the misspelling of names that sound alike, such as Beier and Payr; Meier and Mayer; the indiscriminate use of "weekly," "journal," "monthly" and "review," confusing "medical" and "clinical;" transposing the two last figures in the date, 1901 instead of 1910, or one of the letters in a roman numeral. Such blunders, he says, are his daily bread. He thinks there is a malicious genie that mixes up the bibliographic references, the older brother of the proof-error devil: The smallest little error overlooked by the proof-reader may beget a host of big blunders. As an instance of this he mentions an article by Vorderbrügge which was cited in another journal as Vonderbrügge. The next citation gave it as v. d. Brügge. Who would think of looking in the index under B for Vorderbrügge? He adds that the *Wiener med. Wochenschrift*, 1909, p. 90, cited two articles from The Journal of the American Medical Association of February, 1907: Feb. 1, 1907, p. 2204, and Feb. 2, 1907, p. 1245. That journals do not usually number the pages backward or publish two issues in two days does not seem to have attracted attention, possibly because America is known as the land of unlimited possibilities. He continues that the explanation is simple, one of the articles cited having appeared in the second of the two volumes of The Journal in 1907. He remarks that The Journal is generally bound abroad in four volumes for the year, designated as Vol. I, 1 and 2 and Vol. II, 1 and 2. Such blunders are particularly liable when an author prefers to give the figure for the month rather than specify its name.

[This system of dividing the issues for the year into Vols. I and II for each year is followed by the *British Medical Journal* and the *Lancet*, but The Journal of the American Medical Association has always been careful to refrain from this system, as it invites confusion.

The Journal volumes have been numbered consecutively from the first volume in 1883 down to the present date. If the uniform style of the Surgeon-General's catalogue were adopted abroad—as is being done more and more in America—the blunders in bibliography would certainly become less numerous. For instance, if Berger should call attention to these remarks, he would credit them to The Journal of the American Medical Association, 1913, lx, 1406, and no mistake could possibly creep in if the proof-reader followed "copy." —Ed.]

### Wiener klinische Wochenschrift, Vienna

*March 27, XXVI, No. 13, pp. 485-520*

134 Latent "Lymphoid" Stage of Tuberele Bacilli in Apparently Sound Tissues. (Das Stadium "lymphoider" Latenz im Infektionsgange bei der Tuberkulose.) J. Bartel.
135 Epinephrin plus Hypophysis Extract in Therapeuties. (Die Kombination von Adrenalin und Hypophysin und deren klinische Verwendbarkeit.) B. A. Houssay.
136 Metabolism of Fat. (Ueber den Fettstoffwechsel.) W. Gessner.
137 Pancreas Calculi. (Ueber Pankreassteine.) K. Glaessner.
138 Morbid Dread. (Ueber Angstzustände.) H. Kahane.
139 Pelvic Disease and Psychiatry. (Die Lehre Bossis und die Gynäkologie.) A. Mayer.

### Zentralblatt für Chirurgie, Leipsic

*March 29, XL, No. 13, pp. 457-504*

140 Cancer of the Rectum. (Modifikation der kombiuierten Operationsmethode bei Cancer recti.) K. Dahlgren.
141 To Ensure Movable Stump After Amputation of the Arm. (Zur Technik des beweglichen Stumpfes bei Amputationen.) Z. Slawinski.
142 Technic for Blocking the Sciatic Nerve. (Zur Anästhesie des N. ischiadicus.) P. Babitzki.
143 Bolus Alba in Sterilization of the Hands. Günther.

### Zentralblatt für Gynäkologie, Leipsic

*March 29, XXXVII, No. 13, pp. 449-480*

144 The Electrocardiogram During Pregnancy. (Das Elektrokardiogram bei Schwangeren.) C. Rübner.
145 Uterus Bicornis Responsible for Chronic Transverse Presentation. C. U. von Klein.
146 Behavior of Uterus in and after Third Stage of Labor. (Kontrolle des Verhaltens der Gebärmutter in der Nachgeburtsperiode und in den ersten drei Stunden nach derselben.) A. Solowij.

### Brazil-Medico, Rio de Janeiro

*February 1, XXVII, No. 5, pp. 41-50*

147 *Tartar Emetic in Treatment of Venereal Ulcerating Granuloma. (Sobre o tratamento do "granuloma venereum" pelo tartaro emetico.) H. de B. Aragão and G. Vianna.
148 *Tropical Dysphagia. (Consideraçoes sobre o mal de engasgo.) U. Paranhos.

*February 8, No. 6, pp. 51-60*

149 Ovary Grafting. (Do enverto ovariano em Cirurgia.) C. Werneck.
150 The Influence of the Atmosphere on the General Health. (Influencia sanitaria geueral da atmosphera.) B. Barreto. Commenced in last volume.

*February 15, No. 7, pp. 61-70*

151 Treponema Found in Tropical Sore. (Sobre um novo treponema encontrado em ulceras—Treponema minimum nov. spec.) H. de B. Aragão and G. Vianna.

*February 22, No. 8, pp. 71-80*

152 *Treatment of Chronic Gonorrheal Urethritis. (A antisepsia e a urethrite chronica blenorrhagica.) A. Pereira.

147. **Venereal Granuloma.**—Aragão and Vianna report three cases and state that vaccine therapy failed to show any benefit and they then gave tartar emetic in intravenous injection. This was followed by the rapid healing of the lesion. They used a 1 per thousand solution, injecting from 60 to 120 c.c. on alternate days, averaging ten injections of 100 c.c. each. The disturbances are aggravated by the injection at first, the lesion itches, but the bacteria disappear and the part soon heals over. The bacterium they found constantly in their five cases they designate as kalymmatobacterium granulomae. This granuloma does not seem to be favorably influenced by mercury, salvarsan or caustics but it sometimes yields to roentgenotherapy. This was not tried in the three cases reported here.

148. **Endemic Tropical Dysphagia—"Mal de Engasgo."**—Paranhos describes an affection endemic in certain parts of Brazil which is characterized by difficulty in swallowing, so constantly recurring that the individuals die of starvation. It seems to have receded before improving hygiene so that now it is encountered only in the remoter districts. The dysphagia occurs spasmodically; in the intervals all is apparently normal. The trouble seems to be a spasm of the cardia. The prognosis is grave as the attacks finally recur so often that the patient is unable to get enough nourishment to sustain life. Treatment to date has been merely symptomatic. Some writers regard the trouble as due to worms in the esophagus; others accept it as a special form of Chagas' trypanosomiasis, but Paranhos is inclined to think that the flour used almost exclusively in the regions where the *mal de engasgo* is prevalent is the causal factor. This flour is made from the manioc, the cassava, of the euphorbia family. The root contains a juice which Boutron and Henry say is identical with hydrocyanic acid. Ingestion of this juice induces motor disturbances, dysphagia, convulsions, weakness of the heart action and arrest of the respiration. Roasting the root to make the flour expels all the juice, but when this is not properly done, this form of dysphagia is liable to follow. When other food is used no further cases develop.

152. **Treatment of Chronic Gonorrheal Urethritis.**—Pereira advocates as the only effectual treatment, repeated dilatation and superdilatation under the guidance of frequent urethroscopy. The intensity of the dilatation and the length of the intervals must depend on the reaction in the individual case. As a rule, antiseptic applications in the interim do no good and rather harm. They are useless except in the acute and prolonged recrudescences, to satisfy the impatience of the patient, or when these exacerbations threaten the joints. The aim then is to keep the infection within bounds in the predisposed territory until arsenic and other tonics and nourishment enhance the resisting powers and gain time until the radical cure by the dilatation sittings can be instituted. He gives in detail the reasons for these views.

### Ugeskrift for Læger, Copenhagen

*March 20, LXXV, No. 12, pp. 487-530*

153 Attacks of Functional Vagoelonie Symptoms. (Om funktionelle hysteroide Anfald.) C. Heyerdahl.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, NO. 19 CHICAGO, ILLINOIS MAY 10, 1913


## SIMPLE DEVICES FOR EFFECTIVE ARTIFICIAL RESPIRATION IN EMERGENCIES *


S. J. MELTZER, M.D., LL.D.

NEW YORK


In a preliminary note,[1] about a year ago, I described a simple method of artificial respiration which proved efficient in animals. The method consisted in driving air rhythmically by bellows through a tube which has been introduced into the pharynx. The plan of this method was based on the following considerations. Air under pressure in the pharynx has four outlets. It may escape by way of the nasopharynx through the nose. It may escape through the mouth. It may escape through the esophagus into the stomach. It may finally enter into the trachea and the lungs; when it enters there with sufficient force, it causes an inspiration. To obtain an efficient insufflation of air from the pharynx into the lungs, the other exits must be satisfactorily barricaded. In the method described under the name of pharyngeal insufflation the escape of air through the mouth was effectively reduced by pressure on the suprahyoid region. The elastic pharyngeal tube raised the soft palate and the uvula, and thus shut off the entrance into the nasopharynx. The entrance of air through the esophagus into the stomach would, besides the deviation of the air from the lungs, be an additional evil by the gastrectasis and intestinal meteorism which it may cause. All these evils were effectively met in two ways: by introducing a tube into the stomach or by putting a weight on the abdomen. When these various precautions were taken, each insufflation through the pharyngeal tube drove air into the lungs with sufficient force which caused indeed an effective inspiration. The expirations occurred during the interruptions of the insufflation, the elasticity of the chest and of the abdominal viscera driving the air out again into the pharynx from where it escaped through the least resistant passage ways, which were now through the pharyngeal tube and alongside through the unobstructed part of the mouth.

The method thus described, which worked well in four species of animals (dogs, cats, rabbits and monkeys), has since been tried on living as well as on dead human beings. Here, however, the method failed to work. In human beings pressure on the suprahyoid region does not restrict effectively the free escape of air through the mouth; neither is the entrance into the nasopharynx sufficiently blocked by the pressure of the flexible pharyngeal tube. The air insufflated into the pharynx escapes freely through the mouth and nose and enters therefore into the lungs with too little force to overcome the resisting elasticity of the lungs and the thoracic walls and thus to cause an inspiration. In other words the simple arrangement which is so efficient a method of artificial respiration for animals proved to be unsatisfactory when applied to man because of the difference in the anatomic construction. I then set out to develop the method further so as to make it applicable to human beings. I believe that I have now attained that end. In the following I shall describe two methods which have caused effective respiration (that is, effective rhythmic entrance of air into the lungs) even in human cadavers stiff in rigor mortis or frozen stiff. I shall designate the respective methods of artificial respiration as the *pharyngeal* and the *mask device*. I shall describe the pharyngeal device first and in greater detail.

The pharyngeal tube to be used in human beings is made of metal. It measures transversely 38, and vertically 27, millimeters and is about 18 centimeters long. The lower (tongue) side is flat, the upper (palate) side is round. At the pharyngeal end the upper side is longer by about four centimeters than the tongue side; when the tube is inserted through the mouth into the pharynx, the end of the upper side has to reach the posterior wall of the pharynx, while the lower side may end somewhere between the radix of the tongue and the posterior wall of the pharynx. For an adult of medium size the dimensions of the tube are sufficient to fill out the entrance into the pharynx so as to prevent the escape of air through the mouth; it also blocks reliably the entrance into the nasopharynx. Of course, tubes of various dimensions may be had at hand, so as to fit the individual sizes. The outer end of the tube carries, in the first place, a hollow neck-like projection to connect the tube with the insufflation apparatus. It has, besides, a round hole, through which a large stomach tube may be introduced into the esophagus and the stomach, when necessary; this hole is usually kept closed by a movable plate.

The outer end of the pharyngeal tube is connected by means of a short heavy piece of rubber tubing with a little device which I designate as respiratory valve. It is a small tube about 10 centimeters long and 3 centimeters in diameter, which carries a valve inside and a ring outside. By means of that ring the valve may be moved from side to side. When it is moved to the right side, it connects the insufflating apparatus with the pharyngeal tube and air or oxygen is driven into the pharynx and the lungs. When the ring is moved to the left side, the current of air or oxygen is shut off; at the same time an opening is established through which the expired air may now readily escape. The respiratory valve may be conveniently held in the hand and the ring moved from side to side by the thumb. The ring mov-


* From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.


1. Meltzer, S. J.: Pharyngeal Insufflation, a Simple Method of Artificial Respiration, THE JOURNAL A. M. A., May 11, 1912.

ing the valve is not in the middle but near one end of that little device, the end which should be connected with the pharyngeal tube.

The other end of the respiratory valve should be connected by means of strong rubber tubing with glass-blower foot-bellows which should be worked so as to give an approximately continuous current of air; or it may be connected with an oxygen tank. Between the respiratory valve and the bellows (or oxygen cylinder) a "safety-valve" should be interpolated in order that the air or oxygen should not be driven into the pharynx with too high pressure. The safety-valve may be of such a simple kind as I described in the recently appeared sixth volume of Keen's work on surgery for the intratracheal insufflation apparatus. It consists simply of a calibrated tube dipping in mercury. The pressure should be arranged for not less than 20 millimeters mercury, and may be even 25 millimeters; the pharyngeal system of insufflation will always permit an escape of some air through any of the exits.

Heavy weights to be placed on the abdomen, a broad belt to reinforce the pressure on the abdomen, and a large stomach tube, about 33 French, complete the outfit.

The pharyngeal insufflation apparatus for artificial respiration consists then of a metal pharyngeal tube, the

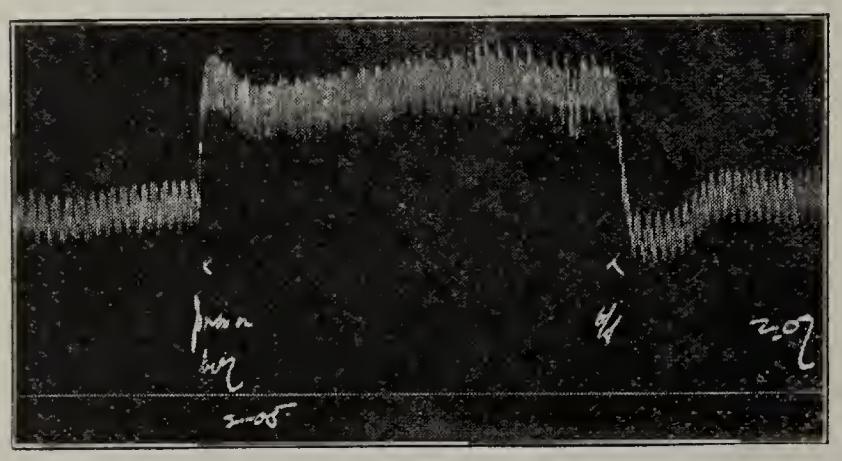


Fig. 1.—Blood-pressure tracing from an etherized dog which received an intravenous injection of sodium nitrite. Blood-pressure low, 44 millimeters; pressure on the abdomen brings up the blood-pressure to 70 millimeters mercury, and the pulse pressure is nearly doubled in size.

respiratory valve, foot-bellows, or an oxygen tank and a safety-valve. In addition there should be on hand a tongue forceps, a stomach-tube, heavy weights and a belt. The procedure is as follows:

After a heavy weight is placed on the abdomen, the tongue should be pulled out by means of an appropriate forceps and the pharyngeal tube inserted into mouth and pharynx as far as it may go. For the sake of being in readiness, the respiratory valve should be kept attached to the pharyngeal tube. The free end of the respiratory valve should now be connected with the foot-bellows or the oxygen tank to either of which a safety-valve is attached. Now the oxygen tank should be opened, or the foot-bellows started working, while the respiratory valve is taken in the right hand and the ring moved by the thumb from side to side, keeping it for two or three seconds at each place. The same man who works the bellows with his foot may work at the same time the respiratory valve with his hand. When the ring rests at the right side, the air from the bellows or the oxygen from the tank is insufflated into the pharynx with a force of 20 millimeters of mercury and unavoidably enters the lungs, causing an inspiration. On account of the pressure on the abdomen the inspiration causes essentially distention of the thorax. When the ring is turned to the left the insufflation is cut off and the elastic recoil of the ribs and of the abdominal viscera causes an efficient expiration. The rubber tubing connecting the pharyngeal tube with the respiratory valve should be short, in order to cut off the dead space and during expiration eliminate carbon dioxid as much as possible. Rebreathing is surely undesirable. All tubing employed for connections should have thick walls to prevent kinking. The tongue should be kept pulled out in order to keep the epiglottis raised. After the pharyngeal tube is inserted the tongue may be kept in proper position by tying it (not too tight) to the tube; the forceps may be then taken off. The tying of the stretched tongue to the tube may even assist the latter in remaining in position.

The weight on the abdomen prevents the entrance of air in any considerable quantity into the stomach and the little which gets there escapes again when the insufflation is cut off; it never gets into the intestines. The pressure on the abdomen has still another significance. In patients with completely abolished respiration usually the blood-pressure is also very low and most of the blood may be accumulated in the abdominal viscera. The heart is then scantily filled, and not enough arterial blood is sent to peripheral organs. Under such circumstances a good pressure on the abdomen may raise the blood-pressure by even as much as 30 millimeters of mercury; the heart is filled more efficiently and sends more blood to the medulla oblongata, arousing there the activities of the respiratory and vasomotor centers. Figure 1 shows the effect of abdominal pressure on the blood-pressure.

For this reason I recommend to have a belt on hand to reinforce the pressure. With a belt alone not much success can be obtained. In cases of accidents, when it might happen that no suitable weight is at hand, the individual who handles the respiratory valve may sit down on the abdomen of the victim.

There might be conditions which do not permit the placing of weights on the abdomen; for instance, when a collapse occurs during a laparotomy. Under this circumstance a stomach-tube of a large diameter should be introduced through the esophagus into the stomach. The tube restricts to a sufficient degree the entrance of air into the stomach, and the air which enters there escapes readily through the tube. As stated before, in the anterior end of the pharyngeal tube is an opening for that purpose which is usually kept closed by a movable plate. A stomach-tube of a 33 French diameter fits exactly into this opening. I am of the opinion that it is preferable to have in every instance, even when pressure on the abdomen is exerted, also a tube in the stomach. Since the apparatus may have to be used in some emergency cases by laymen, however, the latter might be loath to handle a stomach-tube. And since the experiments have shown that very good results may be had with the pressure alone, I do not feel like insisting on the simultaneous use of the stomach-tube in all simple cases.

Besides the metal pharyngeal tube, I studied also the availability of the use of insufflation with the aid of a well-fitting mask. In this arrangement every other part is the same as in that for the pharyngeal tube, except that instead of introducing a tube into the pharynx, a mask is laid over mouth and nose and by bands tightly applied to the face. The mask has a hollow projection for the connection with the respiratory valve. I tested the mask method on various animals; as was previously found for the pharyngeal tube, it was established that

also by means of the mask efficient artificial respiration can be carried on. With the aid of the mask method of artificial respiration, completely curarized (and anesthetized) animals were kept in an excellent condition for many hours. By this method, of course, some infectious matter may be driven into the trachea and perhaps cause infection; by this method, further, pressure is exerted on the middle ear; neither does the mask method allow the introduction of a stomach-tube. However, in dealing with emergency cases, with immediate danger to life, such considerations as the above mentioned are, comparatively speaking, mere trifles and can hardly be taken into account.

I have tested also the effectiveness of insufflation through metal pharyngeal tubes on animals; it is even more satisfactory than with elastic rubber tubes. It works promptly; the introduction gives less trouble and the tube remains in position for hours.

Both the pharyngeal and mask methods were tested also on human cadavers. Air entered into the lungs when insufflated by either of these methods, even if the dead bodies were in rigor or frozen stiff. In some cases unmistakable efficient respiratory movements of chest and abdomen were manifestly present. But even when the stiffness interfered with the free movements, auscultation proved conclusively the entrance of air into the lungs. Especially was this the case in a man who died under signs of pulmonary edema; râles could be heard all over the chest.

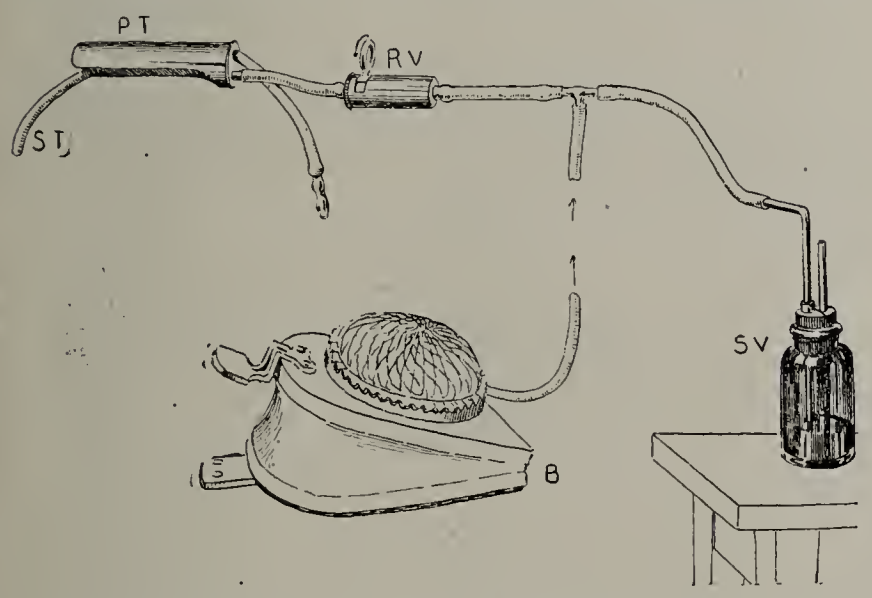



Fig. 2.—Arrangement of the pharyngeal device for artificial respiration. P. T., pharyngeal tube. R. V., respiratory valve. The ring turns the valve; turning to the right (facing the pharyngeal tube) brings an inspiration and to the left brings an expiration. B, foot-bellows. S. V., safety-valve. The bottle of the safety-valve should be shorter and have a wider diameter than the one in the figure; it is less likely to turn over. S. T., stomach-tube introduced through the opening in the pharyngeal tube.

The accompanying sketches illustrate these methods better than they can be described. In Figure 2, the pharyngeal tube (P. T.) is shown connected with the respiratory valve (R. V.), the foot-bellows (B) and the safety-valve (S. V.). A stomach-tube (S. T.) is pushed through the pharyngeal tube. In Figure 3 the mask (M.) is shown applied to the face. By means of an inflatable ring (Infl.) the mask is made air tight. There is a weight on the abdomen and a belt around it. The respiratory and safety valves are the same as in Figure 2. The bellows are here replaced by an oxygen cylinder.

In an emergency case no time should be lost on matters of less importance before starting the main act, and that is: The artificial respiration. When using the mask, for instance, no time should be lost in tying and fixing it properly; it should be pressed over mouth and face by the hand. After the insufflation is well on the way, some one may attend to the tying of the mask, the fixing of the tongue properly and the putting of the belt around the weight over the stomach. Regarding the fixing of the tongue, it may be, as stated before, tied to the pharyngeal tube, when using the same. When using the mask, the handle of the tongue forceps may be fixed to the victim's neck so as to keep the tongue stretched; or the tongue may be tied by means of tape or gauze bandage, pulled out well and the end of the tape or bandage tied around the victim's neck. It should be kept in mind that the pulling out of the tongue is an essential factor in any procedure for artificial respiration. In completely paralyzed individuals there is a tendency for the tongue to be kept somewhat firmly over the entrance into the larynx, caused, perhaps, by some final attempt at inspiration. I may say in passing that the demonstrations made with some machines for artificial respiration, for commercial and advertising purposes, on living and unanesthetized individuals, is entirely misleading and should not be taken as evidence of the efficiency of such machines in cases when individuals are unconscious and the respiratory mechanism paralyzed.

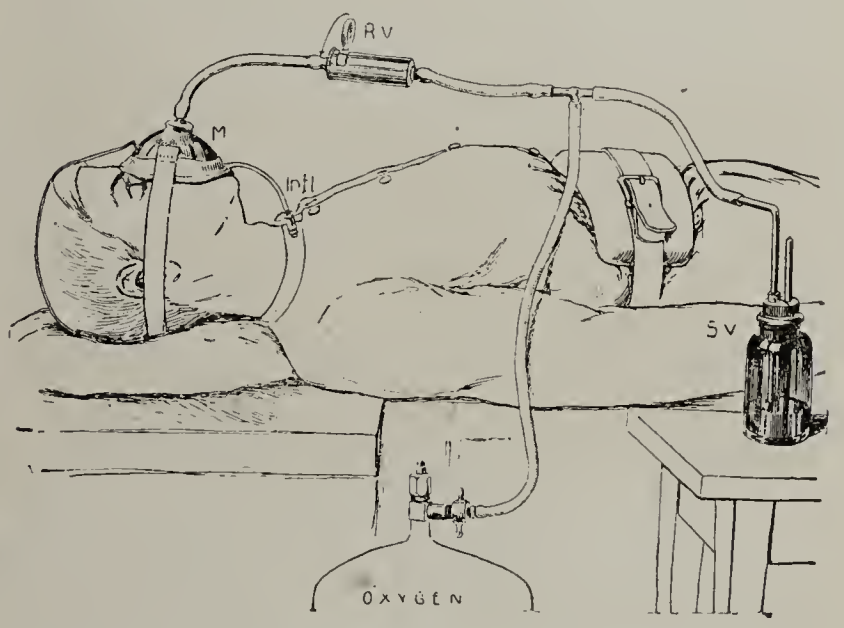



Fig. 3.—M., mask. Infl., tube for inflating the rubber ring around the rim of the mask. R. V., respiratory valve. S. V., safety-valve. An oxygen cylinder provides here the insufflation pressure. The figure shows also the weight on the abdomen and the belt around it.

It will be safer to have on hand a mask as well as a pharyngeal tube. When the latter should prove too small, the escape of the insufflated air alongside the tube may be remedied by tamponading the entrance into the pharynx around the tube with gauze. Besides, as I have indicated above, tubes of various sizes should be on hand.

The foot-bellows need not be large; smaller foot-bellows worked a little more rapidly give a sufficiently strong continuous current of air. The continuous air current is in the arrangement here described preferable to the interrupted current produced by hand-bellows; it is difficult to have the rhythm of the bellows coincide properly with the rhythm in the respiration produced by the respiratory valve; it may occur that the bellows are compressed just when the valve is closed, etc., and the result might be an irregular and inefficient artificial respiration.

It is evident that the methods of artificial respiration by devices here described can be readily combined with the Schäfer method of manual artificial respiration. The individual is then placed on his abdomen and the turning of the ring of the respiratory valve to the left

has to coincide in time with the pressure on the lumbar muscles. Inspiration as well as expiration will thus be efficiently reinforced. While on the basis of my extensive experience I have reason to believe that the devices which are here described will answer the purpose satisfactorily in all cases in need of artificial respiration, it is safer to think of methods which are capable of improving the efficiency of the devices. Emergencies may arise of which we are unable to think now; factors of safety are designated by some students of mechanics as factors of ignorance.

The emergency bag should contain small foot-bellows, the safety-valve, the respiratory valve and the pharyngeal tube all readily connected by rubber tubing. Further, a mask, a tongue forceps, a strong belt or cords, a stomach-tube, a role of tape or one-inch gauze bandages and scissors. Weights might increase too much the weight of the bag. Bricks, stones or pieces of heavy metal, etc., may be had at any place. At any rate, a strong one-inch thick wooden board, 8 by 6 inches, placed on the abdomen and pressed down well by means of two belts (or bandages), one at each end, will do the same service as heavy weights and will be a good deal lighter to carry. Short pieces of glass tubes, T-tubes and pieces of rubber tubing should be carried in reserve. Such a bag need not weigh more than ten pounds.

Wherever oxygen can be had it should be used in preference to the air from the bellows. It should be remembered that according to Hill and Macleod, however, prolonged inhalation of oxygen may do harm to the lungs. When, therefore, prolonged artificial respiration is required, the use of air should be alternated with oxygen.

The devices for artificial respiration here described are certainly simple and inexpensive. Their efficiency has been tested to a much greater extent than any other device I know of. The possibility of keeping up the circulation in a normal condition for hours while the voluntary respiration is completely abolished (by curare) is certainly a rigid test, which has not been applied to any other method of artificial respiration except to that used in experimental laboratories with tracheotomy as a prerequisite, and, as I may add, to the method of intratracheal insufflation. The last mentioned device, which has now been tested in nearly two thousand cases on human beings, would be, in my opinion, indeed the most ideal method for artificial respiration. It has been used, to my knowledge, in two human cases of severe poisoning (morphin 15 grains subcutaneously combined with inhalation of gas, and smoking opium for two days with complete absence of respiration) for twelve hours continuously with complete recoveries. But this method requires some training and could never be left to the hands of laymen. The handling of the artificial respiration by means of the pharyngeal and mask devices which I describe here is so simple that laymen could well be entrusted with its execution. And that was the main object of my endeavor to develop these devices. Cases of collapse from injuries, of poisoning by gas, of shock by electricity, etc., are discovered most frequently at places where there is no efficient medical help at hand, and time is here very precious. With the minutes which elapse without adequate help the chances for recovery diminish rapidly. These chances will increase when the devices for resuscitation are inexpensive, so that they could be had and be in readiness in larger numbers in many places, and are so simple that the execution of the resuscitation by means of these devices could be carried out by many laymen with success.

The necessity of having reliable devices for artificial respiration, however, is not confined to mines, to mills of all kinds, or to electric plants. They are surely of great necessity in hospitals. Not infrequently a surgical patient could be saved if artificial respiration could be carried on efficiently for some time. There are also numerous medical cases in which simple and efficient artificial respiration would prove life-saving. Temporary respiratory insufficiency or paralysis from any source (poliomyelitis, postdiphtheritic paralysis, tabes, eclampsias of all kinds, etc.), are not rare phenomena. And why not apply the mask method with oxygen and abdominal compression in many acute cases with inefficient circulation and respiration? "There is the possibility that the actual cause of death might be, in one case or another, especially in acute cases, only of a temporary nature, so that efficient artificial respiration might assist in temporizing and thus prove occasionally life-saving indeed. Such possibilities, though they may be realized only once in a thousand times, justify the making of an attempt in each and every instance."

Life depends essentially on the efficiency of the functions of respiration and circulation. All deaths are due in the last analysis to the failure of either of those two functions. Reliable devices by means of which the function of respiration can be kept up efficiently for many hours are bound to be the means of saving many lives. I am confident that the method of intratracheal insufflation as well as the pharyngeal and the mask methods described here are such reliable devices for efficient artificial respiration.

Sixty-Sixth Street and Avenue A.

---

# THE CARBOHYDRATE TREATMENT IN DIABETES *

HERMANN STRAUSS, M.D.
Professor of Internal Medicine at the University of Berlin
BERLIN

The meaning of the carbohydrate treatment in the modern sense is the use of one sort of carbohydrates in nutrition, excluding other sorts, with the aim of diminishing glycosuria and of strengthening tolerance. The other (non-carbohydrate) articles of diet may be varied from time to time, but, as it is desirable to reduce the quantity of protein, meat is not given and only a small quantity of albumin.

This treatment is by no means new. There was a time when it was considered necessary to replace the sugar lost in the urine of diabetic patients; for instance, Piorry and Bouchardat record the experiments of French and English physicians who tried to treat diabetes with great doses of cane-sugar. As far back as fifty years ago, Donkin recommended his diabetic patients to live entirely on donkey's milk for a long period and since then the milk treatment has played a certain rôle in the treatment of diabetes for a time, although it has been opposed by Frerichs. The milk treatment was again recommended by Oettinger, Winternitz and Strasser at the end of the last century. The last-named physician, however, later wrote against the too general use of the milk treatment, and Naunyn and von Noorden opposed it altogether. Every physician who has treated many diabetic patients, however, knows that occasionally milk gives very good results. I can also record occasional

*Read before the Northern Medical Association of Philadelphia, Oct. 12, 1912.

good results, especially among the neurogenic forms of diabetes. We shall easily understand why the milk method gives good results in some cases if we remember that it is a form of low diet, and further that with many people the milk-sugar is so slowly split that it is only gradually absorbed by the bowels. And, lastly, we know through the Karell method that milk is particularly capable of allaying hunger and thirst. It is also well-known that the albumin of milk is not irritant. In conclusion I wish to say that it is necessary to apply the milk treatment with due regard for the individual case; this is true also of the use of milk in general for diabetic patients, as the tolerance for milk varies greatly.

Not so modern a treatment is the rice treatment of von Düring. This consists of daily rations of 80 to 100 gm. of well washed rice that has been soaked over night. At the same time 250 gm. of meat are given daily. This treatment has proved successful not only on account of offering less calories but also because von Düring laid down many important rules concerning the general hygiene of the diabetic patient which greatly contributed to the success of the method. A treatment which resembles more the modern carbohydrate treatment is the use of potato of Mossé of Toulouse. Mossé gave potatoes gradually in the place of bread to diabetic patients till at last the daily diet consisted exclusively of 3 to 4 pounds of potatoes. Physicians greatly differ in their judgment of this method; whereas some warmly recommend it (Sawyer, Friedenwald, Labbé), others think less of it (Warsehawski, Lewascheff). From my own experience, I cannot recommend the potato treatment without making some restrictions. It is an undisputed fact that the potato treatment has certain advantages, as potatoes are satisfying without being too concentrated and are capable of allaying thirst, as they contain much water. As they contain alkali, they are valuable for diabetic cases with acidosis, but the potato treatment has not been much in use.

Another method of far greater importance than those just spoken of is the oatmeal treatment. When von Noorden recommended it in 1902, he proposed to give 250 gm. of oatmeal, from 200 to 300 gm. of butter, 100 gm. of vegetable albumin or from 5 to 8 eggs. More recently von Noorden altered this treatment. Before and after the above-mentioned diet, which he prescribed for three days, he orders two days of vegetables and eggs, and in some cases no additional albumin. A great deal has been written about the oatmeal treatment, from which can be deduced that it is useful in serious cases, especially in those combined with acidosis. It is also especially useful in diabetes in childhood, and before and after operations. Some authors have stated that the use of oatmeal has been known to effect the recovery of the diabetic patient when all other methods have failed. It can never be previously determined, however, whether or not the oatmeal treatment will prove successful, as there are cases in which it has no effect. It is therefore not surprising that there are differences of opinion about this treatment. Whereas Siegel, Mohr, Langstein and others recommend it, Naunyn is less warm in his recommendation. It must also not be forgotten that the oatmeal treatment is distasteful to many patients and therefore some attention to detail on the part of both physician and patient is needed if it is to be continued for a certain period.

There are theories that oatmeal differs from other sorts of flour in the influence on metabolism. But L. Blum has lately brought forward weighty reasons against such a view. This author criticizes the new modification (the oatmeal treatment with the two vegetable-and-egg days preceding and following) by means of comparative examinations of wheat flour. These experiments proved that wheat flour is tolerated as well or almost as well as oatmeal under specified conditions; these conditions are a diet without meat and with only a small quantity of albumin. Blum's researches were conducted in a much more systematic manner than those of Falta, Lampé, etc., which had indicated the superiority of oatmeal to other cereals. The researches made by Baumgarten, Grund and myself in order to test the results of Blum have entirely confirmed them. Owing to my own experiences which I have reported in another communication, I am quite of Blum's opinion as to the arrangement of the treatment, namely that to omit meat, to give only a small quantity of albumin and to compute the calories are items of great importance in the carbohydrate treatment, as well as a previous and a subsequent diet of vegetables and eggs. The presence of a growth of saecharolytic organisms in the intestines — a matter mentioned by Klotz — is perhaps of importance also. Klotz says that the days of vegetables and eggs with many patients allow the carbohydrate flora to take the place of the meat flora in the intestines and this makes it possible for the system more completely to exhaust the starch grains, which, without increasing the secretion of sugar, may still be of use to the diabetic patient. The use of flour in soups also seems to be of great importance. The same quantities, in bread, however, have not given equally good results. It therefore seems that chemical and physical changes are produced by different ways of cooking.

The researches of Blum have given new suggestions on the subject in question, especially inasmuch as he individualizes by abandoning the strict scheme, and giving as much meal in soup form as the patient can tolerate. As to the reduction of the quantity of albumin, I am not quite of the same opinion as Blum and should only recommend such a great reduction for a short time, but for longer periods I recommend not less than 50 to 60 gm. daily. That the restriction not only of calories but also of albumin has a very good effect on some patients is seen by the success of "drinking days" which cause a very considerable diminution of sugar and acetone secretion. These drinking days are made less disagreeable to the patient by giving, besides water, tea, coffee, lemonade, and small quantities of fruit and nuts. A further progress could be made by using those carbohydrates for which the diabetic organism has a better tolerance. We have known for some time that the tolerance of diabetic patients differs toward various sorts of carbohydrates and in my publication of former researches I have made a scale in which the tolerance for levulose, lactose, glycose, starch and galactose was diminishing. I further found in researches concerning the appearance of alimentary glycosuria the sugar secretion to be greater when sugar was given in full dosage than in broken dosage.

In consequence we may say that a certain quantity of carbohydrates agrees with the diabetic patient better, the more slowly it is absorbed. I have tried the polysaccharid of levulose, inulin, for the treatment of diabetic patients. Inulin has been recommended by Kulz and also by Naunyn whose recommendation was founded on the results of his pupil Socin. Kulz as well as Naunyn studied its influence on glycosuria. Therefore when I made my extensive researches concerning the tolerance

of diabetic patients to inulin, I thought it necessary to study not only the action of glycosuria but also that of acidosis. A result of this was that in grave cases of diabetes inulin was better digested than the same quantity of wheat flour and that in most cases the acidosis became greatly reduced during the inulin period. Therefore I recommend inulin in grave cases of diabetes, especially in those combined with acidosis. I do this although I am fully aware of the necessity of further investigations being made into this question of the utilization of inulin in the animal organism.

L. Mendel, for instance, doubts the fact of inulin being extensively absorbed by the bowels, whereas Minra found an increase of glycogen in the liver in most cases after inulin feeding. On examination of the feces after giving inulin, I could only find slightly more carbohydrates than is generally found. Lewis, a pupil of Mendel, has lately made a similar observation, though this does not absolutely prove that the inulin has really been absorbed. Nevertheless this seems very probable as Goodberg (St. George Hospital, Hamburg) lately showed that the respiratory metabolism is influenced by inulin in a similar way as by starch.

I gained my experience with inulin in the following way: To a certain diet, mostly vegetables, and eggs, I added 100 gm. of inulin baked in omelets or mixed in soups, vegetables or fruit poor in carbohydrates. Latterly I have repeatedly given courses of treatment by inulin in the same way as by oatmeal, in the form of a certain weekly routine. To two vegetable-and-egg days I added three inulin days (5 to 100 gm. of inulin daily) and finished up with two vegetable-and-egg days.

It is clear that a carbohydrate treatment can only be used periodically and then only in grave cases of diabetes, the lighter cases being treated in future also on the old and tried principles. But the new researches have shown that especially among grave cases of diabetes there are cases which are sensitive to albumin, and at least for these we know the principle not to give unmeasured quantities of albumin as was done in former times. It seems to me to be of special importance that we have gained the knowledge that in grave cases meat endangers the tolerance. That, besides this experience, a certain scarcity of calories in the regimen for grave cases is useful has been proved not only by clinical experiences (Bouchardat said: *Mangez le moins possible!*) but also by the researches of Naunyn and his pupils, who prove that a quantity of 25 calories per kilogram is sufficient for many diabetic patients. Therefore a proposal made years ago by Rolisch, to nourish in grave cases with a vegetable diet, deserves full consideration. The vegetable diet excludes meat but is rich in alkalies and not only poor in albumin and calories but also specially adapted to allay hunger through its large volume and to allay thirst through its great content of fluid. Another point to be noted is that the carbohydrates contained in plants are only slowly attacked by the digestive juices and are therefore only slowly absorbed, which is favorable for tolerance. De Renzi has pointed out that green vegetables are especially good for the nourishment of diabetic patients. Perhaps the flora in the bowels may also be favorably influenced by the vegetable diet. But it must be noted that not every form of vegetable diet is suitable for the diabetic patient. The diet must be poor in carbohydrates and rich in fat and those carbohydrates must be preferably given for which the patient has a specially high degree of tolerance. The new researches have taught us that the manner in which the carbohydrates are given is of great importance. It is therefore the duty of a rational therapy to find, not only that preparation of carbohydrates but also that sort of carbohydrate of which each individual patient can tolerate the greatest amount without secreting a great quantity of sugar. This complicates the dietetic treatment of the diabetic patient but also makes it more successful than was formerly the case.

Through the progress of science, the art of the individualizing therapy has developed for the benefit of the patients.

Kurfürstendamm 239.

---

# ATYPICAL PHARYNGEAL DIPHTHERIA

S. C. LIND, A.B., M.D.

Clinical Assistant in Medicine, Lakeside Hospital; Medical Inspector in Public Schools

CLEVELAND, OHIO

Notwithstanding the numerous articles on diphtheria in the various journals during the past two years, little or no mention is made of the atypical pharyngeal cases. A great deal has been published on typical clinical diphtheria, and on the carrier, his menace to the community and the methods of freeing such individuals from the bacillus. A rather complete examination of the literature of the past two years discloses no cases paralleling three that have come under my observation.

We are apt to think of pharyngeal diphtheria as being a disease of sudden onset with general malaise, hyperemic throat in which a membrane rapidly forms, and finally terminates after a severe course. Once an exudate has appeared on the tonsils it is generally held that membrane formation progresses actively unless antitoxin is given. In Osler's "System of Modern Medicine" we find the following:

> Pharyngeal diphtheria commences with a feeling of chilliness, not amounting to a distinct rigor, headache not particularly severe and a rise in temperature not particularly marked. The soreness of the throat at the onset is not very severe, but at the end of twelve hours becomes more pronounced, and if the fauces are examined there will be found a peculiar congestion of the tonsils and adjacent parts which has a distinctive, almost purplish, hue. At the end of twenty-four hours patches of membrane of a dirty white color can be seen. At the end of thirty-six hours or twenty-four hours from the appearance of congestion of the throat, the membrane extends very rapidly, and covers the tonsils, uvula, and the hard and soft palate. Dysphagia now becomes a prominent symptom; the temperature has risen two or three degrees; the prostration commences to be marked. The membrane, which has been quite thin, now becomes very marked, and cannot be removed from the subjacent parts without difficulty and leaves a bleeding surface, etc.

How different is the clinical course of diphtheria in the following! These cases came to my attention while acting as medical inspector in certain of the Cleveland public schools. The diagnosis in each instance was confirmed by cultures examined at the city laboratory, and, as each throat was cultured at least once after the diagnostic culture was made, we can eliminate any possibility of a mistake on the part of the laboratory. The children all showed hyperemic throats; two had small "creamy blue" exudates on one of the tonsils, and all had mild constitutional disturbance. Two showed a slight rise in temperature; the temperature of the third was not taken. In short, they were suffering from a mild attack of pharyngeal diphtheria, and although none of them was

given antitoxin the exudate promptly disappeared, and all were to outward appearance perfectly well. Without laboratory diagnosis the true nature of the disease would have been unrecognized, and probably called "light tonsillitis." The children would have returned to school in a few days and served as distributing agents for the Klebs-Loeffler bacillus.

CASE 1.—Ellen K., aged 11, Clark School, Oct. 14, 1912. Complaint: sore throat. For twenty-four hours the child had experienced slight distress on swallowing, and some constitutional disturbance but not enough to keep her from school. Inspection of the throat showed some hyperemia and congestion of the pillars, tonsil, and posterior pharyngeal wall. A culture was made and the girl excluded from school until a report could be had from the laboratory. Diphtheria bacilli being found, quarantine was established. The family physician was called. No antitoxin was administered, nor was the patient put to bed. Quarantine lasted twenty-six days.

CASE 2.—Howard D., aged 11, Kentucky School, Oct. 22, 1912. During a routine inspection of throats this boy was found to have considerable hyperemia of the throat and a "creamy blue" exudate about one-eighth of an inch in diameter on one of his tonsils. Temperature (mouth) 99.6. Culture showed diphtheria bacilli. No antitoxin was given by the family physician, and the boy says that he felt well during quarantine except for one day when he experienced some constitutional disturbance and thought he was "feverish."

CASE 3.—Margaret H., Orchard School, Jan. 14, 1913. The girl was sent for inspection because of swollen lymph-nodes. The teacher feared mumps; the submaxillary lymph-nodes on both sides were hard and somewhat tender. Nothing was found in either the mouth or throat, but she was excluded. One week later she returned to school and was again inspected. The throat was quite red and on the right tonsil was seen a round dirty white membrane about one-quarter of an inch in diameter. Mouth temperature 99.4. Two swabs were taken and a culture made. A preparation made from one of the swabs, and examined by myself, showed diphtheria bacilli, and this finding was confirmed by the culture sent to the city laboratory. The child felt well and wanted to remain in school. Quarantine was established but no physician called until, quarantine becoming irksome to the parents, one was sent for to take a culture for release. The child says that she was up and about and did not feel ill.

It seems scarcely fitting to classify these patients under the head of diphtheria carriers. A carrier is a person who harbors virulent pathogenic organisms without evidence of reaction. As the above cases all showed some reaction, both local and general, we must classify them as atypical pharyngeal diphtheria. Without culture they would have escaped recognition; their identification rested with the laboratory. Here again is emphasized the necessity of making a culture from every "sore throat." A case of so-called tonsillitis may clear up in a few days and still be dependent on the Klebs-Loeffler bacillus.

I have made this brief report with the hope that it may awaken interest in atypical manifestations of pharyngeal diphtheria. These cases are not uncommon, and their detection is of the utmost importance in preventing the spread of diphtheria. Let us bear in mind the rôle of cultures as a diagnostic measure.

1864 East Eighty-Second Street.

**Things Necessary for the Complete Study of a Disease.**—For the satisfactory and complete study of a disease three things are necessary for the student: he must see the disease in a living patient, he must see after death the effects that that disease has produced in the patient during life, and he must study all that is recorded in literature on the subject.—F. M. Sandwith, in *Clin. Jour.*

# TUBERCULOSIS OF THE LARGE ARTERIES

## WITH THE REPORT OF A CASE OF TUBERCULOUS ANEURYSM OF THE RIGHT COMMON ILIAC ARTERY*

SAMUEL R. HAYTHORN, M.D.
Assistant Professor of Pathology, University of Pittsburgh
PITTSBURGH

Tuberculous lesions of the vascular system have long been of interest as points of distribution of bacilli in cases of general miliary tuberculosis. The following example of such a lesion is noteworthy for two reasons: first, on account of its rarity; second, because it gave rise to the presence of great numbers of tubercle bacilli in a few glomeruli in the kidney, where they caused little or no reaction in the tissue about them. Weigert, as early as 1877, pointed out the important relation between tuberculous lesions of the vascular system and general miliary tuberculosis. Following his papers a very large literature has grown up on the subject. All manner of tuberculous vascular conditions have been carefully studied and described. These have included lesions of the thoracic duct, pulmonary and systemic veins, large and small arteries, and even of the heart itself. Commonest of all are the lesions of the veins and especially those of the pulmonary veins, while those of the aorta and its main branches are exceedingly rare.

Four general types of tuberculous lesions of the aorta and its main branches have been described: (1) miliary tuberculosis of the intima; (2) polypi of tuberculous tissue attached to the intima; (3) tuberculosis of the wall, involving the several layers; and (4) aneurysms, the walls of which are composed of tuberculous tissue.

The first-mentioned class, that of miliary tuberculosis of the intima, is by far the most common type recorded. It is most often described as occurring alone, but has also been found as an accompaniment of the other forms mentioned. Benda and Geisler[1] reported an exceedingly interesting example, in which not only the intima of the aorta, but also that of the iliacs and femorals were covered with bright, glistening miliary tubercles. Thorel[2] had a case with extensive involvement of the intima of the aorta. Other well-marked cases have been given by Hanot,[3] Schudardt,[4] Weigert,[5] Marchand and Huber,[6] and others.[7]

Examples of the second type have been placed on record by Benda,[8] Stroebe[9] and Aschoff.[10] The lesion consists of a small pear-shaped mass of tissue, which resembles a white thrombus in appearance, and is attached by a pedicle to a slight elevation of the intima, with the distal portion swinging free in the direction of the blood-current. In Benda's two cases the attach-

* Reported from the Pathologic Department of Harvard University.

1. Benda und Geisler: Quoted by Thorel; see Note 2.
2. Thorel: Pathologie der Kreislaufforgane, B. Gefasse, Lubarsch-Ostertag, Ergebn. der Path. u. Anat., 1906, Part 1, p. 1040.
3. Hanot, V.: Tubercle de l'aorta, Sem. méd., 1895.
4. Schudardt, C.: Die Impftuberculose des Auges u. der Zusammenhang mit der allgem. Miliartuberkulose, Virchows Arch. f. path. Anat., 1882, lxxxviii.
5. Weigert, C.: Ueber Venentuberkel und ihre Beziehungen zur tuberkulösen Blutinfection, Virchows Arch. f. path. Anat., 1882, lxxxviii, 308.
6. Marchand und Huber: Cited by Weigert (see Note 5), p. 360.
7. Chiari, H.: Aortitis tuberculose, Ver. deutsch Aerzte in Prag., Dec. 5, 1902.
8. Benda, C.: Casuistische Mitteilungen über Endangitis tuberkulose, Verhandl. d. deutsch. path. Gesellsch., 1900, p. 335.
9. Stroebe: Ueber Aortitis tuberculosa. Centralbl. f. path. Anat., viii. 1897.
10. Aschoff: Ueber Endaortitis tuberculosa Verhandl. d. deutsch. path. Gesellsch., 1900, p. 419.

ments of the polypi were over old atheromatous areas. Benda thought that tubercle bacilli from the blood had been implanted on the old sclerotic patches and that this was followed by thrombus formation over the area, which later became partially organized and assumed its polypoid form through the constant pulling of the circulating blood. In one of his cases the polyp reached a size of 1.2 cm. in length. Microscopically the polypi are seen to be partially caseous and to contain numerous tubercle bacilli.

Under the third heading are included all tuberculous lesions affecting the several layers of the wall. Dittrich[11] reported a case in which the tuberculous process spread from a near-by caseous lymph-node and invaded in turn all of the layers of the aortic wall; a thrombus was attached over the point where the intima was affected. Buttermilch[12] had a case which came in a similar way from a tuberculous process in the vertebral column and brought about the formation of a nodule of tuberculous granulation tissue in the media, which pushed up beneath the intima and encroached on the aortic lumen. Hedinger[13] and Schwalbe[14] have also reported cases in which tuberculous granulation tissue has destroyed parts of the aortic wall.

Of the fourth and last group I have been able to find only four recorded cases and for the sake of comparison with my own case, it will be necessary to go somewhat more fully into the description of each case.

Kamen[15] described an aneurysm of the ascending portion of the aorta just above the aortic cusps. The patient was a soldier 24 years old who had chronic pulmonary and acute miliary tuberculosis. Death occurred from rupture of the aneurysm. The outer portions of the wall were in contact with a caseous lymph-node of the posterior mediastinum and showed advanced tuberculosis. The aneurysm was of the dissecting type and its cavity communicated with the lumen of the aorta through a tear in the intima.

Hannau and Sigg[16] reported a case of an aneurysm of the thoracic aorta arising in connection with a tuberculous lung cavity. The entire wall became replaced by tuberculous tissue. The cavity was filled with a caseating mass of thrombotic material.

Ribbert[17] demonstrated a specimen, from a woman 46 years old who died of chronic pulmonary tuberculosis, in which communication had been established between the lumen of the aorta and a cavity lying in a large tuberculous mass, which arose from the periosteum of the vertebrae. The outer layers of the aorta had been destroyed and replaced by tuberculous tissue and the process had advanced until rupture of the intima had occurred. A small oblique tear of the intima opened into a short canal which led from the aorta into the cavity. The cavity itself was nearly filled with caseous clot. As he points out, this was not a true aneurysm although the circulating blood passed in and out of the sac.

11. Dittrich: Ein Beitrag zur Pathologie der akuten allgem. Miliartuberkulose, Prag. Ztschr., xix, 1888.
12. Buttermilch, W.: Ein Fall von Tuberkulöse der Aortenwand, Inaug. Diss., Berlin, 1898.
13. Hedinger, E.: Miliartuberkulöse der Haut bei Tuberkulose der Aorta abdominalis, Ztschr. f. path. Anat., 1908, ii, Part. 1.
14. Schwalbe: Ein Fall von primärer käsiger Tuberkulöse der Aorta und der Arteria Pulmonis, Militärärztl. Ztschr., 1903.
15. Kamen: Aortenruptur auf tuberkulöser Grundlage, Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's), 1895, xvii.
16. Hannau und Sigg: Beiträge zur Lehre von der akuten Miliartuberkulose, Mitt. a. klin. u. med. Inst. der Schweiz, Series 4, iv, 1896.
17. Ribbert: Mitteilung über ein tuberkulöses Aneurysma der Aorta, Sitzungsb. d. nied.-rhein. Gesellsch. f. Nat.- und Heilk. zu Bonn, med. Section, May 14, 1910

Councilman and Mallory[18] have given a very full description of the following case which occurred in a man who died of general miliary tuberculosis, affecting practically all of the organs. Old fibroid and calcareous nodules and large conglomerate tubercles were also found in the lungs. The entrance of the aneurysmal sac was seen as a small opening, resembling the exit of an artery, situated on the anterior surface of the lumen of the aorta 6 cm. above the celiac axis; it admitted a probe for a distance of 2 mm. From the outside the sac appeared as a spheroidal mass, measuring 1 cm. in its transverse and 0.6 cm. in its longitudinal diameter. The surface was smooth, reddish-grey in color and showed several whitish streaks. On the intima of the aorta beneath the opening were many miliary tubercles. A few scattered tubercles occurred lower down.

Microscopic sections of the aneurysm showed short depression in the wall of the aorta; a cleft at the bottom of this opened into a wider space, which in turn extended into a cavity, probably beyond the adventitia. The intima appeared to pass down through the cleft as a covering for the broken ends of the media and then became lost in the necrotic contents of the cavity. Between the intima and the media, there was a small focus of caseation necrosis. The media for the greater part appeared normal up to the place of rupture. The break was sharp and oblique. The broken ends of the elastic fibres were plainly seen. The outer layers of the media had undergone caseation necrosis. The adventitia was normal up to the point where it spread out into a mass of thickened connective tissue which lay on each side of the cleft, and portions of this were caseous and necrotic. The cavity was lined with fibrinous, partially caseous, hyaline material on the inside of which was a small irregular thrombotic mass, composed largely of dead cells and well preserved polynuclear leukocytes and endothelial cells. Stains for tubercle bacilli demonstrated the presence of great numbers in the thrombotic material.

The question of the process of development of tuberculous lesions in the arteries has given rise to considerable discussion. One school headed by Benda asserts that in the large majority of cases the lesions arise from direct implantation of the bacilli on the intima. In support of this theory they cite the facts that lesions have been found affecting the intima and not the media; that such lesions have often had their beginnings on old atheromatous ulcers which were not in themselves tuberculous; that in some cases in which more than the intima was involved there was no near-by focus, and further that in some of these latter instances tuberculous processes have been found in the thoracic duct or pulmonary veins, showing another point of entrance for the bacilli into the blood. Weigert[19] and his pupils, on the other hand, believe that the lesions come only from without and that the bacilli are implanted either by direct extension to the adventitia or through the vasa vasorum at the site of the disease process. Chiari, who made as complete a study of these conditions, perhaps, as has yet been made, concludes that they develop in all three ways, and vary in the individual cases.

The instance which I am reporting was obtained from an autopsy done at the Boston Municipal Tuberculosis Hospital at Mattapan. I am indebted to Dr. Francis P. McCarty for the clinical data. For the sake of brev-

18. Councilman and Mallory: A Study of Lesions in Selected Autopsies, Med. and Surg. Rep. Boston City Hosp., 1896.
19. Weigert, C.: Fall von Venentuberkulose Sitzungsb. d. schles. Gesellsch. f. vaterl. Kultur, July 13, 1877.

ity the history had to be considerably shortened, and only the most pertinent facts retained.

REPORT OF CASE

*Patient.*—F. J. Mc., man, aged 33; porter. Clinical Diagnosis: General miliary tuberculosis; chronic pulmonary and right-sided renal tuberculosis; tuberculous enteritis and aortic aneurysm.

*History.*—Patient had been twice married and had five living children. The first wife and one child died of tuberculosis. The patient was treated fifteen years previous to present attack for

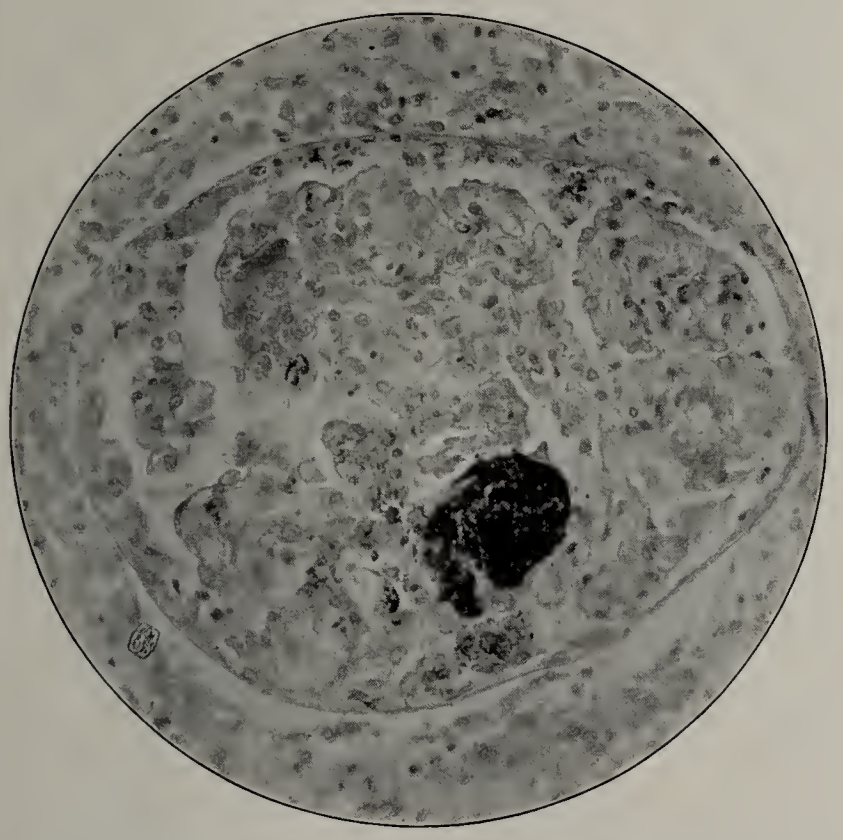


Fig. 1.—Masses of tubercle bacilli in the glomerulus of the kidney without inflammatory reaction about them.

pleurisy with effusion. Two years before he had right testis removed at Massachusetts General Hospital, and a report of tuberculosis was returned from the laboratory. The patient made a good recovery and worked up to one month before death. He gave history of having received a kick in the abdomen by a horse five years previous to entrance to hospital. On entrance to the hospital, patient gave history of diarrhea for the past six months; of having lost 20 pounds during the last three months; and of bloody sputum for the last month. He was short of breath, had a severe cough and an elevation of temperature toward evening. He complained of a painful dryness of the throat.

*Examination.*—There was dulness of both apices which extended on the left side to the third rib, and on the right to the second rib in front, and to the lower border of the scapula in the back. The throat was deeply fissured and dry, but not ulcerated. The right testis was missing; the left apparently normal. A pulsating area about the size of a walnut was found somewhat to the right and below the umbilicus and over it a systolic bruit was heard. The liver was greatly enlarged and the right kidney was palpable, movable and tender. The clinical laboratory reported many tubercle bacilli found in direct smears from the sputum, feces and urine. The urine showed a specific gravity of 1.012, was acid and gave positive albumin and negative sugar reactions. The sediment contained many granular casts and pus-cells. There was a white blood-count of 15,000; a differential count was not made.

On the day before death, the patient developed marked dyspnea, moist râles in the right base and hyperresonance anteriorly. Miliary tubercles were observed on the back of the throat.

*Necropsy.*—At necropsy the examination was limited to a 15 cm. abdominal incision, so that the aneurysm and most of the other organs could not be observed *in situ*. There was no swelling or other external means of determining the location of the pulsating area observed on clinical examination.

Aneurysm: In front of the right common iliac artery a smooth spindle-shaped enlargement was felt. It was so densely adherent posteriorly that it was torn when it was removed. It was found to be covered with peritoneum, free from adhesions on its anterior surface, and covered with dense fibrous adhesions posteriorly, which gave it a ragged appearance. It measured 7 cm. in length, 4 cm. in breadth and 3 cm. in thickness. Its wall appeared to be continuous with the common iliac above and with the internal iliac below. The external iliac came off from the lower portion of the mass posteriorly. On opening the vessels, the enlargement was found to contain an aneurysmal sac, the cavity of which communicated with the lumen of the common iliac artery through an opening on its anterior wall, just above the division into internal and external iliacs. The opening was nearly 2 cm. long and 0.8 cm. wide. The interior of the sac was almost filled with reddish-grey thrombotic material which appeared caseous. This material presented a smooth surface which came directly in contact with the circulating blood.

Microscopically the outer wall of the sac was found to be continuous with the adventitia of the common iliac above and with that of the internal iliac below. It contained large masses of caseous material. The media and intima took no part in the enlargement. They continued unbroken until at a point about 2 cm. above the tear the outer elastic fibers of the media began to turn into the contents of the sac.

From this place on, the media became gradually thinner until at the point of rupture it was only about half its original thickness. The broken ends of the elastic fibers of the media were turned completely back on themselves and spread out in the caseous contents of the sac. The intima was thickened just

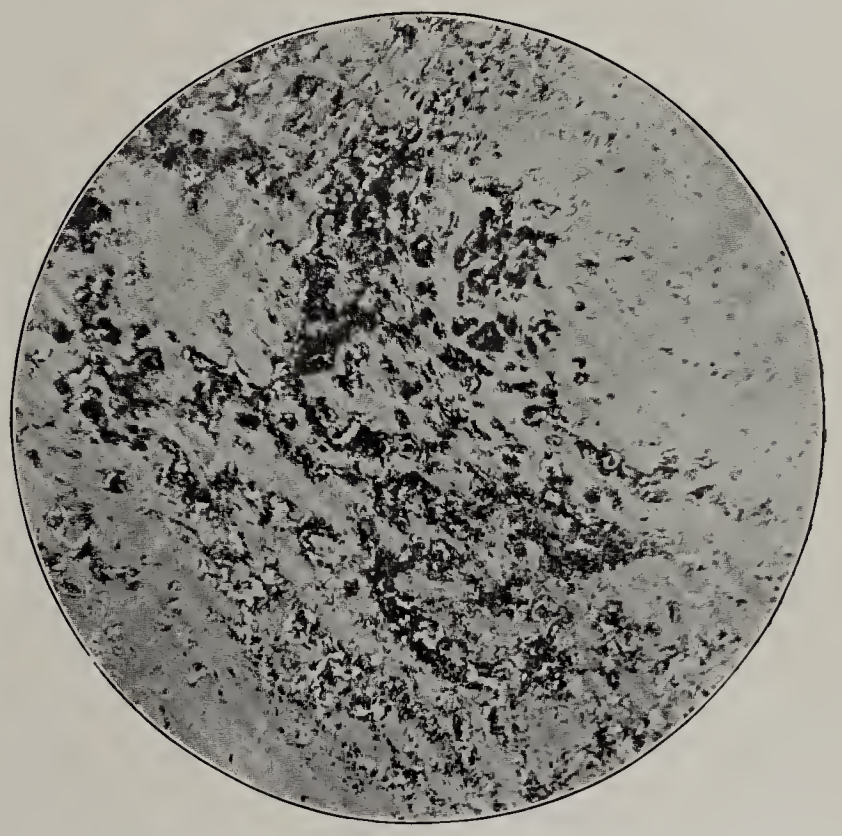


Fig. 2.—Masses of tubercle bacilli in the caseous clot in the aneurysmal sac.

above the break. It followed the inner fibers of the media outward through the opening and became lost in the mass of caseous material. The cavity was filled with lamellated thrombus, which still gave the fibrin reaction, though it was for the most part in an advanced stage of caseation necrosis. In the section taken from the upper lip of the tear there was seen a polyp-like piece of clot, which extended into the cavity and must have partially occluded the opening during life. The remaining portion of the surface of the clot was smooth. Great numbers of acid-fast bacilli were found diffusely distributed in the polypoid piece of clot and throughout the entire contents of the sac. There were also clumps of these bacilli so large

that they appeared as red blotches under the low power. They resembled colonies from pure cultures of tubercle bacilli. In a section taken from the lower portion several small lymph-nodes containing areas of caseation were seen lying between the internal and external iliac arteries.

Kidneys: Together the kidneys weighed 450 gm. They presented granular surfaces, swollen cortices, fatty streaking of the medullae and a moderate number of caseous tubercles. Microscopically some of the glomeruli of the kidney were filled with clumps of acid-fast bacilli. About these there appeared no evidence of reaction, either inflammatory, proliferative or necrotic. The capillaries of these glomeruli were simply dilated and filled with masses of red-staining bacilli. In one or two instances simple proliferation of the pericapsular endothelial cells of the glomerulus was observed. The proliferating cells contained similar bacilli. There was here no suggestion of exudation. Many early tubercles without caseation were seen in the kidneys, some of them bearing a definite relation to glomeruli. Older lesions were present but not numerous; they were caseated single and conglomerate tubercles.

Lungs: The left lung was covered with old fibrous adhesions. Beneath the pleura could be seen and felt many small, firm white nodules varying considerably in size. In the upper lobe was a small thin-walled cavity 3 cm. in diameter. The cut surface presented tubercles varying in size from the finest glistening points to a diameter of about 3 mm. In the upper lobe were several foci of caseous consolidation. The right pleura showed a single band of apical adhesions and was otherwise free. The right lung contained no cavities. Many minute tubercles were seen on the cut surface. The greater portion of the lower lobe was consolidated and scattered over with yellowish tubercles. Microscopic preparations from the lungs showed typical tuberculous lesions ranging from the earliest endothelial proliferations without caseation to old conglomerate tubercles. Sections were also made to confirm the tuberculous nature of the pneumonic areas and of the wall of the cavity. Stained with Ziehl-Nielson's method the sections showed enormous numbers of acid-fast bacilli.

Other Organs: The spleen weighed 300 gm., was enlarged, congested and contained many finely granular tubercles. The liver weighed 2,275 gm., was enlarged, fatty and contained many tubercles, some of which were caseous. The intestine and urinary bladder showed ulcerations. The right seminal vesicle and prostate contained caseous material. The heart, aorta, stomach, pancreas, gall-bladder, adrenals, left testis, epididymis and seminal vesicle were negative.

All of the gross lesions described above were verified microscopically.

In spite of the fact that no cultures were made in this case, we concluded that we were dealing with tubercle bacilli because the lesions were typical of tuberculosis in every way, and the organisms, so far as morphology, staining reactions, and distribution were concerned, were identical with those of the tubercle bacillus in acute miliary tuberculosis.

It seems that in this case the process leading to aneurysm came from without, but since the attachment to the vertebral column could not be seen we do not feel certain whether it came from a caries of the bone or from tuberculosis of some of the surrounding nodes. Neighboring tuberculous lymph-nodes were found but the lesions in these might have been secondary and not primary. The important evidence then lies in the facts that the more advanced lesions were in the adventitia and the outer layers of the media, while the inner layers of the media and the intima showed only the effects of rupture. The history of the kick was ruled out as a possible cause on the ground that the aneurysm was protected on all sides from direct injury by the bony pelvis.

We believe then that the tuberculous process spread directly to the adventitia of the right common iliac artery from some near-by focus; that it so involved the media as to lead to rupture; that the pressure of the blood pouring through the opening separated the inner layers of the media from the outer layers and the adventitia, thus producing a sort of dissecting aneurysm; that the blood in the sac thus formed underwent coagulation and became infected from the tuberculous adventitia, and served as a medium for the growth of the tubercle bacilli and as a source of constant supply of them to the blood. In this way the marked variation in the age of the miliary tubercles of the organs is satisfactorily explained.

The presence of tubercle bacilli in the glomeruli of the kidney without inflammatory reaction, we think, indicates that the patient had reached a stage in which his system of defense — call it "immune bodies" or "what not" — was so exhausted that it could no longer react against the stimulus of the toxins of the tubercle bacillus. This we believe to be analogous to those cases of advanced tuberculosis and miliary tuberculosis in which the tuberculin reaction fails.

In other glomeruli, the multiplication of the pericapsular endothelium containing tubercle bacilli, we believe to be definite instances of simple endothelial proliferation, without exudation, due either to the toxin or the presence of the tubercle bacilli.

In closing I wish to express my indebtedness to Drs. Councilmann, Mallory and Klotz for their help and suggestions in the preparation of this paper, and to the former for the use of the pictures.

---

# TREATMENT OF FELONS WITH REFERENCE TO THE PATHOLOGIC ANATOMY AND LOCATION OF INCISIONS

GEORGE MORRIS DORRANCE, M.D.

Surgeon to St. Agnes Hospital; Associate Surgeon to Polyclinic Hospital

PHILADELPHIA

A felon is primarily an inflammation of the connective-tissue space which is situated on the palmar surface of the last phalanx of the fingers (Fig. 2).

This definition was determined on after studying the anatomy of this part and making careful dissections of several felons. The anatomy of the anterior or palmar surface of the last phalanx is exceedingly interesting. In studies of the longitudinal and cross-sections, one will note a connective-tissue space situated anteriorly to the bone. The space is surrounded by a dense wall of connective tissue which prevents the escape of any substance injected into it. To demonstrate this space or cavity, I have injected it with wax. The specimen was then frozen and a longitudinal section made showing the space to be greatly distended and completely walled off from the remaining subcutaneous tissue of the rest of the finger (Fig. 2).

It has been noted by Kanavel that the epiphysis of the distal phalanx is supplied by a branch of the digital artery before it enters this connective-tissue space, whereas the diathesis is supplied after the artery enters this space. This arrangement I have usually found present on one side or the other of the finger. A careful study of Figure 1 will make this point clear.

It can be readily understood after studying the anatomy of the end of the finger why we sometimes have

necrosis of the end of the bone in felons which are opened late. The diathesis is supplied by a separate artery after it enters this connective-tissue space and when we have an inflammation of this space there is considerable swelling which presses on these arteries and cuts off the blood-supply, thereby giving a necrosis of the diathesis but not of the epiphysis, this latter being supplied by branches of the digital arteries before they enter this space. This condition of affairs is shown in Figure 1.

The pain, which is throbbing in character is produced by obstruction of the venous return caused by pressure of the inflammatory material so that each pulsation of the arteries makes pressure upon the nerves in the closed space.

The source of the infection may be a pin- or needle-prick or local trauma but frequently no history of the cause is obtainable. The first intimation the patient has of the trouble is a sticking pain in the tip of the finger, which rapidly becomes throbbing in character. Within a few hours, the distal portion of the finger

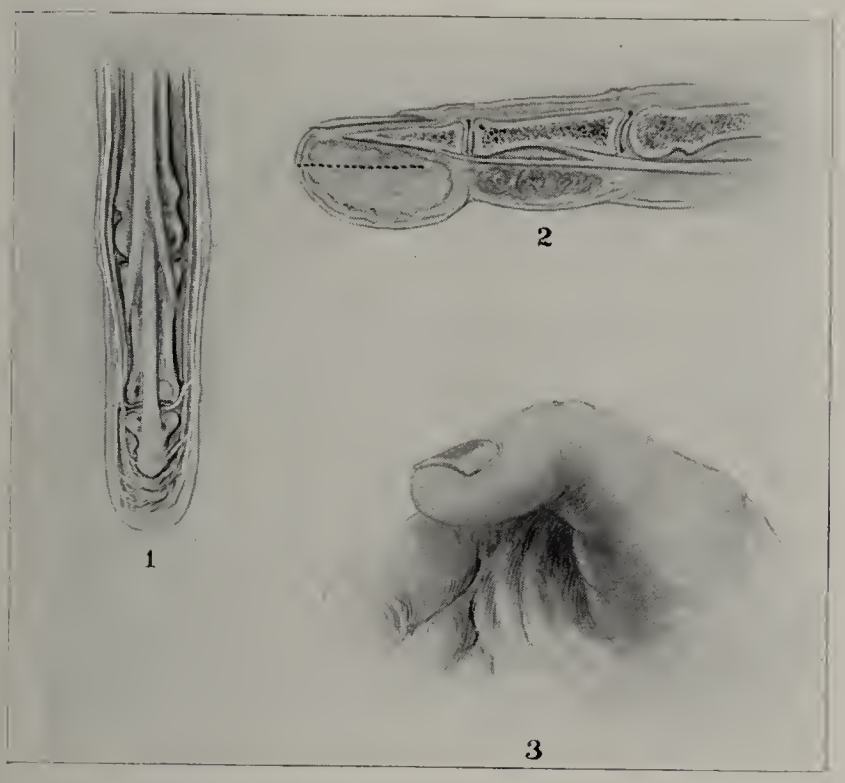



Fig. 1.—Note distribution of arteries.
Fig. 2.—Connective-tissue space distended with wax under pressure. Dotted line where incision would extend
Fig. 3.—Line of incision, one half only shown.

becomes red, swollen, and tender. The last phalanx is at first tense from edema, which is rapidly replaced by induration, and finally within forty-eight hours fluctuation is present.

TREATMENT

Many surgeons teach that it is best to wait for suppuration to take place before opening a felon, meanwhile using ointments of various kinds or hot or cold applications. This method of treatment cannot be too severely condemned, as delay causes the patient much pain, a wider destruction of tissue and frequently the loss of a portion of the bone.

In felons as in every other closed cavity, such as subaponeurotic infection of the scalp or osteomyelitis of the long bones, free and quick drainage is desirable. If then a free and adequate drainage is desired, what method of incision will best suit the present condition? The usual method is a longitudinal incision over the pad of the finger, which is not advisable because it does not allow free drainage, but on the contrary has a tendency to close up and requires packing to keep it open. Packing is very painful and very difficult to keep in place. Another objection to this method is that the incision injures the tactile area and an ugly retracted scar is the result. Kanavel's method, the making of




Fig. 4.—Wound after incision. Method of rapidly introducing rubber tissue.




Fig. 5.—Finger ready for dressing.
Fig. 6.—Imprint. Note line of furrows.

two lateral incisions, is much superior to the above, but even this does not give the desired drainage, has a tendency to close up and requires subsequent packing. I have used the incision described below in all my cases and have found it to give excellent results even in severe

infections. It will be noted that no subsequent packing is required. If the patient is operated on early no loss of bone occurs. The scar is almost invisible, being in line with the furrows of the skin, and further does not impair the tactile area. Complete and free drainage is immediately obtained.

For the first few days, the wound will appear to have been more than was necessary, but the final result will quickly dispel any such idea. The incision, which is best shown in Figure 3, starts at the level of the base of the nail on one side and extends in the line of the skin furrows over the tip of the finger, up the opposite side to a point on the level with the beginning of the incision, in that way making a flap of the tip of the finger. A piece of rubber tissue or gauze impregnated with petrolatum is placed in the uppermost angle of the wound as shown in Figure 4.

The wound is dressed with normal salt solution. The dressings, which are kept moist, are renewed every day without removing the packing. On about the third day the rubber tissue will come away and no subsequent packing will be found necessary. This is a great relief to both the patient and doctor. The wound will gradually close and after a period of several weeks the finger will assume its usual size and shape. If the case is seen after suppuration has taken place, it may become necessary at a later date to snip off the diseased diathesis and save the epiphysis. This was seldom necessary in my series of cases.

A general anesthetic (preferably nitrous oxid), is essential, so that a careful, complete and painless operation may be performed. The way these fingers are opened without an anesthetic in the average receiving ward is nothing less than brutal.

2025 Walnut Street.

---

## THE LATER HISTORIES OF FOUR SURGICAL CASES

1. MY FIRST CASE OF BRAIN TUMOR (1887).
2. TWO PATIENTS WITH RECTAL CANCER SURVIVING MANY YEARS; DESCRIBING ALSO A SIMPLE AND SUCCESSFUL METHOD OF DRESSING AN INGUINAL ANUS.
3. TRAUMATIC RUPTURE OF MIDDLE MENINGEAL ARTERY WITHOUT SKULL FRACTURE (1902).

W. W. KEEN, M.D.
PHILADELPHIA

### BRAIN TUMOR

CASE 1.—In December, 1887, I removed a large tumor from the brain.[1] It was my first case of modern cerebral surgery. The weight of the tumor was 3 ounces and 49 grains, and its size 2⅞ by 2½ by 1¾ inches, its circumference being 7¼ by 6 inches.

The tumor was a fibroma arising from the dura. Dr. W. J. Taylor has stated[2] that the patient "lived for nearly twenty years" after the operation. This is an unintentional error, for it was 25 years last December since the operation, and the patient was still alive a few months ago. His sight is poor, but is sufficient to enable him to find his way about, though not to enable him to read. He has once in a year or so an epileptic attack in spite of his use of bromids. He is now 50 years old and bids fair to live for some years.

### CANCER OF THE RECTUM

CASE 2.—I made an inguinal artificial anus (Maydl), Nov. 5, 1892, and eleven days later resected 6 inches of the rectum, leaving both the inguinal and the perineal openings patent. The cancerous nature of the growth was established by microscopic as well as clear clinical evidence.

The patient, Mr. B. (Case 2 of my original paper[3]), was 32 years old at the date of the operation. He lived until 1906, a period of fourteen years, and then died without local recurrence. It is possible that his death was caused by internal malignant disease, but this was not determined. I never attended him after the operation, though I often saw him socially.

Meantime he had been able to enter into all ordinary business and social life, to travel to Egypt and elsewhere, and to ride a horse and a bicycle. When later I proposed to close the perineal opening where the bowel protruded moderately he declined, for the reason that he was comfortable and had satisfactory control of the contents of the bowel.

CASE 3.—I operated on the patient, Mr. F. (Case 3 of my original paper[3]), Dec. 14, 1892. He was then 46 years of age. As in the prior case, I made an inguinal anus (Maydl) and twelve days later resected 9½ inches of the rectum. Microscopic examination confirmed the clinical diagnosis. The lower (perineal) end of the bowel was left open as well as the inguinal anus. After a time he was so much annoyed by the prolapse of the bowel that he willingly acquiesced in my suggestion to have the perineal opening closed.

*Operation and Results.*—Feb. 16, 1900: Placing the patient on his right side, I carried an incision through the skin about one-third inch away from the perineal opening of the bowel. I then dissected down to the muscular coat of the bowel immediately at the level of the perineum. By the finger and by blunt dissection and scissors, I was able to detach the complete layer of mucous membrane from the bowel so that it hung down like a cuff. This was then cut off at a level with the muscular coat, and the margins of the mucous cuff were united by a through-and-through catgut suture. This stump was next invaginated, and two rows of Lembert sutures were applied through the muscular coat. I was surprised on releasing my control of the closed end of the rectum to see the enormous cavity into which it retreated. I could easily introduce my entire fist to a distance even beyond my wrist, and yet at no place had the peritoneal cavity been invaded. When the patient was resting quietly this retraction to the bottom of the cavity took place, but the moment that he attempted to vomit, cough or struggle, the stump of the bowel would be pushed down to the level of the perineum or even beyond it. The stump of the bowel was now brought down to within an inch of the surface of the perineum, and the perineal wound was closed with interrupted silkworm-gut sutures, four of which secured the rectal stump in position. If this had not been done, there would have been an immense dead space in which bloody serum would have accumulated and might easily have led to an infection. When the bowel was pulled down, the lax tissues about it filled up practically this whole cavity. A rubber drainage-tube was introduced both anteriorly and posteriorly to avoid this danger of infection.

The operation lasted an hour and three quarters, and was tedious rather than difficult. The mechanical result was most satisfactory to me. The patient's temperature showed no appreciable fall after the operation.

The wound healed by first intention except at two points, one exactly corresponding to the middle of the closed stump of the bowel, the other close by. A very slight discharge of mucus occurred at these points. To avoid danger from downward pressure I kept him in bed till the wound was securely healed. He went home in four weeks.

I have seen and heard from him from time to time. The last occasion was Jan. 14, 1913, a little over twenty years after the primary operation. He is now 66 years old, is perfectly well, and weighs rather more than ever before. His business and social life are normal, except when his bowels are loose. The discharge even then rarely escapes beyond the dressing and soils his underclothing. The result of the operation to occlude the perineal anus is very gratifying. He says of this that "there is nothing to show. It is simply a 'closed incident.'"

1. Keen, W. W.: Am. Jour. Med. Sc., October, 1888, p. 329.
2. Taylor, W. J.: Tr. Am. Surg. Assn., 1912, p. 361.
3. This was originally reported in the Therapeutic Gazette for April and May, 1897.

METHOD OF DRESSING INGUINAL ANUS

As he has had so long and so successful an experience in dressing the inguinal anus and in observing the condition of the culdesac from the open inguinal anus to the closed perineal anus, I quote in detail his method of dressing the inguinal anus. This is always a problem of serious import to the patient. Many devices, often cumbrous and costly have been used. Mr. F.'s method is so simple and so effective that I believe a detailed description — for even the little details are important — will be welcomed both by the surgeon and his patient.

The accompanying illustrations well illustrate his present condition. His suggestion of a "dummy" truss has been of great value to other patients after a similar operation. The truss as he says is the "key to the situation."

Mr. F. writes: The bowel ends protrude, normally, about half an inch outside the wall of the abdomen (Fig. 1.) The end of the unused bowel does not vary in size; it is inert. The end of the active bowel is like it when conditions are normal. . . . I have fairly regular movements every morning, depending, of course, somewhat on regular habits of eating and drinking, which also affect the character of the discharges as to their being formed or semi-liquid. . . . My motions are



Fig. 1.—The two ends of the divided bowel at the inguinal anus twenty years after operation (Case 3).

never under control as with a normal sphincter. At the same time they give me fair warning. If formed they do not hurry me and in cases of necessity, as when traveling, I can carry a movement for hours. But if semiliquid or worse they must be cared for promptly. . . .

Now, as to protection (Figs. 2 and 3.) You are right in wanting this in detail, for it is that which must take the place of control, and it is the key to the situation. I am sending you under separate cover a T-bandage and pads of absorbent cotton which have served me so well all these years. I have seen expensive surgical appliances of silver cup, rubber tube and reservoir which were of no use at all. Lying on my back with the bandage spread out under me, I first wrap a string of absorbent cotton around the bowel ends. Then I place over the abdomen a layer of cotton about 8 by 11 inches, reinforcing it at the bottom with another strip 3 inches wide to make double thickness. This is better to support the flange at the truss and to increase absorption. Over this pad I lay a smaller piece of cotton or linen cloth—any clean old rags will do—then another sheet of cotton, split thin, then another cotton rag and on this a square about 5 by 6 inches of rubber cloth. These cotton pads extend one-third of their length over the bowel ends to the right and two-thirds to the left and down the side, as it is in the latter direction that the movements spread most.

Then I bring the bandage over from the right side, lap it with the end from the left side and fasten with five safety-pins 1¼ inches long, beginning at the bottom and drawing fairly tight. I then bring up the split ends of the T and fasten each end to the lower edge at the encircling bandage. The bandage should not cover the lower edge of the pads by half an inch. This is a good deal of detail, but it is all-important. The cloth square between the pads catches the moisture which goes through the cotton, and the one under the rubber will be wet while the cotton under it is dry. The rubber protects the bandage when the discharge is profuse. In dressing a movement, I simply fold back the cotton not soiled and gather off



Fig. 2.—Front view showing truss and dressing (Case 3).



Fig. 3.—Back view showing truss and dressing (Case 3).

the feces with a square of soft paper, cleanse with part of the cotton pad and redress with new as may be necessary.

Next, standing, I adjust my truss; and let me say here that a truss is an absolute necessity. It is the only insurance against disastrous leakage down into the clothing of liquid feces. It constricts the lower edge of the bandage, holding it tight to the groin and making the bandage and pads a safe reservoir even with liquid discharges, if they are not too profuse. Of course if they are profuse all pads will be saturated, and sometimes there will be leakage. But it must be a bad discharge that gets so far. You will find a slit in the middle of

the wide bandage. This is to catch the edge of the back flanges of the truss and prevent the truss from slipping down—another important detail. The bandage I send you is made up as I use it. Open it carefully. The patient must keep a few on hand. It is made of 40-inch brown muslin. The strip half as wide as the bandage makes two T's.

The culdesac, which you perhaps considered an experiment, has served its purpose in preventing prolapse of the bowel, leakage of mucus and pain in the surrounding muscular tissue. The discharge from it at the open end is negligible. Once in a great while I find a thimbleful of gray matter, soft and odorless, on the pad. Once I thought there must be some accumulation of it and I tried to void it by hanging down, head to the floor from the foot-rail of my bed and manipulating the posterior end with my hands, but with no result; so I ceased to bother about it. It gives me no pain except sometimes it swells when I strain my abdominal muscles to effect a movement.

HEMORRHAGE FROM THE MIDDLE MENINGEAL ARTERY

CASE 4.—A young midshipman at Annapolis was injured in a football scrimmage. I first saw him three days after the occurrence of the accident.[4] His mental condition at that time was very dull, his headache was severe and he had had convulsions, chiefly in the right arm, though the right leg and entire side had been involved to some extent. Disregarding a bruise, the only physical evidence of injury, I opened his head, Nov. 19, 1902, about 3 inches away from the bruise, and removed nine tablespoonfuls of blood. He made an excellent recovery and, in spite of my injunction to drop back one year in the Academy, he studied extra hard, made up all his lost time, graduated with his class and entered on his career as an officer in the Navy.

Jan. 10, 1909, over six years after the accident, he was examined for life-insurance by Dr. Julius F. Lynch of Norfolk, Va. Dr. Lynch writes me, "I recommended him as a first-class risk and the policy was issued promptly."

A little over a month after the policy was issued he was killed by an explosion in a coal-bunker on the man-of-war then lying in the harbor of Naples. He knew the danger he ran in entering the bunker where there was believed to be a fire, but gallantly faced it, forbidding the men to enter until he himself had explored it.

The surgical interest of the case lies chiefly in the excellent physical condition found after so long a period subsequent to such a severe cerebral injury.

1729 Chestnut Street.

4. This case was published in the Philadelphia Medical Journal, Dec. 13, 1902.

---

# A CASE OF ANNULAR PAPULAR SYPHILIS IN A NEGRESS

HOWARD FOX, M.D.
NEW YORK

It is generally recognized that there are three distinct diseases which are more or less characteristic of the negro race, namely, keloid, elephantiasis and uterine fibroid. It is not so well known that there is a form of cutaneous syphilis, the so-called annular syphilid, which is also strikingly characteristic of the negro. This is an early manifestation of the disease and a modification of the flat papular or discoid syphilid. The lesions apparently begin as flat papules which enlarge peripherally and clear up in the center, forming circular elevated rings. By the coalescence of several rings, various gyrate and festooned patches are produced.

The annular syphilid is not only much more frequent in the colored than in the white race, but when present is much more extensive. The eruption is seen most often on the face, but may also occur on the trunk and extremities, especially the back. It appears as a rule during the first six or eight months after infection. By those who have had experience in observing skin diseases in the negro the diagnosis can generally be made with certainty at a glance. Without such experience the diagnosis of this form of syphilis may be puzzling.

The disease is most apt to be mistaken for ringworm or erythema multiforme. It should not be confused with the annular lesions of late syphilis, which are generally formed by groups of individual nodules. If the specific nature of the eruption is suspected, it is not difficult to confirm the diagnosis, as at this period there are generally other corroborative signs of the disease including a positive Wassermann reaction.



Fig. 1.—Eruption in annular syphilis on right side of face. Note semicircular figures at side of mouth and below nostril.

As I have discussed the subject of annular syphilis in the negro more fully in previous communications[1] I merely wish at this time to report a well-marked example of the eruption.

The patient, M. F., was a full-blooded negress of the Congo type, 19 years of age, born in Virginia. She was unable to give any intelligent description of the onset or course of the eruption. As with the majority of such patients, no history of infection was obtainable. The eruption had first appeared according to her statement about six weeks before the photographs were taken. Though the diagnosis of syphilis was fairly written on the skin, I made a Wassermann test for the sake of the record. It was strongly positive. The patient also presented a moderate angina and a general adenopathy.

1. Fox, Howard: Observations on Skin Diseases in the Negro, Jour. Cutan. Dis., 1908, xxvi, 67; The Annular Lesions of Early Syphilis in the Negro, Arch. f. Dermat. u. Syph., 1912, cxiii, 315.

The eruption was confined to the face, neck, sternal region and upper portion of the back. On the left side of the face it was especially profuse above the eye, nose and month. The most striking lesion was situated near the angle of the mouth. This consisted of a perfect circle, an inch in diameter, enclosing two other less perfect circles. The same tendency to form rings within rings was less shown in a patch above and to the outer side of the left eye. On the right side of the face there were several semicircular figures at the angle of the mouth and along the border of the jaw. A very characteristic lesion was present on the upper lip just below the nostril. This was a delicate semicircular ring with its convex border toward the mouth, which I have observed to constitute in another case the sole cutaneous manifestation of the disease. On the sides of the neck and over the manubrium and upper part of the back were other circinate and gyrate patches. One of these on the



Fig. 2.—Eruption on left side of face. Note perfect circle enclosing circles at side of mouth.

back showed an abortive attempt to form five concentric circles.

The patient was difficult to control and left the clinic before the eruption had disappeared.

I am indebted to Dr. George T. Jackson for the privilege of reporting this case from his former service at the Vanderbilt Clinic.

616 Madison Avenue.

---

**Endemic or Epidemic Poliomyelitis.**—Although we refer to poliomyelitis as "epidemic," its incidence in any large population is always small even during epidemics. Occasionally, in a small group of people, a large percentage may be attacked, but considering any large group, as the population of a city, a county or a state, the attack-rate, even in so-called epidemics, is seldom more than one per thousand, usually even less.—W. H. Frost, *Am. Jour. Pub. Health.*

# SPASMODIC TORTICOLLIS

## NOTES ON THE ETIOLOGY IN TWO CASES *

WALTER F. SCHALLER, M.D.
SAN FRANCISCO

I employ the term "spasmodic torticollis" generically and do not wish to be understood as classing all conditions presenting this symptom (for it must be borne in mind that torticollis is a symptom and not, properly speaking, a disease) as a spasm. In fact, the object of this paper is to analyze the symptoms of two cases, which have come under my notice recently through the kindness of Dr. Emmet Rixford, in order to determine if possible whether we are dealing with a tic or a spasm.

Accepting the classification of Brissaud, we define a spasm to be a reflex movement due to an irritation somewhere along the pathway of the peripheral reflex arc; while a tic has its origin in the higher psychic functions and is the uncontrollable and often unconscious imitation of a purposive act. I shall recall the chief points of difference between a tic and a spasm by comparing their symptomatology. The mental state of the ticquer has often been noted. Whatever the ticquer's age, he presents the mental state of a lower age. He is apt to be poorly balanced in his attainments. The volition is weak and unstable. Impulsive manifestations are common. The ticquer is apt to be impatient. The emotions are often difficult of control. Obsessions are common. Together with the mental instability, there is often a motor instability manifested by a difficulty in conserving the immobility. These psychopathic symptoms do not form part of the picture of spasm.

The volition, efforts of attention and distraction modify a tic and may cause its temporary cessation. This does not happen in a spasm.

Tic is often preceded by an imperative desire, and the performance of the tic is followed by a feeling of satisfaction.

Certain antagonistic movements not of a forceful nature may be sufficient to control a tic, while these movements are quite inadequate in a spasm. I shall refer more in detail to these antagonistic movements in the case reports.

A tic ceases during sleep, a spasm persists.

The convulsive movements of a spasm are extremely brusque, resembling the muscular contraction caused by the electric current. The muscles involved correspond to the anatomic distribution of a nerve. If a portion of one nerve is involved the spasm may be partial or even fascicular as seen as a complication of facial paralysis. If the whole nerve is affected the convulsive movement may be quite unlike that produced by the performance of a purposive act. Thus Babinski has noted an asynergia of the muscular movements in cases of facial spasm, and called this condition paradoxical synergia. In this condition the forehead of the affected side is wrinkled by action of the frontalis muscle, while the eye is closed due to the action of the orbicularis palpebrarum, both of these muscles being innervated by the same nerve, the facial. This combination of movements cannot be produced simultaneously by effort of the will. A tic, on the contrary, is often a complicated associated movement calling different nerves and

---

*From the Neurological Clinic, Medical Department Leland Stanford Jr. University.

*Read at the meeting of the San Francisco County Medical Society, Jan. 21, 1913.

their muscles into play and has for its object an act with a definite purpose.

Pain properly speaking may be the accompaniment of a spasm, but not of a tic.

A true tic is variable in intensity, varying from one day to another. A true tic is often benefited by treatment properly directed, such as exercises of control and due attention paid to the psychic elements of the case. A spasm is not influenced by the same methods.

The importance of a correct diagnosis is therefore evident, as the treatment of these two affections is entirely different. Let me bring out the chief points in the case histories of my two patients.

*Case.* 1.—J. R., aged 47, unmarried, a laborer, is not handicapped apparently by hereditary nervous influences, as we can find no evidence of nervous or mental disease in his family history. As a child he was robust physically but inclined to be "nervous." He relates a story of how as a boy he went to have his picture taken. The ordeal of "posing," as he expresses it, caused an uncontrollable turning of his head to one side which was similar in some respects to the affection of which he now complains. He states that he is reserved and even bashful in company. He is of a retiring disposition but not a person whom one would call nervous in the generally accepted meaning of the term.



The *geste antagoniste efficace.*

*Present Trouble.*—This dates back five years. It consists in an uncontrollable tonic contraction of the muscles at the back of the neck causing the head to turn to the left side. This movement is accompanied by some soreness in the muscles affected but there is no definite pain. In referring to our notes we find that this affection began after a particularly hard journey to Alaska where he also had financial difficulties associated with a mining claim. It appears that he was under considerable mental stress at that time. There is no history of his suffering from any illness. In searching for the pathogenesis of the affection the following was brought out. At first the head was inclined to turn to the right. To correct this, the patient conceived the idea of changing his position while working with his shovel (being right-handed his head followed the movements of his shovel to the right). He now changed his position and shoveled to the left, the head now turning to the left while he worked. Not only did he correct the torticollis to the right but he overcorrected it, and the head assumed the position to the left which it continued to occupy during the first attacks. After vainly seeking relief by internal medication, he placed himself in the hands of a Seattle surgeon who performed several operations on the left side of his neck. The scars of these operations are still plainly seen over the attachments of the sternocleidomastoid and trapezius muscles. These operations afforded the patient no relief. He later came under the care of Dr. Rixford. Dr. Rixford performed an operation directed toward removing the function of the splenius capitis and complexus muscles of the affected side. The operation was successful and the patient was much benefited. This last operation was performed about three years ago. About six months before the patient first came under my observation in November last, a torticollis set in on the opposite side, the right.

*Examination.*—The patient presented a torticollis due chiefly to the spasmodic contraction of the sternocleidomastoid and the trapezius muscles of the opposite side but it was observed that the elevation of the chin generally noted was very little marked. Pain was complained of in the muscles in the back of the neck on the left side. The head could be held directly forward without difficulty when the patient was at rest, as while sitting; as soon as walking was attempted the tonic contractions would take place. When he was asked to turn his head to the right side it would be spasmodically fixed in this position in spite of all effort to restore it to the original position by means of antagonistic muscles. But now the remarkable fact: If the patient would grasp the tip of his nose the head could be replaced by an exercise of force evidently too slight to overcome an actual spasm of such powerful muscles as those in question. We are dealing here with a symptom which Meige and Feindel in their monograph on tics speak of as *geste antagoniste efficace.* A physical examination showed no evidence of any organic or other disease present. No local cause could be found to account for the affection. The spinal column appeared normal. There was no history of rheumatism. The eyes were examined and found normal in every respect.

*Diagnosis.*—In view of the facts brought out, the psychic torticollis in childhood, the pathogenesis of the first attack and the means the patient takes to overcome the tonic spasm, a diagnosis of tic was made, or of torticollis mental of Brissaud.

*Treatment and Course.*—The treatment for this condition was instituted but was not followed by very satisfactory results, although some improvement was noted. The pain in the neck persisted. At the urgent request of the patient a radiograph of the cervical spine was taken. Proliferation of bone at the level of the fifth cervical vertebra was seen. Treatment was now instituted for an osteo-arthritis of the spine, and the possibility of a spasm due to an irritation of the spinal nerve roots was considered. Internal medication with the salicylates and potassium iodid, counter-irritation over the spine and spinal galvanization were in turn employed without beneficial results. Finally extension was used but with no better success. What help we were able to render this patient came from the treatment instituted for tic.

*Case.* 2.—C. E. R., aged 37, married and the father of two healthy children, is an inspector in the customs service and is assigned to night duty. He is apt to have insufficient sleep and his meals are often taken at irregular hours. In order to keep awake at night he has been in the habit of taking considerable coffee. Factors of importance to be noted in his history are that a brother of the patient is very eccentric in his conduct and at times does not appear to be perfectly nor-

mal mentally. His mother is what the patient calls "nervous" and on several occasions has had a nervous breakdown. The father died of arteriosclerosis at the age of 74. Besides the usual diseases of childhood the patient has had diphtheria and dysentery. In Manila in 1899 he had malaria. Following this he had two attacks of what he termed rheumatism. In 1909 he had an attack of pneumonia. The patient is said to have been rather backward at school and stammered when a boy, a habit from which he has not entirely recovered. He has remained in his present employ for a number of years without promotion. Whether deserving of promotion or not, the fact that he has not made any progress in his work has been a source of considerable chagrin to his family and himself. He is at present in a controversy with the customs department with a view to having day duty. In addition he has a source of worry in the settlement of his father's estate.

*Present Trouble.*—The torticollis from which our patient is a sufferer had its beginning directly following his return with the California Volunteers following the Spanish-American War. On account of his illness in Manila and the hardships of the life to which he was exposed, his health was considerably impaired. He had lost much in weight. His mother stated that his trouble began with a movement of his left hand to the neck and a slight rotation of the head. In 1902 the trouble had progressed to such an extent that the patient applied to Dr. Rixford for relief. At this time the head would incline almost to contact with the right shoulder, and while walking he was continually obliged to support the head with the hand of the same side. Several operations were done in which the spinal accessory nerve, the second cervical nerve, the sternocleidomastoid and trapezius muscles and finally the entire muscular mass involved in the contraction were divided. These measures were successful and the patient was relieved of his trouble until September of last year when there was a recurrence on the opposite side. It was at this time that I first saw the patient.

*Examination.*—There was an inclination of the head toward the left shoulder and a rotation toward the right shoulder with elevation of the chin. The head could be brought to the median line by a maneuver similar to the one employed in the first case; in this instance the gesture was with two fingers of the left hand. A very slight pressure thus applied was sufficient to redress the head. A point of tenderness was found at the exit of the great occipital nerve on the left side and spontaneous pain was complained of in this locality. When questioned as to the character of this pain, as to whether it was a soreness or a pain properly speaking, he found it difficult to determine this point. The patient's wife stated that the torticollis was less when his attention was diverted. During a performance at the theater, for instance, the torticollis has been observed to cease for the time being. The information was also obtained that the movements ceased during sleep, a very important point. The pathogenetic factor in this case was searched for and it was learned that before the torticollis was definitely established the patient noticed certain cracklings in his neck which were of some concern to him. He acquired the habit of reproducing these by movements of the head resembling the movements which have now become involuntary. Certain mental states aggravate his trouble. When he is annoyed and worried the torticollis is worse. In the physical status the only positive finding of importance was a systolic murmur at the base of the heart. The heart was not enlarged. The red blood-count was 4,500,000 and the hemoglobin was 65 per cent. by the Sahli instrument. The urine was normal. A radiograph taken of the cervical vertebrae showed nothing abnormal.

*Treatment and Course.*—Treatment was directed toward regulating the daily routine. The patient was advised to avoid all stimulants, such as the excessive use of coffee mentioned before. The importance of sufficient sleep and of regular hours for his meals was emphasized. He was told of the psychic element in the production of his affection and was told that in the method of treatment to be followed his active cooperation was necessary. The drugs to be given were in no sense curative but were in the nature of tonics. Three times a day he was to practice his exercises before a mirror as advised by Meige and Feindel. Furthermore, he was told to endeavor to control those emotions which he recognized had a tendency to aggravate his trouble. The torticollis seemed to improve at times and at others seemed to be stationary. Of late, however, there appears to have been a decided improvement permitting us to believe that we are on the right track and that the patient is being rewarded for the conscientious carrying out of the directions given.

### SUMMARY

It will be seen that I have dwelt on the psychic symptoms in these two cases at length. I have done so because they stand out prominently in the histories of the cases and dominate the clinical picture. Both these men are neurotic. The character of the torticollis resembles that of a tic in the pathogenesis, in the character of the contraction (being a movement due to a tonic contraction, slow and resembling a definite movement adapted to a purpose, as opposed to a quick jerking movement resembling that due to the response to an electric current), in the absence of any severe pain and in the control of the movement by maneuvers which would be quite inadequate in a spasm.

It has been the object of this paper to throw some light on the nature of the affection in these two cases. I think that torticollis is very often to be classed as a tic.

126 Stockton Street.

---

## PELLAGRA: SOME FACTS IN ITS EPIDEMIOLOGY*

R. M. GRIMM, A.M., M.D.
Passed Assistant Surgeon, United States Public Health Service
SAVANNAH, GA.

The purpose of this article is to present a few facts in the epidemiology of pellagra. These facts pertain to 323 cases of pellagra which were seen by me during the summers of 1911 and 1912 while engaged in the pellagra field-work undertaken by the United States Public Health Service. The object of this field-work was primarily to collect data which would show the character of the home environment of the pellagrins and the nature of the conditions under which the disease was developing; in short, to make a study of the disease from the standpoint of hygiene. It was thought that information bearing on these points, in a large series of cases, might be of some value in indicating a direction for some line of investigation which might possibly lead toward the discovery of the cause of the disease, or of a method of its transmission. With these points in view the facts in this article were collected and have been recorded here, with the hope that they may be of some interest now and of some value in the future, when supplemented by data from other sources.

During the progress of my work 200 or more physicians of Kentucky, South Carolina and Georgia were consulted, 296 pellagrous homes visited, and 323 pellagrins personally interviewed. The visits to the homes of the pellagrins were always made in company with the family physician. This rule was strictly adhered to. For collecting the data case-cards measuring 5 by 8 inches were used. These cards were numbered serially and are now on file. On the cards are spaces for notes pertaining to the following points: name, address, race, sex, age,

* Modification of paper read at the second triennial meeting of the Association for the Study of Pellagra, Columbia, S. C., Oct. 3, 1912.

nativity, marital condition, occupation, family history, personal and pellagrous history; date and place of onset of first and of subsequent attacks; number and health of other members of the family; relation to other cases, and any facts bearing on heredity and contagion. In each instance an attempt was made to get some idea of the character and source of the food and water which had been used in the families. During the visits to the homes of the pellagrins notes were taken on the economic condition of the families and on the sanitary condition of the houses and premises. The relation of the homes to water-courses was noted, and also any other fact or circumstance which at the time seemed pertinent. On slight consideration it will be readily realized how many questions might be asked and what confusion of detail is possible, so that it was only between certain limits that the facts have been collected which I have attempted to put into communicable form in this article.

*Geography, Topography, etc.*—During my work visits were made to districts in twenty-five counties in which pellagra had been reported prevalent — three in Kentucky, seven in South Carolina, and fifteen in Georgia. The Kentucky counties visited are located in the southeastern portion of the state, which is a mountainous coal mining section. The other counties are located in the northern, the western, and the southern portions of South Carolina and Georgia and belong to the rich agricultural sections of these states. The main industries there are the growing and the weaving of cotton, but considerable attention is also paid to the cultivation of corn. The elevation of the counties visited varies from about 1,000 feet above sea level in Kentucky and north Georgia down to almost sea level in the southern portion of the latter state. Cases of pellagra were found to have developed at practically every elevation between these limits, but more cases were seen in the rolling upland sections than in either the mountainous or low country. All of these counties are well watered and possess good natural drainage, as is indicated by the presence of numerous streams flowing through them. Small ponds and swamps, however, are present in practically all of them and these are especially numerous in the lowlands of south Georgia, where a few of these cases developed. The climate of south Georgia may be termed subtropical, that of the other sections visited temperate and never extreme.

## CONSIDERATION OF CASES

*Distribution.*—The 323 cases of pellagra which form the basis of this article are distributed among the three states as follows:[1]

| | |
|---|---|
| Kentucky (three counties) | 38 cases |
| South Carolina (seven counties) | 161 cases |
| Georgia (fifteen counties) | 124 cases |
| Total | 323 cases |

*Race and Sex.*—With reference to these points the cases are as follows:

| | No. | Percentage. |
|---|---|---|
| White females | 209 | 64.7 |
| White males | 91 | 28.2 |
| Colored females | 14 | 4.3 |
| Colored males | 9 | 2.8 |
| Total | 323 | 100.0 |

1. These numbers are approximately in proportion to the lengths of time spent in each state, and should not be taken as indicating comparative prevalence. In addition to this number there were reported to me by physicians in these counties 672 non-fatal and 431 fatal cases which make a total for the 25 counties of 1426 cases. All of these cases were considered in my official report to the Surgeon-General (Public Health Reports, March 7 and 14, 1913).

In the Kentucky counties which were visited negroes are in the minority, but in the South Carolina and Georgia counties they form a much larger proportion of the population and in places equal if not outnumber the whites.

*Age.*—According to age the 323 cases are grouped as follows:

| Age. | No. Cases. | Age | No. Cases. |
|---|---|---|---|
| 0 to 5 years | 15 | 45 to 50 years | 23 |
| 5 to 10 years | 23 | 50 to 55 years | 21 |
| 10 to 15 years | 11 | 55 to 60 years | 20 |
| 15 to 20 years | 12 | 60 to 65 years | 11 |
| 20 to 25 years | 42 | 65 to 70 years | 8 |
| 25 to 30 years | 34 | 70 to 75 years | 4 |
| 30 to 35 years | 37 | 75 to 80 years | 1 |
| 35 to 40 years | 38 | Above 80 years | 0 |
| 40 to 45 years | 23 | | 323 |

*Marital Condition.*—The marital condition of these pellagrins is as follows:

| | | | |
|---|---|---|---|
| Single | 83, | males 43, | females 40 |
| Married | 208, | males 50, | females 158 |
| Widowed | 32, | males 7, | females 25 |

*Date of Onset.*—On account of the vague nature of the early symptoms of the disease it was impossible to determine the exact date of the onset of the first attack in all of them. The year of onset, however, was determined in 317 of the 323 cases, but the month of onset was determined with a fair degree of accuracy only in 181 of them. The dates as determined with reference to the years and months are given below with the number of cases having their onset in each.

| Year of Onset. | No. Cases Seen in 1911. | No. Cases Seen in 1912 |
|---|---|---|
| 1912 | 0 | 53 |
| 1911 | 65 | 86 |
| 1910 | 30 | 29 |
| 1909 | 7 | 21 |
| 1908 | 8 | 5 |
| 1907 | 3 | 2 |
| 1906 | 2 | 1 |
| 1905 | 3 | 0 |
| 1902 | 1 | 0 |
| 1900 | 0 | 1 |
| Not determined | 2 | 4 |
| Total | 121 | 202 |

The month of onset of the 181 cases is shown in the following table:

| Month of Onset. | No. Cases. | Month of Onset. | No. Cases. |
|---|---|---|---|
| January | 2 | July | 25 |
| February | 11 | August | 14 |
| March | 18 | September | 4 |
| April | 27 | October | 5 |
| May | 37 | November | 2 |
| June | 36 | December | 0 |
| | | | 181 |

*Occupation.*—There is given below a list of the occupations which constituted the source of income of the families furnishing this series of cases, along with the number of cases in each group:

| Occupation | Total No. Cases | Men | Women | Children under 15 |
|---|---|---|---|---|
| Factory | 148 | 31 | 97 | 20 |
| Mining | 26 | 5 | 15 | 6 |
| Agriculture | 48 | 12 | 29 | 7 |
| Trade | 23 | 11 | 6 | 6 |
| Clerical | 18 | 8 | 5 | 5 |
| Railroad employment | 5 | 2 | 1 | 2 |
| Professional work | 5 | 2 | 2 | 1 |
| Miscellaneous (laboring) | 45 | 6 | 36 | 3 |
| Without occupation | 5 | 5 | 0 | 0 |
| Total | 323 | | | |

*Environment and Living Conditions.*—Examination of the list of occupations given above will furnish some idea of the general status of the people among whom the cases of pellagra in this series developed. The factory people were mostly of the cotton-mill class, a class quite common in South Carolina and Georgia. These people live in little villages located around the cotton-mills in which they work. Very few of them own their own homes or seem to care to, but live in cottages owned by the milling companies. They are nomadic in character and move from village to village as the notion strikes them. As a class they appeared to be poor, overworked and underfed, and to be living on what they earned from day to day or week to week. Although in many instances the total earnings of the working members of the families appeared quite sufficient for comfortable living, they did not seem to understand the art of applying this income towards the betterment of their living conditions. Many of the women and girls of this class work in the cotton-mills and contribute to the support of their families. Early marriages and large families are the rule among them. In the counties of South Carolina and Georgia which I visited pellagra was found to be much more prevalent among the people of this class than among those of any other. In some of the villages visited the pellagra situation was alarming.

The pellagrins among the mining class were for the most part members of families of coal-miners. They were living in small houses and shacks owned by the mining companies and located on the hillsides near the coal-mines. They were found to be living a hand-to-mouth existence, depending for their support on the daily wages of the workers in the mines. The majority of them were living amid squalid surroundings, and many of them lacked even the rudiments of an ordinary school education.

The forty-eight pellagrins of the agricultural class were mostly of families of "renters" or "croppers." Some were land-owners, a few of whom appeared prosperous. Many, however, were typical "Georgia crackers." The majority of the pellagrins in the remaining groups, while living in towns and in an environment somewhat better than that found in the mill villages and mining camps, still were living under conditions far below the average. A few, however, were enjoying the comforts of an environment which was far above the average.

*Economic Condition.*—An estimate of the economic condition was made in each instance. The results of these estimates are shown below:

| Economic condition | No. Cases |
|---|---|
| Poverty | 258 |
| Comfort | 59 |
| Affluence | 6 |
| Total | 323 |

## CONSIDERATION OF HOMES

*Location.*—A classification of the homes is given here with reference to location:

| A. With reference to population (at time of onset). | No. |
|---|---|
| In a cotton-mill village | 142 |
| In a coal-mining camp | 24 |
| In a town or suburbs | 92 |
| In the country | 58 |
| In a city | 7 |
| Total | 323 |

| B. Distance from watercourses (at time of my visit). | No. |
|---|---|
| 0 to 50 yards | 31 |
| 50 to 100 yards | 35 |
| 100 to 200 yards | 49 |
| 200 to 500 yards | 118 |
| 500 yards to 1 mile | 51 |
| 1 to 3 miles | 10 |
| Distance not determined | 29 |
| Total | 323 |

*Sanitation.*—The sanitary condition of the homes of the pellagrins in this series has been classified as follows:

| Sanitary condition | No. |
|---|---|
| Good | 11 |
| Fair | 36 |
| Bad | 249 |
| Not visited | 27 |
| Total | 323 |

## GENERAL CONSIDERATIONS

*Insects.*—From the standpoint of entomology the great majority of the pellagrous homes visited in this work would, without doubt, have furnished interesting material for study. The ordinary bedbug was found to be present in some of the homes, was acknowledged to be present in others, and in very few indeed were conditions such as to lead one to suspect the absence of this and of other ectoparasites of man. It was the exception to find a pellagrin living in a screened house, although mosquitoes were said to be present in all of the districts visited. Malarial fever was reported to be common in some of the districts, but in others it was said to be practically unknown. Ordinary houseflies were present in practically all of the homes visited and were especially numerous in many of those where a pellagrin was confined to bed. The fly *Simulium* was found to be breeding in a number of the districts, but was not looked for in all of them. Two granaries, from which corn had been taken for families in which pellagra had developed, were inspected and were found to be heavily infested with weevils and moths.

*Water-Supply.*—The source of the drinking-water at the time of the onset of the disease in these cases was determined and is as follows:

| Source | No. |
|---|---|
| Wells: Bored | 50 |
| Dug | 109 |
| City or town supply | 62 |
| Well and city supply | 12 |
| Cisterns (stored rain-water) | 6 |
| Surface water (wells, creeks, springs) | 66 |
| Varied | 18 |
| Total | 323 |

*Food.*—It was learned that the great majority of the pellagrins in this series had been subsisting almost exclusively on food bought at the stores. The families among the cotton-mill and coal-mining classes were practically entirely dependent for their supplies on the small stores in the villages and camps, and despite the rural location of the homes of the pellagrins of the agricultural class they too were found to depend to a considerable extent for their food on the country grocery store. It was the exception to find a pellagrin who could state that even the major part of the food used in the family had been home grown. Necessarily the lines and quality of the groceries sold at these stores are regulated largely by the finances, the tastes and demands of the patrons, and judging on this basis it can be said that the quality of goods sold at most of

these stores was certainly not of the best, nor were these goods of the freshest. A list of articles of food having the largest sale at a store patronized by a number of people in whom pellagra had developed was made up for me by the store-keeper. This list, although presenting considerable variety, showed that much of the food used had undergone some process for its preservation, such as dessication, canning, etc. It seemed to be the consensus of opinion of the doctors practicing among these people that most of them were not receiving the proper quality and quantity of food, and that even when obtained in sufficient quantity it received hasty and incomplete culinary preparation. No constant difference, however, was found to have existed between the diets of the pellagrous and non-pellagrous members of the families.

*Indian Corn.*—Each one of the pellagrins considered here gave a history of the more or less regular use of corn products as articles of diet. Some acknowledged only a limited use of them, while others stated that they had "lived on corn-bread and hominy." Hominy and meal seemed to be the forms of corn in most common use, and in all except three instances some of the meal used by the pellagrins previous to the onset of the disease had been obtained at the stores, and in most instances all of that used had been so obtained. The stores were found to handle both locally grown corn and corn and meal imported from other states. The local mills of the districts visited were also found to grind both kinds, so it was practically impossible to determine the relative amounts of each which were being used by the people. In considering the subject of corn in its possible relation to pellagra in the districts visited, it must be remembered that these districts belong to the great corn-eating section of the country, where for many years corn, in one form or another, has been one of the main articles of diet for all classes, and where for many years the demand for corn has not been equaled by the local supply. This situation implies importation, which often requires considerable time for transportation, storage, and handling.

*Relationship Between Cases.*—Some of the gross relationships of the cases were determined by asking the pellagrins questions bearing on this point. These have been classified and appear below:

| | No. |
|---|---|
| 1. Case relationship in the families (same houses): | |
| A. Families having 1 case | 264 |
| B. Families having 2 cases | 23 |
| C. Families having 3 cases | 6 |
| D. Families having 4 cases | 2 |
| E. Families having 5 cases | 1 |
| 2. Propinquity and contact relationships (miscellaneous): | |
| A. No known relationship to another case of pellagra | 91 |
| B. Previous to onset had temporary association (as visit) with another case of pellagra | 24 |
| C. Onset while living in the immediate vicinity of a pellagrin | 148 |
| D.[2] Onset while living in the same house with a pellagrin | 50 |
| E. Onset while living in a house previously occupied by a pellagrin of another family | 10 |
| 3. Relationships in food-supply (stores): | |
| A. Stores among whose patrons 1 case of pellagra developed | 43 |
| B. Stores among whose patrons 2 cases of pellagra developed | 13 |
| C. Stores among whose patrons 3 cases of pellagra developed | 6 |
| D. Stores among whose patrons 4 cases of pellagra developed | 4 |
| E. Stores among whose patrons 5 cases of pellagra developed | 4 |
| F. Stores among whose patrons 7 cases of pellagra developed | 2 |
| G. Stores among whose patrons 10 cases of pellagra developed | 1 |
| H. Stores among whose patrons 13 cases of pellagra developed | 1 |
| I. Stores among whose patrons 19 cases of pellagra developed | 1 |
| Total number of stores | 75 |

2. Includes B, C, D, and E in Group 1 above.

These seventy-five stores were located in nine of the districts which I visited and in which pellagra was especially prevalent. It is believed that a complete canvass of the patrons of these stores, had it been possible to make it, would have brought to light more cases of pellagra than were actually seen. In these nine districts, as well as in others, the doctors reported to me many cases of well-developed pellagra which I was unable to see, and besides in these districts there were quite often seen persons who presented symptoms which greatly simulated those of pellagra, but to a degree not sufficient for a positive diagnosis. The presence of these borderline cases seems to me to be of considerable importance in considering the pellagra situation in a family or in a community.

*Heredity.*—None of my observations in this work has led me to believe that pellagra is hereditary. Of 58 children whose mothers had developed pellagra within one year after the birth of the child, 9 were dead (cause undetermined), but none was pellagrous; of 18 children whose mothers had developed pellagra within one year before the birth of the child, 2 were dead, but none of the living was pellagrous. Of 30 infants, who were being nursed by pellagrous mothers, none was pellagrous at the time of my visit, 6 were not well, and 24 were healthy.

*Predisposing Conditions.*—Of the diseases which were reported to me by the pellagrins and their physicians as belonging to their prepellagrous history and which seemed to have favored the onset of the disease may be mentioned the following: typhoid fever, septicemia, pneumonia, asthma, whooping-cough, pulmonary tuberculosis, renal tuberculosis, malarial fever, syphilis, hookworm disease, small-pox, measles, alcoholism, morphin habit, lead-poisoning, diseases of the digestive system, as "indigestion," chronic constipation and others which might easily have been some of the early symptoms of pellagra, fistula, diseases of the gall-bladder, Bright's disease, anemia, muscular atrophy, poliomyelitis, paralysis, epilepsy, migraine, neurasthenia, arthritis deformans, "rheumatism," idiocy, imbecility; those referable to the sexual organs and reproductive function in the female, as puerperal fever, eclampsia, salpingitis, lacerations of the perineum, menstrual disturbances, pregnancy and lactation. Operations and injuries seemed to figure to no small extent. Mental states, such as grief and worry, seemed to have paved the way for the development of pellagra in a number of instances. In not a few instances, however, it was not possible for me to determine, at least in the limited time at my disposal, just what might have acted as a predisposing cause.

The fact that 258 of the 323 of these pellagrins developed the disease under conditions of poverty cannot be without significance. The conditions of living, found in the great majority of these instances, includ-

ing lax domestic and personal hygiene, and especially the questionable character of their food, seemed to have favored in some way the development of pellagra. I am inclined to think that the food used by these people contained elements which acted as a contributing cause of the pellagra among them, and probably also as the exciting cause.

SUMMARY

From the facts in the foregoing article summaries may be made with reference to the following points:

*Race.*—More cases developed among the whites than among the negroes.

*Sex.*—More cases occurred among the females of both races than among the males.

*Age.*—More cases developed at ages between 20 and 40 years than at other ages.

*Marital Condition.*—Among the married and widowed pellagrins the females predominate; the single pellagrins are equally divided between the sexes.

*Dates of Onset.*—More cases had their onset during the months of May and June than in other months, and more in 1911 than in any previous year.

*Environment.*—More cases developed under conditions of poverty than of comfort, and more under conditions of comfort than of affluence.

*Relationship of Cases.*—More cases developed in the vicinity of other cases than otherwise.

*Heredity.*—None of the facts seem to indicate that pellagra is hereditary.

*Food.*—The food used by the people in whom pellagra is prevalent deserves consideration as a possible etiologic factor.

The most promising field for the investigation of the etiology of pellagra is the food being used by the people in whom pellagra is developing.

Marine Hospital.

## Therapeutics

### PRESCRIPTION NONSENSE

The following is an actual prescription submitted for criticism by THE JOURNAL:

| | | |
|---|---|---|
| ℞ | Bismuth subnitrate | ʒ iv |
| | Bismuth subgallate | ʒ iv |
| | Sodium bicarbonate | ʒ ii |
| | Codein sulphate | gr. viii |
| | Morphin sulphate | gr. ii |
| | Chloroform water | ʒ iv |
| | Essence of pepsin q.s. ad | ʒ iv |

M. Sig.: ʒ ii every three hours.

The most self-evident mistake in this prescription is the absurdity of combining the action of codein and morphin. The action is very similar, with a little less liability of the codein causing constipation and drying up the secretions. On the other hand, one should decide whether one wishes the codein action or the morphin action, remembering the above-mentioned slight difference and the fact that codein does not stop pain as does morphin, unless the dose is very large. The dose above advised would give the patient every three hours about 0.04 gm. (⅔ grain) of the codein and 0.01 gm. (1/6 grain) of the morphin. This means, when administered every three hours, a large dose of these narcotics. It should be remembered that although 2 fluidrams are ordered, unless a measuring glass is used, the patient will get 2 teaspoonfuls at a dose, and 2 teaspoonfuls represent 10 c.c. or more than 2 fluidrams. In other words, the prescription given above amounts to about twelve doses.

It would not seem good judgment to combine the subnitrate of bismuth with the subgallate of bismuth. If one is needed the other is not. The subgallate is a little more astringent than the subnitrate, but a combination of the two is rarely needed. In the next place, the administration of these two insoluble drugs in a liquid is almost inexcusable. Even a mucilage, or glycerin, or other thick suspending medium would hardly cause an equal dosage of the bismuth. The bismuth will stick in the bottom of the bottle, cling to the sides, and even with persistent shaking there will be irregular amounts of bismuth in each dose. Either the bismuth subnitrate or the bismuth subcarbonate or the bismuth subgallate should be selected, and then it should be administered either in powder or in wafer. There is an ounce of the combined bismuth, that is, 32 gm., to be administered in about twelve doses.

Of course it is presumed that the 4 drams of chloroform water means 4 fluidrams. The chloroform water will certainly give a characteristic taste to the mixture. Chloroform water, however, is very uncertain. From the Pharmacopeia it is not clear exactly how much chloroform will be found in the 4 fluidrams of chloroform water. In other words, it is much better to add as much of the official spirits of chloroform as is desired by the physician.

The object of the essence of pepsin is, of course, uncertain. No fluid preparation of pepsin is sufficiently dense to suspend the insoluble bismuth. Also, it is a mistake to think that a dash of pepsin will aid in causing the stomach to care for a multiple mixture or for an irritant drug. There are no irritant drugs in this preparation, and it is not necessary to cause the patient to pay for an expensive preparation of pepsin in order for the above drugs to be administered. As a digestant the pepsin would be useless when combined with the sodium bicarbonate (as an alkali prevents the activity of pepsin), and it could not well act when combined with such sedatives as codein and morphin. Also, it is not certain what the chloroform would do to the pepsin. In a nutshell, the above prescription does not represent good practice from any standpoint.

## A LAST PLEA FOR A USEFUL PHARMACOPEIA.

OLIVER T. OSBORNE, M.D.
Professor of Therapeutics at Yale Medical School
NEW HAVEN, CONN.

Shall we have the United States Pharmacopeia up to date and of scientific and therapeutic value, or shall it be a book of ancient drug lore intermixed with drugs of real value?

It is now nearly three years since the Pharmacopeial Convention of 1910, and what has been accomplished? Many of the drugs which have been approved have already been announced, and, as it has wisely been determined that a subject of such wide, almost universal, interest as the United States Pharmacopeia should not be made a secret affair—in other words, that its decisions should be public, what follows is not a breach of confidence. The subject, in every detail, is one of public interest, and, therefore, should be of public knowledge.

In this age of exposure of "patent-medicine" frauds, and the age of education as to the danger of some drugs,

the uselessness of others, and the limitations of all, the people have a right to expect that the next Pharmacopeia will be a book that can be relied on as a standard of purity and of chemical and pharmaceutical perfection in all its drugs and preparations. They have a right to expect that this book will represent the drugs found by medical experts to be of the best therapeutic value at this date, namely, 1913 A. D.

Can there be any other guide for the acceptance of a drug or preparation for officialization in an up-to-date book of this age than that:

1. The drug must have therapeutic value.
2. The drug must be pure.
3. The preparations must be the best.

What, then, determines the best drug? Investigations in the laboratory and clinical experience—and almost every drug that is known to have clinical value shows laboratory activity. If a drug has no activities, or only dangerous activities when used on animals in the laboratory, it is not a drug that should be dignified by recognition in a 1913 book of standard valuable drugs.

### SELECTION OF DRUGS FOR THE PHARMACOPEIA

At the convention in 1910 it was stated that the selection of drugs was peculiarly the duty of physicians, while the selection or determination as to which were the best preparations, and how they should be made, was the duty of the pharmacist. How has this been lived up to?

In the first place, fifty members of the Pharmacopeial Convention were elected a Committee on Revision. Of these fifty, only six are practicing physicians; i. e., only six members of this Committee on Revision are qualified to judge at the bedside of the value of the action of a drug, although several members are medical laboratory men and are well qualified to decide on the activities of drugs.

Next, through the stimulation of various agencies, many of the medical societies of the country appointed special committees who prepared lists of drugs they considered valuable, and of drugs they considered should be omitted from the next Pharmacopeia. These lists, in due time, reached the office of the chairman of the Committee on Revision, Professor Remington, and he, at great office trouble and considerable expense, circularized these lists to the Committee of Fifty.

To show how helpful these lists of drugs were, I will quote the opinion of one member of the Revision Committee, not a physician, concerning them, which was circulated to all of the members of the committee. This circularized opinion (italics mine) is as follows:

> *"The Revision Committee may wisely forget about nine-tenths of the well-meant advice which has come to it . . . .* thankful for the interest shown by an increasing number of physicians."

How many other members of the Committee on Revision agreed with this opinion I am not able to state, but the outcome of the present list of accepted drugs and preparations for the next Pharmacopeia shows that the Executive Committee, the committee of final decision as to what drugs shall appear in the next Pharmacopeia, did not care an iota what drugs these medical societies approved or what they disapproved. In other words, little if any notice was taken of these lists so carefully prepared by some of the medical societies of the country. Those who prepared these lists should know this fact.

The approval by the Executive Committee of drugs of no therapeutic value and their consequent officialization causes them, of necessity, to be described in text-books on materia medica and consequently to be used by physicians. A study of 117,000 prescriptions collected from different parts of the United States showed the number of times therapeutically useless drugs were ordered. The data thus obtained has been used as an excuse for officializing these drugs in the next Pharmacopeia. These will again be copied and described in materia medica books, and the next graduates in medicine will again prescribe these drugs, and the vicious cycle will persist.

A Subcommittee on Scope voted on the drugs of the last Pharmacopeia, as to whether they should be accepted for the next Pharmacopeia or whether they should be omitted. The chairman of this committee dissolved favorably to admission a large number (65) of tied votes. These lists of acceptances and deletions were then sent to the Executive Committee. The Executive Committee is the court of last appeal, and consists of the chairmen of the different subcommittees, fifteen in number. This committee has the power of approving or overruling any decision of the Subcommittee on Scope, and exercised this power liberally. It also did not hesitate to admit some preparations that had never even had the formality of a vote by the Subcommittee on Scope.

### PERSONNEL OF COMMITTEES

Now, who are these members, elected from the convention by accredited delegates from the medical societies, medical colleges, pharmaceutical societies, pharmaceutical colleges and from several departments of the Government of the United States? For our purpose it is not now necessary to enumerate all the members of the Committee on Revision, but only those who constitute the Subcommittee on Scope, and those who constitute the Executive Committee, namely, the chairmen of the fifteen subcommittees.

The Subcommittee on Scope consists of:

| *Name* | *Position Held* |
|---|---|
| S. Solis-Cohen, M.D., Chairman | Prof. Clin. Med., Medico-Chi. Coll. |
| Reid Hunt, M.D. | In Hygienic Laboratory, U. S. P. H. S. |
| Philip Marvel, M.D. | Practicing physician; Trustee A. M. A. |
| O. T. Osborne, M.D. | Prof. Therapeutics, Yale Univ. |
| H. H. Rusby, M.D. | Pharmacologist; Prof., N. Y. Coll. Pharm. |
| Torald Sollmann, M.D. | Prof. Pharmacology, Western Reserve Univ. |
| H. C. Wood, Jr., M.D. | Pharmacologist; Prof. Pharmacology and Thera., Medico-Chi. Coll. |

The Executive Committee consists of:

| | |
|---|---|
| S. Solis-Cohen, M.D. | Prof. Clin. Med., Medico-Chi. Coll. |
| Torald Sollmann, M.D. | Prof. Pharmacology Western Reserve Univ. |
| J. F. Anderson, M. D. | Hygienic Laboratory, U. S. P. H. S., Washington. |
| Henry Kraemer, Ph.D. | Prof. Botany, Phila. Col. of Pharmacy. |
| Charles H. LaWall, Ph.D. | Pharmacist and consulting chemist; Prof. Phila. Coll. of Pharmacy. |
| George D. Rosengarten, Ph.D. | Chemist of Powers-Weightman-Rosengarten Co., mfg. chemists |
| A. D. Stevens, Ph.D. | Pharmacist; Prof. Sc. Pharm., Univ. of Mich. |

H. W. Wiley, M.D., Ph.D.....Chemist; Ex-Chief U. S. Bureau of Chemistry.
G. M. Beringer, Ph.M.....Pharmaeist in retail business.
C. L. Diehl, Ph.M.....Pharmaeist (retired); Emeritus Prof., Louisville Coll. of Pharmaey.
W. C. Alpers, Sc.D.....Pharmacist in retail business.
Otto Raubenheimer, Ph.G.....Pharmaeist in retail business; Editor *Practical Druggist.*
Wilhelm Bodemann, Ph.G.....Pharmaeist in retail business.
A. B. Lyons, A.B., M.D.....Pharm. Chem., with Nelson, Baker & Co., Mfg. Chem.
Chas. Caspari, Jr., Phar. D....Pharmaeist; Prof., Univ. of Md.; Commissioner, Md. State Bd. Health.

Of this "court of last resort" there is one physician who practices at the bedside (Dr. Solis-Cohen), one who is a medical laboratory expert on the activities of drugs (Dr. Sollmann), one who is a drug laboratory expert at the Hygienic Laboratory (Dr. Anderson), and one who is a food and drug expert (Dr. Wiley); the other eleven are interested in some branch of pharmacy. These facts in conjunction with the way some, at least, of the pharmacal members look on recommendations of the medical men will show how much in evidence was the axiom that "physicians should decide what drugs should enter the Pharmacopeia."

At this date the new Pharmacopeia will contain at least 845 drugs and preparations. About half of these are not needed. One hundred and fifty-eight drugs and preparations were recommended for omission from the last Pharmacopeia by the Subcommittee on Scope. Just half of these, namely, seventy-nine, were voted in by the executive committee over the adverse recommendation of the Subcommittee on Scope, and it should be remembered that only one member of this executive committee is a physician practicing at the bedside, and he, in the Subcommittee on Scope, in sixty-five tie-votes, had decided in favor of admitting the drug under discussion. In other words, sixty-five more drugs and preparations would have been deleted by the Subcommittee on Scope had its chairman not voted in their favor, and he still had one more vote coming to him in the Executive Committee decisions.

## USELESS DRUGS ACCEPTED FOR THE NEXT PHARMACOPEIA

It was "love's labor" absolutely "lost" to collect 117,000 prescriptions from all over this country in order to ascertain how many times a given drug or preparation was ordered. How many times a drug or preparation is ordered is no criterion as to its value. Beer is in enormous demand, but it has not yet been shown that it has any medicinal or food value. Is the nutrient value of a food determined by the frequency with which it is used? The turnip is a vegetable that is constantly bought and constantly eaten, but its food value is almost nil. The Pharmacopeia is supposed to be a book of standards for drugs, and each drug should have some valuable activity.

As previously stated, *if a physician desires to order a second-rate drug, he can always obtain it by the standard* (if there was one) *described in the last Pharmacopeia in which it was named.* If this were not a fact, and if it were not a recognized fact, deletions of drugs from previous Pharmacopeias would not have taken place. Such deletions (omissions) have occurred, and a large number of drugs which appeared in the last Pharmacopeia will not appear in the next, according to the approved deletion list of the Executive Committee.

If some drugs have been deleted on account of their lack of value, why may not all drugs which are without value be deleted? The argument of those members of the Revision Committee who desire a large Pharmacopeia is that a drug should be accepted and standardized, if some physicians desire that drug. The same argument would hold good for the very drugs that these men have deleted, and therefore this is an argument of no value for officializing drugs that are worthless.

It should constantly be borne in mind that the greater the number of drugs officialized, the greater the number of preparations that must be made, the greater amount of manufacturing that must be done by the pharmaceutical houses, and the greater the amount of buying that must be done by the retail druggist; in other words, the decision as to whether a useless drug shall enter the Pharmacopeia or not, is a commercial one. Will the medical men of the country stand for commercialism as determining whether or not a substance shall be officialized in the next Pharmacopeia, a supposed book of dependable values of useful drugs?

The following useless drugs and their preparations have been accepted at this date, April, 1913, for the Ninth Decennial Revision of the United States Pharmacopeia. It is, of course, supposable that many physicians will disagree with me in considering these drugs as of little value. Will anyone assert that any one of them is needed to cure a patient of an ailment, or to treat a condition, that may not be better treated by more active drugs?

Anthemis (Chamomile)
Arnica
  Tinctura Arnicae
Berberis (Oregon Grape Root)
  Fluidextractum Berberis
Calendula (Marigold)
  Tinctura Calendulae
Calumba (Calumbo)
  Fluidextractum Calumbae
  Tinctura Calumbae
Cannabis Indica (Indian Hemp)
  Extractum Cannabis Indicae
  Fluidextractum Cannabis Indicae
  Tinctura Cannabis Indicae
Chondrus (Irish Moss)
Cimicifuga (Black Snakeroot)
  Extractum Cimicifugae
  Fluidextractum Cimicifugae
  Tinctura Cimicifugae
Condurango
Convallaria (Lily of the Valley)
  Fluidextractum Convallariae
Crocus (Saffron)
Eriodictyon (Yerba Santa)
  Fluidextractum Eriodictyi
  Fluidextractum Eriodictyi Aromaticum
Frangula (Alder Buckthorn)
  Fluidextractum Frangulae
Gambir (Pale Catechu)
  Tinctura Gambir Composita
Gossypii Cortex (Cotton Root Bark)
  Fluidextractum Gossypii Corticis
Grindelia
  Fluidextractum Grindeliae
Guaiacum (Guaiac)
  Tinctura Guaiaci
  Tinctura Guaiaci Ammoniata
Haematoxylon
  Extractum Haematoxyli
Hydrastis (Goldenseal)
  Fluidextractum Hydrastis
  Glyceritum Hydrastis
  Tinctura Hydrastis
Kino
  Tinctura Kino
Krameria (Rhatany)
  Fluidextractum Krameriae
  Tinctura Krameriae
Lactucarium
  Syrupus Lactucarii
  Tinctura Lactucarii
Leptandra (Culver's Root)
  Extractum Leptandrae
  Fluidextractum Leptandrae
Lupulinum
  Fluidextractum Lupulini
  Oleoresina Lupulini
Matricaria (German Chamomile)
Mezereum
  Fluidextractum Mezerei
Moschus (Musk)
  Tinctura Moschi
Oleoresina Petroselini (Parsley) (Apiol)
Oleum Hedeomae (Oil of Pennyroyal)
Pareira
  Fluidextractum Pareirae
Phytolacca (Poke)
  Fluidextractum Phytolaccae
Pyrethrum (Pellitory)
  Tinctura Pyrethri
Quassia (Bitterwood)
  Tinctura Quassiae

Quillaja (Soapbark)
  Tinctura Quillajae
Rhus Glabra (Sumach)
  Fluidextractum Rhois Glabrae
Sabal (Saw Palmetto)
  Fluidextractum Sabal
Sanguinaria (Bloodroot)
  Tinctura Sanguinariae
Sarsaparilla
  Fluidextractum Sarsaparillae
  Fluidextractum Sarsaparillae Compositum
Senega (Senega Snakeroot)
  Fluidextractum Senegae
  Syrupus Senegae
Serpentaria (Virginia Snakeroot)
  Fluidextractum Serpentariae
  Tinctura Serpentariae
Staphisagria (Stavesacre)
  Fluidextractum Staphisagriae
Stillingia (Queen's Root)
  Fluidextractum Stillingiae
Sumbul
  Extractum Sumbul
  Fluidextractum Sumbul
Taraxacum (Dandelion)
  Extractum Taraxaci
  Fluidextractum Taraxaci
Triticum (Couch Grass)
  Fluidextractum Tritici
Uva Ursi (Bearberry)
  Fluidextractum Uvae Ursi
Xanthoxylum (Prickly Ash)
  Fluidextractum Xanthoxyli
Zea (Corn Silk)
  Fluidextractum Zeae

There is no good proof that hydrastis preparations have any special action on mucous membranes when used externally. There seems to be no good excuse for giving the disagreeable hydrastis preparations internally for action on the stomach.

Cannabis indica is a drug that varies greatly in strength, and its preparations rapidly deteriorate. Its action is therefore very uncertain, and therapeutically it is doubtful if cannabis indica is of any value, unless a too large dose of a strong preparation is given.

### DRUGS AND PREPARATIONS THAT ARE DELETERIOUS

The following should not be officialized:

Veratrin and oleate of veratrin are dangerous.

Linimentum belladonnae is dangerous. The amount of absorption is uncertain.

Troches of potassium chlorate should not be officialized, as saliva mixed with potassium chlorate should not be swallowed. Potassium chlorate should never be given internally, in my opinion. It can cause severe irritation and even ulceration of the stomach, and kidney irritation and inflammation.

Dilute hydrocyanic acid should not be officialized, as it has no action whatever unless the dose is large, and then its action is dangerous.

### RAPIDLY DETERIORATE

The following are a few of the preparations which rapidly deteriorate, and hence should not be officialized:

Acidum Hydriodicum Dilutum
  Syrupus Acidi Hydriodici Dilutum
Acidum Hypophosphorosum
Acidum Nitrohydrochloricum Dilutum
Aqua Aurantii Florum
Aqua Aurantii Florum Fortior
Aqua Rosae
Aqua Rosae Fortior
Mucilago Acaciae
Mucilago Sassafras Medullae
Syrupus Aurantii
Syrupus Aurantii Florum

### INFERIOR PREPARATIONS

If the selection of a drug or preparation were left to the layman who must take the medicine, it is presumptive that he would select the most active, other things being equal, of the drugs or preparations of the class that he needed. The same must be true of the physician writing the prescription. Hence why should we standardize and officialize preparations of a second-rate drug? The following drugs have been accepted for the new Pharmacopeia, though they are pharmacologically and therapeutically inferior to other drugs which act similarly. I realize, of course, that many physicians will find many points of difference in opinion in regard to the individual drugs and preparations, but as a class each reader will certainly decide against these drugs and preparations, if he is familiar with the pharmacology of these and better drugs. While many of these drugs have activities, they are inferior to other drugs and preparations of the same class.

Acetum Scillae (Vinegar of Squill)
Ammonii Bromidum
Ammonii Iodidum
Ammonii Salicylas
Bismuthi et Ammonii Citras
Calcii Bromidum
Cambogia (Gamboge)
Camphora Monobromata
Carbo Animalis Purificatus (Purified Animal Charcoal)
Ceratum Plumbi Subacetatis (Goulard's Cerate)
Cerii Oxalas (Cerium Oxalate)
Infusum Pruni Virginianae
Liquor Acidi Arsenosi
Liquor Arseni et Hydrargyri Iodidi
Liquor Hydrargyri Nitratis
Liquor Ferri Subsulphatis (Monsell's Solution)
Liquor Zinci Chloridi (Solution of Zinc Chlorid)
Magnesii Oxidum Ponderosum (Heavy Magnesium Oxid)
Cinchoninae Sulphas
Euonymus (Wahoo)
  Extractum Euonymi
Extractum Quassiae
Fluidextractum Cinchonae
Fluidextractum Digitalis
Fluidextractum Gentianae
Fluidextractum Rosae
Glyceritum Amyli (Glycerite of Starch)
Glycyrrhizum Ammoniatum (Ammoniated Glycyrrhizin)
Guarana
  Fluidextractum Guaranae
Oleatum Quininae (Oleate of Quinin)
Oleum Picis Liquidae (Oil of Tar)
Pilocarpinae Nitras
Quinina
Sodii Acetas
Sodii Chloras
Sodii Phosphas Exsiccatus
Styrax
Sulphonmethanum
Syrupus Rosae
Zinci Acetas

### UNNECESSARY OFFICIALIZATION

The following drugs have been accepted for the Pharmacopeia in two forms, or several of the same group have been accepted, though their activities are so similar that reduplication seems unnecessary. Although not listed here, the preparations of many of the drugs are too many. Where several preparations of a drug are offered, one or more of them is superfluous. The careless redundancy of the Executive Committee is shown by the fact that it has officialized in its last approved list, March, 1913, *scopolamin hydrobromid* and *hyoscin hydrobromid,* though they are commercially, pharmacally and therapeutically identical. Following are a few unnecessary redundancies:

Belladonnae Folie (Belladonna Leaves)
Belladonnae Radix (Belladonna Root)
Colchici Cormus (Colchicum Root)
Colchici Semen (Colchicum Seed)
Cinnamomum Saigonicum
Cinnamomum Zeylanicum

Hyoscyamus
  Fluidextractum Hyoscyami
  Tinctura Hyoscyami
Stramonium
  Tinctura Stramonii
  Unguentum Stramonii

} These drugs are so similar to belladonna that there seems to be no reason for officializing them and their preparations.

Hamamelidis Cortex (Witchhazel Bark)
Hamamelidis Folia (Witchhazel Leaves)
Hyoscinae Hydrobromidum
Scopolaminae Hydrobromidum
Liquor Potassii Arsenitis (Solution of Potassium Arsenite)
Liquor Sodii Arsenitis (Solution of Sodium Arsenite)
Viburnum Opuli (Cramp Bark)
Viburnum Prunifolium (Black Haw Viburnum)



Fig. 1. National Guard Armory, where the President's Reception and the Ball will be held.

# THE MINNEAPOLIS SESSION

AMERICAN MEDICAL ASSOCIATION, SIXTY-FOURTH ANNUAL SESSION, MINNEAPOLIS, JUNE 17-20, 1913

## OFFICIAL CALL

### TO THE OFFICERS AND MEMBERS OF THE CONSTITUENT ASSOCIATIONS OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-fourth annual session of the American Medical Association will be held at Minneapolis.

The House of Delegates will convene at 10 a. m., Monday, June 16. In the House the representation of the various constituent associations for 1912 is as follows:

| | | | |
|---|---|---|---|
| Alabama | 3 | Montana | 1 |
| Arizona | 1 | Nebraska | 2 |
| Arkansas | 2 | Nevada | 1 |
| California | 3 | New Hampshire | 1 |
| Canal Zone | 1 | New Jersey | 3 |
| Colorado | 2 | New Mexico | 1 |
| Connecticut | 2 | New York | 11 |
| Delaware | 1 | North Carolina | 2 |
| District of Columbia | 1 | North Dakota | 1 |
| Florida | 1 | Ohio | 6 |
| Georgia | 3 | Oklahoma | 2 |
| Hawaii | 1 | Oregon | 1 |
| Idaho | 1 | Pennsylvania | 9 |
| Illinois | 9 | Rhode Island | 1 |
| Indiana | 4 | South Carolina | 1 |
| Iowa | 3 | South Dakota | 1 |
| Kansas | 2 | Tennessee | 2 |
| Kentucky | 4 | Texas | 5 |
| Louisiana | 2 | Utah | 1 |
| Maine | 1 | Vermont | 1 |
| Maryland | 2 | Virginia | 3 |
| Massachusetts | 5 | Washington | 2 |
| Michigan | 4 | West Virginia | 1 |
| Minnesota | 2 | Wisconsin | 3 |
| Mississ'ppi | 2 | Wyoming | 1 |
| Missouri | 5 | | |

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The general meeting, which constitutes the opening exercises of the scientific program of the Association, will be held at 10:30 a. m., Tuesday, June 17. The various sections will meet Tuesday at 2 p. m., and subsequently, according to their programs, on Wednesday and Thursday, June 18 and 19, and in some cases also on Friday morning, June 20.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 16, 17, 18 and 19, and from 9 to 10 a. m., on Friday, June 20.

ABRAHAM JACOBI, President.
ALEXANDER R. CRAIG, Secretary.

### THE MEMBERS OF THE HOUSE OF DELEGATES

**A Preliminary Roster of the Legislative Body of the American Medical Association**

The list of members of the House of Delegates for the session is incomplete, as a number of state societies are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members who have been reported to THE JOURNAL in time to be included:

*STATE DELEGATES*

ALABAMA
W. H. Sanders, Montgomery.
Seale Harris, Mobile.
E. D. Bondurant, Mobile.

ARKANSAS
Morgan Smith, Little Rock.

CALIFORNIA
George H. Kress, Los Angeles.
George A. Hare, Fresno.
V. G. Vecki, San Francisco.

CANAL ZONE
W. C. Gorgas, Ancon.

COLORADO
Hubert Work, Pueblo.
W. A. Jayne, Denver.

CONNECTICUT
E. J. McKnight, Hartford.
D. Chester Brown, Danbury.

DELAWARE
Henry J. Stubbs, Wilmington.

DISTRICT OF COLUMBIA
G. Wythe Cook, Washington.

FLORIDA
Joseph Y. Porter, Key West.

GEORGIA
T. J. Charlton, Savannah.

IDAHO
J. N. Alley, Fort Lapwai.

ILLINOIS
A. L. Brittin, Athens.
A. C. Cotton, Chicago.
W. L. Noble, Chicago.
John A. Robison, Chicago.
J. T. Montgomery, Charleston.
E. W. Fiegenbaum, Edwardsville.

INDIANA
J. Rilus Eastman, Indianapolis.
Edwin Walker, Evansville.
F. B. Wynn, Indianapolis.
C. S. Bond, Richmond.

IOWA
L. W. Littig, Davenport.
N. M. Voldeng, Cherokee.

KANSAS
J. T. Axtell, Newton.

KENTUCKY
W. W. Richmond, Clinton.
J. W. Ellis, Masonville.
J. W. Kincaid, Catlettsburg.
A. T. McCormack, Bowling Green.

MAINE
E. H. Bennett, Lubec.

MARYLAND
G. Lane Taneyhill, Baltimore.
R. B. Warfield, Baltimore.

MASSACHUSETTS
H. D. Arnold, Boston.
H. G. Stetson, Greenfield.
H. W. Van Allen, Springfield.
Hugh Cabot, Boston.
C. P. Hooker, Springfield.

MICHIGAN
E. T. Abrams, Dollar Bay.
F. C. Warnshuis, Grand Rapids.
Louis J. Hirschman, Detroit.
C. E. Boys, Kalamazoo.

MINNESOTA
R. C. Dugan, Eyota.
Thomas McDavitt, St. Paul.

MISSISSIPPI
D. J. Williams, Gulfport.
S. W. Glass, Lyon.

MISSOURI
C. R. Woodson, St. Joseph.
A. W. McAlester, Jr., Kansas City.
H. L. Reid, Charleston.

MONTANA
Donald Campbell, Butte.

NEBRASKA
A. D. Nesbit, Tekamah.

NEVADA
Benjamin F. Cunningham, Reno.

NEW HAMPSHIRE
John Z. Shedd, North Conway.

NEW JERSEY
William S. Lalor, Trenton.

NEW MEXICO
S. D. Swope, Deming.

NEW YORK
William D. Johnson, Batavia.
Grant C. Madill, Ogdensburg.
Dwight H. Murray, Syracuse.
Wendell C. Phillips, New York City.
James P. Warbassee, Brooklyn.

NORTH CAROLINA
J. Howell Way, Waynesville.
H. A. Royster, Raleigh.

OHIO
C. L. Bonifield, Cincinnati.
W. J. Means, Columbus.
August Rhu, Marion.
H. C. Haning, Dayton.

OKLAHOMA
J. H. White, Muskogee.

OREGON
K. A. J. MacKenzie, Portland.

PENNSYLVANIA
George W. Guthrie, Wilkes-Barre.
Theodore B. Appel, Lancaster.
John B. Lowman, Johnstown.
M. Howard Fussell, Philadelphia.
Luther B. Kline, Catawissa.
Thomas D. Davis, Pittsburgh.
W. Rowland Davies, Scranton.
Wm. T. Hamilton, Philadelphia.
John B. McAlister, Harrisburg.

RHODE ISLAND
John Champlin, Westerly.

TENNESSEE
A. B. Cooke, Nashville.
S. M. Miller, Knoxville.

TEXAS
W. B. Russ, San Antonio.

UTAH
S. G. Kahn, Salt Lake City.

VERMONT
J. N. Jenne, Burlington.

VIRGINIA
William E. Anderson, Farmville.
John S. Davis, University.

WASHINGTON
J. E. Else, Pullman.
L. L. Love, Tacoma.

WEST VIRGINIA
P. A. Haley, Charleston.

WISCONSIN
J. J. McGovern, Milwaukee.
J. F. Pember, Janesville.
Rock Sleyster, Waupun.

WYOMING
M. A. Newell, Sheridan.

## *DELEGATES FROM THE SECTIONS*

PRACTICE OF MEDICINE
Joseph A. Capps, Chicago.

SURGERY
W. LeMoyne Wills, Los Angeles.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY
Thomas S. Cullen, Baltimore.

OPHTHALMOLOGY
Thomas A. Woodruff, Chicago.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
Chevalier Jackson, Pittsburgh.

DISEASES OF CHILDREN
Charles Douglas, Detroit.

PHARMACOLOGY AND THERAPEUTICS
Torald Sollmann, Cleveland.

PATHOLOGY AND PHYSIOLOGY
Yandell Henderson, New Haven, Conn.

STOMATOLOGY
G. V. I. Brown, Milwaukee, Wis.

NERVOUS AND MENTAL DISEASES
E. B. Angell, Rochester, N. Y.

DERMATOLOGY
Frank C. Knowles, Philadelphia.

PREVENTIVE MEDICINE AND PUBLIC HEALTH
M. P. Ravenel, Madison, Wis.

HOSPITALS
Fred A. Washburn, Boston.



Fig. 2.—View of milling district, on the banks of the Mississippi River. Many of these views of Minneapolis and vicinity are from copyrighted photographs by Sweet of Minneapolis, to whose courtesy we are indebted.

# THE CITY OF MINNEAPOLIS

**Meeting-Place of the Sixty-Fourth Annual Session of the American Medical Association**

Minneapolis has not heretofore entertained the American Medical Association, but she has achieved a high reputation as a convention city, and her people await the opportunity to open wide her gates to a new visitor and to add another wreath to the laurels which, as a civic hostess, she has already won.

Minneapolis is well-fitted for the pleasurable task, and the presence of the university solves the problem of halls for the general sessions, for the scientific and commercial exhibits and for registration purposes, together with commodious gathering-places for the sections of the Association, located within a half-mile radius.

The sister-city of St. Paul stands ready to assist in the accommodation and entertainment of the guests. Since the university campus lies close to the midway district and is almost equally accessible from each city, visitors will be conveniently housed in either place.



Fig. 3.—A group of Minneapolis hotels: the Plaza, above; the Radisson, left; the Andrews, center; and the Leamington, below. A list of hotels, addresses and rates is found on a later page of this issue.

### HISTORICAL INCIDENTS

If the city of Minneapolis is not old enough to cherish many traditions, her history is not without its touches of romance. Radisson and Grosilliers, *courriers des bois*, who crossed the site of the city between 1660 and 1665, did not realize that they were the vanguard of a great civilization. Father Louis Hennepin, who, twenty years later, discovered the great falls of the Mississippi and named them after his patron saint of Padua, did not imagine, as he blessed the waters of the Falls of St. Anthony, that their funded power was destined to turn the wheels of the greatest flour-mills in the world—mills which would grind the bread of continents.

Jonathan Carver who, a century later, in the year of the country's independence, found the same Indian tribes that had befriended Hennepin hunting the streams and forests of this plateau, did not foresee that his own name and that of his predecessor would identify the neighboring counties of a populous state, which would form the setting of a great city.

Lieut. Zebulon M. Pike, who, in 1805, bought from the Indians a military reservation, known then as Fort St. Anthony, and including the smaller acreage of the present Fort Snelling, did not know that he was buying up half the limits of the future metropolis of the Northwest. It was undoubtedly the fact of that purchase which drew to the spot the men who founded the city.

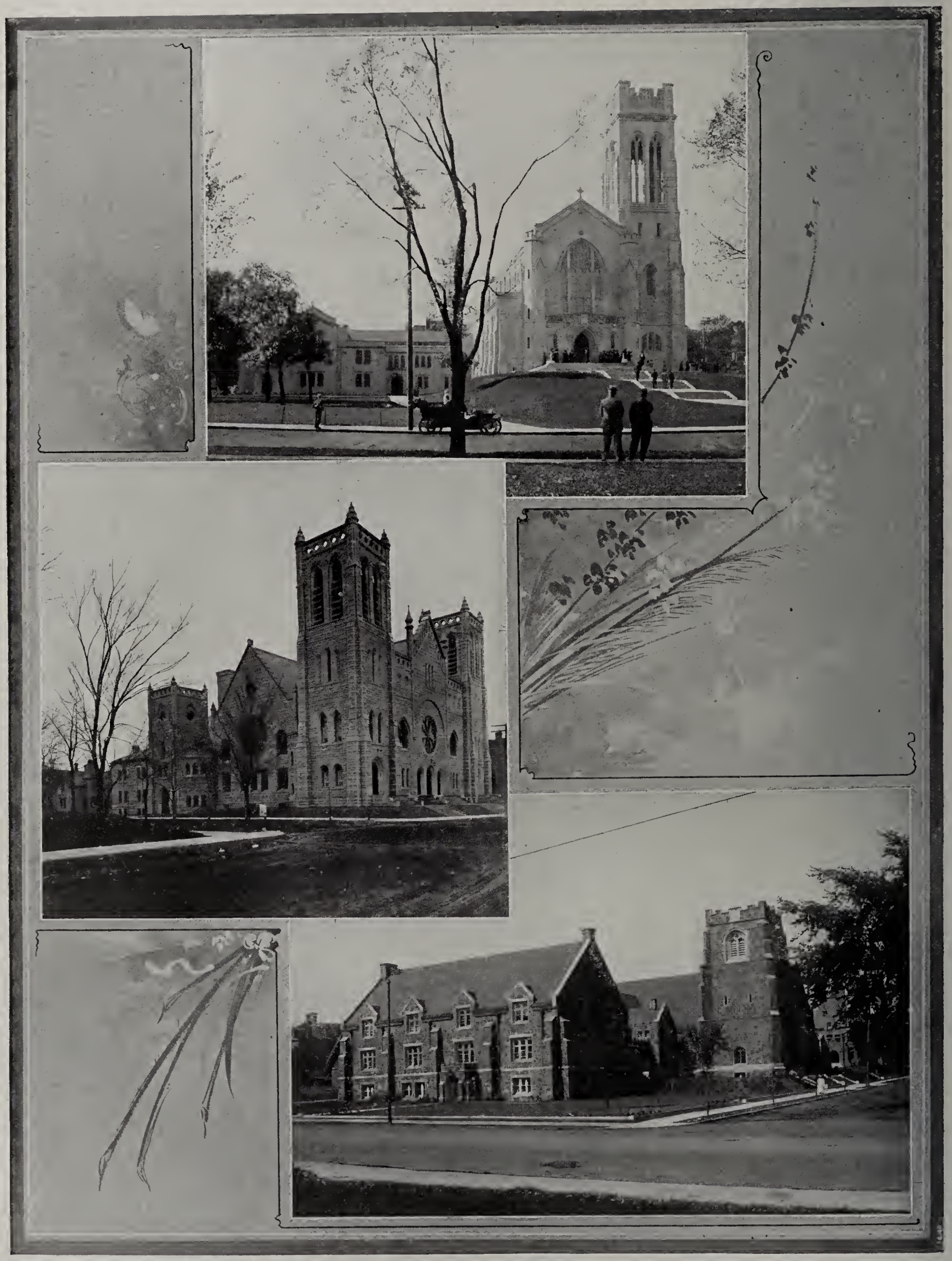


Fig. 4.—A group of Minneapolis churches: St. Mark's, above; Westminster, center; Plymouth Congregational, below.



Fig. 5.—A group of Minneapolis schools: Augsburg Seminary, above; New Central High School, center; West High School, below.

On a great boulder, by the foot of a hill near Lake Harriet, is placed a bronze tablet which marks the neighboring point on which Samuel and Gideon Pond, missionaries to the Minnesota Indians, built the mission-house, in 1834, which served as the first dwelling-place of white men within the present boundaries of Minneapolis. It was in 1850 that Col. John H. Stevens, the first citizen of the town of those early days, built his home on the west bank of the river, where the first white child of the place was born.

In the year 1855 the village of St. Anthony, now the east side of Minneapolis, was incorporated; in 1856, the village on the west side followed suit; while in 1872, the two, grown to the stature of small cities, were united and the present corporation was formed.



Fig. 6.—The Public Library, above; Minneapolis Art Museum, center; Pillsbury Public Library, below.

### POPULATION

The combined population of 20,000 of that day had gradually grown to 46,000 in 1882, when the western boom fever struck the city and rapidly doubled and trebled its former numbers. From that time on, until the present, the growth of Minneapolis has been of that normal progressive quality which marks the development of the permanently great city. The latest government estimate, based on the census of 1900, numbers 325,000 people.

### THE BANKS

Commercial prosperity is commonly measured in banking terms. Twenty commercial banks, in addition to a larger number of private banking institutions, show combined annual deposits of $116,000,000, while the clearing-house exchanges represent the handling of $1,200,000,000 during the past year.

### THE MILLING INDUSTRY

The mills of Minneapolis have made the name and the fame of the city travel far. Flour mills, individually the most extensive in area of any under single roof and, collectively, of largest efficiency of any in the world, are twenty-three in number and have an average daily capacity of 84,000 barrels of flour, or an actual output for the past year, of 17,000,000 barrels. These great industries are always open to the inspection of visitors and always attract the sightseer.

### MANUFACTURERS

While the water-power of the Mississippi was initially the basis of the city's growth as a great manufacturing center, that power has been transformed, in later years, in large measure, into electrical energy and has been supplemented in this-

task by the power of the St. Croix River, developed at Taylor's Falls, 41 miles distant, and carried to Minneapolis in the form of an electrical supply of 55,000 voltage. Thus water, steam and electricity combine to maintain the mills and manufactories of the city.

On the river, below the Tenth Avenue Bridge, is to be seen the power plant of the Twin City Rapid Transit Company, whence is delivered the energy that electrifies the entire street-car system.

The city's manufactures cover a large field of industrial enterprise, including flour, cereals, stock foods, machinery, furniture, lumber, agricultural implements, gas tractors, threshing machines, grain separators, wagons, auto-trucks, barrels, boilers, brick, bed-springs, wheelbarrows, linseed oil, paint, knit goods, cigars, shoes, clothing, bags, stationery, mattresses, hats, caps, gloves, etc., representing a total output valued at $200,000,000 a year.

### THE MINNEAPOLIS JOBBERS

Minneapolis is a widely distributing center of trade. Her wholesalers cover a large area of the West and Northwest and she keeps an army of drummers in the field. The wholesale business of the city totals $350,000,000 a year.

### RAILROAD TERMINALS

The city's functions as a trade-distributing center may be further measured by the radii which her railways put forth. The close relations of the Twin Cities necessitate the sharing of the terminal facilities of the carrying roads. Nine of these termina's are in Minneapolis, while twenty-six railway lines enter and leave the city. A new union station is in process of construction, and the city hopes to effect an arrangement by which all entering roads will use the same or immediately neighboring stations.

A bill has just passed the Minnesota legislature, providing for the creation of a commission to make and submit plans for this station to the State Railway and Warehouse Commission, and authorizing the appointment of a later commission to take charge of building the station and constructing the terminals.

### THE HEAD OF NAVIGATION AND THE HIGH DAM

With the passage of acts of Congress providing for the erection of the Mississippi high dam, which is approaching completion, and for the making of a 6-foot river channel well up into the heart of the city, the vision of the immediate future brings significant possibilities into its foreground. Minneapolis will be, in truth, the head of navigation, with an excellent inland harbor, and she will share in the greater treasury of water-power which this project will make available to her and to the state university, which is building its new power plant on the banks of the river.

State legislative provision has been made for establishing municipal terminals of modern type and equipment, for the economical handling of freight; and business men of the city are purchasing stock in a navigation company which is preparing to engage in river traffic as soon as these terminals are ready for use. The larger shippers of the city are enthusiastic over the development of water transportation, and an informal census has brought, from a few of them, pledges of more than 500,000 tons of south-bound freight per annum, which they will forward by the river as soon as the means are provided.

Minneapolis intends to utilize the new method of river transportation consisting of a power vessel drawing trains of unit barges with a displacement of 1,000 tons each.



Fig. 7.—The rotunda of the Minnesota state capitol building at St. Paul, and some Minneapolis buildings: Metropolitan Life building, left; Minneapolis Club, right; First National Bank, below.

### THE STREET AND SUBURBAN RAILWAYS

Minneapolis has been fortunate in her electric transit system. Under the guiding direction of the city council this system, which now covers 177.5 miles of trackage, is in process of extension for the still better relation of the remoter districts to the civic center. It is to be accounted the most potent single agency in the promotion of the great movement of the people of the city "back to the nearer soil." A veritable chain of suburbs is ringing the city around with country homes to which her great army of workers is finding ever readier access. Numerous cars carry the people to the neighboring lakes within the city limits. Four interurban lines link the Twin Cities and are serving to develop a populous midway district. Suburban trolley-roads extend to Stillwater, including White Bear Lake *en route*, to

the neighboring villages of Hopkins and St. Louis Park, and to Deephaven, Excelsior and Tonka Bay, on beautiful Lake Minnetonka, the city's choicest suburban asset.

A fleet of lake steamers connects with suburban trains, the boats making hourly trips to scheduled points on the lake. Under the favoring influence of this system of suburban travel, large numbers of homes for permanent and summer residences are springing up around this beautiful sheet of water and along the routes by which it is reached.

### THE CITY'S ARCHITECTURE

Minneapolis is growing through that trying period in the evolution of a great city when the transitory passes into the permanent and when growing civic taste embodies itself in better and more comely architectural forms. Her great office buildings and warehouses, her university and school-buildings, her halls of art and music, and her homes of every type are responding to the impetus of a newly awakened sense of civic beauty. The extent and measure of her growth may be judged commercially by the sum of the building permits, amounting to over $14,000,000, issued in the past year. Notable structures recently completed or in process of building are the Radisson and the Dyckman hotels, the Hotel Leamington—a splendidly appointed family house—St. Mark's Church, Plymouth Church, the Pro-Cathedral, the Hennepin Avenue M. E. Church, the Art Museum, the new Central High School, the gymnasium

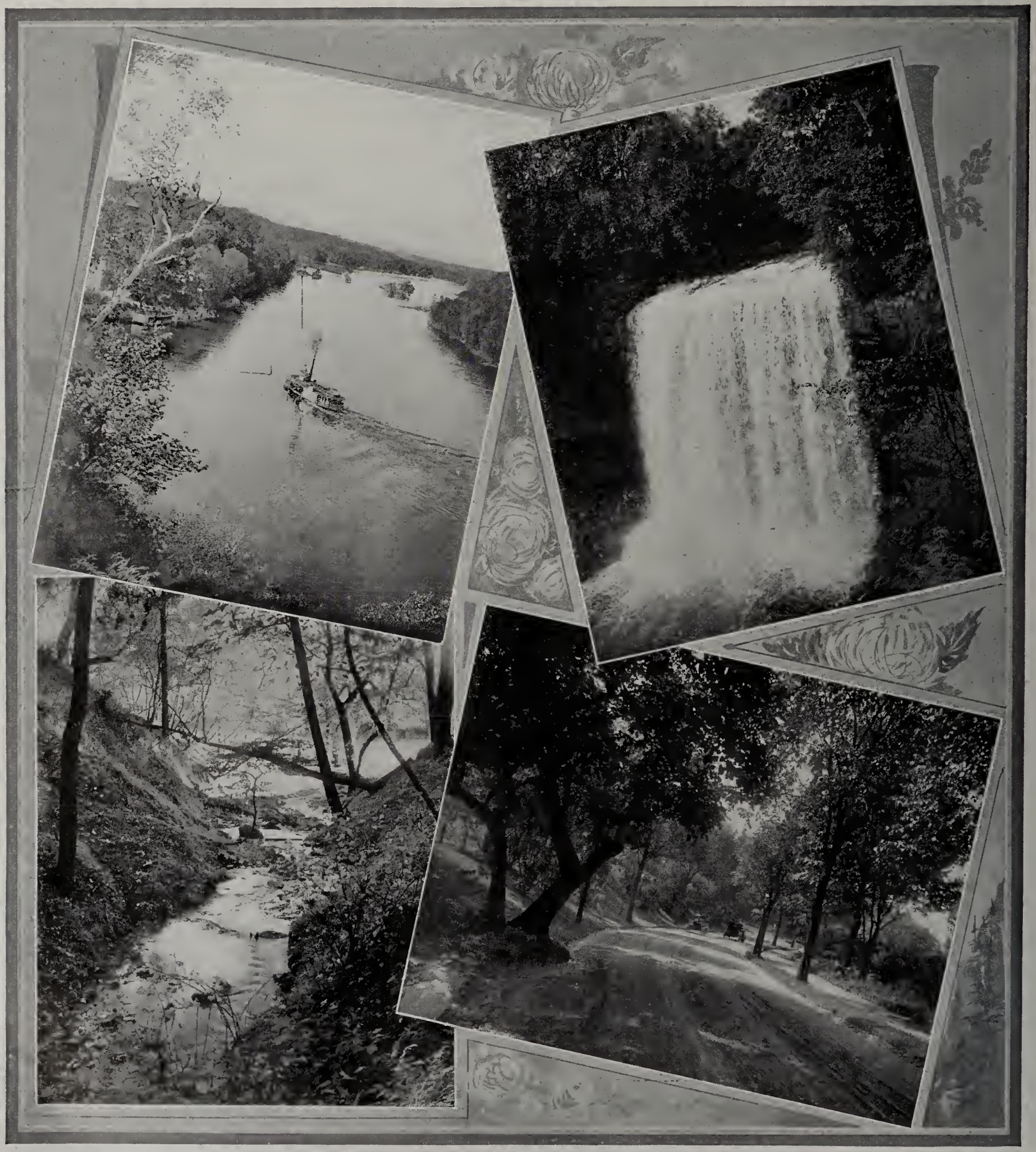


Fig. 8.—Park and water scenes about Minneapolis: view of the Mississippi River and Minnehaha Falls, above; below, a brook on the grounds of the Minnesota Auto Club and Minnehaha Boulevard Drive.

of the Minneapolis Club, the Elks' Club, the Shubert Theater, the new post-office and the new, so-called, Union Station. Minneapolis real estate prices are admittedly much lower than in any other city of her population, affording a fine opportunity for safe and profitable investment. There were 41,407 real estate transfers in 1912, totaling over $34,000,000 in value.

### THE SCHOOLS

No better gage of the civic progress of a community can be set than that which marks its ideal of cultural values. A public-school system which occupies seventy grade schools and five high schools, employs 1,150 teachers and enrolls 47,127 pupils, with 5,000 additional students in night schools, measures up well to the sum of the city's population.

The best of school-buildings, put to the best and the largest uses; a modern curriculum, framed on the "six-three-and-three" year plan; securing the symmetrical development of the child, offering early differentiations in training, and efficiently preparing boys and girls for the life-work they elect to follow; the payment of higher salaries to better teachers are the aims or the achievements of the progressive men and women who have this school-system in their care.



Fig. 9.—Some Minneapolis hospitals: Combined City Hospital with Elliott Hospital, above; Northwestern Hospital, center; City Hospital, below.

An open-air school has recently been established, and others are to follow. The fresh air method within the schoolroom has been adopted in certain buildings; two schools for stammerers and one for subnormal children, in charge of specialists, are maintained. The ideal of the school as a social center is generally accepted by the people.

Health inspection is a permanent feature of the school management under the control of the Board of Education. A supervisor of school hygiene, a medical officer of expert training in his field, is employed, who has a corps of nine physicians and nineteen trained nurses in daily inspection service, and who acts as sanitary advisor to the board in all matters of construction or operation relating to health. The service aims not only at the early detection and control of contagious disease, but also at the discovery and removal of defects which prejudice health and bar school progress. It is maintained at a cost of $22,000.

School maintenance costs the city $1,980,000 a year, and in the past biennium $2,500,000 have been spent in new or enlarged buildings, to which $1,500,000 will be added for the ensuing two years.

The twenty-seven parochial and private schools of the city have an enrolment of 5,000 students.

### THE CHURCHES

Minneapolis is a city of churches. A bird's-eye view shows it dotted with over two hundred spires, rising, many of them, from beautiful edifices with a total seating capacity which provides for half of the city's population. More and more, the churches tend to take on an institutional quality and to devote their property to social, as well as to purely religious uses.

### LIBRARIES

That Minneapolis is, in unusual measure, a community of readers is attested by the growth of her public library system. A main library building, with eleven branches and 107 deposit stations, including schools, shops and factories, provides 256,000 volumes and has an annual circulation covering 1,320,000 issues of books. Reading-rooms, museum and art collections, attached to the library, entertain large numbers of the people. The Minneapolis Bar Association maintains a large law collection, and the Hennepin County Medical Society has an extensive library suitably housed on the eleventh floor of the Donaldson Building, on the corner of Nicollet Avenue and Seventh Street, an office-building devoted to doctors.

Further reference will be made to the university libraries.

### MUSIC

Few places in Minneapolis are more popular than is the Auditorium, a fine music-hall, with a sufficient stage capacity for oratorios, operettas and the like. Nowhere has a higher order of entertainment been found.

The Auditorium has been the home of the larger musical organizations and, particularly, of the Minneapolis Symphony Orchestra. No influence on the public life of the city has been so potent as that of this remarkable orchestra, led by its remarkable conductor, Emil Oberhoffer, in cultivating the good taste of the community for the finer arts. The fame of this

orchestra is not local, however. It has won for itself a place in the hearts of music-lovers throughout the country.

### ART MUSEUMS

The Minneapolis Fine Arts Society has served for many years as the leaven of art culture amid the mass of a busy people devoted largely to commercial pursuits. It has fostered exhibits, promoted lecture-courses and maintained studios for teaching purposes, through the faith in a growing appreciation of art for art's sake among the people. It is about to see of the travail of its social soul. A great art museum, the foundation for which was laid in a recent gift, by the late Clinton Morrison, of a block of land valued at $250,000, the realization of which was secured by a fund of $550,000 subscribed by 225 citizens, is arising on its admirably chosen site. The first section of the building which this fund will provide for will now be completed, but the finished plan calls for an ultimate total expenditure of $3,000,000. The museum, now in course of construction, is after the plans by McKim, Mead and White, of New York; it is 320 feet long and 82 feet deep and is in Vermont granite. It will house the Minneapolis Fine Arts Society and its art schools and will provide ample room for permanent and movable exhibits.



Fig. 10.—The State and County Hospital at St. Paul.

Not least among the educational factors in the attainment of this result, has been the Walker Art Gallery, maintained for many years at the home of T. B. Walker, and freely thrown open to the public. There are few art collections in the country that will vie with this private museum. The city's guests are especially invited to its enjoyment.

The Handicraft Guild is an industrial and art enterprise which is exercising a fine educational influence in the community. It maintains a school of applied arts; it puts its art products within reach of the people; it serves as a social center and as a gathering place for women's clubs and small parties.

### SOCIAL FORCES

Minneapolis is well provided with clubs and club-houses, which minister to the social, recreational, athletic, commercial, educational and economic welfare of their members and of the public. The Minneapolis Club, the University Club, the Commercial Club, the Athletic Club, the Elks' Club and the Odin Club touch the life of the men of the community at various points. The Woman's Club, here as elsewhere, is a comprehensive body alike in membership and in manifold interests, and is more or less directly associated with other and more specialized societies of women. It has been a potent influence for public good in the affairs of the city. The Thursday Musicale is a large organization which has developed the love and the patronage of music in the community in notable measure.

Social-settlement workers find in so large a city as Minneapolis an ample field of service. Pillsbury House at the south end, Unity Settlement House at the north end and Wells Memorial House near the city's center serve the purposes of neighborhood clubs, and afford educational and recreational activities for large groups of people. They maintain kindergartens, day nurseries, classes in domestic training, reading-rooms and lecture-courses.

The Associated Charities is in the twenty-sixth year of a very useful life. It employs twenty-seven agents in relief work, maintains active employment bureaus and does much to systematize and direct social justice to the unfortunate. Contributions to its support aggregate $45,000.

The visiting nurses' department of the charities is finely organized and is doing effective sanitary and remedial service. It sustains a corps of twelve nurses in constant employ.

Not the least of the agencies of social betterment is the patrol limits law which, for a quarter of a century, has kept the retail liquor traffic within restricted bounds in the downtown area, protects the school-building from the near neighborhood of the saloon, and puts within reach of police centers the places where liquor is legally sold.

### SANITARY RESOURCES

By grace of a marvelous climate, Minneapolis boasts a death-rate of 10.44 per thousand—lower than that of any similarly large city in the world. A broad area for the housing of her people, the dry and invigorative atmosphere they breathe, a generous measure of sunshine, an annual precipitation of but 29.35 inches, an average winter temperature of 17 F. and an average summer mark of 70.5, an easy opportunity of reaching country air and recreation, and a play-ground system which is freely used are the major factors in the sum of these sanitary statistics.



Fig. 11.—The Medical Building of the University of Minnesota.

### THE PUBLIC WATER-SUPPLY

Minneapolis has been recently emancipated from the alternatives of danger from a polluted water-supply or of thraldom to the spring-water companies. After years of agitation, a Citizens' Pure Water Commission was appointed about three years ago, and on the strength of its reports, experts were



Fig. 12.—A group of buildings of the University of Minnesota: Mechanical Engineering building, above; New Millard Hall, left, center; Pillsbury Hall, left, below; Anatomy building, right above; Law School, left, center; Folwell Hall and Laboratory of Physics, below. All the section meetings are to be held on the campus of the University of Minnesota.

employed to plan for the city a rapid filtration and purification system. The plant has just reached completion, at a cost of less than a million dollars, and is a model one in every particular. In every serviceable feature it compares favorably with the best systems of other cities. Its clear-water basin has a capacity of 45,000,000 gallons, and is the largest enclosed pure water reservoir in the country. The operating cost is $4 per million gallons of water.



Fig. 13.—Fort Snelling, one of the historic spots of the Northwest.

### THE PARK SYSTEM

Minneapolis is a "city of lakes and gardens." There are twenty lakes within the city limits and 120 within a radius of 25 miles. Over 3,700 acres, or one ninth of the entire area of the city, is in the park system. The city has 35 miles of parkways under the supervision of the park commissioners. One stretch of park land on the western side of the city covers nearly a thousand acres and includes seven large lakes. Four of these lakes are being connected by lagoons which will afford a continuous water-way with 12 miles of shore line, no part of which is more than 4 miles from the down-town district.

The movement to establish a civic center is well under way and the park board has almost completed its work of surrounding the plateau basin in which the city rests with parks and parkways. The historic Falls of Minnehaha are the center of a beautiful park which is connected with Lake Harriet by a broad parkway running along the banks of Minnehaha Creek. From these falls, at the extreme southwestern corner of the city, the banks of the Mississippi are parked, also, for 4 miles, up to the beautiful campus of the state university.

The park commissioners of the Twin Cities work in close harmony. Their municipal park systems meet at the Mississippi River, and on both sides of the Father of Waters unsurpassed park drives extend from the heart of Minneapolis to the historic military post, Fort Snelling. This is the only part of this great river where both banks are dedicated to the perpetual enjoyment of all the citizens.

Visitors note the absence of such signs as *Verboten* or "Keep off" in the Minneapolis parks. The children learn an interest in the city at large through the special playgrounds, wading-pools and public baths in many of the parks. Private launches and sailboats are seen on the several lakes, and rowboats and canoes are to be had at rental. The commissioners maintain free skating-rinks in many of the parks during the winter. The public baths at Lake Calhoun are objects of beauty and popular sources of health and recreation. The entire city may be said to be one great park, since for thirty years past the park board has supervised the planting of shade-trees everywhere. These hardy elms are placed at even distances and are pruned and cared for by this board.

### LAKE MINNETONKA

Few cities enjoy so rare an endowment as Minneapolis cherishes in her suburban "big water," a lake of marvelous and varied beauty, with 130 miles of wonderfully sinuous shoreline, a succession of bays and beautiful islands, its banks adorned with wooded heights and rolling lawns and innumerable gardens. Minnetonka is reached by trolley-line and traversed by a fleet of scheduled steamboats. On the one side the Minneapolis and St. Louis Railway and on the other, the Great Northern Railway touch at several lake-points.

### A MEDICAL CENTER

In matters medical, the Twin Cities have served as a common center, and between them, the honors have been well divided. So long have the clinical facilities of St. Paul and Minneapolis been pooled in the interests of medical education that substantial harmony of effort has been maintained between them. As in the commercial, so in the professional field, a large area of country is tributary to them and an unusually strong hospital system has been developed.

By virtue of a combination between city and county government, and through a quarter of a century of able and devoted management on the part of its superintendent, Dr. Arthur B. Ancker, the City and County Hospital of St. Paul has taken front rank, with a capacity of 600 beds, among the hospitals of the country. Following it by several years in the history of its development, the City Hospital of Minneapolis compares favorably with it at its present stage of evolution. Including a pavilion for contagious diseases, it provides for 360 patients. Hopewell Hospital, with 120 beds,



Fig. 14.—A trip to Alaska is one of the possibilities in connection with a trip to the West. This view is of Skaguay, looking down Lynn Canal, the great northern arm of Alexander Archipelago. It was explored and so named by Vancouver in 1794. It is walled in by high snow-peaked mountains that rise sheer out of the sea and is considered the most wonderful fiord in Alaska.

a city sanatorium for tubercuIous patients, is situated at the northern limits of the city. Its progressive superintendent, Dr. H. O. Collins, will welcome visitors to the hospital.

St. Barnabas' Hospital, the Northwestern Hospital, Asbury Methodist Hospital, St. Mary's Hospital, the Swedish Hospital,

the Lutheran Deaconesses' Hospital, Thomas Hospital, Hill Crest Hospital, in Minneapolis; and St. Luke's Hospital, St. Joseph's Hospital, Luther Hospital, Bethesda Hospital, St. John's German Lutheran Hospital and the Norwegian Hospitals in St. Paul are the principal private institutions in the Twin Cities, and, these, for the most part, are under denominational control.

### THE UNIVERSITY OF MINNESOTA

The University of Minnesota is to be the especial hostess of the American Medical Association. With its beautiful campus, having an area of eighty-five acres, and its group of thirty-three buildings and its numerous assembly-halls and lecture rooms, it offers a unique opportunity for the entertainment of so large a body of visitors meeting in so many sections for the transaction of general and scientific business. It is sufficiently remote from the busier quarters of the city to afford the desirable quietude for the Association's meetings, while it will give ample opportunity for arrangements which will enable members to remain within easy reach of any of the sections during each entire day.

On behalf of the University of Minnesota as a whole, President George E. Vincent presents to the members of the American Medical Association the following cordial and hospitable greeting:

### A GREETING FROM THE UNIVERSITY

*By President George E. Vincent*

The University of Minnesota welcomes the members of the American Medical Association to an institution to which alone is entrusted the duty of medical education for this state. This unique responsibility imposes peculiar obligations as to staff, equipment and standards.

Our visitors will be warmly greeted by a corps of medical teachers and scientific investigators who have devoted themselves unsparingly to building up a center of instruction and research in the earlier years under conditions which might well have discouraged less earnest and enthusiastic men. To this group it will now be possible to add a number of other investigators and teachers of distinction.



Fig. 15.—Views in Glacier National Park, to which there will be an excursion: a section of Blackfoot Glacier, left, above; Iceberg Lake, below; a part of St. Mary Camp on St. Mary Lake, right, above; Chief Three Bears and his squaw, packing up, below.

The American Medical Association will hold many of its sessions in the new and modernly equipped buildings of the medical school. So far as material things can afford assurance of efficiency, the university feels unaffected pride in these laboratories which express the ideas and ideals of the staff.

The Elliott Memorial Hospital, under the complete control of the medical school administratively, medically and for teaching and investigation, represents an essential factor in modern medical education, a clinical hospital in close connection with laboratories, all under unified management. Visitors

will have leisure, it is hoped, to visit the admirably administered hospitals of Minneapolis and St. Paul, which generously offer valuable clinical facilities to the medical school of the university.

The spirit and purpose of an institution are the key to its character. A university supported by the state can justify itself only by socializing its work, and testing this by the measure of public service.

The medical school of this university seeks to realize this ideal by insisting that the physician is primarily a public servant and not a private practitioner, that medical research is a fundamental social obligation, that popular education in medical knowledge is an essential type of university extension, that the training of public sanitarians is an institutional duty, that the exalting of ideals of personal character and of standards of professional conduct is at once the high privilege and noble ambition of a true center of medical investigation and teaching.

### MAINTENANCE

The university as a whole was maintained during the past year at a cost of $1,254,859. The legislature has been asked to provide for an increased maintenance of $316,000.

### GOVERNMENT

The university is governed by a board of regents, having eleven members, with the president of the university a member *ex officio*. By act of the board of regents, each school or college is autonomous, its faculty directing its domestic affairs, determining its particular educational policy and controlling its student body. A university senate has been created, of which all professors and associate professors of all faculties are members, to which is entrusted the consideration and conduct of the interests of the university as a whole.

### REGISTRATION

The total registration of the past university year was 6,960. Included in this summary are collegiate students, 4,057; sub-



Fig. 16.—Lake McDermott and Mt. Wilbur in Glacier National Park.

### THE UNIVERSITY

The educational service that the University of Minnesota renders to the state is to be gaged (1) by the range of the educational opportunity it offers, and (2) by the agencies it employs for bringing this opportunity within the reach of the people of the state. Some indication of the measure of the university by these two standards is given below.

The university comprises: the College of Science, Literature and the Arts; the College of Engineering and Mechanic Arts; the Department of Agriculture, including the College of Agriculture and of Forestry; the Schools of Agriculture established at three points in the state; the School of Traction Engineering; the Summer School, and the main experiment station, with five substations; the Law School; the Medical School, with which is associated the School for Nurses; the College of Dentistry; the College of Pharmacy; the School of Mines and its Experiment Station; the School of Chemistry; the College of Education; the Graduate School and the University Extension Division.

collegiate students (mainly in the agricultural schools), 2,590, and extension students, 313. At the last commencement 618 degrees were conferred.

### BUILDINGS

On the older campus of 60.9 acres are found twenty-five college buildings, occupied by the administration offices, the main library, the colleges of science, literature and the arts, education, dentistry and pharmacy, the schools of law, chemistry and mines, the graduate school, the extension division and, in part, by the college of engineering and the medical school.

On the newer campus, of 47.6 acres recently acquired, relatively unfinished and still largely occupied by dwelling-houses, have been completed, recently, the Main Engineering Building, the Experimental Engineering Laboratory, the Elliott Memorial Hospital and the two new medical buildings, known as Millard Hall and the Institute of Anatomy.

In near neighborhood, the new laboratory of the School of Chemistry is in process of construction at a cost of $405,000.

The Department of Agriculture occupies its own extensive campus of 409 acres at a distance of 3 miles from the general university, but to be connected with it shortly by an extended rapid-transit trolley line. There is to be found a group of twenty-seven buildings devoted to this department alone.

The legislature of 1913 has appropriated funds for remodeling the School of Mines Building, recently burned, for the College of Education; for remodeling the old School of Chemistry Building for the social uses of the men of the university; for a new Home Economics Building and a gymnasium and drill-hall on the Agricultural Campus; for a biologic laboratory; a service building for the university hospitals; a gymnasium for women on the main campus, and for sundry small buildings, alterations and new equipment. These appropriations for new buildings and equipment will total $1,039,650.

of the state are being organized and are meeting a warm welcome.

### THE GRADUATE SCHOOL

The work of the Graduate School is a growing one. It extends itself to all departments of the schools or colleges prepared to undertake such instruction. Graduate students to the number of 159 were registered last year.

For the better development of this field, especially in the professional schools, a plan for the adoption of the four-quarter system, with summer sessions, is now under discussion by the university senate.

A fund for research work has been created and is administered by a special committee of the faculty. Research fellowships have been provided also, and are to be sought after in larger numbers.



Fig. 17.—Mammoth Hot Springs, in Yellowstone National Park, to which there will be excursions at the close of the meeting.

### THE FACULTIES

A university is great in measure, not of its material establishment alone, but of the adequate numbers and the capacity in teaching and research of its faculty staff. It is the policy of the administration to add new men of efficient training or recognized power as rapidly as the need for their appointment is shown and as the provisions of the budget permit.

### UNIVERSITY EXTENSION

To bring the educational forces of the university within nearer reach of the people of the state, the board of regents has created a university extension board, consisting of the president, the director of the extension division and representatives of each participating school or college. Lecture courses, correspondence courses and university weeks of travel to points

### SOCIAL SERVICE

A good beginning has been made in the direction of university social centers. The gift of Shevlin Hall as a gathering-place for university women has done much for the social life and the self-government of the "co-eds." With the attainment of a men's building, also, a great advance will have begun.

The dormitory system has been initiated in the erection of Sanford Hall, a beautiful university home for women, under the general control of the dean of women.

University students' councils, both for men and for women, are organized and are extending their influence into the social as well as the educational life and discipline of the institution.

### HEALTH INTERESTS

No very definite system of health regulation in the university has yet been achieved. Directors of physical culture

for men and for women are in control of all matters relating to the physical development and well-being of the students. Military drill and gymnasium courses are compulsory for the under classes of men; but the latter are optional only for women, until better accommodations for them can be secured. Physical examinations of students in each year are conducted and records preserved. A trained nurse is employed to watch over the health of the women resident in Sanford Hall and in neighboring boarding-places.



Fig. 18.—Views in Yellowstone Park; Tourists leaving the railroad station at Gardiner for the Yellowstone Park trip, above; Grand Canyon Hotel, center; bears at Yellowstone Lake, below.

The establishment of a model sanitary district, in charge of a health officer, and of an infirmary for students not resident in their own homes, are among the mooted problems of the near future.

### MEDICAL EDUCATION IN MINNESOTA

Minnesota has been the first among the states to realize the ideal of medical education unified in a single university school under the full ownership and control of the state. First and last, eight private schools have existed in Minnesota, but each has died a natural death or has been merged — the last of them five years ago — into the university. That the state should control medical education in the interests of the people is more greatly to be desired than the police regulation of medical practice. A single strong school, amply housed and equipped, with a well-salaried and able administrative and teaching force, not as an affiliated body, but as an integral part of the state university and supported by a progressive state board of medical examiners, is the fortunate solution of the problem of medical education in Minnesota.

### THE MEDICAL SCHOOL

This was established in 1888 and has just passed its quarter centennial. It occupies the Institute of Public Health and Pathology, the new Institute of Anatomy, the new Millard Hall, the Elliott Memorial Hospital, with a number of small dwelling houses for nurses, help and laundry (which are soon to be in part replaced by a modern service building), and a clinical building occupied by the outpatient department or dispensary.

Only second in importance to the unification of medical teaching in the state has been the acquirement by gifts and by appropriations of the university hospital system as an intrinsic part of the school, and with it directly owned and controlled by the university. It provides, at present, 136 beds, which number will be increased to 166 by transfer of domestic features to the new service building. A substantial beginning has thus been made toward a clinical equipment which the faculty expects will be enlarged to four or five hundred beds within a few years. For the immediate present, the fuller complement of clinical material is secured by the affiliation with the university of the medical staffs of the City Hospital of Minneapolis and the City and County Hospital of St. Paul.

### REORGANIZATION

A reorganization of the medical school has been effected which becomes operative at the opening of the ensuing university year. A somewhat redundant teaching staff, the accrued product of a constructive period marked by the merging of the private schools, by the wide distribution of clinical services in the scattered hospitals of the Twin Cities and by the non-payment of clinical salaries, necessitating fragmentary contributions of teaching time, has been reduced from 184 to 120. The diminution is mainly in the clinical branches, to which the principle of regular compensation must now be applied. Of the charter members of the college, only four still remain in service.

The government of the school has been revised. The direct business and educational control is placed with an administrative board, consisting of the president, the dean, the secretary, the heads of departments and of one faculty member at large. This board is put into close touch with the faculty, which will

include all professors and instructors, and will possess a power of review over the acts of the board. The departments of instruction have been reorganized also and recast. They will, hereafter, include departments of anatomy, of physiology, of pharmacology, of pathology, of public health and bacteriology, of medicine, of surgery and of obstetrics. The teaching of gyneeology is absorbed into the two departments last named. The subject of chemistry is referred to the School of Chemistry. The department of public health is a new creation, combined with bacteriology, which is separated from pathology.

SCHOLARSHIP

Candidates for admission to medical courses must have had two years of high-school Latin and must win the degree of B.A. or B.S. to become eligible for the degree in medicine. Three years, for the one, and two years of study for the other, must be taken in the College of Science, Literature and the Arts, of this or some other recognized university, and must include, as required courses, one year in rhetoric, physics and biology, two years in chemistry and a reading knowledge of German or French. For the B.A., one year in the medical school, and for the B.S. two years complete the candidacy, provided a satisfactory standing in the four years of work has been attained. To the four years of medical study hitherto required has been added a fifth year, which may be spent either in an approved hospital internship or in advanced laboratory work. A main medical library is provided which, together with department libraries, catalogues 24,000 volumes.

THE SCHOOL FOR NURSES

The foundation of the university hospitals gave the opportunity for the creation of a university school for nurses under the jurisdiction of the medical faculty. It is the first training school for nursing women which has the same requirements for admission as academic colleges, and leads to a university degree. The school is attracting an educated and efficient body of women.

AFFILIATED COLLEGES

The students of the College of Dentistry and of Pharmacy receive instruction required in anatomy, physiology, pharmacology and bacteriology in the Medical School. Members of the faculties of these colleges, in turn, contribute to the teaching of medical students in oral hygiene, oral surgery and pharmacy.

## PROGRAM OF OPENING MEETING

**Minneapolis Auditorium, Nicollet Avenue and Eleventh Street,**

**Tuesday, June 17, 10:30**

Music.

Call to Order. President, ABRAHAM JACOBI, New York.

Invocation. REV. JAMES E. FREEMAN, D.D., Minneapolis.

Addresses of Welcome:

GEORGE EDGAR VINCENT, PH.D., LL.D., President of the University of Minnesota.

H. H. KIMBALL, President of the Hennepin County Medical Society.

HON. WALLACE G. NYE, Mayor of the City of Minneapolis.

HON. ADOLPH OLSON EBERHART, Governor of Minnesota.

Report of the Committee on Arrangements. FRANK C. TODD, Chairman.

Introduction and Installation of President-Elect JOHN A. WITHERSPOON, Nashville, Tenn.

Address. JOHN A. WITHERSPOON, President.

Music.

NOTE.—Many members will arrive in Minneapolis Tuesday morning, just in time for the opening meeting, which will be held down town. Unless they have time to go out to the university grounds and register and get back down town by 10:30, they should stay down town for the opening meeting. All the section proceedings are to be held in the various buildings on the grounds of the University of Minnesota.

## THE PROGRAMS OF THE SECTIONS

**Outline of the Scientific Proceedings—The Preliminary Program and the Official Program**

The following papers are announced to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program nor is the list complete. The Official Program will be a pamphlet similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, also lists of committees, programs of the General Meeting and of the meetings of the House of Delegates, lists of entertainments, map of Minneapolis, etc. To prevent misunderstandings and to protect the interests of advertisers, etc., it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

## SECTION ON PRACTICE OF MEDICINE

CHAIRMAN, W. JARVIS BARLOW, LOS ANGELES; SECRETARY, ROGER S. MORRIS, CLIFTON SPRINGS, N. Y.

**Tuesday, June 17—2 p. m.**

Chronic Arthritis. LEONARD W. ELY, Denver.

Remote Effects of Lesions of the Prostate and Deep Urethra. THOMAS MCCRAE, Philadelphia.

Studies on Uric Acid in the Blood and Urine, with Special Reference to the Influence of Atophan. JAMES S. MCLESTER, Birmingham, Ala.

Importance of Latent Conditions in the Production of Neurasthenic States. CHARLES P. EMERSON, Indianapolis.

Value of the Tuberculin Reaction in Early Diagnosis of Tuberculosis. V. C. VAUGHAN, JR., Detroit.

Artificial Pneumothorax for Relief of Advanced Pulmonary Tuberculosis. CHARLES L. MINOR, Asheville, N. C.

Blood-Pressure Studies in Tuberculosis at High Altitudes. LEROY S. PETERS and E. S. BULLOCK, Silver City, N. Mex.

Rest and Repair in Pulmonary Tuberculosis. JOHN W. FLINN, Prescott, Ariz.

**Wednesday, June 18—9 a. m.**

A Comparison Between Jacquet's Sphygmograph and Crehore's Micrograph in Cardiac Tracings. ALEXANDER LAMBERT, New York.

Clinical Aspects of Hypertension. JOSEPH L. MILLER, Chicago.

Clinical Significance of High and Low Auscultatory Pulse-Pressures. WILLARD J. STONE. Toledo, Ohio.

Perpetual Arhythmia. HUGO A. FREUND, Detroit.

Relation of the Toxic Symptoms to the Pathologic Types of Goiter. H. S. PLUMMER, Rochester, Minn.

Diseases of Porto Rico. ELMER F. OTIS, Penelas, Porto Rico.

Study of a Case of Congenital Hemolytic Jaundice. ERNEST T. F. RICHARDS, St. Paul, Minn.

**Wednesday, June 18—2 p. m.**

SYMPOSIUM ON SERUMS AND VACCINES

Federal Control Over the Manufacture of Serums and Vaccines JOHN F. ANDERSON, Washington, D. C.

Treatment of Pneumonia by Specific Serums. RUFUS J. COLE, New York.

Antistreptococcus Serum. GEORGE H. WEAVER, Chicago.

The Treatment of Lobar Pneumonia with Partially Autolyzed Pneumococci and Pneumococcus Extracts. E. C. ROSENOW, Chicago.

Typhoid Vaccination in the Army in 1912. FREDERICK F. RUSSELL, Washington, D. C.

Thursday, June 19—9 a. m.

Gastroscopy, with Demonstration.
HENRY H. JANEWAY, New York.

The Water-Trap Stomach: Symptomatology, Diagnosis and Treatment.
G. REESE SATTERLEE and L. T. LEWALD, New York.

Points of Value to Be Derived from Roentgenoscopy of the Gastro-Intestinal Tract. R. WALTER MILLS, St. Louis.

The Permanent Place in Medicine of Roentgenography after a Bismuth Meal. RUSSELL H. BOGGS, Pittsburgh.

Cause and Treatment of Diarrhea.
RICHARD C. CABOT, Boston, and HAVEN EMERSON, New York.

Carbohydrate Tolerance in Diagnosis.
JOSEPH C. FRIEDMAN and SOLOMON STROUSE, Chicago.

Some Phases of Experimental Nephritis.
W. B. MACNIDER, Chapel Hill, N. C.

Cerebrospinal Fluid in the Diagnosis and Treatment of Syphilis. WALTER V. BREM, Los Angeles.

Tuesday, June 19—2 p. m.

SYMPOSIUM ON LEPROSY

Dermatologic Aspects of Leprosy.
ISADORE DYER, New Orleans.

Clinical Aspects of Leprosy E. BOECKMANN, St. Paul, Minn.

Bacteriology and Specific Therapy of Leprosy.
C. DUVAL, New Orleans

Public Health Aspects of Leprosy in the United States.
RUPERT BLUE, Washington, D. C.

---

## SECTION ON SURGERY

CHAIRMAN, A. F. JONAS, OMAHA; SECRETARY, DEAN D. LEWIS, CHICAGO

Tuesday, June 17—2 p. m.

Chairman's Address: The Surgeon and the Research Laboratory. A. F. JONAS, Omaha.

Posterior Gastro-Enterostomy in Acute Perforated Ulcer of the Duodenum. Report of Thirty Cases.
JOHN B. DEAVER, Philadelphia.

Postoperative Ileus. ANGUS MCLEAN, Detroit.

Congenital Dislocation of the Knees, with Report of Two Cases. JOHN W. PERKINS, Kansas City, Mo.

Proctoclysis: An Experimental and Clinical Study.
HUGH H. TROUT, Roanoke, Va.

Etiology and Significance of Membranes About the Cecum and Colon. DAVID CHEEVER, Boston.

Anaphylaxis in the Diagnosis of Cancer.
J. LOUIS RANSOHOFF, Cincinnati.

Wednesday, June 18—9 a. m.

The External Bone Clamp Versus the Internal Bone Plate in Fractures of Long Bones. LEONARD FREEMAN, Denver

The Mechanism of the Production of Fractures.
EMMETT RIXFORD, San Francisco.

Surgical Management of Injuries to the Elbow-Joint, Primary and Secondary. JOHN B. MURPHY, Chicago.

Surgery of the Thyroid: Observations on Five Thousand Operations. CHARLES H. MAYO, Rochester, Minn.

Extrathoracic and Intrathoracic Esophagoplasty.
WILLY MEYER, New York.

Wednesday, June 18—2 p. m.

Oration on Surgery: Who Shall Do Surgery?
W. D. HAGGARD, Nashville, Tenn.

SYMPOSIUM ON INFECTIONS

Chronic Focal Infection as a Causative Factor in Chronic Arthritis. FRANK BILLINGS, Chicago.

Surgical Lesions of the Kidney Associated with Disease of the Female Pelvic Organs.
JOHN G. CLARK, Philadelphia.

Infections of the Prostate and Seminal Vesicles, their Rôle in Toxemia. HUGH H. YOUNG, Baltimore.

Chronic Suppurative Bone Diseases and Their Treatment: Demonstration of Plastic Models. CARL BECK, Chicago.

Injection of Boiling Water for Hyperthyroidism.
MILES F. PORTER, Fort Wayne, Ind.

Thursday, June 19—9 a. m.

Nephritis as a Surgical Problem, and Its Treatment as a Preliminary to Operation. J. F. PERCY, Galesburg, Ill.

Technic of Roentgenoscopy of the Gastro-Intestinal Tract, and Interpretation of Screen and Plate Findings.
R. D. CARMAN, Rochester, Minn.

The Added Responsibility of the Surgeon when Called on to Treat Surgical Lesions in Their Earliest Stages.
J. C. BLOODGOOD, Baltimore.

Fatal Peritoneal Folds and Their Relation to Postnatal Acute and Chronic Occlusions of the Large and Small Intestine. J. RILUS EASTMAN, Indianapolis.

Symptoms and Diagnosis of Membranous Pericolitis.
JABEZ N. JACKSON, Kansas City, Mo.

Radiographic Changes in Pituitary Disease.
ALFRED LUGER, Boston.

The Necessity of Preserving the Periosteum in Bone Transplantations. CLARENCE A. MCWILLIAMS, New York

Roentgenoscopy of the Liver and Biliary Passages.
JAMES T. CASE, Battle Creek, Mich.

Thursday, June 18—2 p. m.

Original Uses of the Bone-Graft in Surgery.
FRED H. ALBEE, New York.

SYMPOSIUM ON ANESTHESIA

Administration of Alkaloids Before Anesthesia.
ISABELLA C. HERB, Chicago.

Nitrous Oxid and Oxygen Anesthesia.
HARRY G. SLOAN, Cleveland.

Intratracheal Insufflation Anesthesia (Meltzer-Auer).
CHARLES H. PECK, New York

Local Anesthesia. J. F. MITCHELL, Washington, D. C.

Ether Percentages. W. M. BOOTHBY, Boston.

Surgical Aspects of Intestinal Stasis, from an Anatomic Point of View. JOHN E. SUMMERS, Omaha.

Friday, June 20—9 a. m.

Gastric Tetany. W. L. RODMAN, Philadelphia.

An Experimental Study of the Mobilization of Ankylosed Joints.
NATHANIEL ALLISON, St. Louis, and BARNEY BROOKS, Baltimore.

Therapeutic Possibilities of Transfusion.
BERTRAND M. BERNHEIM, Baltimore.

Theory and Practice of Transfusion.
J. J. HOGAN, San Francisco.

Thyroglossal Cyst and Fistula: Report of Three Cases.
HERMANN B. GESSNER, New Orleans.

---

## SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

CHAIRMAN, F. F. SIMPSON, PITTSBURGH; SECRETARY, BROOKE M. ANSPACH, PHILADELPHIA

Tuesday, June 17—2 p. m.

Chairman's Address: Right-Sided Hypertension with Occasional Cardiac Dilatation as Postoperative Complications. F. F. SIMPSON, Pittsburgh.

Newer Methods of Reducing the Mortality of Pelvic Operations. GEORGE W. CRILE, Cleveland.

Postoperative Renal Infection. HENRY DAWSON FURNISS, New York.

Final Results Following Operations for Ectopic Pregnancy. RICHARD R. SMITH, Grand Rapids.

The Movable Kidney. J. H. CARSTENS, Detroit.

Further Points on the Sterility of Women. EDWARD REYNOLDS, Boston.

**Wednesday, June 18—9 a. m.**

Prolapse of the Uterus: Its Surgical Treatment. FRANKLIN H. MARTIN, Chicago.

Vagino-Uterine Prolapse and Its Effective Treatment. E. E. MONTGOMERY, Philadelphia.

The Anatomy and Surgical Utility of the Sacro-Uterine Ligaments. GEORGE B. SOMERS, San Francisco.

A Study of the End-Results of the Webster-Baldy Operation. JOHN OSBORN POLAK, Brooklyn.

Tuberculous Salpingitis. PHILEMON E. TRUESDALE, Fall River, Mass.

Infections in the Pelvis from a General Surgeon's Point of View. JOHN B. MURPHY, Chicago.

**Wednesday, June 18—2 p. m.**

Cancer of the Stomach. WILLIAM J. MAYO, Rochester, Minn.

Cancer of the Uterus: Some Points to Be Emphasized in the Early Diagnosis. RUFUS B. HALL, Cincinnati.

Carcinoma of the Cervix Uteri. A. MACKENRODT, Berlin.

Theoretical and Practical Foundations of a Radical Operation for Carcinoma of the Cervix. EMIL RIES, Chicago.

Radium in Gynecology. HOWARD A. KELLY, Baltimore.

Heat in the Treatment of Inoperable Cancer of the Vagina and Uterus: Method and Results. J. F. PERCY, Galesburg, Ill.

**Thursday, June 19—9 a. m.**

Care of the Umbilical Stump: A Bacteriologic Study. FRED L. ADAIR, Minneapolis.

A Cinematographic Presentation of the Care of Nursing Infants. E. GUSTAV ZINKE, Cincinnati.

Destructive and Constructive Changes in the Uterus Causing Hemorrhage. JOHN G. CLARK, Philadelphia.

Biochemical Factors in the Causation of Uterine Hemorrhage. J. RIDDLE GOFFE, New York.

Treatment of Hemorrhage from the Non-Pregnant Uterus. JOHN B. DEAVER, Philadelphia.

Intra-Abdominal Adhesions. R. C. COFFEY, Portland, Ore.

**Thursday, June 19—2 p. m.**

Report of Committee on the Question: Should the Puerperal Uterus Be Emptied of Ovular Remains in Presence of Infection, and if so, When? JOSEPH B. DELEE, Chicago.

Emptying the Uterus as One of the Methods of Treating Ante-Partum Eclampsia. REUBEN PETERSON, Ann Arbor, Mich.

What Is the Proper Place for Abdominal Cesarean Section in the Treatment of Placenta Praevia? HENRY D. FRY, Washington, D. C.

The Serodiagnosis of Pregnancy and Its Place in Practical Obstetrics. HENRY SCHWARZ, St. Louis.

The Essentials of Sanatorium Treatment of Tuberculous Gravidae and Puerperae and Their Children. CHARLES S. BACON, Chicago.

The Value of Abdominal Measurements in Pregnancy: A Statistical Study. ALFRED BAKER SPALDING, San Francisco.

**Friday, June 20—9 a. m.**

Experimental Transplantation of Intestine After Resection of the Sigmoid, with Special Reference to Resection for Malignant Diseases of the Pelvis. J. SHELTON HORSLEY, Richmond, Va.

Local and Spinal Anesthesia in Gynecology and Obstetrics. GEORGE GELLHORN, St. Louis.

Spinal Anesthesia in Gynecology, Obstetrics and Abdominal Surgery. W. WAYNE BABCOCK, Philadelphia.

The Thyroid Gland and Its Degeneration in Relation to Obstetrics and Gynecology. CHANNING W. BARRETT, Chicago.

Membranous Dysmenorrhea. K. I. SANES, Pittsburgh.

---

## SECTION ON OPHTHALMOLOGY

CHAIRMAN, HIRAM WOODS, BALTIMORE; SECRETARY, GEORGE S. DERBY, BOSTON

**Tuesday, June 17—2 p. m.**

Chairman's Address. HIRAM WOODS, Baltimore.

Physiologic Optics the Basis for Teaching Clinical Ophthalmology. WALTER B. LANCASTER, Boston.

Some Modern View-Points with Regard to Glaucoma. ROBERT SATTLER, Cincinnati.

Experimental Study of Intra-Ocular Pressure and Ocular Drainage. MARK J. SCHOENBERG, New York.

Hydrophthalmos. With a Histologic Report of Two Cases, One of Which Presented a Congenital Coloboma. WILLIAM ZENTMAYER, Philadelphia.

**Wednesday, June 18—9 a. m.**

Equivalent Values in Spectacle Lenses. WILLIAM E. SHAHAN, St. Louis.

Trachoma, Its Prevalence and Control Among Immigrants. JOHN MCMULLEN, Washington, D. C.

Trachoma Among the Indians. J. W. SCHERESCHEWSKY, Washington, D. C.

Trachoma Among the Mountaineers of Eastern Kentucky. Illustrated by Lantern Slides. J. A. STUCKY, Lexington, Ky.

**Wednesday, June 18—2 p. m.**

Metastatic Ophthalmia. Report of Three Cases, One of Which Resulted in Recovery of Vision. WILLIAM H. WILDER, Chicago.

The Diagnostic and Therapeutic Uses of Tuberculin in Ocular Diseases, with a Review of Some of the Claims Made for It. A. EDWARD DAVIS, New York.

Phlyctenular Ophthalmia and Episcleritis. A Study of the Bearing of the Newer Research on Their Etiology as the Basis of a Scientific Therapy. WILL WALTER, Chicago.

The Temperature of the Conjunctiva. LUCIEN HOWE, Buffalo, N. Y.

The Topical Diagnostic Value of the Hemopic Pupillary Reaction and the Wilbrand Hemianoptic Prism Phenomenon with a New Method of Performing the Latter. CLIFFORD B. WALKER, Boston.

Preventable Blindness: A Challenge to the Professions. HENRY COPLEY GREENE, Boston.

**Thursday, June 19—9 a. m.**

Ocular Vertigo. ALLEN GREENWOOD, Boston.

Is the Percentage of Myopic Eyes Diminishing? SAMUEL D. RISLEY, Philadelphia.

The Asthenopia of Muscular Imbalance. HOWARD F. HANSELL, Philadelphia.

Apparent Esophoria and Its Relation to Convergence Insufficiency. H. B. LEMERE, Omaha.

Some Comparative Measurements of the Skull and Sella Turcica, with the Report of Eight Cases.
JOHN B. POTTS, Omaha.

**Thursday, June 19—2 p. m.**

Blepharochalasis. Report of Two Cases with the Microscopic Examination. WALTER BAER WEIDLER, New York.

Artificial Illumination a Factor in Ocular Discomfort.
NELSON M. BLACK AND F. A. VAUGHN, Milwaukee, Wis.

Postcataract Extraction Delirium. Report of Eleven Cases.
WALTER R. PARKER, Detroit.

The Surgical Treatment of a Certain Type of Penetrating Wounds of the Sclera by Means of a Double Conjunctival Flap. LEE MASTEN FRANCIS, Buffalo, N. Y.

Primary Lues of the Bulbar Conjunctiva.
CHARLES NELSON SPRATT, Minneapolis.

---

## SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

CHAIRMAN, ROBERT LEVY, DENVER; SECRETARY, BURT R. SHURLY, DETROIT

**Tuesday, June 17—2 p. m.**

Chairman's Address: The Dignity of Otolaryngology.
ROBERT LEVY, Denver.

Conservative Surgery of the Nasal Septum with Description of a "Limited" Submucous Operation.
I. W. VOORHEES, New York.

Etiology, Diagnosis, Prognosis and Treatment of Sphenopalatine Ganglion Neuralgia. G. SLUDER, St. Louis.

Untoward Results of the External Operation on the Frontal Sinus. R. H. SKILLERN, Philadelphia.

**Wednesday, June 18—9 a. m.**

SYMPOSIUM ON THE LARYNX

Chronic Laryngitis. EMIL MAYER, New York.

Diagnosis and Treatment of Paralysis of the Larynx.
E. FLETCHER INGALS, Chicago.

Diagnosis and Treatment of Syphilitic Laryngitis.
J. C. BECK, Chicago.

Diagnosis and Treatment of Laryngeal Tuberculosis.
F. L. DENNIS, Colorado Springs, Colo.

Differential Diagnosis and Treatment of Malignant Diseases of the Larynx. CHEVALIER JACKSON, Pittsburgh.

Clinical Principles of the Functional Disturbances of the Voice (with special consideration of the singing voice).
T. S. FLATAU, Berlin.

**Wednesday, June 18—2 p. m.**

Vaccine Therapy. T. B. COOLEY, Detroit.

SYMPOSIUM ON THE RELATION OF INTERNAL MEDICINE TO DISEASES OF THE NOSE, THROAT AND EAR

Internal Medicine. B. W. SIPPY, Chicago.

Neurology. C. D. CAMP, Ann Arbor, Mich.

Ophthalmology. W. R. PARKER, Detroit.

**Thursday, June 19—9 a. m.**

Some Pathologic Changes in the So-called Otosclerosis with Suggestions as to Treatment.
PHILIP HAMMOND, Boston.

Chronic Obstructive Middle-Ear Deafness.
G. E. SHAMBAUGH, Chicago.

Temporosphenoidal Abscess with General Meningeal Symptoms. Drainage Through the Cisterna Magna. Mastoid Operation. Recovery. F. P. EMERSON, Boston.

Statistical Report of Hearing Following the Radical Mastoid Operation. Tampon vs. Skin-graft.
C. F. WELTY, San Francisco, Cal.

Methods of Measuring Auditory Acuity.
WALTER A. WELLS, Washington, D. C.

**Thursday, June 19—2 p. m.**

Prostheses for the Improvement of Hearing.
W. SOHIER BRYANT, New York.

Tuberculosis of the Middle Ear; with Special Reference to Its Labyrinthine Complications.
HILL HASTINGS, Los Angeles.

Technic of Tonsillectomy.
GEORGE L. RICHARDS, Fall River, Mass.

Tonsillectomy by the Sluder Method.
A. M. CORWIN, Chicago.

Results of Tonsillectomy Under Local Anesthesia.
B. D. SHEEDY, New York.

---

## SECTION ON DISEASES OF CHILDREN

CHAIRMAN, HENRY D. CHAPIN, NEW YORK; SECRETARY, FRANK C. NEFF, KANSAS CITY, MO.

**Tuesday, June 17—2 p. m.**

Chairman's Address: Radiographic Studies of the Intestines of Infants. HENRY DWIGHT CHAPIN, New York.

The Roentgen Ray in the Diagnosis of Obscure Abdominal Conditions in Infancy and Childhood.
JOHN LOVETT MORSE, Boston.

The Roentgen Ray in Pylorie Obstruction.
L. R. DEBUYS, New Orleans.

Duodenal Ulcer in Infancy. BORDEN VEEDER, St. Louis.

Rupture of Mediastinal Lymph-Node into Bronchus.
A. L. GOODMAN, New York.

Nephrolithiasis in Infancy.
ARTHUR N. COLLINS, Duluth, Minn.

**Wednesday, June 18—9 a. m.**

The Treatment of Rheumatic Endocarditis from an Out-Patient Department. WILLIAM PALMER LUCAS, Boston.

Functional Heart Murmurs, Cardiac Arhythmias and Slow Heart-Rate in Children.
SAMUEL MCCLINTOCK HAMILL, Philadelphia.

Clinical Report and Post-Mortem Findings in a Case of a Child with a Congenital Heart Disease Dying from Acute Nephritis. H. M. MCCLANAHAN, Omaha.

Acute Acid Intoxication in Children.
THOMAS C. MCCLEAVE, Berkeley, Cal.

The Protein Poison and Its Relation to Disease.
VICTOR C. VAUGHAN, Ann Arbor, Mich.

The Nature of Ileocolitis from an Etiologic Standpoint.
CLIFFORD G. GRULEE, Chicago.

Nutritional Injuries, Produced by Starch.
I. A. ABT, Chicago.

**Wednesday, June 18—2 p. m.**

Status Thymolymphaticus: Four Cases in One Family.
WALTER L. BIERRING and J. A. GOODRICH, Des Moines.

Transfusion in the Therapeutics of Infancy.
THOMAS B. COOLEY, Detroit.

Treatment of Inguinal Hernia in Children.
ARTHUR E. HERTZLER, Kansas City, Mo.

General Anesthesia in the Surgery of Childhood.
WILLIAM CAVAN WOOLSEY, Brooklyn.

Spasmophilia with Especial Reference to Familial Reactions and "Repeated Absences."
JULIUS PARKER SEDGWICK, Minneapolis.

Desirability of Early Diagnosis of Mental Deficiency.
A. C. ROGERS, Faribault, Minn.

**Thursday, June 19—9 a. m.**

Vulvovaginitis in Children. RICHARD M. SMITH, Boston.

Roseola Infantum. JOHN ZAHORSKY, St. Louis.

Report of Case of Staphylococcus Meningitis in Child.
FRANK SPOONER CHURCHILL, Chicago.

Atypical Forms of Meningitis (Posterior Basic Meningitis; Aseptic Meningitis). A. SOPHIAN, Kansas City, Mo.

Leukocyte Counts in Epidemic Meningitis and Pneumonia. JULIUS H. HESS, Chicago.

Precocious Menstruation. G. P. GENGENBACH, Denver.

**Thursday, June 19—2 p. m.**

The Hospital Management of Contagious Diseases. D. L. RICHARDSON, Providence, R. I.

Federal Children's Bureau; the Law, the Organization, the Scope of Its Present Work. JULIA C. LATHROP, Washington, D. C.

The Etiology of Artificial Feeding; a Plea for the Study of Breast-Milk Problems. H. LOWENBURG, Philadelphia.

Some Economic and Sociologic Problems Related to Nutrition and Growth of Infants. B. RAYMOND HOOBLER, New York.

Diseases and Defects of Older Children as Revealed by School Medical Inspection—A Broadening of the Field of Pediatrics. WALTER S. CORNELL, Philadelphia.

A Consideration of Tardy Syphilis. H. H. YERRINGTON AND FLORENCE HOLSCLAW, San Francisco.

**Friday, June 20—9 a. m.**

JOINT SESSION OF THE SECTION ON DISEASES OF CHILDREN WITH THE AMERICAN ASSOCIATION OF MEDICAL MILK COMMISSIONS

Certified Milk. T. C. MCCLEAVE, Berkeley, Cal.

The Efficiency of the Medical Milk Commission, Graphically Illustrated. HENRY L. COIT, Newark, N. J.

---

## SECTION ON PHARMACOLOGY AND THERAPEUTICS

CHAIRMAN, RAY L. WILBUR, SAN FRANCISCO; SECRETARY, M. I. WILBERT, WASHINGTON, D. C.

**Tuesday, June 17—2 p. m.**

Chairman's Address: The Teaching of Therapeutics. RAY L. WILBUR, San Francisco.

Address of the Delegation from the American Pharmaceutical Association.

Yesterday, To-day and To-morrow: The Activities of the Council on Pharmacy and Chemistry. TORALD SOLLMANN, Cleveland.

The Quality of Drugs Sold to Dispensing Physicians. W. A. PUCKNER, Chicago.

Carelessness in the Pharmacy as a Reason for a Restricted Materia Medica. M. I. WILBERT, Washington, D. C.

Biochemical Research. JOHN A. HANDY, Minneapolis.

The Physiologic Testing of Ergot. A. C. CRAWFORD, Palo Alto, Cal.

**Wednesday, June 18—9 a. m.**

Treatment of Anginal Pains. CHARLES LYMAN GREENE, Minneapolis.

Internal Hemorrhages: Can We Control Them? FRANK BILLINGS, Chicago.

Diuretics in Cardiac Diseases: General Review. A. D. HIRSCHFELDER, Baltimore.

The Value of Diuretic Drugs in Acute Experimental Nephritis. HENRY A. CHRISTIAN, Boston.

Therapy of Chronic Renal Disease. C. F. HOOVER, Cleveland.

Therapeutic Pneumothorax as a Palliative Measure: A Report of Twenty Cases from the Cincinnati Tuberculosis Hospital. KENNON DUNHAM and CHARLES S. ROCKHILL, Cincinnati.

**Wednesday, June 18—2 p. m.**

SYMPOSIUM ON SERUMS AND VACCINES

Federal Control over the Manufacture of Serums and Vaccines. JOHN F. ANDERSON, Washington, D. C.

Treatment of Pneumonia by Specific Serums. RUFUS I. COLE, New York.

Antistreptococcus Serum. GEORGE H. WEAVER, Chicago.

The Treatment of Lobar Pneumonia with Partially Autolyzed Pneumococci and Pneumococcus Extracts. E. C. ROSENOW, Chicago.

Typhoid Vaccination in the Army in 1912. FREDERICK F. RUSSELL, Washington, D. C.

**Thursday, June 19—9 a. m.**

Diet in Hepatic Cirrhosis. N. S. DAVIS, Chicago.

Venous Blood-Pressure as Influenced by the Drugs Employed in Cardiovascular Therapy. JOSEPH A. CAPPS AND S. A. MATTHEWS, Chicago.

The Elimination of the Digitalis Bodies. ROBERT A. HATCHER, New York.

Clinical Observations on the Emetic Action of Digitalis. CARY EGGLESTON, New York.

The Solubility of White Leads in Human Gastric Juice and Its Bearing on the Hygiene of the Lead Industries. A. J. CARLSON, Chicago.

The Bromid Question Experimentally Considered. CHARLES W. GREENE, Columbia, Mo.

**Thursday, June 19—2 p. m.**

SYMPOSIUM ON PHYSICAL THERAPEUTICS

Hydrotherapy in Nervous Fatigue. CURRAN POPE, Louisville, Ky.

Some Aspects of Hydrotherapy in the United States. H. M. HALLOCK, Hot Springs, Ark.

Kinesitherapy. R. TAIT MCKENZIE, Philadelphia.

Radium in Internal Machine. L. G. ROWNTREE, Baltimore.

Rational Roentgenotherapy by Measured Doses. SIDNEY LANGE, Cincinnati.

What Can be Done in Cancer with Roentgen Rays? W. A. PUSEY, Chicago.

Sarcoma Successfully Treated by the Roentgen Rays: Report of Cases, with Lantern Demonstrations. G. E. PFAHLER, Philadelphia.

---

## SECTION ON PATHOLOGY AND PHYSIOLOGY

CHAIRMAN, A. W. HEWLETT, ANN ARBOR, MICH.; SECRETARY, WILLIAM OPHÜLS, SAN FRANCISCO

**Tuesday, June 17—2 p. m.**

Chairman's Address: The Relation of Internal Medicine to Pathology and Physiology. A. W. HEWLETT, Ann Arbor, Mich.

SYMPOSIUM ON DIPLOCOCCUS AND STREPTOCOCCUS INFECTIONS

Streptococcus Sore Throat. Its Origin and Transmission. J. A. CAPPS, Chicago.

The Relation of Streptococci to Arthritis. D. J. DAVIS, Chicago.

Studies on Rheumatism, Articular and Muscular. E. C. ROSENOW, Chicago.

A Biologic Classification of Pneumococci by Means of Immunity Reactions and the Relation of Certain Varieties to the Clinical Course of Lobar Pneumonia in Man. A. R. DOCHEZ and L. P. GILLESPIE, New York.

**Wednesday, June 18—9 a. m.**

Some New Observations on the Physiology of the Stomach in Man and in Dogs. A. J. CARLSON, Chicago.

Movements of the Empty Stomach in Dogs During the Course of Pancreatic Diabetes. A. B. LUCKHARDT, Chicago.

Evidences of Fat Absorption by the Mucosa of the Mammalian Stomach.
CHARLES W. GREENE, Columbia, Mo.

The Physiology of the Pylorus, Pilleus Ventriculi and Duodenum, as Observed Radiographically.
LEWIS GREGORY COLE, New York.

Some Physiologic Properties of Diaphragm Muscle.
FREDERIC S. LEE, New York, and A. E. GUENTHER, Lincoln, Neb.

A Comparative Study of Some Functional Renal Tests.
J. H. AGNEW, Ann Arbor, Mich.

A Clinical Study of Hypercholesteremia.
H. B. SCHMIDT, Ann Arbor, Mich.

**Wednesday, June 18—2 p. m.**

A Problem in Embryonic Nutrition.
WINFIELD S. HALL, Chicago.

The Relation Between Functional Activity and Depression in Nerve Cells from Anatomic Analysis.
D. H. DOLLEY, Columbia, Mo.

Overresponse to Affective Stimuli from Stationary Cortical Lesions. Report of a Case.
G. WILSE ROBINSON, Kansas City, Mo.

Further Observations with a Saccharomycete.
LORENA M. BREED, Pomona, Cal.

Report of a Case in Which the Bacillus Fusiformis Was Isolated from the Blood.
W P LARSON, Minneapolis.

Tuberculosis of the Uterus with a Report of Three Cases.
JESSIE B HUDSON, Philadelphia.

**Thursday, June 19—9 a. m.**

Studies on Experimental Nephritis Produced by Tartrates.
FRANK P. UNDERHILL and SAMUEL GOLDSMITH, New Haven, Conn., and H GIDEON WELLS, Chicago.

The Relation of the Pathology and the Clinical Symptoms of Simple and Exophthalmic Goiter.
LOUIS B. WILSON, Rochester, Minn.

The Iodin Content of the Human Thyroid.
E. V. SMITH, Rochester, Minn.

A Comparative Study of the Effects on Blood-Pressure of Goiter Extracts, Goiter Serums and Other Substances.
A. H. SANFORD, Rochester, Minn.

The Relation of Acapnia to Shock.
HENRY H. JANEWAY, New York.

Cloudy Swelling. E. T. BELL, Minneapolis.

Local Lesions Following Intramuscular Injections of Salvarsan and Neosalvarsan.
H. E. ROBERTSON, Minneapolis.

---

## SECTION ON STOMATOLOGY

CHAIRMAN, VIRGIL LOEB, ST. LOUIS; SECRETARY, EUGENE S. TALBOT, CHICAGO

**Tuesday, June 17—2 p. m.**

Chairman's Address: Fields for Research in Oral Surgery.
VIRGIL LOEB, St. Louis.

Social Ethics. E. M. WOOLEY, Winona, Minn.

Differential Diagnosis of Mouth Lesions.
STEWART L. MCCURDY, Pittsburgh.

**Wednesday, June 18—9:30 a. m.**

Correction of Impediments of Speech in Our Public Schools.
H. F. MCBEATH, Milwaukee, Wis.

Pathology of Root-Findings. VIDA A. LATHAM, Chicago.

Responsibility of Dentist and Physician in Regard to Mouth Infections and Their Relation to Constitutional Effects.
THOMAS B. HARTZELL, Minneapolis.

Bachelor of Medicine: The Need of This New Degree.
WILLIAM C. FISHER, New York.

**Wednesday, June 18—2 p. m.**

Etiology of Trifacial Neuralgia or Tic Douloureux and Clinical Treatment. NELSON T. SHIELDS, New York.

A Method of Closing a Sinus Between the Antrum of Highmore and the Mouth. L. W. DEAN, Iowa City, Iowa.

Treatment of Loose Teeth Due to Inflammatory Degeneration of the Gums and Alveolar Process.
JOSEPH HEAD, Philadelphia.

Bacteriology of Pyorrhea Alveolaris.
CLAUDE P. BROWN, Philadelphia.

Bacteria of the Mouth. A. H. LEVINGS, Milwaukee, Wis.

**Thursday, June 19—9:30 a. m.**

Infective Cysts of the Jaws. F. B. MOOREHEAD, Chicago.

Arrested Development of the Superior Maxillae in Relation to Mental and Physical Efficiency.
JOSEPH S. EVANS, Madison, Wis.

Relation of Mouth-Disease to Bodily Health.
EDWARD H. BAKER, Chicago.

Surgical Treatment of Post-Operation Lip and Palate Defects.
GEORGE V. I. BROWN, Milwaukee, Wis.

The Early Recognition and Treatment of Cancer of the Mouth. G. BETTON MASSEY, Philadelphia.

**Thursday, June 19—2 p. m.**

Interstitial Gingivitis and Pyorrhea Alveolaris.
EUGENE S. TALBOT, Chicago.

---

## SECTION ON NERVOUS AND MENTAL DISEASES

CHAIRMAN, HOWELL T. PERSHING, DENVER; SECRETARY, GEORGE A. MOLEEN, DENVER

**Tuesday, June 17—2 p. m.**

Chairman's Address: Neurasthenia an Increased Susceptibility to Emotion. HOWELL T. PERSHING, Denver.

Premonitory Auras in Alcoholic Neuroses.
T. D. CROTHERS, Hartford, Conn.

Practical Problems Which Confront the Neurologist.
THEODORE DILLER, Pittsburgh.

Diagnosis, Prognosis and Treatment of General Paresis.
CHARLES R. BALL, St. Paul.

Pathologic Findings in Insanity.
H. D. VALIN, Mankato, Minn.

**Wednesday, June 18—9 a. m.**

Meningeal Tumors of the Encephalon: Report of a Case, Including Pathologic Findings.
F. E. COULTER and J. S. FOOTE, Omaha.

A Tumor of the Hypophysis in Acromegaly: A Clinical and Post-Mortem Report, with Photomicrographs.
JULIUS GRINKER, Chicago.

Tumors of the Crus Cerebri.
JOHN H. W. RHEIN, Philadelphia

Acute Types of Disseminated Sclerosis and a Case of Myotonia Atrophica.
ROBERT FOSTER KENNEDY, New York

Symptomatology of Multiple Sclerosis.
L. HARRISON METTLER, Chicago.

**Wednesday, June 18—2 p. m.**

Two Cases of Circulatory Disturbance of the Brain.
C. EUGENE RIGGS AND E. M. HAMMES, St. Paul.

Intermittent Closing of Cerebral Arteries in Its Relation to Apoplexy. ALFRED GORDON, Philadelphia.

Epilepsy and Paresis in Railway Engineers and Firemen.
C. D. CAMP, Ann Arbor, Mich.

Exudative Encephalitis.
ALBERT E. STERNE, Indianapolis.

Morphinomania and Its Treatment.
R. E. BERING, San Francisco.

**Thursday, June 19—9 a. m.**

Further Notes on the Prenenrasthenie and Preinsane Conditions. ROSS MOORE, Los Angeles.

The Conception of Homosexuality: Its Theories, Psychologic Mechanisms and Treatment. A. A. BRILL, New York.

A Division of the Anditory Nerve for Persistent Timitus and Vertigo CHARLES H. FRAZIER, Philadelphia.

Demonstration of Lange's Goldsol Test of the Cerebrospinal Fluid. B. W. SIPPY, Chieago.

**Thursday, June 19—2 p. m.**

Unusual Symptoms of Tabes Dorsalis.
T. H. WEISENBURG, Philadelphia.

Multiglandular Syndromes and the Nervous System, with Lantern-Slide Demonstration.
D'ORSAY HECHT, Chicago.

The Interpretation of the Seaphoid Type of Scapula.
WILLIAM W. GRAVES, St. Louis.

Occlusion of the Posterior Inferior Cerebellar Artery. Report of a Case. G. WILSE ROBINSON, Kansas City, Mo.

Two Cases of Tumor of the Pons: I. Sarcoma; II. Glio-Sarcoma with Hemorrhage.
W. H. BODENSTAB, Bismarck, N. D.

Certain Nervous Phenomena in Pernicious Anemia.
C. EUGENE RIGGS, St. Paul.

---

## SECTION ON DERMATOLOGY

CHAIRMAN, JOSEPH ZEISLER, CHICAGO; SECRETARY, HOWARD FOX, NEW YORK CITY

**Tuesday, June 17—2 p. m.**

Chairman's Address: Our Tendency to Fads.
JOSEPH ZEISLER, Chieago.

Two Cases of Pemphigus Foliaceus. J. B. KESSLER, Iowa City.

An Anomalous Case of White-Spot Disease.
H. H. HAZEN, Washington, D. C.

Comparison of Methods of Treating Epithelioma.
RUSSELL H. BOGGS, Pittsburgh.

Radium in Skin Diseases. FRANK E. SIMPSON, Chicago.

The Massive Dose X-Ray Method in the Treatment of Skin Diseases. GEORGE M. MACKEE, New York.

Neuromas of the Skin (with Lantern-Slide Demonstration).
M. L. HEIDINGSFELD, Cincinnati.

Angioma Serpiginosum (Infective Angioma of Hutchinson) with Report of a Very Extensive Case.
FRED WISE, New York.

**Wednesday, June 18—9 a. m.**

Demonstration of Patients.

The Fight Against Syphilis as a Plague in the Light of the Latest Researches. E. HOFFMANN, Bonn, Germany.

Two and One-Half Years' Experience with Salvarsan and Neosalvarsan; Technic, Results and Question of Neurorecidive.
WILLIAM THOMAS CORLETT AND HAROLD NEWTON COLE, Cleveland.

Salvarsan and Profeta's Law. A. RAVOGLI, Cincinnati.

A Study of the Spinal Fluid in One Hundred Cases of Syphilis.
M. F. ENGMAN AND RUDOLPH BUHMAN, St. Louis.

Comparative Study of Antigens for the Wassermann Reaction.
H. R. VARNEY AND F. W. BAESLACK, Detroit.

**Wednesday, June 18—2 p. m.**

The Histopathology of Pompholyx.
RICHARD L. SUTTON, Kansas City.

Skin Diseases Among the Indians of Oklahoma.
EVERETT S. LAIN, Oklahoma City

Newer Cutaneous Myeoses.
ERNEST DWIGHT CHIPMAN, San Francisco.

Cutaneous Affections of Childhood. ALFRED SCHALEK, Omaha.

"Cancer en Cuirasse" on Thigh. MARCUS HAASE, Memphis.

**Thursday, June 19—9 a. m.**

Demonstration of Patients.

Relation of Diabetes to Various Dermatoses.
BURNSIDE FOSTER, St. Paul.

Relation of Certain Changes in the Urine to Various Skin Diseases. HENRY C. BAUM, Syracuse.

Empiricism in Dermatologic Therapeutics.
M. L. RAVITCH, Louisville.

Primary Sarcoma of the Lower Lip. A. J. MARKLEY, Denver.

Idiopathic Atrophy of the Skin with Report of a Case.
H. G. IRVINE, Minneapolis.

Myeosis Fungoides Following Psoriasis.
HOWARD FOX, New York.

---

## SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

CHAIRMAN, GUY L. KIEFER, DETROIT; SECRETARY, C. HAMPSON JONES, BALTIMORE

**Tuesday, June 17—2 p. m.**

Chairman's Address and Oration on State Medicine: Progress in Public Health Work. GUY L. KIEFER, Detroit.

Morbidity Reports: Their Purpose and Present Status.
J. W. TRASK, Washington, D. C.

The Need for Whole-Time Health Officers.
HAROLD B. WOOD, Rochester, Minn.

**Wednesday, June 18—9 a. m.**

Experienees of a Health Officer in Porto Rico.
E. F. OTIS, Penelas, Porto Rico.

Rural Hygiene: Its Relation to Munieipal Health.
WALTON FORREST DUTTON, Carnegie, Pa.

The Treatment of Diphtheritie Carriers.
HENRY ALBERT, Iowa City, Iowa.

Publie Health Work. W. C. RUCKER, Washington, D. C.

**Wednesday, June 18—2 p. m.**

Duration of Immunity Following Small-Pox.
A. W. LESCOHIER, Detroit.

The Value of Sanitation as Applied to Railways and Other Large Corporations.
M. CLAYTON THRUSH, Norwich, N. Y.

The Epidemiology of Paratyphoid Fever.
A. W. FREEMAN, Richmond, Va.

Isolation of the Typhoid Bacillus from Milk Whieh Caused a Typhoid Outbreak.
WILLIAM ROYAL STOKES AND HARRY W STONER, Baltimore.

**Thursday, June 19—9 a. m.**

Field Work in Tubereulosis. MARY E. LAPHAM, Highland, N. C.

Early Diagnosis of Pulmonary Tubereulosis.
V. C. VAUGHAN, JR., Detroit.

**Thursday, June 19—2 p. m.**

Preventive Medieine. J. R. WILLIAMS, Rochester, N. Y.

The Backward Child in School.
FRANCIS FRONCZAK, Buffalo, N. Y.

Production of Agglutinins and Bacteriolysins by Inoculation with Mixed Typhoeolon Vaecine.
C. J. HUNT, Harrisburg, Pa.

The Use of Blood Agar in Routine Examination of Milk Sediments. F. W. HACHTEL, Baltimore.

## SECTION ON GENITO-URINARY DISEASES

MEETS IN ROOM 301, FOLWELL HALL, OLD CAMPUS

CHAIRMAN, HUGH H. YOUNG, BALTIMORE; SECRETARY, LOUIS E. SCHMIDT, CHICAGO

### Tuesday, June 17—2 p. m.

SYMPOSIUM ON DISEASES OF KIDNEY AND URETER

A Study of the Normal Kidney, Its Pelvis and Ureter, with Stereoptieon Views.
S. B. CHILDS and W. M. SPITZER, Denver.

Stereopticon Views of Pathologie Conditions of the Ureter and Kidney, with Methods of Examination and Their Bearing on Diagnosis. BRANSFORD LEWIS, St. Louis.

Renal Hematuria. W. F. BRAASCH, Rochester, Minn.

Experimental Kidney Surgery. O. S. FOWLER, Denver.

Untoward Results of Nephrolithotomy.
M. KROTOSZYNER, San Francisco.

The Use of Indigocarmin Intravenously.
HENRY DAWSON FURNISS, New York.

The Value of Various Functional Tests in the Differential Diagnosis of Renal Diseases.
JOHN T. GERAGHTY, Baltimore.

### Wednesday, June 18—9 a. m.

Ureterovesieal Cysts: An Endovesical Operative Proeedure for Their Relief. J. R. CAULK, St. Louis.

The Formation of a New Ureter: Experimental Study.
D. N. EISENDRATH, Chicago.

Implantation of the Ureter into the Bowel, with Report of Two Cases. CARL BECK, Chicago.

SYMPOSIUM ON BLADDER TUMORS

Chairman's Address: The Present Status of the Diagnosis and Treatment of Tumors of the Bladder.
HUGH H. YOUNG, Baltimore.

The Diagnosis and Treatment of Papillary, More or Less Pedunculated Tumors of the Bladder.
HOWARD A. KELLY, Baltimore.

Chronic Cystitis in Women Not a Disease.
GEORGE G. SMITH, Boston.

### Wednesday, June 18—2 p. m.

The Transverse Incision of the Skin and Abdominal Fascia as a Method of Approach in Suprapubie Operations on the Bladder and Prostate.
GRANVILLE MACGOWAN, Los Angeles.

Pathology of the Prostate, with Lantern-Slide Demonstration.
E. O. SMITH, Cincinnati.

Operative Treatment of the Vas.
EDWARD MARTIN, Philadelphia.

Radiographic Observations of Pus-Tubes in the Male.
WILLIAM T. BELFIELD, Chicago.

Surgery of the Seminal Vesieles.
J. BENTLEY SQUIER, New York.

### Thursday, June 19—9 a. m.

SYMPOSIUM ON DISEASES OF THE TESTICLE

Undescended Testicle.
B. TENNEY and H. M. CHASE, Boston.

Operative Treatment of Undeseended Testis.
ARTHUR DEAN BEVAN, Chicago.

Transplantation of the Testicle.
V. D. LESPINASSE, Chicago.

Gumma of the Testiele. JOHN H. CUNNINGHAM, JR., Boston.

The Probable Embryonie Origin of Tumors of the Testicle, with Report of Two Cases and Lantern-Slide Demonstration. A. C. STOKES, Omaha.

Primary Tubereulosis of the Genital Organs in Children.
O. LYONS, Denver.

The Operative Treatment of Genital Tuberculosis.
HUGH CABOT, Boston.

The Operation for Varicoeele.
G. S. WHITESIDE, Portland, Ore.

### Thursday, June 19—2 p. m.

The Pseudodiphtheria Organism in the Urinary Traet.
P. W. W. TOWNSEND, Rutland, Vt.

Gonorrhea: Pathology and Treatment.
CARL C. WARDEN, Los Angeles.

An Experimental Study of the Value of the Internal Use of Hexamethylenamin, with the Report of a Simple Clinical Method of Quantitative Estimation of Formaldehyd. FRANK HINMAN, Baltimore.

Indurations and Ossifieations in the Shaft of the Penis.
GUSTAV KOLISCHER, Chicago.

The Diagnosis of the Primary Syphilitie Lesion.
R. GRADWOHL, St. Louis.

Clinical and Laboratory Salvarsan Relapses and Their Remedy. M. L. HEIDINGSFELD, Cincinnati.

Progress in the Treatment of Syphilis.
VICTOR VECKI, San Francisco.

---

## SECTION ON HOSPITALS

MEETS IN PHARMACY BUILDING (OLD MILLARD HALL), OLD CAMPUS

OFFICERS OF SECTION

CHAIRMAN, H. B. HOWARD, BOSTON; SECRETARY, JOHN A. HORNSBY, CHICAGO

### Tuesday, June 17—2 p. m.

Chairman's Address: H. B. HOWARD, Boston.

SYMPOSIUM ON HOSPITAL ARCHITECTURE

The Trend of European Hospital Arehiteeture.
EDWARD F. STEVENS, Boston.

Arehitecture of the Great Charity Hospital.
RICHARD E. SCHMIDT, Chicago.

Architeeture of the Modern Hospital for Contagious Diseases.
L. A. LAMOREAUX, Minneapolis.

Equipment of a Small Hospital. Making Over a Dwelling House. JOHN ALLAN HORNSBY, Chicago.

### Wednesday, June 18—9 a. m.

Selection of Hospital Help under Civid Serviee Rules.
LEONHARD FELIX FULD, New York.

Administration of the Great Charity Hospital.
RUPERT NORTON, Baltimore.

Hospital and Asylum Work Shops: Some Possibilities of Handicapped Labor.
HERBERT J. HALL, Marblehead, Mass.

Possibilities in the Routine Praetice of a Small Hospital.
HERBERT C. COLE, Bogalusa, La.

The Psyehopathie Idea. E. E. SOUTHARD, Boston.

Report on the Present Status in the Campaign for the Standardization and Classifieation of Hospitals.
HENRY M. HURD, Baltimore.

### Thursday, June 19—9 a. m.

SYMPOSIUM ON TRAINED NURSING

Efficiency Versus Routine in Hospital Nursing.
W. GILMAN THOMPSON, New York.

The Trained Nurse from the Standpoint of the Attending Surgeon. ARTHUR DEAN BEVAN, Chicago.

The Trained Nurse of the Future.
RICHARD O. BEARD, Minneapolis.

The Nursing Situation as It Is To-day.
JOSEPH B. HOWLAND, Boston.

## SECTION ON ORTHOPEDIC SURGERY

CHAIRMAN, NEWTON M. SHAFFER, NEW YORK; SECRETARY, JOHN RIDLON, CHICAGO

### Tuesday, June 17—2 p. m.

Chairman's Address: The Functions of the Knee-Joint, with Especial Reference to Mechanical Treatment of Acute and Chronic Lesions of the Articulations.
NEWTON M. SHAFFER, New York.

New Immigration as It Affects Orthopedic Surgery.
WALLACE BLANCHARD, Chicago.

Infected Joints from Diseased Tonsils and Teeth or Other Diseased Parts. J. W. COKENOWER, Des Moines, Iowa.

Charcot Joints as an Initial or Early Symptom of Tabes Dorsalis. HENRY LING TAYLOR, New York.

Causes of Error in the Diagnosis of Joint Disease.
WISNER R. TOWNSEND, New York.

### Wednesday, June 18—9 a. m.

Injections in Treatment of Joint Tuberculosis.
LEONARD W. ELY, Denver.

Conservative Treatment of Hip-Joint Disease.
JAMES K. YOUNG, Philadelphia.

Results in Non-Surgical Treatment of Joint Tuberculosis.
H. WINNETT ORR, Lincoln, Neb.

Tuberculosis of the Hip: An Analysis of the Present Methods.
NATHAN ALLISON, St. Louis.

Pathologic Deviations in the Size of Bone.
S. L. MCCURDY, Pittsburgh.

### Wednesday, June 18—2 p. m.

Hip-Fractures, Their Adequate Treatment.
F. J. COTTON, Boston.

Ivory Plates and Screws to Hold Fractures.
PAUL B. MAGNUSON, Chicago.

Surgery of Spine Transplants. HARRY B. THOMAS, Chicago.

The Fate of Transplanted Bone and of Detached Fragments in Comminuted Fractures. D. B. PHEMISTER, Chicago.

Bone-Graft Treatment for Pott's Disease, Ununited Fractures and Certain Deformities. FRED H. ALBEE, New York.

Results Obtained by Operating on the Spine for Pott's Disease.
JOHN JOSEPH NUTT, New York.

### Thursday, June 19—9 a. m.

Hollow Foot, Pes Cavus. CHARLES A. PARKER, Chicago.

Anatomic Variations in the Human Foot and Their Importance in the Selection of Footwear.
CHARLES F. PAINTER, Boston.

Rôle of the Tendo Achillis in the Etiology of Weak Foot.
EMIL GEIST, Minneapolis.

Surgery of Infantile Paralysis. EDWARD W. RYERSON, Chicago.

Silk Tendons, Their Uses and Limitations.
HARRY M. SHERMAN, San Francisco.

Criticism of Lange's Silk Ligaments in Paralytic Surgery and Substitutes Therefor. EDWARD A. RICH, Tacoma, Wash.

### Thursday, June 19—2 p. m.

The Whitman Operation for Talipes Calcaneus Paralyticus. Results in Eighteen Cases. JOHN P. LORD, Omaha.

Rational Treatment of Extreme Scoliosis.
E. A. RICH, Tacoma, Wash.

The Fixed Structural Type of Spinal Lateral Curvature.
R. O. MEISENBACH, Buffalo, N. Y.

Relation of Politics to the State Care of Crippled.
H. W. ORR, Lincoln, Neb.

Osteochondritis Dissecans: Three Cases.
JOHN RIDLON, Chicago.

Disarticulation at the Knee-Joint.
F. J. GAENSLEN, Milwaukee, Wis.

## OUTLOOK OF THE SCIENTIFIC EXHIBIT FOR THE MINNEAPOLIS MEETING

It is a pleasure to announce that the outlook of the Scientific Exhibit for the coming meeting is most encouraging. The new Institute of Anatomy Building, chosen to house the exhibit, affords ample facilities for any scientific presentation which may be desired. The location is advantageous with reference to Registration Headquarters and the meeting-places of sections. The building is three stories high, well lighted and admirably arranged. It contains several lecture-rooms with lantern and like equipment, large rooms suited to the arrangement of allied groups and smaller rooms adapted to the demonstration of individual exhibits. These very attractive features will appeal with force to scientific workers who have often chafed under the unavoidable shortcomings of quarters offered. In fact, the facilities which will be offered this year are so good that there is danger it may spoil us for accepting gracefully the quarters which necessity may force on us at succeeding meetings.

For twelve years exhibitors have been so often besought to make systematic demonstrations of their exhibits that the exhortation has become trite. The sentiment in favor of and the practice of carrying on these demonstrations has grown very slowly, partly from failure to appreciate the opportunity given, and partly because of lack of facilities. Scientific workers are coming to realize that such demonstrations not only are instructive to the hundreds who see them, but also afford unusual opportunity for the scientific investigator to show to the medical world the fruits of his research.

In the realm of pathology, numerous research exhibits will be presented at the coming meeting. Noteworthy will be those relating to cancer and thyroid disease, which will be very fully illuminated by material from the very best sources, giving the latest on the subjects. Those interested in these topics or having pathologic material illustrating them should communicate with Dr. Louis B. Wilson, Rochester, Minn.

The great prominence which pathology has always occupied in the exhibit should not discourage but rather stimulate other fundamental branches to larger representation. One of the most striking exhibits shown a year ago was in the field of experimental physiology. Experimental pharmacology should certainly be able to contribute something of great interest. Anatomy has given assurance of creditable representation.

An exhibit of great practical interest will be that by the Committee on Anesthesia, showing recent advances in anesthesia. Exhibits of work in the physiology, pathology and pharmacology of the subject, and of apparatus and methods will be received. Commercial houses will not be permitted to give exhibits. Arrangements for clinical demonstrations will be made if possible. The purpose of the exhibit is to bring together men interested in anesthesia from all parts of the country, and to give them an opportunity to profit by one another's work. Those wishing to take part in this exhibit will address Dr. W. D. Gatch, Chairman of the Committee on Anesthesia, Room 605, Hume-Mansur Building, Indianapolis.

It is hoped to secure from year to year larger participation by those engaged in the work of clinical medicine and surgery. One of the greatest difficulties and most important phases in the future evolution of the Scientific Exhibit, is to bring the clinicians into closer touch with this work. The participants in Section programs should likewise give tangible and convincing demonstrations in the Scientific Exhibit. There is hope that some advance will be made at the coming session in this direction.

Radiography has recently attained such importance in diagnosis that it will of necessity occupy a prominent position at this session. It is proposed this year to confine the work largely to the recognition of pulmonary and gastro-intestinal conditions. The assembling of these exhibits will be in charge of Dr. R. D. Carmen of Rochester, Minn. Those who contemplate participating should make known to him in good season their intention, indicating the subject and the number and size of plates to be shown.

Public health and hospital exhibits will be limited to the newer things, such as devices for teaching the laity the lessons of hygiene, disease causation and prevention; motion pictures and automatic lantern exhibits.

As heretofore, certificates of honor will be awarded to a few of the especially meritorious exhibits. A gold medal will be given for the best research exhibit relating to any of the fundamental branches of medicine. This, however, does not make it obligatory for all research exhibits to be entered in competition.

Inquiries concerning the character and amount of space desired, apparatus or equipment, should be directed to Dr. Thomas G. Lee, Institute of Anatomy, University of Minnesota, Minneapolis. Exhibits should be shipped in ample time to arrive by Thursday, June 12. This will permit installation not later than Monday, and make certain that the exhibits will be in position for the inspection of the hundreds of visitors who will come on Tuesday morning.

Prospective exhibitors are requested to make known their intentions to the director, Dr. Frank B. Wynn, 311 Newton Claypool Building, Indianapolis, at the earliest possible date, giving the scope and character of what it is desired to show.

## BUREAUS OF INFORMATION

Members of a committee of reception will be assigned to each railway station and will meet and direct arriving guests to their hotel destinations. Bureaus of information will be established at stations, hotels and meeting-places for consultation with visitors. A special committee of women physicians will take care of their professional associates, considerable numbers of whom will attend the meeting from abroad.

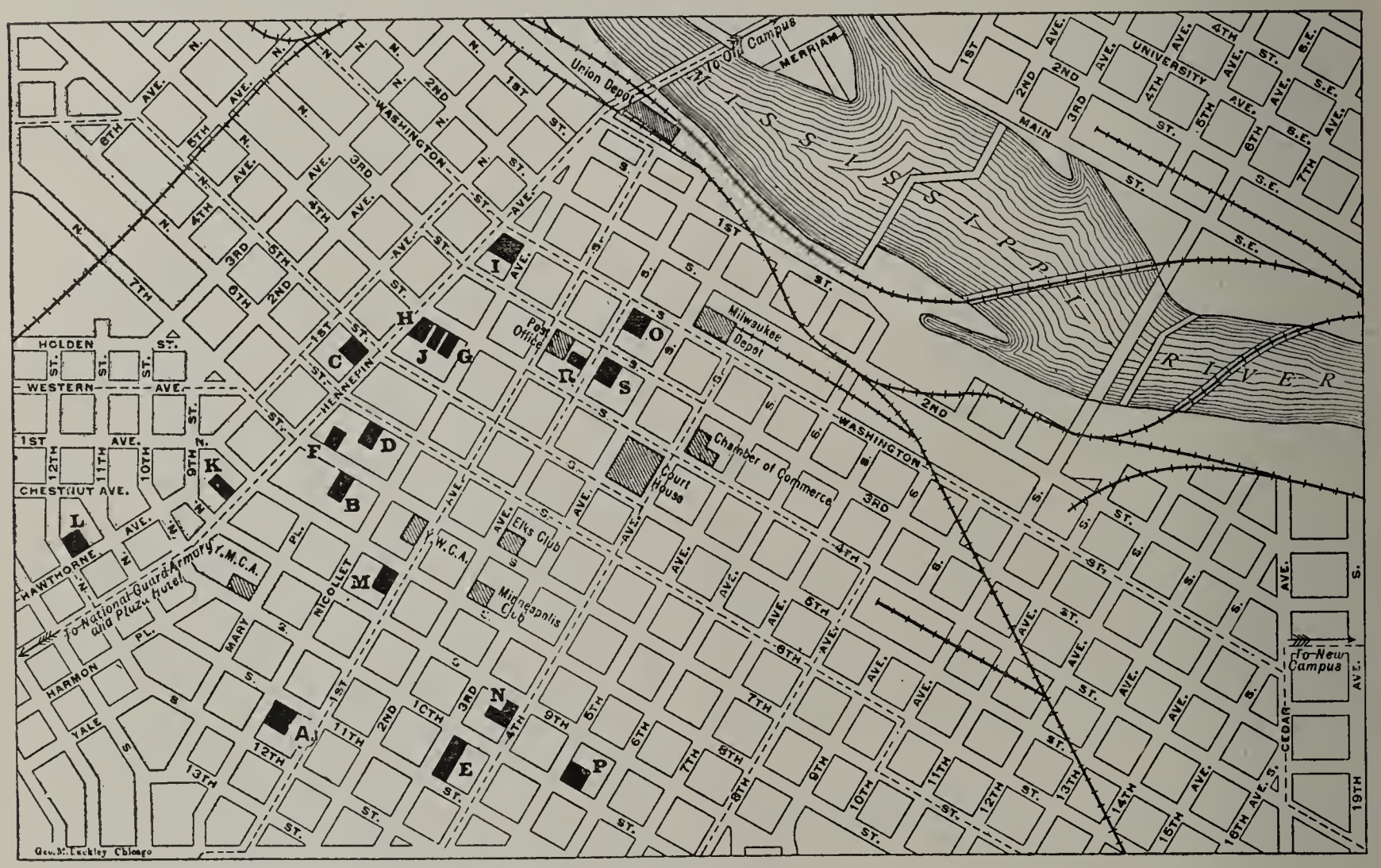



Fig. 19.—The Business Center of Minneapolis.

### KEY TO MINNEAPOLIS MAP

A. AUDITORIUM. Nicollet Ave. and S. 11th St.—OPENING MEETING.

B. RADISSON. S. 7th St., between Hennepin and Nicollet Ave.—GENERAL HEADQUARTERS.

C. WEST. Hennepin and N. 5th St.—PRACTICE OF MEDICINE, PATHOLOGY AND PHYSIOLOGY, DERMATOLOGY, HOSPITALS, NERVOUS AND MENTAL DISEASES.

D. DYCKMAN. S. 6th St., between Hennepin and Nicollet Ave.—OPHTHALMOLOGY.

E. LEAMINGTON. 3d Ave. South, and 10th St.—SURGERY.

F. MAJESTIC. Hennepin Ave. and S. 7th St.—PHARMACOLOGY AND THERAPEUTICS, DISEASES OF CHILDREN.

G. ROGERS. Nicollet Ave. and S. 4th St.—PREVENTIVE MEDICINE AND PUBLIC HEALTH.

H. ANDREWS. Hennepin and S. 4th St.—OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY.

I. NICOLLET. Washington and Hennepin Aves.—STOMATOLOGY.

J. VENDOME. South 4th St., between Hennepin and Nicollet Ave.—GENITO-URINARY DISEASES.

(NOTE: Plaza, 17th and Hennepin Ave.—LARYNGOLOGY, OTOLOGY AND RHINOLOGY. Southwest on Hennepin Ave., beyond area shown in map. ST. PAUL HOTEL, St. Paul—ORTHOPEDIC SURGERY.)

[NOTE: A table of hotels and rates is on page 1505.]

### EXPLANATION OF STREET CAR SERVICE

There are two street car lines leading from the center of Minneapolis to the Campus. Cars moving south-east on South Washington Street, marked "Minneapolis and St. Paul" go to the New Campus, passing through the Campus on Washington Avenue, South-East. This line goes directly to St. Paul.

Cars moving north-east on Hennepin Avenue, marked "Como-Harriet" and "Oak and Harriet," pass the Union Station, crossing the Mississippi River and approaching the Old Campus on Fourth Street, South-East. The Old Campus may be entered either from Fourteenth Avenue, South-East, or Fifteenth Avenue, South-East. The Como-Harriet line terminates in St. Paul. From both the Old and New Campus the lines mentioned return to Minneapolis by the same route taken in going to the Campus.

From St. Paul, the Old Campus is approached by the Como-Harriet cars, and the New Campus by cars marked "St. Paul-Minneapolis."

## THE MEETING-PLACES

The Campus of the University of Minnesota is divided by the tracks of the Northern Pacific Railroad into two parts. That north of the railroad is known as the Old Campus, the part south of the railroad tracks, as the New Campus.

The meeting places are listed in recognition of this division as follows:

### OLD CAMPUS

1. BUREAU OF REGISTRATION, BUREAU OF INFORMATION, POST-OFFICE AND COMMERCIAL EXHIBIT—ARMORY.
3. SURGERY—LIBRARY, Chapel.
4. OPHTHALMOLOGY—LAW SCHOOL, Room 106.
5. LARYNGOLOGY, OTOLOGY AND RHINOLOGY—SHEVLIN HALL, Assembly Room.
7. DISEASES OF CHILDREN—PHYSICS BUILDING, Lecture Room.
9. STOMATOLOGY—COLLEGE OF DENTISTRY, Room 308

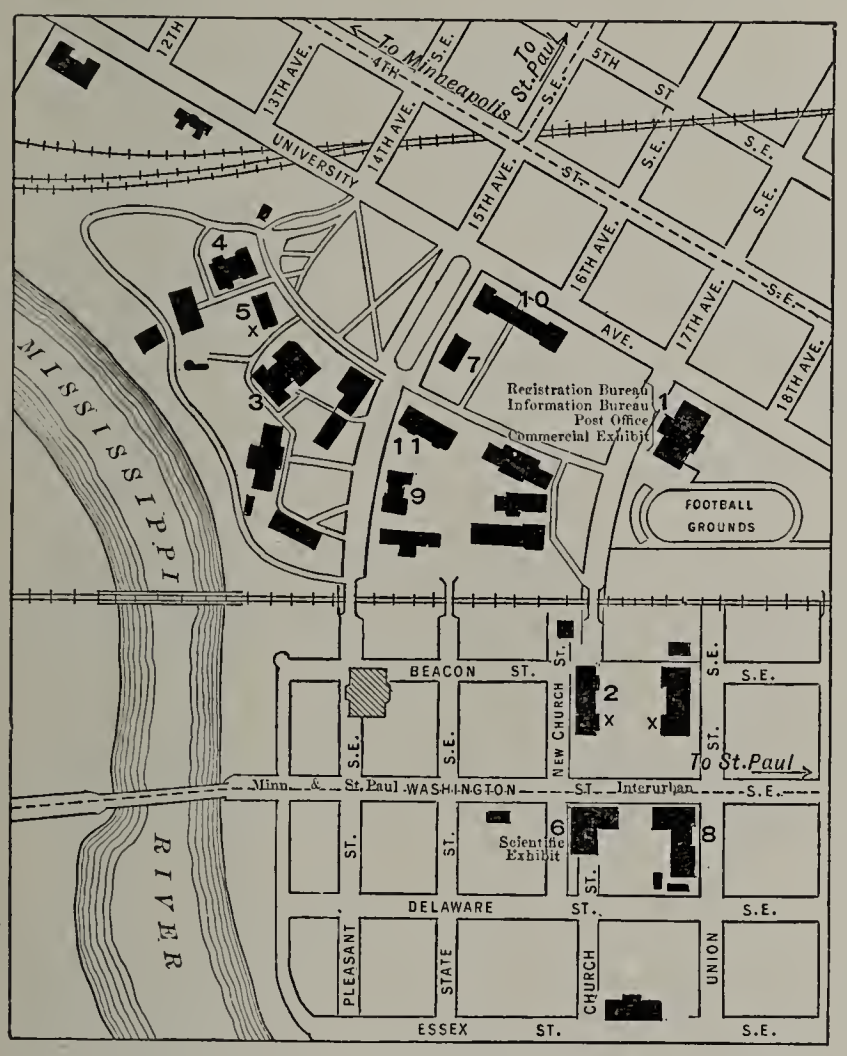



Fig. 20.—The Scientific Meeting-Places.

10. NERVOUS AND MENTAL DISEASES—FOLWELL HALL, Room 311.
10. DERMATOLOGY—FOLWELL HALL, Room 214.
10. GENITO-URINARY DISEASES—FOLWELL HALL, Room 301.
11 HOSPITALS—CHEMISTRY BUILDING, Amphitheater.

### NEW CAMPUS

2. HOUSE OF DELEGATES—ENGINEERING BUILDING, Library.
2. PRACTICE OF MEDICINE—ENGINEERING BUILDING, AUDITORIUM, Room 305.
6. OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY—INSTITUTE OF ANATOMY, AMPHITHEATER, Room 102.
8. PHARMACOLOGY AND THERAPEUTICS—MILLARD HALL, Room 214.
6. PATHOLOGY AND PHYSIOLOGY—INSTITUTE OF ANATOMY, Room 104.
8. PREVENTIVE MEDICINE AND PUBLIC HEALTH—MILLARD HALL, Room 128.
2. ORTHOPEDIC SURGERY—ENGINEERING BUILDING, Room 106.
6 SCIENTIFIC EXHIBIT—INSTITUTE OF ANATOMY.

## POST-OFFICES AND TELEPHONES

An *Association Post-Office* will be maintained at the Registration Department in the Armory on the *University Campus*. Guests are requested to order mail addressed to them in these italicized terms or to their hotels, as preferred.

Telephone booths will be provided at each meeting-place for the use of members.

## THE SCIENTIFIC EXHIBIT

The Scientific Exhibit of the Association meeting will be displayed in the Institute of Anatomy on the new campus, where ample room, superior lighting and suitable equipment will enhance the values of the exhibits presented. An announcement by the director of the Scientific Exhibit appears on page 1455.

## REGISTRATION

### The Importance of Registering Early—A Few Instructions Given

The Bureau of Registration will be located on the Campus of the University of Minnesota in the University Armory. A committee of sixteen local physicians will assist members in registration.

A branch post-office will be opened and a Bureau of Information established in connection with the Registration Bureau.

Members must register in order to obtain the official badge and program. The badge will be necessary for admission to entertainments. All are urged to register as soon as they can name their hotels.

The Registration Department will be open from 8:30 a. m. to 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 16, 17, 18 and 19, and from 9 to 10 a. m. on Friday, June 20.

Attention is called to the following directions:

1. Each physician desiring to register will first fill out the registration card. One should write very plainly, or print, as the cards are given to the printer to use as "copy" for putting the names in the daily *Bulletin*.

2. *Each member who has paid his annual dues* in full will present his pocket card (which was sent him from the Chicago office) and his filled-out registration card at a window marked "Registration by Pocket Card."

3. A delay, in order that the records may be consulted, always inconveniences those members who have paid their dues but who fail to present their pocket cards, as suggested above. Be sure to bring your "pocket card."

4. *Members who have not paid* their dues will present registration card and make payment at a window marked "Cash."

5. *Each applicant for membership* will present his registration card at the window marked "New Members," with a certificate of membership in his state society. Prospective members, however, will save delay and annoyance by sending in their applications before the session. All such applications should be mailed to the American Medical Association, 535 Dearborn Avenue, Chicago, so as to arrive not later than June 5.

6. Each member on registering will receive a badge, a copy of the Official Program containing a full announcement of the scientific proceedings, invitations to the social functions, and such other notices as may be of interest.

## STATE SECRETARIES' MEETING

The Association of State Secretaries and Editors will hold its seventh annual meeting at Minneapolis at 7 o'clock in the evening of June 16. A further announcement will be made by its secretary.

## PUBLIC HEALTH SUNDAY

The week of the Association meeting in Minneapolis will be opened with Public Health Sunday, June 15. The Ministers'

Associations, the Bishop of the Diocese and the Episcopal clergy, and the individual churches of the city, have almost unanimously joined this movement and will devote one or more of the services of the day to the discussion of health topics of large public interest. The Council on Health and Public Instruction will provide for each pulpit which extends an invitation a trained public speaker, who will assist the pastor in the presentation of a chosen theme. The occasion will be a notable one and will awaken public interest, not only in the meeting of the Association, but also in the more permanently important questions of personal hygiene and communal sanitation.

## NOONDAY LUNCHEONS

At the noon hours of Tuesday, Wednesday and Thursday, June 17, 18 and 19, a complimentary buffet luncheon will be served at several points on the University Campus, for attending physicians and attendants on exhibits.

These luncheons will be had in Shevlin Hall, on the old Campus, and at the main engineering building and the experimental engineering laboratory on the new Campus. (X on University Campus map.) Ample provision will be made for the visiting members of the Association.

## THE PRESIDENT'S RECEPTION

The President's reception on Wednesday evening, June 18, will be given in the National Guard Armory, on the Parade, opposite Loring Park. Dancing will follow the reception proper, and music will be furnished by the First Regiment Band. The Armory annex will be transformed into an indoor garden, which will serve as an attractive lounging-place for guests. A number of refreshment tables will be scattered about the annex garden and the Minneapolis Symphony Orchestra will render a musical program in this attractive retreat.

## SOCIAL ENTERTAINMENTS

Minneapolis is a city which is fair to behold alike in its commercial center, its residence districts, its intra-urban parks and parkways and its beautiful suburban surroundings. Automobile drives will be planned for the intervals between the meetings, which will give the city's guests the opportunity to appreciate these beauties.

While the doctors deliberate, the Ladies' Committee on Entertainment will be busy with the wives and daughters of visiting members.

Ladies, on reaching the city, are urged to make their official registration, through the medical members, at the University Armory and then to appear at the Ladies' Headquarters at the Radisson Hotel and register there. This will enable them to secure official programs of entertainment, to select the opportunities of excursion they prefer and to obtain tickets for selected trips.

Ladies of the committee will always be in attendance at headquarters Radisson Hotel to give any information desired in the way of addresses, routes of transit, railway transportation, hours of entertainment, etc. Visitors who wish to shop will receive directions or will be piloted to stores they care to visit.

Afternoon tea will be served at the Ladies' Headquarters every day from 3 to 5 o'clock. A rest-room will be always available.

Tuesday afternoon, June 17, Mrs. W. A. Jones and Mrs. Horace Lowry will extend invitations to musicales to be given at their homes. Wednesday, June 18, the women guests will be taken for a day's outing to Lake Minnetonka, under the guidance of Mrs. A. W. Abbott. The excursion will be made by trolley and will include luncheon at the Lafayette Club, a tour of the lake if the weather is favorable, and a return by special train in the afternoon. Thursday, June 19, will be spent by the women visitors at the Minnekahda Club, under the leadership of Mrs. Arthur A. Law. In the morning at 11 o'clock, a bridge tournament, a putting contest and a tennis tournament will be arranged. From 12:30 to 2 luncheon will be had at the club. Further matches will be concluded in the afternoon and prizes will be awarded. At 4:30, tea will be served, to which the men of the Association will also be invited. On both Thursday and Friday mornings, June 19 and 20, automobile drives will be arranged for the women, under the directorship of Mrs. A. S. Hamilton. Preference will be given, on Thursday, to those visitors who cannot remain in the city on the succeeding day, and who may not wish to spend the entire day at the Minnekahda Club. On the afternoon of Friday, June 20, Mrs. Willis Walker will give a tea to the visiting women in the Walker Art Galleries.

These more formal plans will interest the majority of the visitors; but for any groups of women who may be interested, shorter trips will be arranged, with committee guides, to the public or private hospitals, to the public library, the art galleries, the flour mills, the public baths, the filtration plant, the city playgrounds, the charitable institutions, the state capitol at St. Paul, etc.

## ENTERTAINMENT TENDERED BY THE PROFESSION OF MEDICINE IN ST. PAUL

Thursday evening, June 19, at 8 o'clock, the members of the Association and their ladies are cordially invited to be the guests of the physicians of St. Paul.

An entertainment will be given and refreshments will be served in St. Paul's great Auditorium, which is amply large enough to accommodate all who may wish to come. For visitors staying in St. Paul, it will be but a few steps to the Auditorium. Automobiles will be provided for those who are in attendance on meetings at the University, and the several interurban trolley lines furnish frequent service to the Auditorium for any who prefer to come in that way. No pains will be spared to make the evening one of delight.

## ALUMNI REUNIONS

Alumni Associations that may desire to hold reunions during the meetings of the American Medical Association are requested to communicate, through their secretaries, with Dr. E. K. Green, Secretary of the Committee on Alumni Meetings, Reid Corner, Minneapolis, the date desired for such meetings and any suggestions of entertainments they may wish to provide should be stated. Places of meeting or entertainment will be selected for them on request.

## THE SECTION BANQUETS

The customary banquets of the sections of the Association will occur on Tuesday evening, June 17, at 7:30 o'clock (unless otherwise announced). Tickets are obtainable from the secretaries of the respective sections.

Arrangements have been completed for the following entertainments:

The Section on Medicine at Donaldson's Café.

The Section on Surgery at the West Hotel.

The Section on Nervous and Mental Diseases at the Interlachen Club.

The Section on Obstetrics, Gynecology and Abdominal Surgery at the Radisson Hotel.

The Section on Diseases of Children at the Minneapolis Club, at 7 p. m.

The Sections on Ophthalmology, and on Laryngology, Rhinology and Otology at the Dyckman Hotel.

The Section on Orthopedics, St. Paul (place unannounced).

## BANQUET OF WOMEN PHYSICIANS

The Annual Banquet of the Women Physicians of the Association will be given at the Hotel Leamington, on Third Avenue and Tenth Street South, Tuesday evening, June 17, at 7:30 o'clock. Cards for the banquet will be obtainable at the Registration Bureau.

The Committee for Public Health Education Among Women will meet at 7:30 p. m., Monday, June 16, in Room 128, Millard Hall.

## PROGRAM OF CLINICS

The Committee on Clinics has arranged for a public lecture by an eminent member of the profession from abroad, Monday afternoon, June 16, at 2 o'clock, in the University Chapel. Also on June 16, at 8 p. m. in the University Chapel, Dr. Theodore H. Weisenburg of Philadelphia will give a series of moving pictures illustrating various phases of nervous diseases. Arrangements, as yet incomplete, will be made for a Friday afternoon and evening program. Saturday morning, June 21, operative clinics will be conducted by local surgeons in all of the leading hospitals in Minneapolis.

## LOCAL COMMITTEE ON ARRANGEMENTS

Frank C. Todd, Chairman.

Jennings C. Litzenberg, Sec. Charles G. Weston, Treas.

COMMITTEE ON FINANCE

George Douglas Head, Chairman. Earle R. Hare, Secretary.

COMMITTEE ON CLINICS

James E. Moore, Chairman. A. C. Strachauer, Secretary

COMMITTEE ON ENTERTAINMENT

Thomas S. Roberts, Chairman. J. Fowler Avery, Secretary.

COMMITTEE ON SECTION ENTERTAINMENTS

Archa E. Wilcox, Chairman. R. T. LaVake, Secretary.

COMMITTEE ON OUTSIDE EXCURSIONS

H. H. Kimball, Chairman. John H. Morse, Secretary

COMMITTEE ON SCIENTIFIC EXHIBITS

Thomas G. Lee, Chairman. Fred L. Adair, Secretary

COMMITTEE ON AUTOMOBILE DRIVES

E. C. Robitshek, Chairman. Charles E. Dutton, Secretary.

COMMITTEE ON REGISTRATION

Arthur T. Mann, Chairman. A. S. Hamilton, Secretary

COMMITTEE ON HOTELS

S. Marx White, Chairman. E. J. Huenekens, Secretary

COMMITTEE ON HALLS AND MEETING PLACES

H. E. Robertson, Chairman. E. T. Bell, Secretary

COMMITTEE ON POSTOFFICES AND TELEPHONES

C. A. Donaldson, Chairman. C. O. Maland, Secretary.

COMMITTEE ON ALUMNI MEETINGS

Richard J. Hill, Chairman. E. K. Green, Secretary.

COMMITTEE ON PRINTING

J. Grosvenor Cross, Chairman. E. S. Strout, Secretary.

COMMITTEE ON NON-AFFILIATED ORGANIZATIONS

Horace Newhart, Chairman. W. H. Condit, Secretary.

COMMITTEE ON PRESS AND PUBLICITY

Richard Olding Beard, Chairman. S. E. Kerrick, Secretary

COMMITTEE ON PROGRAM

John W. Bell, Chairman. E. J. Huenekens, Secretary

COMMITTEE ON WOMEN PHYSICIANS

Eleanor J. Hill, Chairman. Laura Lane, Secretary

COMMITTEE ON RECEPTION AT RAILROADS

F. A. Knights, Chairman. M. J. Lynch, Secretary

COMMITTEE ON COMMERCIAL EXHIBITS

Charles H. Bradley, Chairman. A. E. Hedback, Secretary

COMMITTEE ON GENERAL HOSPITALITY, INFORMATION AND ATTENDANCE

Arthur E. Benjamin, Chairman. C. H. Keene, Secretary

COMMITTEE ON LOCAL TRANSPORTATION

A. H. Parks, Chairman. E. A. Moren, Secretary

COMMITTEE ON PRESIDENT'S RECEPTION

Arthur A. Law, Chairman. Henry Wireman Cook, Secretary.

*CONTINUED ON PAGE 1504*

# *Special Article*

## BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

*(Continued from page 1361)*

### *VACCINE THERAPY AND SERUM THERAPY DEFINED*

That the popularity of clinical vaccine therapy has far exceeded its scientific aspects is clearly shown by the still prevailing uncertainty which exists in the minds of many relative to the exact nature of serum and vaccine therapy. In the lay mind all efforts in the direction of biologic therapy are classed as serum therapy, and even among physicians it is common to find this confusion. Except for the extracts used in organotherapy, it is not unusual to find both laymen and physicians designating all biologic products as "serums" and all biologic therapy as "serum therapy."

As far as practical medicine is concerned serum therapy was the predecessor of vaccine therapy by about fifteen years. Serum therapy is a method of producing passive immunity for either protective or curative purposes by the introduction of the blood-serum of another animal which has been immunized by injecting bacterial toxins or the bacteria themselves. Sometimes both toxins and bacteria are used. A curative or protective serum, then, is actually the serum of the blood of an immunized animal. It contains no bacteria, living or killed, or any immediate products of bacterial growth. It conveys the antibodies resulting from the contest between the animal furnishing it, and the bacteria or bacterial products (antigens) used to immunize that animal.

Vaccine therapy is a method of producing an active immunity by the injection of bacteria or their products directly into the patient. It gives immunity at first hand, as distinguished from serum therapy, which gives it at second hand. The active agent in vaccine therapy is the *bacterial vaccine,* which is actually a suspension of bacteria in water or in normal salt solution. All the bacterial vaccines in general use consist of bacteria killed by heat, and almost without exception a disinfectant is added to the suspension of killed bacteria to serve as a preservative. Bacterial vaccines contain no blood-serum; in fact, the standard vaccines contain no animal substance whatever. Accordingly, it will be seen that they differ from the therapeutic serums in the most substantial particulars. They are thin watery mixtures, more or less cloudy, according to the number of included killed bacteria, which usually can readily be identified by microscopic examination, in contrast to the thicker, sticky, generally clear serum, with its "horsey" odor, in which no bacteria are contained. In fact, the differences are so obvious, and the properties of these two classes of biologic remedies are so much at variance, that it seems a reproach to the general intelligence of our profession that physicians should still persist in calling all therapeutic immunizing agents "serums."

### *PREPARATION OF BACTERIAL VACCINES*

While a physician who uses bacterial vaccines need not make them himself, he should at least know how they are prepared.

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

*Pure Cultures.*—With few exceptions, the starting-point of a bacterial vaccine is a pure culture of the particular species of bacterium whose vaccine is desired. This means that one who prepares a vaccine should be able to identify the various species of bacteria, and further that he should be able to assure himself of the purity of his culture; that is, of the absence of other species of bacteria aside from the one desired.

When the bacterial species is a common and well-known one, and especially when this species occurs in pure culture in the pus or other diseased material, the vaccine maker has a comparatively easy task. For instance, pus from an ordinary boil, as a rule, yields *Staphylococcus aureus* in unmixed culture, and the germs grow readily on ordinary culture mediums like agar; but the pus from a specific urethritis yields the gonococcus much more grudgingly, both because the gonococcus requires a special medium (serum or ascitic agar), and because it is almost always mixed in the pus with other bacteria; the other species usually multiply more rapidly and tend to hinder the growth of the gonococcus. In the case of influenza and whooping-cough, the isolation of the influenza bacillus of Pfeiffer, or of the pertussis bacillus of Bordet-Gengou from the muco purulent secretion of the respiratory passages is a task which often overtaxes the bacteriologist, for these species grow scantily, even on blood-agar, and are intimately mixed with a variety of other bacteria.

*Separation of Colonies.*—In order to obtain a pure culture from pus or other substance containing several bacteria, it is necessary to spread the material or a dilution of it over the surface of some solid medium, like agar, so thinly that the individual bacteria will grow in separate colonies. These colonies have characteristic modes of growth by which they can be recognized, or they may be identified by a microscopic examination. The members of a colony are with rare exceptions all individuals of the same species. Colonies of the desired species are transferred to a suitable medium in which they produce an abundant growth of a pure culture. The purity of the culture can be determined at any time by planting it on a suitable solid medium and observing whether bacteria of any other species than that desired grow on the medium.

### BACTERIAL SUSPENSION

Once the problem of a pure culture has been solved, the next step in preparing a vaccine is to secure a sufficient growth, or in other words, to have the bacteria multiply to the requisite degree to furnish the basis of a vaccine. Solid culture-mediums are almost exclusively used for growing bacteria for vaccines. The rate of growth depends on the kind of medium and on the particular growth-rate of a given species. Staphylococci and colon and typhoid bacilli grow rapidly on ordinary mediums; but streptococci, pneumococci, gonococci and meningococci grow slowly or not at all on ordinary nutrient agar, and require special mediums like solidified serum or serum-agar (Loeffler's medium) for the production of a sufficient culture. Once having attained the optimum of its growth, usually after twenty-four or forty-eight hours in the incubator at blood heat, a culture should be converted into vaccine. With sterile saline solution as a menstruum, the culture is washed or scraped from the surface of its medium, and this rough emulsion or suspension is transferred to a proper receptacle and subjected to shaking sufficient to break up bacterial masses and to make a smooth mixture. Sometimes it is necessary to filter the suspension through cotton or coarse filter-paper, or to centrifuge it to precipitate or get rid of the coarser masses of bacteria. A uniform suspension having been made, the mixture of bacteria is ready for the further step—sterilization.

*Sterilizing the Vaccine.*—Heating the bacterial suspension in a water-bath to a temperature of 60 C. (140 F.), maintained from fifteen minutes to one hour, generally suffices to kill the bacteria. If the receptacle of the suspension is a bulb hermetically sealed, it is bodily introduced into the water; but if a flask or vial is used as container to which the final suspension is transferred, care must be exercised to avoid contamination of its sides, neck or stopper with bacteria which, not being immersed, do not receive sufficient heat to sterilize them. To test the sterility of the suspension, a portion of it is transplanted to proper mediums to see if any growth will occur. If no growth occurs the vaccine is sterile.

*Objection to Heat-Killed Vaccines.*—Sterilization by heat was adopted by Wright in the preparation of vaccines. Objections have been raised on the ground that the protoplasmic changes which attend the thermal death-point of bacteria are accompanied with chemical alterations of such character as to minimize or destroy the original immunizing value of the bacteria. To escape the supposed faults in heat-killed vaccines, some authorities have advocated *chemical sterilization* by the agency of phenol or cresol solutions. There is not sufficient evidence, however, to justify the general adoption of this method. It is more dangerous since it places dependence on only one means of devitalizing. Moreover, the vaccines are as a rule more irritating in their local reactions, and no more effective therapeutically.

### STANDARDIZING

The method devised by Wright for setting a standard for bacterial vaccines, the actual counting of the bacteria, has been generally adopted.

The enumeration of the bacteria in a bacterial suspension is performed by comparing the number of bacteria with the red cell count of human blood in which, of course, the number per unit volume (cubic millimeter, for instance) is established within limits sufficiently accurate for practical purposes. The number of bacteria per cubic centimeter is estimated by mixing equal volumes of defibrinated blood and of bacterial suspension, diluting about five times, and smearing on a slide. The smear is stained with a Romanowski stain, and the number of red corpuscles and also that of the bacteria in the same volume of mixture are computed.

Since the number of corpuscles in human blood is about 5 million per cubic millimeter, by a comparison of the number of the bacteria with the number of corpuscles in the average of a number of fields examined, the number of bacteria per cubic millimeter in the original mixture can readily be estimated. From this the number per cubic centimeter can easily be calculated. The original suspension can then be diluted so that the vaccine ready for use will contain 1,000 million or 100 million per cubic centimeter, or whatever number is selected as the standard.

In application this method is little if at all more difficult than the performance of an ordinary blood-count for red cells or leukocytes. Any physician who can make a blood-count can standardize a bacterial suspension.

Instead of standardizing vaccines by number of bacteria per cubic centimeter, it has been proposed to use the density of the liquid or the weight of the dried bac-

terial residue as standards. These, however, have not yet come into use.

*Dilution of Vaccine.*—A bacterial suspension, properly sterilized and standardized, must be diluted to a point at which a certain dose of bacteria is contained in a convenient quantity of fluid. The original suspensions, particularly of rapidly growing species, are too concentrated for convenience, although most manufacturers keep their stock in these concentrated suspensions. Commercial vaccines as now offered for sale are generally diluted so that a single average dose is present in a syringe or other container. But when a physician prepares his own vaccines it is desirable to carry the dilution only to a degree sufficient to give in a cubic centimeter a maximum dose of that particular bacterial species, fractions of which can be taken for reduced dosage. A concentrated suspension from a single culture-tube of slanted agar amounting to 5 or 10 c.c. in original bulk, should be diluted to 25, 50 or 100 c.c., depending on the number of bacteria contained in the original suspension, and the maximum number desired in a cubic centimeter of the finished vaccine. The diluent commonly employed is sterilized saline solution.

*Chemical Preservative.*—Almost without exception, workers with vaccines of killed bacteria add some germicide to guard against subsequent contamination of the diluted product or the concentrated suspension, as the case may be. Liquor cresolis compositus, originally advised by Wright, has been generally abandoned, because the soapy content of this mixture causes objectionable precipitation. It also seems that the potency of a vaccine is lost readily in the presence of this germicide. In the United States most private workers and most manufacturers have at present adopted cresol as the preservative of choice, adding it to the diluting saline solution in such a proportion as to yield from 0.2 to 0.4 per cent.

Objection to the addition of a germicide has been raised on the ground that its presence in a vaccine tends to hasten chemical changes in the contained bacteria, thereby interfering with their best immunizing properties. At least one company which recently entered the field of commercial vaccines has made a point of the fact that its vaccines are diluted solely with sterile saline solution and marketed in this untreated condition. It is highly probable that this objection to a preservative like cresol is fanciful; and there are good reasons for its retention, as it gives added security against contamination during manufacture, during storage or during the administration of a bacterial vaccine. The same objection has repeatedly been urged against the use of these germicides in therapeutic serums; but prolonged experience has conclusively shown that no appreciable loss of therapeutic potency occurs in a serum thus treated.

*(To be continued)*

**Necessity of Reporting Cases of Disease.**—The health department in a community is able to control disease in proportion to the completeness and exactness of its knowledge of the occurrence of cases. With full information of existing cases it can work effectively; it can direct its efforts at prophylaxis against the disease itself; it can work in the light of knowledge of the situation. Without such information its attempts at control must be of a general nature, sometimes effective, more often not, for it is working in the darkness of ignorance of the location and prevalence of that which it is attempting to control—as well hunt birds by shooting into every green bush, a practice that would cost much in ammunition and yield poor results.—*Ohio State Board of Health Bulletin.*

# *New and Nonofficial Remedies*

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

## CHOLERA AGGLUTINATING SERUM.

H. K. Mulford Co., Philadelphia.

*Cholera Agglutinating Serum.*—The dried-blood serum of horses which has been injected with killed cultures of the cholera vibrio. It is intended for the diagnosis of cholera by the agglutination of suspected cholera vibrios.

For use the serum is dissolved in salt solution so as to make a definite dilution, commonly 1 to 100. A drop of this is mixed with the suspected culture and the mixture is observed under the microscope for evidences of agglutination.

**BACILLUS DIPHTHERIÆ VACCINE.**—This is claimed to be useful for the treatment of diphtheria carriers and for immunization against diphtheria.

H. K. Mulford Co., Philadelphia.

*Diphtheria Bacterin.*—It consists of killed diphtheria bacilli suspended in normal salt solution, properly standardized and prepared for administration. It is marketed in 4 glass syringes; Syringe A containing 100 million killed bacteria; B, 200 million; C, 400 million and D, 800 million. Also in packages of 6 one-C.c. ampules, each C.c. containing 100 million killed bacteria. Also in 20 C.c. vials, each C.c. containing 100 million killed bacteria.

**BACILLUS COLI VACCINE** (See N. N. R., 1913, p. 221).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

*Coli Vaccine* (Polyvalent).—Marketed in 1 Cc. vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed bacteria.

**GONOCOCCUS VACCINE** (See N. N. R., 1913, p. 223).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

*Gonococcus Vaccine* (Polyvalent).—Marketed in 1 Cc. vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed gonococci.

**PNEUMOCOCCUS VACCINE** (See N. N. R., 1913, p. 224).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

*Pneumococcus Vaccine* (Polyvalent).—Marketed in vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed pneumococci.

**STAPHYLOCOCCUS VACCINES** (See N. N. R., 1913, p. 225).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

*Staphylococcus Vaccine* (Polyvalent).—Marketed in vials and in syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed staphylococci.

*Staphylococcus Albus Vaccine* (Polyvalent).—Marketed in vials and in syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed bacteria.

*Staphylococcus Aureus Vaccine* (Polyvalent).—Marketed in vials and in syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed bacteria.

H. K. Mulford Co., Philadelphia.

*Staphylococcic Cultures.*—These cultures consist of colonies of active living staphylococcus aureus. They are intended for the elimination of diphtheria bacilli from the throats of diphtheria carriers. These cultures are marketed in sealed glass tubes, six tubes to the package, each tube containing an applicator in the form of a swab charged with a culture of active staphylococcus aureus.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, MAY 10, 1913

## EFFICIENT PASTEURIZATION AND THE BACTERIA WHICH MAY SURVIVE IT

It has been demonstrated both experimentally and commercially that practically no pathogenic bacteria survive a temperature of from 60 to 65 C. (140 to 149 F.) continued for thirty minutes or longer. Yet the most efficient pasteurization will not destroy all the organisms in milk, and the growth of the survivors markedly affects the quality of the milk. Ayres and Johnson[1] have recently published the results of an extended study of the effects on milk of the organisms which survive pasteurization. Data were collected from 219 pasteurizing plants in cities of over 25,000 as to the methods and temperatures employed. It was found that seventy-five plants were using the holding process with an average temperature of 62.8 C. (145 F.), and 144 plants were using the "flash" process, heating the milk to an average temperature of 71 C. (159.8 F.) and quickly cooling it again. In the plants using the holding process the temperatures ranged from 54.4 to 76.7 C. (130 to 170 F.), and in the "flash" process from 60 to 82.2 C. (140 to 180 F.). This lack of uniformity emphasizes the need for enforced standard regulations among all pasteurizing plants.

The regulations of some boards of health requiring a 99 per cent. reduction of the bacterial count in commercial pasteurization are of doubtful value. It is easy to secure such a percentage reduction in milk having a high bacterial count, while it is often impossible with a good grade of milk, for instance, milk having a bacterial count of 100,000 or less. A sample of milk containing 16,800,000 bacteria per cubic centimeter heated for thirty minutes at a temperature of 62.8 C. (145 F.) under conditions which admitted of no reinfection showed a count of 85,000, a reduction of 99.5 per cent.; while a sample having a count of 119,000 under the same conditions gave a count of 20,800 after heating, or a reduction of only 82.5 per cent. This sample would have failed to meet a required percentage reduction, yet obviously it was far superior to the first sample both before and after pasteurization. The percentage reduction is no criterion of the quality of the milk or the efficiency of the process.

A sudden cooling of the milk following the heating is regarded by many as essential to the efficiency of the process, and it is thought to aid in the destruction of the bacteria. Bacterial counts of the milk both before and after sudden cooling following the heating process showed practically no difference in the number of live organisms. Immediate cooling of the milk is desirable not because it kills any organisms, but because it hinders the multiplication of those which have survived the heating process.

A study of the organisms which survive pasteurization showed that those of the acid-forming group, which produce the normal souring of milk, predominated when a temperature below 76.6 C. (170 F.) was used in the process. When a higher temperature was employed, the acid-formers were largely destroyed and the surviving bacteria were of the peptonizing or protein-splitting group. Some gas-forming organisms which gave the preliminary tests for the organisms of the colon group were often found. These, unless identified carefully, would lead to the conclusion either that the process was not efficient or that reinfection had occurred after pasteurization.

It is evident that in all commercial pasteurizing plants definite regulations governing the process should be enforced; that these should be uniform throughout the country; that the tests for efficiency should be based not on a percentage reduction of the number of bacteria, but on the actual bacterial content of the milk, and that the effects produced by the growth of the surviving bacteria on the milk should be given consideration in formulating the regulations.

1. Ayres and Johnson: Bureau of Animal Industry, 1913, Bulletin 161.

## NEW OBSERVATIONS ON THE DEVELOPMENT OF THE RASH IN MEASLES

Skin rashes, their cause and the reason of their frequently definite order of distribution over the surface in contagious diseases have long been the subject of much thought and investigation. A valuable study of the complete evolution of the rash in measles has recently been published by von Pirquet,[1] and it may be of interest to call further attention to the principal results of his observations because of the deductions drawn in regard to the nature of the eruption.

The first lesions usually consist of a few scattered papules, most frequently just behind the ears, but sometimes in the middle of the upper portion of the back, or about the mouth and nose, on the cheeks, or in front of the ears and on the forehead, but rarely on the thorax or abdomen. New regions are invaded in this order: At the end of the first day the rash frequently covers the scalp and the back down to the iliac crests, and

1. Von Pirquet, C.: Das Bild der Masern auf der äusseren Haut, Ztschr. f. Kinderh., 1913, vi, 1; abstr. in THE JOURNAL, April 26, p. 1337.

the upper and middle portions of the face; sparsely scattered papules are sometimes found on the chest, the abdomen, the shoulders and the inner sides of the upper arms; solitary lesions occasionally occur on other parts of the arms, the thighs, the buttocks and the anterior surfaces of the lower legs; the knees and elbows are not involved. At the end of forty-eight hours the rash in many cases has reached its height; in general, the head, the trunk, the shoulders and the anterior portions of the upper arms and thighs are markedly affected; less constant and intense is the rash on the dorsal surface of the upper arms, the forearms and the dorsal surfaces of the thighs; scattered lesions are found in the popliteal spaces, over the lower legs, the hands and sometimes the feet; the elbows remain free. During the fourth and fifth days the rash invariably is completely developed. Not infrequently the skin of the buttocks, elbows, feet and hands escapes.

The rash spreads then from one portion of the skin to others in a fairly definite order, in general involving first the head and back, next the entire trunk and finally the extremities. The individual spots begin as minute, discrete elevations, surrounded by a narrow anemic zone, which enlarge in all directions and tend to become confluent. From the first sign of the papule to the complete passing of its hyperemia three days usually elapse. It is characteristic of the lesions appearing last (buttocks, feet, etc.) to disappear more rapidly. The rash develops more rapidly in summer than in winter; in younger children the skin is more often incompletely covered than in older children. The skin lesions in members of the same family frequently run a similar course. Children infected from the same source of contagium also present rashes of a similar type.

Local irritation has a tendency to hasten the breaking out over the irritated areas, and areas of chronic hyperemia also develop the rash earlier. Patients afflicted with urticaria or erythema multiforme develop the measles earlier in the places so diseased, the rash appearing subsequently on the head and trunk. Thus, the normal order of development may be reversed. Cutaneous irritants and local stasis applied not less than twenty-four hours before the rash sometimes influence its subsequent development, stasis producing a delay; but later the development is more profuse, while a mustard plaster placed where lesions otherwise are sparse produces a confluent exanthematous patch.

From these results von Pirquet concludes that the order of development and spreading of the rash depends on the vascularity of the areas involved, as the rash appears earlier and is more intense over areas having an abundant blood-supply and lying in close proximity to the larger blood-vessels. On this basis a hypothesis is formulated to the effect that the rash is the result of a "reaction with the measles organism or virus which takes place in the capillaries of the skin." This reaction, it is further assumed, may be at least in part one of agglutination of the measles organism by the action of its antibodies; these antibodies, being present in the blood, are of necessity more abundant in those portions of the skin possessed of better blood-supply, such areas being, so to speak, saturated with them. Indeed, this saturation may be so great that most of the virus is removed by a process of agglutination from the blood at these places, and only a few organisms are left to be taken up by the more distant or poorly vascularized areas. While the final test of the correctness of von Pirquet's conclusions must await the discovery of the causative agent of measles, the explanation advanced appears to be in harmony with the facts observed as well as with the modern view that many of the changes in structure and function in infectious diseases are allergic phenomena; that is, due to the products of the reactions between the antisubstances in the patient's body and the proteins of the invading microbes. Viewed in this light the rash in measles appears more intelligible to us, and von Pirquet's work illustrates again the value and interest of what one may call simple but careful and thorough clinical observations when guided and interpreted in the light of a reasonable and fruitful hypothesis.

## COMPENSATION FOR OCCUPATIONAL DISEASES

The present federal law known as the workmen's compensation act of May 30, 1908, is the pioneer compensation law in this country. Fifteen states during the past two years have recognized the wisdom and justice of the compensation principle in dealing with the victims of industrial accidents and have enacted laws which are much more liberal and better serve the purpose than the original law enacted by Congress. The federal law applies to only about 350,000 civilian employees, and grants no relief for incapacity lasting less than fifteen days. It makes no provision for medical treatment, and one year's wage is the maximum benefit even for total blindness or death.

A bill has been introduced into Congress to extend the compensation act to the injuries caused by occupational diseases as distinguished from injuries by accident. The inadequacy of the present compensation act has been recognized, and the solicitor of the Department of Commerce and Labor in his last report recommended that a new law be enacted embodying compensation for occupational diseases as well as for accidents. The necessity for this law is shown by John B. Andrews,[1] secretary of the American Association for Labor Legislation, by examples taken from the government records: gross injustice is worked to some government employees who are incapacitated by conditions surrounding their work, under the seemingly somewhat inconsistent interpretations of the compensation act in a number of cases that appear to be similar. Compensation is granted in some instances, but in others equally or more deserving,

1. Andrews, John B.: The Survey, April 5, 1913.

it would seem, relief is denied. For instance, in a case of lead-poisoning in a workman engaged in scaling paint from the inside of battle-ships, to which we have heretofore referred,[2] compensation was refused on the ground that the injury complained of was not accidental but was a necessary or accompanying incident of the work. In another case a workman was employed in placing floor-plates in the engine-room of a warship while red and white lead was being applied in the bilges of the vessel; the fumes caused toxic amblyopia in the man laying the floor-plates, and the injury was ascribed by the United States solicitor to accident, because the claimant's particular work had nothing to do with the painting operations going on about him. Other examples are given by Andrews in which the refusal of relief hinged on differences quite as narrow, due, it is said, to the unfortunate legislative restrictions.

The first official report on the operation of the federal compensation law has recently been published and contains sixty-six closely printed pages devoted to embarrassing questions similar to the foregoing which have arisen because of claims arising out of occupational diseases. The recommendation that a new law be enacted which shall include compensation on account of occupational diseases arising in the government service is undoubtedly a step in which an enlightened government should again lead the way. No doubt at a later time it will be incorporated in the compensation laws of the various states.

## A STRIKING EXPERIMENT IN SIMPLIFIED NUTRITION

Only those who have served an apprenticeship in experimental work and realize its pitfalls and technical difficulties can appreciate in its fullest significance the recent demonstrations by Professor Abderhalden of Halle regarding the synthetic powers of the animal organism.[1] We have repeatedly pointed out how essential complete digestion is as a preliminary stage in the utilization of our nutrients. The converse of this lies in the proof that the animal body is capable of constructing from the simple digestion fragments all the complexes which are necessary for the maintenance and proper functioning of the individual. On a small scale and over comparatively short periods of time this proof has repeatedly been furnished. A diet which has been shown to suffice for preserving nutritive equilibrium in some of the laboratory animals consisted of isolated amino-acids, representing the proteins; fatty acids and glycerol, representing the fats; simple sugars and inorganic salts. There is always room for criticism, in such experiments, on the ground that the periods of observation are too short. We are reminded of the efficient reserve forces and nutrient depots which may be requisitioned in times of need. Fasts of more than one hundred days have been recorded in the literature of nutrition, and forty-day fasts by the so-called hunger-artists have been common for "exhibition" purposes.

Abderhalden has now outdone all of this by successfully feeding an animal more than a quarter of a year on completely digested meat. Besides the salts present, the product ingested contained only amino-acids, together with small quantities of creatin and creatinin, sugar and fat. This phenomenal experimental feat was attended with a very considerable gain in body weight rather than signs of sacrifice of stored tissue substance. An ingenious turn was given to the demonstration of the power of the organism to synthesize protein by furnishing visible evidence. At the beginning of the experiment the dog was clipped, yielding 76 gm. of hair, which is largely protein in its make-up. At the end of three months of unique nutrition, interrupted by the exhaustion of the special food-supply rather than because of experimental failure, a complete new coat of hair had grown. No more striking exhibition of organic synthesis could be asked for.

The obvious extension of these experiments in simplified nutrition lies in ascertaining what amino-acids, if any, are absolutely indispensable. A beginning already made in this direction points to tryptophan and tyrosin as belonging to this category. Wherein their superiority and apparent nutrient importance lie must await future investigation. The way has been paved to new vistas in the domain of nutrition.

## THE INSANITARY LABOR-CAMP

Labor-camps are constantly being formed throughout the United States wherever great engineering and structural works are under way. Because these camps are controlled by no laws, and because they are not supervised by any state department, they are a grave menace to the health of the laborers occupying them and the inhabitants of distant as well as adjacent towns. A consideration of labor-camp conditions in the Empire State may be informing and useful with relation to like communities throughout the union.[1]

There are 3,300 labor camps in New York state; 1,300 of them along the aqueduct now being built to convey water to the metropolis, 100 along the line of the state barge canal, 300 along the network of new highways, and 800 along railway lines, while 700 are scattered wherever bricks are baked, marble and slate quarried, fruit and vegetables canned and ore mined. Two thousand of these camps have been characterized as "plague spots." The total population of the camps is from 50,000 to 100,000 workers, practically all immigrants — in the main Italians, Poles and Armenians. The shacks which compose the camps are for the most part dilapi-

2. Lead-Poisoning in Battle-Ships, editorial, THE JOURNAL A. M. A., Aug. 3, 1912, p. 375.

1. Abderhalden, E.: Weitere Versuche über die synthetischen Fähigkeiten des Organismus des Hundes, Ztschr. f. physiol. Chem., 1913, lxxxiii, 444; also Synthese der Zellbausteine in Pflanze und Tier, Berlin, 1912.

1. See Kingsley, R., in New York Times, March 23, 1913.

dated shanties, not rain-proof; pure water for drinking and cooking is not always available in them, and the arrangements for disposing of human excreta are most imperfect.

The 300 road-making camps are perhaps most dangerous, for their locations are changed frequently, and the health of one community after another is placed in jeopardy. The conditions correspond to those which actuated the Indian to remove his tepee — when the ground about it had become intolerable by reason of the deposits of excreta and cooking refuse the Indian moved it to a new place. Should the immigrant laborer and his family be suffering from any infection, or should they be bacteria carriers, the danger of the road-camps is correspondingly greater than that of the fixed camps.

The danger is not imaginary. During the last seven years at least one epidemic a year in New York State has been traced to insanitary foreign labor-camps and settlements. For an instructive example: In February, 1908, the previously healthy city of Peekskill had 150 cases of typhoid with twenty-eight deaths, all within a fortnight. Trained investigators of the State Health Department tramped over every foot of the Peekskill watershed. On the banks of a small mountain stream flowing indirectly into the Peekskill water-supply a labor-camp was found. Because the contractor had failed to equip the camp with adequate and inexpensive health facilities, the camp waste had infected the brook, the water in which had in turn infected the Peekskill supply.

The New York City Board of Water-Supply has compelled exemplary conditions within its jurisdiction; it has forced the contractors now building the aqueduct to have their 20,000 foreign laborers in scientifically and sanitarily constructed labor-camps. These have to be located on dry, sandy soil. Water for drinking and washing can be drawn only from wells drilled in rock and carefully cased in metal tubing. Food is carefully screened from flies. Waste is deposited in patent incinerators and burned or sterilized before it becomes stale. The sleeping-stretchers are of sanitary canvas laced to pipe-rail metal frames; the canvas strips are removed daily, disinfected in alkali solution, and scrubbed with stiff brushes.

To secure more humane and sanitary conditions in all its labor-camps the New York State Bureau of Industries and Immigration has drafted a measure which ought to become law, providing that:

1. Every labor-camp employer, on the establishment of each camp, shall notify the state commissioner of labor and furnish particulars.

2. If the state commissioner of labor finds the site insanitary he may order the camp's removal to a site approved by him.

3. Each camp-house shall be provided with sufficient cubic feet of air-space, board floors, windows, washing facilities, kitchen and health accommodations. Waste must be destroyed by fire and removed to a safe distance from buildings and from drinking-water.

4. The water-supply of each camp must be obtained from a source satisfactory to the labor commissioner.

---

## THE MINNEAPOLIS SESSION

The American Medical Association will hold in Minneapolis its sixty-fourth annual session, which, according to the prospects, will be most successful. The scientific programs are attractive and provide valuable themes of discussion in all the branches of medical practice. A large number of pages in this issue of THE JOURNAL are devoted to giving these programs approximately in final form, although some names and titles may be added later.

The social side of the meeting is being well looked after, and opportunities for recreation will not be lacking. The description of social events and the plans for entertainment assure those who attend the session that an enjoyable time awaits both the members and their wives and daughters. The profession of Minneapolis, of St. Paul and of the whole state of Minnesota is well organized and fully appreciates its responsibility for making this meeting of the American Medical Association a splendid one in every way.

An unusual and propitious feature of the session is that the University of Minnesota is to be the hostess. This means that the scientific programs will be carried out not amid the distractions of a bustling city, but in a beautiful park, literally far from the madding crowd. The only events which will not be on the campus are the Opening Meeting, Tuesday morning, and the President's Reception and the Ball, Thursday night. It will even be unnecessary to leave the campus at noon, for the university is to serve luncheon to members, guests and exhibit attendants—a feature which will notably add to the comfort of the occasion. These happy arrangements will add greatly to comfort, and will contribute to the success of the scientific programs.

The annual meetings of the Association are a most delightful combination of professional profit and pleasure — a graduate course with the flavor of the old student-life. Physicians attend because the annual meeting affords a splendid opportunity for acquiring new ideas; for coming in touch with the big men in the profession of medicine; for conference on new and strange cases and old problems in new aspects; for looking up new books for study-tables and seeing the latest instruments and apparatus—in short, for getting abreast of the times. The meeting provides a change from regular work and thus is a distinct relaxation; many make a vacation trip following the week of the meeting. Everyone looks forward to the renewal of old acquaintances and finds his classmates, college chums and other associates, whose sympathies and activities lie along the same line of practice as his own.

The great Northwest has its hands outstretched in welcome. The Journal feels this hearty attitude plainly, and passes the welcome on to the profession of the country. Come to Minneapolis for the week of the meeting, and, if you can do so, plan to spend another week or two on the excursions. Come, expecting a pleasant and profitable session, and you will not be disappointed.

## Current Comment

### RAT-PROOF BUILDINGS

The recent elemental catastrophes—the cyclones in the middle West, and the floods in that vast region watered by the Ohio—have destroyed many hundreds of buildings. Here, out of misfortune much good should come. A timely appeal for the rat-proofing of dwellings and other buildings at present existing, under construction or in contemplation comes from the United States Public Health Service.[1] Those about to erect a new building or repair an old one, whether of frame, brick, rock, concrete or other construction, may learn from Dr. Simpson's paper what sanitary and economic benefits are to be derived from permanent rat-proofing; and measures to such ends should be demanded by prospective owners as a part of building contracts. The rat is far too prolific to be exterminated by such agencies as traps, poisons, lethal gases and the like; these may reduce the numbers of the rodents, but if there is food within reach, the surviving rats will have more to eat proportionally, and procreation will be stimulated the more. Rat extermination can be effective only by separating that creature from its provender. Dr. Simpson's paper appears to contain all necessary information to this end, so far as relates to buildings. Those already erected can be rat-proofed by the closure of all natural or accidental openings; by being remodeled with material impervious to rats; by the removal of structures which will give refuge to rats, and by the protection or removal of foods which rats will eat.

### THE SOLICITUDE OF A PATENT-MEDICINE MAN

The Select Committee on Patent Medicines, at present in session in Great Britain, is throwing light into some of the cobwebbed corners of the nostrum business. Mr. John Lawson, the manager of an English "patent-medicine" house, Daisy, Ltd., was recently put on the witness stand by the committee. Daisy, Ltd., puts two headache powders on the market, "Daisy Headache Cure" and "Head Powders." The former consists wholly of acetanilid, of which there are five grains to the powder; the latter consists wholly of phenacetin, of which there are eight grains to the powder. In the course of Mr. Lawson's examination reference was made to that part of the United States Food and Drugs Act which requires that the presence of acetanilid or phenacetin shall be declared on the labels of "patent medicines" containing these dangerous drugs. Mr. Lawson testified that in his opinion it was "not desirable in the public interest that the presence of acetanilid and similar drugs should be declared on the labels of proprietary medicines." His reason was that "such decisions would show the public that acetanilid was the usual remedy for headache," with the result that persons of a saving turn of mind would be tempted to buy it by the ounce and do their own dispensing! Daisy, Ltd., is selling to an unsuspecting public five-grain powders of plain acetanilid as a "cure" for headache, to be "repeated in two hours if necessary," under the claim that these powders are "free from any injurious substances." And the company's manager entertains fears for the public's safety should it learn how to buy its acetanilid under the official name! The "patent-medicine" business is largely evil, usually dangerous and frequently vicious. Yet there are some things connected with it that excite the risibilities even if the smile evoked is a cynical one.

### OMNE IGNOTUM PRO MAGNIFICO

The old saying, "the unknown is always awe-inspiring," describes a human weakness as old as the race. It is a frailty on which the shrewd exploiter of "patent medicines"—"ethical" or not—thrives. No physician bows in therapeutic worship before well-known official drugs, but when official drugs are put out under new names with their nomenclatorial identity submerged or lost, then we have another story. For the most ordinary medicaments if put out in trade-marked packages under a fancy name become endowed with therapeutic properties one would never dream of ascribing to them under their non-mysterious, official names. The salicylates are valuable drugs; their action is well known and their limitations are fairly well understood. But what a transformation when the salicylates are put out under proprietary names! Their therapeutic properties are limited only by the imaginative powers of those who sell them. For years, physicians have been prescribing sodium salicylate under the name Tongaline. Those who have done so, have prescribed a name, not a drug. They have learned nothing about the accurate prescribing of salicylates. Had they given the official drug during the same time, their experience might have been of great value to the science of therapeutics; as it is, it is so much wasted energy. We urge every physician who has the interest of scientific medicine at heart to read the two short articles in the Propaganda for Reform Department of this issue dealing with Tongaline and its imitations. Let it be borne in mind, however, that Tongaline is merely an example of the blight that nostrum exploitation throws over the science of medicine. Also, it is but one example of a type—a type that will exist so long as the medical profession will permit it, and no longer.

### METHYL ALCOHOL AND THE BLOOD

In view of the wide-spread interest in the toxicity of wood alcohol and the growing appreciation of the unsuspected dangers which it harbors,[1] every new estab-

1. Simpson, F.: Rat-Proofing, Pub. Health Rep., April 11, 1913.

1. Wood Alcohol-Poison, editorial, The Journal A. M. A., April 19, 1913, p. 1231.

lished fact in regard to the physiologic action of methyl alcohol deserves to be brought to notice. Despite the considerable literature now available on the subject,[2] very little has been disclosed respecting the relation of methyl alcohol to the blood. The toxic effect is made evident in this direction as well as in connection with other more striking phenomena. From experiments by Miura,[3] the blood-forming functions appear to be seriously affected by the poison. The production of anemia is a new finding in this connection; and the decrease in the circulating lymphocytes with simultaneous increase in certain other types of leukocytes points to an involvement of the hemopoietic system. The attendant albuminuria and urobilinuria are likewise not insignificant symptoms. Whether these pathologic phenomena are brought about by methyl alcohol itself or only by oxidative derivatives such as formaldehyd or formic acid is of secondary import here. Methyl alcohol introduced into the organism means physiologic trouble.

---

## THE CLINICAL THERMOMETER AS A VEHICLE OF INFECTION

It behooves us, especially in little things, to bear in mind that the public is being educated in medical matters. The other day THE JOURNAL received a communication from a layman calling attention to the danger in connection with the ordinary fever thermometer, and criticizing physicians in general for their carelessness in its use. Here is one paragraph:

> So far as my observation goes, there are very few physicians who give any care whatever to the thorough sterilization of this instrument. Not long ago a physician of good repute and an excellent man was called to attend a member of my family. His method of using the clinical thermometer is the same as that used by the majority of doctors. He took the thermometer from its little metal case, called for a glass of water, rinsed the thermometer around in the water, and then reached for his pocket-handkerchief to wipe it off. About that time our own thermometer was supplied to him for use. Barring possibly the pocket-handkerchief, his method is not widely different from others.

This correspondent calls attention to the propaganda which medical men have waged against the common drinking-cup, the common towel, etc., and he thinks that a propaganda should be waged against physicians who are so careless with the clinical thermometer. While probably there are very few educated physicians who would do as this particular physician did—at least to the extent of wiping the thermometer with his handkerchief!—still it is to be regretted that not all of us are so careful as we ought to be. Simply dipping the thermometer into water and wiping it off, even with gauze or cotton, is not sufficient. This will not prevent the carrying of bacterial infection. The thermometer should be disinfected before and after use, or should be kept in disinfecting material all the time. For this formaldehyd has been suggested,[4] but it is a slowly acting germicide,[2] and is irritant to some persons.[3] Alcohol is probably as effective a disinfectant for the purpose as anything.[4] A number of methods for using alcohol in this way have been suggested, among others that of Force,[5] who uses as a thermometer case a common ignition tube of heavy glass, 1 cm. in diameter and 11 cm. in length. The end of the thermometer is thrust into a soft rubber cork, and the case is filled with 50 per cent. alcohol; thus the instrument is constantly bathed in alcohol. This method would seem to be practical. In any event, some efficient method should be adopted. If any of our readers have an ideal method, we shall be glad to hear of it.

2. Articles on Wood-Alcohol Poisoning, Queries and Minor Notes Department, THE JOURNAL A. M. A., April 19, 1913, p. 1247.

3. Miura, S.: Ueber die Einwirkung des Methylalkohols auf das zirkulierende Blut, Biochem. Ztschr., 1913, xlix, 144.

4. Beasley, Edward B.: The Clinical Thermometer as a Possible Disseminator of Some Communicable Diseases, THE JOURNAL A. M. A., Oct. 21, 1911, p. 1357. Gros, E. L.: An Antiseptic Thermometer Case, THE JOURNAL A. M. A., June 8, 1912, p. 1756.

2. Post, W. E., and Nicoll, H. K.: The Comparative Efficiency of Some Common Germicides, THE JOURNAL A. M. A., Nov. 5, 1910, p. 1635.

3. Morgan, W. E.: The Serpent's Tooth in Formaldehyd, THE JOURNAL A. M. A., Feb. 22, 1913, p. 590.

4. Harrington, Charles: The Germicidal Action of Alcohol, Boston Med. and Surg. Jour., May 21, 1903.

5. Force, J. N.: A Home-Made Antiseptic Thermometer Case, THE JOURNAL A. M. A., Sept. 7, 1912, p. 797.

---

# Medical News

### CALIFORNIA

**New Officers.**—Solano County Medical Society, at the Vallejo General Hospital: president, Dr. W. S. S. Young; secretary, Dr. A. V. Doran, both of Vallejo.

**New Building for Polyclinic.**—The San Francisco Polyclinic has broken ground for a new building near Jackson and Polk Streets, adjoining the Tuberculosis Clinic.

**To Require Intern Year.**—At a recent meeting of the medical board of Leland Stanford Junior University, it was voted that a fifth or hospital intern year be required, prior to granting the degree of M.D., this requirement to begin with the class entering in 1914.

### FLORIDA

**State Society to Meet.**—The fortieth annual meeting of the Florida Medical Association will be held in Miami, May 16-18.

**Jacksonville Medical Association.**—At a meeting of Jacksonville physicians, April 10, a local association was formed, of which Dr. S. E. Sissons was elected temporary chairman and Dr. Martin H. Smith, temporary secretary.

**State Board Will Pay for Death Certificates.**—Dr. Joseph Y. Porter, secretary of the State Board of Health, is sending out a circular to the press and commercial organizations urging the importance of full reports on the vital statistics of the state. The board has arranged to pay 25 cents for every death reported in proper form on the blanks provided by the board for that purpose.

### GEORGIA

**New Member of State Board.**—Dr. A. D. H. Little, Thomasville, has been appointed a member of the State Board of Health.

**Public Health Course in College.**—With the beginning of the next term of the Medical College of Georgia, Augusta, a course on instruction in public health will be given. A laboratory for the analysis of food and milk has already been installed and it is said that A. L. Haggarty, chief food inspector of the Board of Health of the state, will be the instructor. The college will confer degrees in public health on those who complete the course and pass the required examination.

### IDAHO

**New Officers.**—South Idaho Medical Society at Boise, April 24: president, Dr. Ralph Falk; secretary, Dr. R. L. Glase, both of Boise.

**Personal.**—Dr. F. M. Cole, Caldwell, has been appointed physician for Canyon County.——Dr. O. B. Steely, Pocatello, has been appointed a member of the State Medical Board.——Dr. M. H. Tallmann, Boise, physician of Ada County, has resigned.

**New Quarters for State Board.**—The State Board of Health which has, up to the present time, maintained quarters in

the Folk building, Boise, is to have its offices on the third floor of the state capitol building, in the space known as the "art gallery."

## ILLINOIS

**Personal.**—Dr. V. D. Crone, Canton, who recently underwent operation in Peoria, has recovered and resumed practice.——Dr. Warren E. Hillyer, Augusta, was operated on at the Marietta Phelps Hospital, Macomb, April 26.

**Board Inspects New Hospital Site.**—The State Board of Administration, accompanied by a delegation of members of the legislature, visited Alton, April 28, to inspect the site of the new State Hospital for the Insane. It is proposed to erect buildings on the cottage plan.

**New Officers.**—Central Illinois District Medical Society, thirty-ninth annual meeting at Pana, April 29: president, Dr. C. M. Jack, Decatur; secretary, Dr. Walter Burgess, Pana. The semi-annual meeting will be held in Pana in October.——Macoupin County Medical Society at Staunton, April 29: president, Dr. Thomas Hall; secretary, Dr. Charles D. King (reelected), both of Gillespie.——Illinois State Hospital Medical Association at Peoria, April 24 and 25: president, Dr. Eugen Cohn, Peoria State Hospital; secretary-treasurer, Dr. A. M. Foster, Anna State Hospital. The next meeting will be held at the Jacksonville State Hospital in July.

### Chicago

**New Officers.**—Physicians' Club of Chicago, annual meeting, May 2: directors, Drs. J. B. Herrick, D. W. Graham and S. C. Stanton; secretary, Dr. A. N. Murray (reelected).

**Personal.**—Dr. Emery R. Hayhurst of the Sprague Memorial Institute has been selected by the Ohio State Board of Health to take charge of the Bureau of Occupational Diseases recently created.——Dr. Liston H. Montgomery was elected president of the Western Society of the Army of the Potomac at its twenty-fifth annual meeting, April 30.——Dr. P. J. Tischart is confined to his bed, the result of an injury while alighting from a street car several weeks ago.——Dr. Edson B. Fowler is confined to his bed, the result of stepping on a nail, April 28.

**Higher Entrance Requirements.**—At the annual meeting of the board of trustees of the University of Illinois, March 11, it was voted that for students entering in September, 1913, the requirements for admission to the College of Medicine (formerly the College of Physicians and Surgeons of Chicago) be raised to at least one year of collegiate work in addition to fifteen units of common and high school work, and that for students entering September, 1914, the minimum requirement further be increased to two years of collegiate work in some college or university of recognized standing.

**Eligible List for County Hospital.**—As the result of examination for positions on the attending staff of the county hospital, the following applicants have been certified as eligible: department of surgery, Drs. Allen B. Kanavel, E. Wyllys Andrews, Charles Davison, George F. Thompson, Harry M. Richter, Paul F. Morf, Frederick A. Besley, Charles J. Rowan, Laurence Ryan, William R. Cubbins, Kellogg Speed, Frederick G. Dyas, Dean D. Lewis, John A. Wolfer, George de Tarnowsky, Paul Oliver, Charles A. Parker, George N. Pratt, Frank E. Pierce, Nelson M. Perry, Victor L. Schrager, Floyd B. Riley, Charles F. Yerger, Alfred J. Willits, Roger T. Vaughan, Dallas B. Phemister, William Fuller and Ernest C. Riebel; department of pathology, Drs. E. R. Le Count, Harry G. Weller, Maximilian J. Herzog; department of ear, nose and throat, Drs. Stanton A. Friedberg, George W. Boot, Evanston, Joseph C. Beck, Robert Sonnenschein and Alfred Lewy; department of medicine, Drs. Joseph A. Capps, Charles S. Williamson, Theodore Tieken, Milton M. Portis, Ludwig M. Loeb, Joseph L. Miller, William J. Butler, Frederick Tice, Ernest E. Irons, Joseph M. Patton, Ellis K. Kerr, Oak Park, Leon Bloch, Roger T. Vaughan, Walter W. Hamburger, Wilber E. Post, Samuel R. Slaymaker and Karl K. Koessler.

## INDIANA

**Sanatorium News.**—The Fort Wayne and Allen County Antituberculosis Society has selected a site on the County Farm for the establishment of a shack colony for tuberculosis, to accommodate about twenty patients.——The tuberculosis camp committee of the Associated Charities of Anderson has arranged to erect cottages on the pesthouse farm east of the city, for the benefit of tuberculosis patients during the summer months

**Personal.**—Dr. Eric A. Crull has been elected medical director of the Fort Wayne Antituberculosis Society.——Dr. Oscar S. Deitch, Indianapolis, who suffered a collapse as the result of exposure at the time of the flood, is reported to be convalescent.——Dr. Moses Thorner, Indianapolis, has been elected president of the Indiana Association of Columbia University Alumni.——Dr. H. H. Sutton, Aurora, has been appointed and Dr. J. S. Boyers, Decatur, reappointed, to membership on the State Board of Health.

## IOWA

**Sanatorium Burned.**—Health Haven Sanitarium, Des Moines, was destroyed by fire, April 6. All of the patients were removed without casualty. The loss is about $7,000, partially covered by insurance.

**Personal.**—Dr. Charles E. Stewart, Iowa City, has resigned as postoffice inspector.——Dr. E. B. Fulliam, Muscatine, who has been seriously ill with pneumonia, is reported improving.——Dr. A. M. Pond, Dubuque, has been appointed district surgeon of the Illinois Central system, vice Dr. Allen G. Staples, deceased.——Dr. Murdoch Bannister, Des Moines, has retired from the State Board of Control to resume practice at Ottumwa.

**Hospital News.**—The German Evangelical Lutheran Churches of Iowa are planning to build a Deaconess Home and Hospital at Marshalltown to cost $75,000. A site for the home has already been purchased for $14,000.——St. Joseph's Mercy Hospital, Waverly, is to be enlarged this summer to about thirty-two rooms. The cost of the addition will be about $20,000.——The managers of the Florence Crittenton Home, Sioux City, have announced plans for the construction of a maternity hospital.——Drs. E. S. Heilman and T. J. Houlihan have arranged to build a two-story hospital in Ida Grove this summer, to accommodate twenty patients.

## KANSAS

**Camp to Remain.**—The tuberculosis camp at North Topeka is to be allowed to remain where it is, pending definite arrangements for a permanent home.

**Addition to Medical Staff.**—Drs. H. S. Kickok, W. H. Carter, W. P. Greening, G. K. Purves and H. H. Taggart have been elected members of the staff of Wesley Hospital, Wichita.

**Personal.**—Dr. and Mrs. Virgil W. McCarty, Rosedale, sailed for Europe, April 26.——Dr. L. P. Warren, Wichita, has returned after a year abroad.——Drs. Archibald Jones and Martin Hagar have been reappointed members of the Wichita Board of Health.——Dr. A. B. Peters has been elected mayor of Mankato and Dr. J. Wesselowski, Jewell City, justice of the peace.——Dr. F. B. May, Hunnewell, is reported to be critically ill following an operation for appendicitis.

**New Officers.**—Seventh District Medical Society organized at Hutchinson, April 24: president, Dr. S. M. Colladay; secretary, Dr. W. F. Schoor, both of Hutchinson.——Marshall County Medical Society at Marysville, April 29: president, Dr. W. E. Ham, Beattie; secretary, Dr. Jennie L. E. Eddy, Marysville.——Brown County Medical Society at Hiawatha, April 8: president, Dr. H. J. Harker, Horton. A resolution was adopted that local newspapers be requested not to mention names of physicians in connection with any case.

## MARYLAND

**New Hospital.**—Plans for the new Eastern Shore State Hospital, Cambridge, for the construction of which $200,000 was appropriated by the last legislature, have been selected and approved by a jury of which Dr. Hugh H. Young is chairman.

### Baltimore

**Social and Mental Disease Exhibit.**—An exhibit of cases of social and mental diseases is being held by the Committee of Public Instruction of the Medical and Chirurgical Faculty of Maryland. The photographs and descriptive text relate to alcohol, tuberculosis, mental diseases, social diseases, infant mortality, etc.

**New Addition to Hopkins Group.**—Plans are being approved for the new James Buchanan Brady Urologic Clinic, made possible by a gift of $200,000 from Mr. Brady. The building is to be of brick, five stories in height and to adjoin the present surgical building with which it will be connected by a passageway. Mr. Brady has agreed to give $15,000 annually for maintenance and support.

**Personal.**—Dr. C. R. Davis was seriously injured, April 27, in a collision between his automobile and a street car.——

Dr. J. F. Hogan has resigned from the staff of Mercy Hospital and will do special work at the Sydenham Municipal Infectious Disease Hospital.——Dr. Marshall L. Price, formerly secretary of the State Board of Health, has been adjudged insane and committed to the authorities of Baltimore County.

## MICHIGAN

**Luncheon to English Physician.**—Dr. J. H. Kellogg, Battle Creek, gave a luncheon in honor of Dr. Eric Pearce Gould at the Battle Creek Sanatorium, April 29.

**New Officers.**—Benzie County Medical Society at Frankfort: president, Dr. C. P. Doyle, Frankfort; secretary-treasurer, Dr. E. J. C. Ellis, Benzonia.

**Hospital Relieved from Taxation.**—As the result of an appeal made by the officials of the Detroit General Hospital to the aldermen to exempt the hospital property from the $150,000 assessment levied against it, the Board of Review on April 28, voted to cancel the assessment.

**Hospital Items.**—The Board of Estimators Committee of the Board of Health and Poor Commission Funds of Detroit have under consideration plans for construction of an annex to St. Mary's Hospital to cost about $50,000 and to accommodate about one hundred additional patients.——Building operations have been commenced on the new hospital to be erected at the Huron County Farm.——The new Union Benevolent Association Hospital to be erected at the east end of Grand Rapids will consist of two buildings, five stories in height, constructed of brick and stone and to cost about $300,000. The hospital is the gift of John W. Blodgett. The old hospital at Lyon Street and College Avenue is to be sold.

## MINNESOTA

**New Officers.**—Stearns-Benton County Medical Society at St. Cloud, April 17: president, Dr. G. E. Sherwood, Kimball; secretary-treasurer, Dr. J. C. Boehm, St. Cloud.

**Memorial Meeting.**—At the meeting of the Blue Earth County Medical Association held in Mankato, March 31, a portion of the evening was devoted to a memorial for the late Dr. A. O. Bjelland, which was read by Dr. Helen Hughes-Hielscher.

**New Tuberculosis Hospital.**—Work on the new St. Paul City Hospital for the treatment of tuberculosis patients, for which an appropriation of $75,000 has been made, began May 1. The hospital will receive both advanced and incipient cases and will accommodate eighty-four patients.

**Medical Extension Lecturers.**—Lectures in the medical extension course at the University of Minnesota were delivered, on April 22, by Dr. John B. Murphy, Chicago, on "The Need for an Efficient National Health Service in the United States from an Economic Standpoint," and on April 29, by Dr. Henry B. Favill, Chicago, on "The Growth of Hygienic Ideals."

**Personal.**—Dr. J. Frank Corbett, city bacteriologist of Minneapolis, has resigned to take effect July 1, in order that he may devote his entire time to experimental surgical work in Minnesota.——Dr. Troy S. Miller, Minneapolis, charged with having caused the death of a young woman by an operation, was acquitted, April 11.——Dr. D. C. Darrow has been elected president of the Moorhead Automobile Club.

**Sanatorium Notes.**—The Lake Shore Sanatorium at White Bear Lake will be ready in a few days to receive patients. The institution is under the medical supervision of Drs. Harry Cannon, Frank E. Balcome and T. J. Moynihan, St. Paul.——At the last meeting of the Ottertail County Commissioners an additional sum of $8,000 was appropriated toward the new county sanatorium to be erected on the shore of Ottertail Lake.——Blue Earth, Goodhue, Crow Wing, Marshall, Itaska and Polk counties have expressed a willingness to make substantial appropriations for tuberculosis sanatoriums.——Ramsey County has decided to take advantage of the county sanatorium law and secure assistance from the state in the building of a county sanatorium.

## MISSISSIPPI

**Medical College Property Sold.**—The property of the Mississippi Medical College at Meridian, was sold at auction, recently, for $22,250.

**New Officers.**—Jefferson County Medical Society at Fayette: President, Dr. L. R. Harrison, Fayette; secretary-treasurer, Dr. S. R. Towns, Union Church.——Simpson County Medical Society at Mendenhall: president, Dr. J. N. Chandler; treasurer, Dr. A. C. Norman, both of Braxton.

**Personal.**—The office of Dr. C. W. Smith, Glendora, was burned April 19.——Dr. W. S. Sims, Jackson, has started for Europe.——The house of Dr. J. R. Sharman, Meridian, was destroyed by fire April 2.

**Colored Physicians Meet.**—The Colored Medical Association of Mississippi held its annual meeting in Jackson, April 23-24 and elected Dr. J. W. Sharrod, Meridian, president; Dr. J. C. Childress, Jackson, vice-president; Dr. L. R. Young, Hattiesburg, secretary, and Dr. D. W. Turner, Jackson, treasurer.

## NEBRASKA

**New Officers.**—Nemaha County Medical Society at Auburn, April 16: president, Dr. B. F. Lorance; secretary, Dr. E. M. Tyler, both of Auburn.

**State Medical Association Meeting.**—The annual meeting of the Nebraska State Medical Association will be held in Omaha, May 13-15 with headquarters at the Rome Hotel.

**Alumni Meeting.**—At the annual meeting of the Alumni Association of the John A. Creighton Medical College, Omaha, April 24, Dr. M. J. Scott, Butte, Mont., was elected president; Dr. N. F. Steiner, Omaha, vice-president, and Dr. George A. Stevens, Omaha, secretary-treasurer.

**Gift to College Library.**—Dr. M. J. Scott, Butte, Mont., has donated $1,000 toward the endowment of the medical library in connection with the John A. Creighton Medical College, Omaha, and an additional sum of $200 annually for the maintenance fund.

**Personal.**—Dr. J. E. Summers has been reappointed chief surgeon of the Douglas County Hospital, Omaha.——Dr. Andrew Johnson, superintendent of the Norfolk State Hospital, has resigned.——The office of Dr. George P. Wilkinson, Omaha, was destroyed by fire April 13.——Dr. Caroline D. Piaseeki, St. Paul, sailed for Europe, April 27.

**County Secretaries' Meeting.**—The meeting of the Association of County Secretaries and Officers of the State will be held May 12, at the Rome Hotel, Omaha. A general discussion will be conducted under the following heads: (1) "Should the fiscal year coincide with the calendar year; (2) should there be coordinate work between the county secretaries and the councillors of their respective districts."

## NEW YORK

**Tuberculosis Camp to Open.**—The tuberculosis summer camp, Huntingtonville, is to be opened early this month. The camp has accommodation for twenty patients, who are housed two in a shack.

**Typhoid in Albany.**—Twenty new cases of typhoid were reported in Albany on April 29, bringing the number of cases thus far reported during the present epidemic up to 100. Two deaths have occurred. The spread of the disease is attributed to the recent inundation of the city's filtration plant.

**Medical Women Elect Officers.**—At the seventh annual meeting of the Women's Medical Society of the State of New York in Rochester, April 28, the following officers were elected: president, Dr. Marion Craig Potter, Rochester; vice-presidents, Drs Angenette Parry, Emily Dunning Barringer, New York City, and Evaline P. Ballintine, Rochester; secretary, Dr. Sarah Gardiner Pierson, Rochester, and treasurer, Dr. Edith R. Hatch, Buffalo. At the annual dinner Dr. Grace Peckham Murray, New York City, presided.

### New York City

**Greenpoint Hospital Begun.**—The cornerstone of a new hospital at Kingsland Avenue and Bullion Street has been laid. The building is to cost $300,000 and will be six stories in height.

**Small-Pox on Steamer.**—Because of a case of small-pox on the Red Star steamer *Finland*, the 208 third-class passengers on the boat were placed in isolation on Hoffman Island until all danger of infection should be passed.

**Valentine Will Approved.**—Supreme Court Judge Clark, on April 24, approved the clause in the will of the late Dr. Ferdinand C. Valentine who gives the principal of the estate, on the death of the legatees mentioned, to the New York Academy of Medicine, the income to be used as an annual prize for the best research work in the field of genito-urinary diseases.

**Personal.**—It is announced that Dr. Hermann M. Biggs, New York City, has consented to accept Governor Sulzer's appoint-

ment as head of the reorganized State Health Department.——Dr. Myron D. Lipes, Cobleskill, is under treatment for septicemia at the Albany City Hospital.——Dr. John W. Poole, Brooklyn, is reported seriously ill with septicemia due to an operation wound.——Dr. J. Herbert Lawson sailed for Europe on May 3.

**Police Surgeons Investigated.**—An investigation of the surgical bureau of the police department has resulted in a report which finds many abuses and little to praise in the present system. It is claimed that the police surgeons receive too much money for too little work, that they have no regular office hours exclusively for policemen; that they are permitted to engage in outside practice and in many instances live outside of the districts in which they serve. The report states that there are no medical histories of the men; that there is no system of periodical physical examinations, and that the surgeons are not required to make sanitary inspection of the station houses.

**A Further Safeguard for Sale of Milk.**—The board of health proposes a set of rules which will bar many small dealers and grocers from selling milk. The regulations under consideration would permit the sale of milk only in stores approved by the department of health, and in places where other foodstuff are sold only in original packages. The use of a small room in which milk is stored is prohibited, nor shall any room be used which is unduly crowded. The floors, walls and ceilings of rooms in which milk is stored or sold must conform to certain requirements. Many dealers say that these regulations cannot be followed, but the health commissioner has thus far given no indication of what compromise might be accepted.

**To Standardize the American Child.**—The New York Milk Committee and leading experts from many states have joined in a nationwide examination of children in order through a series of competitive examinations to determine a standard for the normal healthy American child. Examinations for the first contest have been held in Lenox Hill House, a settlement house on East Seventy-Second Street. Prizes will be awarded not only to the best developed babies of different ages, but the baby that fails to get a prize but shows the greatest progress at the next examination will receive one. In addition to establishing standards for normal children of various ages and different races, the investigation will endeavor to show the results of intermarriage between the nationalities and the effects of systematized medical and social work in the quarters of the foreign population. Talks to mothers are given in connection with the contests. Different methods will be carried out in the various states, as for instance, in North Carolina; the contests will be under the direction of the Hookworm Commission and will be made a part of the campaign against that affection. In Massachusetts it will be carried out among the babies of factory workers by social workers; in Louisiana, Tennessee, Oklahoma, Montana, Missouri and Washington prizes of $1,000 will be given.

## NEW JERSEY

**New Officers.**—Hunterdon County Medical Society at Flemington, April 22: president, Dr. F. A. Thomas; secretary, Dr. O. H. Sproul, both of Flemington.

**Personal.**—Dr. Charles S. Heritage, Glassboro, who has been in Hot Springs, Ark., under treatment for nephritis for a year, is making good progress toward recovery and expects to return to his practice early in May.——Dr. Alexander Marcy, Jr., Riverton, has been appointed a member of the consulting staff of the State Village of Epileptics, Skillman.——Dr. Richard P. Francis, Montclair, fractured his clavicle and sustained serious internal injuries in a collision between his automobile and another car, recently.

**Hospital News.**—The workers for the Orange Memorial and Orthopedic Hospitals who are endeavoring to raise $150,000 or more for these institutions, announce that up to April 17, $41,503 had been subscribed.——Princeton University is to have a new infirmary to cost $150,000. Plans have already been approved and $10,000 has already been subscribed. The infirmary will consist of a general hospital, a contagious disease building and a building for domestic service. The main building will be four stories in height and will contain four wards, a dispensary, chapel, etc.——The Camden County Board of Freeholders have authorized the purchase of the site for a county tuberculosis hospital at Ancona, a tract of land containing 83 acres and a building known as Dr. Snowden's Sanitarium, to cost $11,000. On this site will be built a county tuberculosis hospital to cost approximately $30,000.

## NORTH CAROLINA

**New Officers.**—Fifth District Medical Society at Fayetteville, April 22: president, Dr. J. W. Halford, Chalybeate Springs; secretary, Dr. A. B. Croom, Maxton.

**State Buys Land for Blind Institute.**—The board of directors of the State Institute for the Blind have purchased a tract of ground, eighty acres in extent, near Raleigh, for a new home for the institution at a cost of $33,750.

**Health Board Meetings.**—The State Health Officers' Association will meet in Morehead City, June 16.——The State Board of Medical Examiners for Licensure of Physicians will meet in Morehead City, June 12.——The annual meeting of the State Board of Health will be held at Morehead City, June 18, during the session of the State Medical Society.

**State Society to Meet as Originally Planned.**—The annual session of the Medical Society of the State of North Carolina, originally planned to be held in Morehead City, June 17, and later changed to June 10 on account of the date conflicting with that of the meeting of the American Medical Association, has been again fixed at the original date and place, June 17. The headquarters will be at the Atlantic Hotel.

**Portrait Presented.**—The Medical Society of the State of North Carolina has presented to the state library an oil painting of the late Dr. Patrick Livingston Murphy, superintendent of the Western State Hospital, Morganton. Dr. J. Howell Way, Waynesville, presided, the presentation address was made by Dr. Richard H. Lewis, Raleigh, and the portrait was accepted on behalf of the state by Governor Locke Craig.

**Personal.**—Dr. J. W. Austin, High Point, announces his intention to limit his work to diseases of the eye, ear, nose and throat.——Dr. Henry T. Bahnson, Winston-Salem, has been appointed a director of the new Home for the Widows of Confederate Soldiers.——Dr. William C. Steele, Mount Olive, is under treatment in St. Luke's Hospital, Richmond.——Dr. Charles S. Mangum, Chapel Hill, has been elected president of the Alumni Association of Jefferson Medical College.——Dr. Albert Anderson, Concord, has been elected superintendent of the State Hospital, Raleigh, vice Dr. L. J. Picot.

**Cone Memorial Hospital.**—The widow of the late Moses H. Cone, Greensboro, has conveyed in fee simple the bulk of the estate left by her husband, which amounts to about $2,000,000 to a board of trustees to build a hospital as a memorial to her husband. The deed of trust is irrevocable, but Mrs. Cone reserves the income from the estate during her lifetime. The deed embraces a site of sixty-seven acres in Greensboro, a large landed estate in Watauga County, cotton mill stocks, etc. Of the fifteen trustees, Mrs. Cone is to appoint eight, the governor three, and the Guilford County Board of Commissioners, the commissioners of the city of Greensboro, the Wautauga County Board of Commissioners and the Guilford County Medical Society, one each. Dr. John Wesley Long, Greensboro, has been elected by the Guilford County Medical Society.

## PENNSYLVANIA

**Personal.**—Dr. George W. Widder, Harrisburg, was elected president and Dr. J. M. J. Raunick, reelected secretary of the Harrisburg Board of Health.——Dr. J. B. McAlister has been appointed a member of the Harrisburg Board of Health.——Dr. F. W. Coover, Harrisburg, and Dr. Marion Ulrich, Millersburg, will spend the summer in Europe.

**State Physicians in Charge at Gettysburg.**—During the celebration of the fiftieth anniversary of the battle of Gettysburg, July 2, 3 and 4, when 50,000 visitors are expected in that town, every safeguard for their safety will be taken by Dr. Samuel G. Dixon, State Health Commissioner, who has completed arrangements for an emergency hospital of 175 beds. The hospital tents will be under Dr. Dixon's personal supervision. The hospital will consist of thirty hospital tents with accommodations for sixteen doctors and eighteen nurses. It will have a commissary department and a fully equipped operating tent, with a consulting surgeon constantly on duty. There will be in addition two hospital cars, so serious cases may be transferred daily, if need be, to hospitals in nearby cities. In addition to the main hospital there will be two dispensaries with six beds, each dispensary with a nurse and physician in charge. One of these will be at the railroad station to care for visitors who may be ill on arrival and one near the great assembly tent where the meetings are to be held. In addition to these dispensaries there will be six emergency stations for first aid. There will be auto ambulance service to convey patients to the main hospital. The

regular water-supply of Gettysburg will be augmented by specially installed pumps. Flowing fountains will be installed about the city and grounds. All wells in Gettysburg and vicinity have been examined and those which are not safe will be closed.

### Philadelphia

**Gives Home to Charity.**—Miss Mary Gibson, of Maybrooke, Wynnewood, has given the use of her home in Narberth for a summer holiday house for children. The place has been named "The King's Daughters' Holiday House," and will open about the middle of June. As this is early for school children, babies from convalescent wards of hospitals will have the first privileges of the home.

**Personal.**—Dr. Peter F. Moylan is critically ill and has been confined to his home for three weeks.——Dr. James Tyson, emeritus professor of medicine at the University of Pennsylvania, was the guest of honor at the annual banquet of the Northern Medical Association, April 30.——Dr. Wilmer Krusen was given a dinner at the St. James Hotel, April 30, by Dr. Frank C. Hammond.

**New Hospital for Germantown.**—A site for the new Providence General Hospital, planned to provide the western section of Germantown with an institution easy of access, has been selected at Wissahickon Avenue and Lincoln Drive. The plot includes 7 acres and was one of the properties procured from William Penn by the Rittenhouses. The hospital will be non-sectarian. On condition that $150,000 be raised, an offer of a substantial donation has been made.

**Evans Museum Cornerstone Laid.**—The cornerstone of the University of Pennsylvania's new building at Fortieth and Spruce streets, to be known as the Thomas W. Evans Museum and Dental Institute and School of Dentistry, was laid with appropriate ceremonies, May 3. The building is a memorial to Dr. Thomas W. Evans, an American dentist who died in Paris, Nov. 14, 1897. At his death it was found that he had left his entire estate valued at $3.000,000 for the present museum.

**Changes in Hospitals.**—Work has begun on the new $200,000 six-floor surgical wing of the University Hospital.——A decision has been reached in the competition for the Jewish Maternity Hospital to be built at Fourth and Spruce Streets to cost $50,000.——The medical and surgical departments of the hospitals of the Woman's Medical College of Pennsylvania were established in 1904. All departments of medical and surgical service for men, women and children are here conducted by the college faculty. This is the main branch of the hospitals; it immediately adjoins the college building.

**More Fresh Air Schools.**—During the past two years, three fresh air schools for delicate children have been established in various sections of the city. These are in session on the roof of the Lighthouse Social Center, 142 West Lehigh Avenue; the McCall School Annex at Sixth and Spruce and the Wilson School Annex at Twelfth and Federal. In the annual report of the Division of Medical Inspection of Public Schools, of which Dr. Walter S. Cornell is director, particular provision is made, not only for children suffering from malnutrition and other ailments, but also for the healthy pupils by a widespread introduction of fresh air classes in all schools.

### WISCONSIN

**New Officers.**—Chippewa County Medical Society at Chippewa Falls, April 23: president, Dr. C. A. Hayes; secretary-treasurer, Dr. A. L. Beier, both of Chippewa Falls.

**Isolation Hospitals Needed.**—A statement has been sent by the secretary of the State Board of Health showing the need of isolation hospitals throughout the state for the care of patients suffering from communicable diseases.

**Resolutions Regarding Dr. McCarty.**—Dane County Medical Society at its April meeting adopted resolutions expressing the loss of the society sustained by the death of Dr. Thomas H. McCarty, Madison, and the sympathy of the society with the family.

**Personal.**—Dr. L. R. Sleyster has been elected mayor of Waupun.——Drs. F. C. Suiter and G. J. Egan have been reappointed surgeons for the La Crosse division of the C. M. and St. P. R. R.——Dr. G. E. Crosley, Milton Junction, has been appointed local surgeon for the C. M. and St. P. R. R.——Dr. A. G. Hough, Morrisonville, has started for Berlin.

### GENERAL

**Conference of Charities and Correction to Meet.**—The fortieth annual session of the National Conference of Charities and Correction will be held in Seattle, Wash., July 5-7, under the auspices of the Seattle Central Council of Social Agencies.

**Federation of Licensing Boards.**—The Federation of Medical Examining and Licensing Boards of New England held its meeting in Boston, April 5, Dr. Gardiner T. Swarts, Providence, R. I., presiding. Dr. J. L. M. Willis, Eliot, Me., was elected chairman and Dr. Samuel H. Calderwood, Roxbury, Boston, secretary of the organization.

**Central America no Longer a Menace.**—Surgeon Joseph H. White, U. S. P. H. Service, on duty at New Orleans, who recently returned from an inspection of Central American ports and interior towns, expressed the opinion that nowhere in the territory visited was there anything which suggested danger to the public health of the United States.

**Academy of Medicine Meeting.**—The thirty-eighth annual meeting of the American Academy of Medicine will be held in the Leamington Hotel, Minneapolis, June 13-15, under the presidency of Dr. Ray Lyman Wilbur, San Francisco, the subject of whose address is "The Physician of the Future." The opening session of June 14 will be devoted to the discussion of the physical bases of crime.

**Malarial Congress.**—A malarial section of the National Drainage Congress was organized at the recent meeting in New Orleans. Dr. Oscar Dowling was elected president of the section, and Drs. C. C. Bass, New Orleans; Seale Harris, Mobile; Walter S. Leathers, University, Miss.; Morgan Smith, Little Rock, Ark.; R. H. von Esdorf, U. S. P. H. S., and W. A. Evans, Chicago, were made members of the executive committee.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

St. Vincent's Hospital, New York City, $10,000 by the will of Katherine I. D. Harned.

Mount Sinai, Beth Israel, Presbyterian and St. Vincent's Hospital and Montefiore Home, New York City, each $5,000 by the will of Moses Weinman.

House of Rest for Consumptives, New York City, $100,000, to be designated the Amelia Sturges Morgan Memorial Fund, and Dr. James W. Markoe, New York City, an annuity of $25,000, by the will of John Pierpont Morgan.

Presbyterian Hospital, New York City, $15,000, and St. Vincent's Hospital, on the death of the testator's husband, $30,000, by the will of Mrs. Cornelia Eaton.

Harrisburg (Pa.) Hospital, $5,000 by the will of William H. Boyer, New York City.

Rockefeller Institute for Medical Research, $200,000, the income of which is to be nsed "to investigate into the causes and nature of cancer, and methods of its prevention and treatment," by the will of Henry Rutherford, Grand Isle, Vt.

Rockford (Ill.) Hospital, $60,000, for an addition to be known as Emerson Hall, donation by Mrs. Ralph Emerson.

**American College of Surgeons.**—At the Congress of American Physicians and Surgeons recently held in Washington, an organization was founded, similar to that of the Royal College of Surgeons of England. It is to be called the American College of Surgeons, will have its headquarters in Chicago and will grant to surgeons who meet its requirements the degree of Fellow of the American College of Surgeons, the recipients of which will have the right to use the initials F.A.C.S. in connection with their names. The officers elected are: president, Dr. John M. T. Finney, Baltimore; Drs. W. W. Chipman, Montreal, and Rudolph Matas, New Orleans, vice-presidents; Dr. Franklin H. Martin, Chicago, secretary; Dr. Albert J. Ochsner, Chicago, treasurer, and Drs. J. B. Murphy, Chicago; Edward Martin, Philadelphia; George E. Brewer, New York City; Charles A. Mayo, Rochester, Minn.; Harry M. Sherman, San Francisco; George W. Crile, Cleveland; William D. Haggard, Nashville; Charles F. Stokes, U. S. Navy; H. A. Bruce, Montreal; L. N. McKechnie, Vancouver, B. C., and Fred J. Cotton, Boston, regents. The first meeting of the organization will be held in Chicago in November next, when the president of the Royal College of Surgeons of England will be the guest of honor.

### FOREIGN

**Hygiea's Ten Year Index.**—Our Swedish exchange, *Hygiea*, has recently published a collective index for the years 1899-1908, inclusive, which forms alone a volume of 280 pages. This monthly is the official organ of the Swedish Medical Association and, besides original articles and monographs in each number, contains the detailed reports of the proceedings at each of the weekly meetings of the society.

**Other Deaths Abroad.**—Beside those noted by our foreign correspondents, the following deaths are noted: Jordan Lloyd, M.Sc., M.D., F.R.C.S., Eng.; senior surgeon to the Queen's Hospital and professor of surgery in the University of Birmingham; died suddenly at his home in Edgbaston, April 4, from angina pectoris, aged 59. In the death of Mr. Lloyd, Birmingham

loses an eminent citizen and the university a bold, quick and ready surgeon and a most brilliant surgical teacher. He was president of the Birmingham Branch of the British Medical Association in 1903-4, delivered the address in surgery at the Birmingham meeting of the British Medical Association in 1911 and was editor of the *Birmingham Medical Review* from 1886 to 1888.——Sampson Gemmell, M.A., F.F.P.S., Glasgow, regius professor of medicine in Glasgow University and senior physician to Weston Infirmary; died at his home in Glasgow, April 1, from heart disease, aged 65. He excelled as a clinical teacher, his classes were large and his students enthusiastic. He had a great power of limiting the unessentials, and of getting down to the essential features of his subject.——Sir Henry Rosborough Swanzy, M.B., Dublin, 1865; surgeon to the Royal Victoria Eye and Ear Hospital, Dublin; eminent as an oculist and aurist, and author of standard text-books on his specialty; president of the Ophthalmologic Society of the United Kingdom from 1897-99; president of the Royal College of Surgeons in Ireland from 1906-08 and knighted in 1907; president of the ophthalmologic section of the International Medical Congress to meet in London in August; died at his home in Dublin, April 12, from influenza, aged 68.

## CANADA

**Donates Tuberculosis Hospital.**—Mrs. Helen T. Jordan Boston, has given the government of New Brunswick a hospital for patients in the incipient stage of tuberculosis.

**Small-Pox Holds Liner at Quarantine.**—The Canadian Pacific steamship *Monteagle*, from the Orient, is held in quarantine at Williamshead, B. C., on account of a case of small-pox among the first-class passengers.

**Personal.**—Dr. W. J. Roche, Minnedosa, Minister of the Interior of Manitoba, who recently underwent a dangerous operation, is reported to be securely convalescent.——Dr. A. C. Sinclair, Vancouver, B. C., has been appointed superintendent of the Winnipeg General Hospital.

**Canadian Public Health Association.**—The third annual meeting of the Canadian Public Health Association will be held in Regina, Sask., September 18-20, under the presidency of Dr. John W. S. McCullough, Toronto. The provincial government has decided to bring all the medical health officers of the province, about two hundred in number, to the meeting.

## LONDON LETTER

*(From Our Regular Correspondent)*

London, April 26, 1913.

### Some Results of the National Insurance Act

The national insurance act has not been in operation long enough to permit a final judgment with regard to its working, but certain facts are coming to light. The fears which were at first entertained that physicians would be annoyed by unnecessary night calls and other unnecessary visits at the patients' houses have not been realized; but there have been many consultations at physicians' offices. This is partly due to the novelty of the scheme, many persons coming from mere curiosity. Some physicians appear to be doing very well as a result of the act, although they may have to work hard. They have on their lists as many as 3,000 insured persons, yielding an income of $5,000, and in addition carry on private practice. In one direction the insurance act has diminished medical work. While the number of inpatients at the hospitals remains about the same, the number of outpatients has been diminished one half. The reason is that insured persons will not be given hospital treatment unless this is of such a special nature that it cannot be given by the insurance doctors.

### Death of a Surgeon from Blood-Poisoning Due to an Operation

Mr. R. B. Etherington-Smith, aged 36, a rising surgeon of St. Bartholomew's Hospital and a famous oarsman, is dead from pneumococcic peritonitis. He contracted the disease after operating on a patient with gangrene of the lung. He was a man of great personal charm, as well as of promise as a surgeon, and his untimely end has shocked a wide circle.

### Government Inquiry Into Nostrums: The Credulity of Physicians

At the last meeting of the government committee appointed to inquire into the advertisement and sale of nostrums, Mr. E. J. Parry, analytic chemist, gave further evidence on behalf of the proprietary articles section of the London Chamber of Commerce. Somewhat inadvertently he revealed the extraordinary credulity of many physicians in regard to the statements made to them about nostrums. He said that the amount of money spent on travelers who call on doctors to induce them to prescribe a given firm's remedies is enormous. He was asked whether they presumed to tell physicians the value of certain drugs and he said they certainly did. He referred to an advertisement in the *British Medical Journal* in which the diseases that a given remedy was claimed to cure were mentioned. When he was asked whether or not, if some one went to physicians with a remedy called "Cureit" and asked them to try it for this and that disease, they would do it, he said that they would.

### South African Institute for Medical Research

An institute for medical research in South Africa is being established at Johannesburg. A veterinary institute was erected by the government some time ago near Pretoria. The new institute is to serve the whole of South Africa and will be called the "South African Institute for Medical Research." The industrial diseases of the Transvaal will probably first be investigated, owing to their heavy mortality. It is hoped that the institute will attract skilled workers from Europe. Probably research fellowships will be available for those desirous of carrying out special lines of research. The institute is near a general hospital which is the largest in South Africa. The fact that it will be equipped with four wards, with twenty or thirty beds for patients, will associate the institute with medical work in Johannesburg. It is probable that courses in bacteriology and pathology will be arranged for medical students. The director of the institute is Dr. Watkins-Pitchford, formerly house-physician to St. Thomas' Hospital, London. He studied plague in India, enteric fever in South Africa during the war, and small-pox in London. For the last ten years he has been government pathologist and analyst for Natal, and last year was transferred by the union government to Johannesburg. Dr. Maynard, formerly health officer for the suburbs of Pretoria, and subsequently assistant medical officer to the Witwatersand Association has been appointed statistician to the institute. The building, it is expected, will be completed in about a year.

### The Decreasing Consumption of Alcohol

The consumption of alcohol, both as a beverage and as a remedy for disease, has considerably declined in this country in recent years, but with some fluctuations. Accurate statistics for the last fifty years are now available. They show that from 1860 to 1875 the consumption rose steadily; from 1876 to 1885 it fell; from 1887 to 1899 it rose; from 1900 to 1910 it declined; and now there are indications of a fresh cycle of increase. These fluctuations apply also to the amounts consumed per head of the population; but the second maximum about 1900, though higher than the previous one in the total amount, was less per head of the population. The reason for these fluctuations is that although there has been a steady increase of temperance in all classes, the consumption of alcohol depends partly on another factor—the national prosperity, which shows periodical rises and falls. There is a high correlation between "real wages" and the consumption of alcohol. It may be explained that "real wages" are index numbers calculated from money wages after allowing for rents and retail prices. The consumption of alcohol was highest forty years ago, when the average Briton drank in one year 1⅓ proof gallons of spirits, three bottles of wine, and just under a barrel of beer. In 1910 he drank three-quarters of a barrel of beer, but his consumption of spirits had fallen one-half, and his wine to less than one-half of the former consumption.

## PARIS LETTER

*(From Our Regular Correspondent)*

Paris, April 18, 1913.

### Women Students in Germany and France

The minister of public instruction has published figures concerning the number of women students in French universities. It is interesting to compare these with the figures furnished in a recent number of the *Revue internationale de l'enseignement supérieur* on the women in German universities. The majority of universities in Prussia and other states of the German empire were not officially opened to women until 1908. Since then the increase in the number of women students in Germany has been constant. In 1912 their number reached the total of 4.8 per cent., and in 1913, 2,795 women were enrolled as regular students. Nevertheless France holds its lead. In French universities during the present school year there were 4,056 women students,

French or foreigners, which was 9.8 per cent. of the total number of students. In proportion to the number of men students there are to-day twice as many women students in France as in Germany. In the latter country philosophy and history are given the preference by women students. In 1911 there were 1,370 women studying these subjects, and in 1912 1,563 out of a total of 2,795 women students. In France the collegiate studies alone are taken up by 2,241 women out of a total of 4,056 women students. Then come medical studies with 582 women students in Germany and 1,057 in France. Scientific studies follow with 504 in Germany and 847 in France. Legal studies appear to attract women in the same proportion in each country. In Germany there were 39 women studying law out of a total of 2,795 and in France 119 out of 4,056. Few women study pharmacy: 8 in Germany and 39 in France.

In Germany as in France, the women students prefer to study in the large cities. Out of a total of 2,795 students there were regularly enrolled in Berlin 845, nearly a third. In Paris there were 2,068 out of 4,056, about one-half. Then, followed in Germany Bonn with 255 women students, Munich 188 and Heidelberg 165, while the small universities such as those of Marburg, Tübingen and Jena are much less. In France Grenoble followed Paris with a total number of women students of 317, most of whom are foreigners, but the majority of the whole is furnished by the large towns: Lyons, 188; Lille, 179; Bordeaux, 145; Toulouse, 164; Montpellier, 228; Nancy, 153; Algiers, 105; Aix-Marseilles, 106; Rennes, 84; Dijon, 80; Poitiers, 65; Clermont, 48; Caen, 45, and Besançon, 33.

### Digestive Troubles of Cecocolic Origin

At the meeting of the Académie de médecine, April 15, Dr. Pierre Delbet, professor of clinical surgery at the Faculté de médecine de Paris emphasized the fact that chronic appendicitis does not account for all the pains in the right iliac fossa or for all the digestive troubles connected with them. From time to time persons who have been operated on for appendicitis show symptoms that one would not hesitate to attribute to appendicitis, if the appendix had not been removed beforehand. Pains of spontaneous origin persist; McBurney's point is sensitive to pressure; digestive troubles are not improved. Two kinds of lesions seem capable of producing these digestive symptoms: abnormal mobility of the cecum and dilatation of the cecum, sometimes independent of each other, although often associated. Dilatation of the cecum is frequent among patients with appendicitis and it is not easy in such a case to know if this is an effect or the cause of the appendicitis. Abnormal mobility of the cecum is perhaps capable of causing pains by disturbing an appendix less movable than itself but otherwise sound. Delbet has been in the habit for the past ten years, whenever he performs an appendectomy, of reducing the dimensions of the cecum by a plication of the cecum and fixing it to the abdominal wall, if it is abnormally movable. Out of 198 patients operated on in this way Delbet has kept in touch with 52. Only four of these had any pains and 48 did not suffer at all. This proportion, complete cures in 92 per cent. of the cases, is far superior to results which have been reported from simple appendectomy.

There are cases, however, in which cecopexy and cecorrhaphy are not sufficient to make these symptoms disappear. The cecum remains dilated because obstructions exist to its evacuation: adhesions, most often of inflammatory origin, lesions of the biliary passages and of the appendix; and adnexa on the right side and of the colon itself, etc. It is not always sufficient in these cases to cut these adhesions or membranes and free the cecum. It is necessary to have recourse to unilateral exclusion of the cecum or colon; that is to say, anastomosis of the lower part of the small intestine to the large intestine.

### Sale of the McLaughlin Electric Belt a Swindle

The persons condemned by the Paris court for selling the "Electro-Vigor" belt of McLaughlin (THE JOURNAL, July 6, 1912, p. 46), appealed the case and the criminal court has confirmed the judgment of the court of Paris by sustaining (1) the judgment recognizing as guilty of swindling the persons who sold electric belts on the false pretense that the apparatus would heal all sorts of diseases, and (2) the damages allowed the *syndicats* of medicine when it was established that the swindlers diverted patients from licensed practitioners, which was prejudicial to the interests represented by the *syndicats*.

### Study at the Rockefeller Institute and American Universities

Acting favorably on the suggestion of the Faculté de médecine de Lyon, the council of the university of that city has awarded the prix Falcoux and the prix Crouzet to *agrégé* professors Mouriquand and Leriche. The income of these prizes will be spent in defraying the expenses of study to be carried on at the Rockefeller Institute in New York and in large American universities.

### Personal

At the meeting of April 14, the Académie des Sciences elected Dean Landouzy of the Faculté de médecine de Paris academician at large by a vote of 42 out of 55.

### Tobacco Angina Pectoris

General opinion attributes to tobacco serious complications of angina, according to a paper which Dr. Fiessinger read before the Académie de médecine. This opinion is not well founded. The sole results of tobacco are anginous neuralgias which remain benign and which cease spontaneously on the removal of the intoxicating agent. When death occurs, it is due to another factor, syphilis. Fiessinger reported the cases of three patients with anginous complications which were attributed to tobacco. There was a reaction showing that they were cases of unrecognized syphilis. Mercurial treatment administered to these patients, who had undergone other treatment without success, led to an immediate amelioration. The diagnosis of serious angina, due to tobacco, should not then be given unless that of syphilis has previously been excluded.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, April 18, 1913.

### Annual Meeting of the German Surgical Association

*(Concluded from page 1375)*

#### OPERATIVE TREATMENT OF PULMONARY EMBOLISM

Schumacher of Zurich discussed the symptoms and diagnosis of large emboli of the lung and the indications and technic for Trendelenburg's operation. He based his conclusions on three operations for emboli conducted by the Trendelenburg method in the Zurich clinic, and a few carefully observed necropsies after death from pulmonary embolism. He distinguishes three forms of death from embolism of the lung (1) the almost instantaneous death from shock; (2) death occurring rapidly from very large emboli which completely fill the trunk or the two principal branches of the pulmonary artery; (3) death following after many minutes or even hours from emboli with a protracted course. In cases with a rapid course, operation is more or less obligatory, as there is a chance of saving life. There may be also in these cases anatomic relations which are favorable to an operative extraction of the embolus. In cases with a prolonged course one is justified in resorting to operation if in spite of stimulation an aggravation of the condition cannot be prevented. In two cases of this sort he observed the appearance of a valvular second pulmonary sound which disappeared as the force of the heart became less. Probably this disappearance of the clear tone constitutes a clinical sign indicating that operation should not be delayed.

#### BONE AND MUSCLE GRAFTING

Küttner of Breslau reported on the permanent results of transplantation of parts from cadavers and from apes. In a child with a defective fibula the bone was transplanted from an ape with a good permanent result. For this purpose the apes which are nearest related to man, such as the *Macacus rhesus*, are best. The graft should be taken from a healthy animal half an hour before the operation on the patient; the animal should be killed and dissected just before the transplantation is to be performed, in order to exclude any chance of infection. Hildebrand of Berlin made a plastic operation on a young woman with facial paralysis who had already been operated on in other ways nine times without success. He separated the sternal portion of the sternocleidomastoid, retaining its innervation, then turned it upward, carried it beneath the skin and sewed it to the angle of the mouth; in addition, a part of the masseter was transplanted. The patient has gained good voluntary control of both angles of the mouth. Long and tedious practice is necessary to train the transplanted muscle in its new function. The face of the patient

presents a good symmetrical appearance; on laughing, however, the musculature of the healthy side predominates.

### BLOOD-VESSEL GRAFTING

Lexer of Jena showed a case of ideal operation for aneurysm and transplantation of the vessels. The patient was operated on according to the rules established by Lexer in 1907. To maintain the circulation in its normal channel, the spindle-shaped aneurysm beginning above Poupart's ligament and extending below the arteria profunda was removed and the defect of the vessel repaired by the introduction of a piece of the saphenous vein, 18 cm. long. The wall of the artery markedly changed by arteriosclerosis allowed the threads of the running suture of Carrel to cut through. On the other hand, the continuous protruding mattress suture gave very good service; the thread not only held well but also prevented hemorrhage. The large differences in lumen of the piece of vein and that of the still enlarged artery caused little difficulty in suture. The brilliant result also shows that the piece of vein must have undergone an increase in size, as in experimental work. The patient was a man aged 62 and the case testifies beyond cavil that a transplanted vessel may remain thoroughly permeable. The arteries in the foot now pulsate as powerfully as those on the other side, but they immediately become pulseless when the femoral artery in the region of the transplanted vessel is compressed. The patient, who was operated on nine months ago, is completely free from symptoms.

### AFTER NEPHRECTOMY

Kümmell of Hamburg gave a summary of his researches on the later fate of patients after nephrectomy. Subsequent investigation of 386 patients after nephrectomy showed that in the tuberculous cases there was a permanent cure in 80 per cent., with malignant tumors in 40 per cent., in hydronephrosis in 98 per cent., and in pyonephrosis in 90 per cent. Injuries when unilateral give good prognosis, but nephritis gives an unfavorable one. With polycystic degeneration, nephrectomy is contra-indicated. In tuberculosis one may speak of permanent recovery after two years, with malignant tumors after four years. A large number of the patients died the first year after the nephrectomy. Disease of the other kidney makes the prognosis distinctly unfavorable; but in rare cases recovery may occur even here. This occurred in one case after an incision of the remaining kidney. Patients with only one kidney left, as a rule, passed through a pregnancy without disturbance. Only in one case out of seventeen did nephritis occur and in one case a premature birth. Patients with one kidney tolerate morphin, anesthesia by ether, and the injection of diphtheric antitoxin well, but bear chloral and veronal badly. Permission to marry may be given to women after nephrectomy done for tuberculosis and malignant tumors if they have remained well for two and four years, respectively. Patients with one kidney are not eligible to military duty, although officers with only one kidney may perform efficient duty.

Baecker reported on the fate of 100 patients on whom nephrectomy had been performed between 1901 and 1912 at the Berlin university surgical clinic. Nine patients died directly after the operation. Of the remaining ninety-one, twenty-eight died of intercurrent disease and three from uremia, so that out of 100 patients on whom nephrectomy was performed sixty survived. Tumors showed the most unfavorable results; all the eighteen patients under observation died from local recurrence or metastasis; but all these tumors were malignant and far advanced. In all other affections, particularly hydronephrosis and pyonephrosis, unilateral nephritis, acute suppurations of the kidney, and especially tuberculosis, the end-results were very favorable. Statistics show that great progress has been made every year in our modern methods of functional examination, and in the diagnosis, operative indications and prognosis of the surgical diseases of the kidney.

### THYMECTOMY

Von Haberer of Vienna has performed thymectomy, according to Garrè's method, in four cases of exophthalmic goiter or hyperthyroid conditions. In the fifth case the thymus was removed on account of the symptoms of stenosis which were caused by it. In all cases the operation gave a good result. In one case a man 30 years of age, after a febrile disease in 1909, developed acute exophthalmic goiter which began with severe heart symptoms. Other operators had previously performed partial thyroidectomy on one side and ligated the thyroid artery on the other. In spite of this, all the nervous, and especially the heart symptoms, grew worse. The patient complained of attacks of suffocation with mental dulness. There was dilatation of the heart with displacement of the apex-beat to the axillary line, large congested liver and congested spleen, and the radial pulse was scarcely palpable. The intern who was called diagnosed the heart at that time as a fatigued heart, and gave an unfavorable prognosis. Only at the urgent requests of the patient and his relatives, von Haberer decided on thymectomy. Local anesthesia was used. Instead of the expected large thymus gland only a very small one was found. Histologically the thymus was found to be decreasing in size, but it contained a surprisingly large number of Hassal's corpuscles. The success of the operation was striking. It did not follow immediately, but comparatively soon. At present the dilatation of the heart has disappeared, the apex-beat is found within the mammillary line, and the congested liver has completely receded. The radial pulse is 84, full and strong, although still a little irregular. The nervous symptoms, tremor and restlessness, have disappeared. The patient, who is now free of all heart trouble, was recently able to undertake without difficulty a trip through the mountains. The operation was performed four months ago.

### GALL-STONE OPERATIONS

Kehr of Berlin presented the results of 2.000 operations on the biliary passages. Comparison of the first and second thousand shows the following: The total mortality has increased. The explanation of this lies in the increased number of malignant cases. The mortality in patients with uncomplicated gall-stones has decreased, especially in patients in whom hepatic drainage was performed. Kehr explains this by the influence of the T drainage. The total mortality is 16.7 per cent., and that of simple gall-stone cases is 3.2 per cent. If the death-rate is compared as given by different authors, great differences are found. These, however, depend on differences in the material, and Kehr draws the following conclusions: The total mortality corresponds approximately to the percentage of malignant complications plus the death-rate of from 2 to 3 per cent. in patients with uncomplicated gall-stones. Two things we know: 1. No peritonitis results even if operation is done without gloves or mask. 2. No severe wound infections will result if the fatty layer is not sewed. There are two things, however, that have not been accomplished, namely, anesthesia free from danger and prevention of hemorrhage in patients with jaundice. He will be the best laparotomist or gall-stone surgeon who will discover a method of anesthesia, free from the dangers of ether or chloroform, which will protect the patient against pneumonia and embolism. Against the danger of hemorrhage in patients with jaundice there is at present only one remedy, early operation. We must put a stop to the custom of calling a surgeon only at the last moment when the cholemic diathesis is complete. For obvious reasons cases of functional icterus will probably never be amenable to the knife, but mechanical icterus, on the whole, presents a good opportunity for operation if not delayed too long. Unfortunately, it is not always possible to distinguish between functional and mechanical icterus.

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, April 18, 1913.

### One Year's Work of the First-Aid Corps in Vienna

The Vienna Rettungsgesellschaft, as it is commonly called (voluntary first-aid corps), has just published its report for 1912. No less than 35,920 cases were treated, or an average of 98 per day. The various items were: 6,971 cases of sudden illness which required first aid in streets or public buildings; 12,663 injuries and accidents; 327 cases of mental derangement; flying ambulances had to be furnished 124 times in various places. No less than 737 times the corps was called by mistake. The number of suicides or attempts at such amounted to 1,387 (only those are included in which the corps was called). It is interesting to find that the majority of these attempts was undertaken by poison (537). Shooting was used by 276 persons; knives by 130; 132 drowned themselves; 129 hanged themselves; 100 jumped down from various heights, and 80 took gas for suicidal purposes. The majority of interventions of the corps was by call of the police or other authorities; private persons called the first aid only 6,839 times. The number of accidents shows how dangerous modern industrial life is still in spite of all precautions; 1,465 persons became victims of street vehicles; 1,532 in industrial undertakings and factories; 488 injuries were caused by combustible substances; 456 persons were injured in the building of houses; 618 injuries were due to intoxication by alcohol.

In schools 42 children suffered accidents, 29 persons were killed by electric currents, 102 persons were bitten by animals, and 91 persons collapsed for want of food or from cold. The corps has instituted special first-aid classes (Samaritan Classes) for all circles of the population. These were attended last year by 900 persons, and numerous teachers of both sexes, as well as members of factories, the police-force, artisans and shopkeepers formed the audience. They had to pass certain examinations to show that they had profited enough by the lectures and demonstrations to be useful in preventing loss of life in cases of urgency. The report also mentions the coming congress for first aid which will take place in Vienna in September, and it is clear that it will be a real success, because so many eminent men from all countries will take part in the proceedings of this important convention. [The population of Vienna is somewhat over one and a half million. —ED.]

## Marriages

ARTHUR CLYDE KNIGHT, M.D., Warm Springs, Mont., to Miss Mathilde LeRoy of Anaconda, Mont., at Butte, Mont., April 9.

OSCAR RICHARD FLETCHER, M.D., Sanford, Va., to Miss Nancy Virginia Taylor, at Temperanceville, Va., April 17.

FRANCIS BRINTON JACOBS, M.D., Philadelphia, to Miss Phebe Anne Price of Whitford, Pa., at Glen Loch, Pa., April 24.

HOWARD S. ANDERS, M.D., to Mrs. Maud Howland Wiggins, both of Philadelphia, in New York City, March 12.

CHESTER OVERTON BURRUSS, M.D., Fredericksburg, Va., to Miss Margaret Byers, at Sharon, S. C., April 17.

WILLIAM LAWSON THORNTON, M.D., Birmingham, Ala., to Miss Leila DeVan Dumas of Mobile, April 29.

CHARLES DANIEL EASTON, M.D., Newport, R. I., to Miss Margaret Hays of New York City, April 23.

MAURICE A. LOEBEL, M.D., Chicago, to Miss Jessie J. Marshall of Seneca, Ill., in Chicago, April 26.

JOHN D. SPELMAN, M.D., Cincinnati, to Miss Felicia Hangar of Staunton, Va., at Cincinnati, April 17.

FOSTER MILLER HULL, M.D., to Miss Carmelita Marie Orsatti, both of Los Angeles, April 23.

JOSEPH LELAND, M.D., Tuscaloosa, Ala., to Miss Margaret Patton of Birmingham, Ala., April 16.

FREDERICK JOHANSEN, M.D., to Miss Alma Morris, both of Carthage, Mo., in Chicago, March 27.

WILBUR L. LECRON, M.D., to Mrs. S. W. Rosencrantz, both of Milwaukee, April 12.

## Deaths

**Samuel Willard** (license, Illinois); surgeon of the Ninety-Seventh Illinois Volunteer Infantry during the Civil War; founder and first librarian of the Springfield Public Library and superintendent of city schools; from 1890 to 1897 teacher of history in the West Division High School, Chicago; died at his home in Chicago, February 9, from senile debility, aged 91.

**Robert Campbell, M.D.** Queens University, Belfast, Ireland, 1872; assistant registrar of vital statistics of the Health Department of the City of New York, assigned to the Borough of Queens; for sixteen years a member of the dermatologic staff of the New York Dispensary, died at his home in Jamaica, Long Island, April 19, from acute gastritis, aged 63.

**Rosa Kleine Martin Upson Liebig, M.D.** University of Michigan, Ann Arbor, 1881; said to have been the first woman to have been admitted to membership of the Iowa State Medical Society; overseer of the poor of Marshall County; for several years secretary and treasurer of the Iowa Public Health Association; died at her home in Marshalltown, April 24, aged 67.

**Oliver H. Koons, M.D.** Jefferson Medical College, 1883; of Brooklyn; a specialist on diseases of the throat; while driving near his country home at South Orange, N. J., April 21, suffered a cerebral hemorrhage from which he died while being taken to the hospital, aged 60.

**Thomas J. Symington, M.D.** Queens University, Kingston, Ont., 1881; a member of the American Medical Association; formerly president of the Austin Flint Medical Society; for many years local surgeon at Ackley, Iowa, for the Illinois Central and Minneapolis and St. Louis railroads; died at his home, April 21, from erysipelas, aged 56.

**Joseph V. M. Cain, M.D.** Georgia College of Eclectic Medicine and Surgery, Atlanta, 1893; formerly professor of obstetrics and gynecology and president of the faculty of his alma mater; professor of gynecology in the Hospital Medical College, Atlanta; died in a private sanatorium in Atlanta, April 18, aged 55.

**Francis M. Hiett, M.D.** Rush Medical College, 1865; one of the charter members of the Medical Society of the Missouri Valley; for thirty-two years a practitioner of Red Oak, Iowa; died at the home of his son in Metaline Falls, Wash., April 3, from carcinoma of the gall-bladder, aged 73.

**Winfield Scott Sayler, M.D.** Medical College of Ohio, Cincinnati, 1880; a member of the Ohio State Medical Association; who suffered amputation of the right leg on account of septicemia, recently; died a short time after from surgical shock, aged 59.

**Addison McArthur Bourland, M.D.** University of Nashville, Tenn., 1858; a veteran of the Mexican War, and of the Civil War in which he served as surgeon in the Confederate Service; died at his home in Fort Smith, Ark., April 23, from senile debility, aged 87.

**Joseph Benson Fenwick, M.D.** Harvard Medical School, 1872; once city physician of Chelsea and a member of the Massachusetts Medical Society; died at his home in Chelsea, from senile debility, hastened by a fracture of the hip several months before, aged 75.

**Henry M. Connelly, M.D.** Medical College of Indiana, Indianapolis, 1882; until 1900 a practitioner of Flatrock, Ind., and since that time a resident of Shelbyville, died at his home in that city, April 20, from cerebral hemorrhage, aged 62.

**George Macaulay, M.D.** Jefferson Medical College, 1886; acting assistant surgeon, U. S. P. H. S. since 1901; a member of the Association of Military Surgeons of the United States; died at his home in Jacksonville, Fla., April 21, aged 48.

**James Richard Hull, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1880; for twenty-seven years a practitioner of Good Hope, Ill.; died in St. Anthony's Hospital, Rock Island, Ill., March 27, from nephritis, aged 52.

**Simon Hubler, M.D.** University of Pennsylvania, Philadelphia, 1879; a veteran of the Civil War; a practitioner of Herrick Center, Elyburg and Dunmore, Pa.; died at the home of his son in Scranton, Pa., April 24, aged 69.

**Frederick Charles Johnson, M.D.** University of Pennsylvania, Philadelphia, 1883; editor and proprietor of a daily paper in Wilkes-Barre for many years; died in Dallas, Pa., March 5, from paralysis agitans, aged 60.

**Andrew S. Bonebrake, M.D.** Jefferson Medical College, 1872; a retired physician of Baltimore and formerly a practitioner of Waynesboro; a veteran of the Civil War; died at his home in Baltimore, April 24, from nephritis, aged 65.

**George Thomas Carson, M.D.** Rush Medical College, 1896; a member of the American Medical Association; superintendent of the Chatsworth (Ill.) Sanitarium; died at his home in that city, April 26, from pneumonia, aged 52.

**Frank Pierce Smith, M.D.** Bellevue Hospital Medical College, 1877; a pioneer practitioner of Canton, S. Dak., but for the last two years residing on a ranch near Meadow, S. Dak.; died at his home, April 19, aged 60.

**Emma Cornwell, M.D.** Chicago Homeopathic Medical College, 1884; said to have been the first woman practitioner of Crawford County, Iowa; died at the home of her daughter in Denison, April 20, aged 73.

**Clarence Albert Treuholtz, M.D.** Cooper Medical College, San Francisco, 1897; captain, M. C., U. S. Army; a member of the American Medical Association; died at his station at Fort Bayard, N. Mex., April 15, aged 36.

**Jacob Kissel, M.D.** Cornell University, New York City, 1906; formerly a member of the staff of the German Hospital, Brooklyn; died at his home in Glendale, Brooklyn, April 19, from peritonitis, aged 30.

**Erasmus Darwin Loing, M.D.** College of Physicians and Surgeons, Keokuk, Ia., 1882; of Belvidere, Ill.; formerly of Brandon, Fla.; died in the Elgin State Hospital, April 14, from arteriosclerosis, aged 80.

**Arthur S. Capron, M.D.** Albany (N. Y.) Medical College, 1886; of Albany; a member of the American Medical Association; died suddenly in a hotel in that city, April 22, from heart disease, aged 63.

**Joshua M. List, M.D.** Cleveland University of Medicine and Surgery, 1875; president of the Citizens' National Bank of Evans City, Pa.; died at his home in that place, about April 21, aged 71.

**Orlando Wood Sherwin, M.D.** Dartmouth Medical School, Hanover, N. H., 1866; a member of the American Medical Association; died at his home in Woodstock, Vt., April 17, aged 75.

**Garrard Fordyce,** a veteran of the Civil War and for several years a practitioner of Livingston County, Ill.; died at his home in Ancona, February 10, from uremia, aged 78

**Frederick L. Preston, M.D.** Hahnemann Medical College, Philadelphia, 1877; died at his home in Chester, Pa., April 21, from cerebral hemorrhage, aged 69.

**William C. Hoover, M.D.** Rush Medical College, 1869; died at his home in Haddon Township, Vigo County, Ind., about April 24, from senile debility, aged 83.

**William Swango,** (license, Kentucky, thirty years' practice, 1894); formerly of Maytown, Ky.; died at his home in Toliver, Ky., April 21, aged 69.

**Joseph L. G. Masson, M.D.** Victoria University, Coburg, Ont., 1890; died at his home in Terrebonne, Que., April 19, aged 49.

**Milus L. Moody, M.D.** University of Texas, Galveston, 1898; of Greenville; died in Bentonville, Ark., April 19, aged 43.

**Leonard S. Byers** (license, Indiana, 1885); died at his home in Seeleyville, April 24, from pneumonia, aged 62.

---

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## THE DUKET "CONSUMPTION CURE"

About the time that Friedmann's press-agents were getting in their finest work, and when any news item—no matter how bizarre—regarding a consumption cure, made good newspaper "copy," the Chicago newspapers came out with sensational articles regarding a locally exploited "cure" for the white plague. Dr. Peter P. Duket of Chicago had produced, we were told, a "serum" that would cure tuberculosis. It is probable that Chicago newspapers would not have "fallen for" this canard, if it had not been given an artificial news value by the fact that the "cure" was financed by William Lorimer, who for a time occupied a seat in the United States Senate.

Newspaper notoriety seems to have been assiduously cultivated, and the "Duket serum" has been given publicity at stated intervals from the time of the first sensational articles in the early part of March until the present. The latest developments are that Mr. Lorimer has asked the governor of each state in the Union to send a representative to Chicago to watch the Duket "cure." Furthermore, he seems to have brought his influence to bear at Washington, for the papers state that an investigation of the Duket "cure" is to be undertaken by the United States Public Health Service.

So many inquiries have been received by THE JOURNAL regarding the Duket "serum" that we feel there is an urgent need of giving physicians such facts as we have already at hand. We have postponed publishing such matter as we have in the hope that we could have completed our investigations of this widely vaunted treatment. If conditions warrant it the result of these investigations will appear in due time.

Peter P. Duket was graduated by Hahnemann Medical College, Chicago, in 1893. He was licensed to practice in Ohio in 1896 on the presentation of his diploma, examinations for licensure not being required in that state until 1900. His name does not appear in the medical directories for the year 1896, but in 1900 he seems to have been at Bowling Green, Ohio. His name is again absent from the directories for 1902, 1904 and 1906, but appears in the issues of 1908, 1910 and 1912 under the city of Toledo. In 1902 Duket presented his diploma and obtained a license to practice in the state of Michigan. In June, 1911, and again in January, 1912, Duket made application for license to practice medicine in Colorado. It was refused. But he obtained a license to practice in New Mexico in January, 1912, the license being granted on presentation of diploma. While in New Mexico in 1912, Duket wrote to the Ohio State Board asking that board to endorse him to the Texas board. The Ohio board "inquired regarding his moral and professional standing," and as a result of this inquiry the secretary of the Ohio board "was instructed to refuse the endorsement." In January, 1913, Duket was granted license to practice in Illinois.

In connection with Duket's application to the Colorado State Board of Medical Examiners for licensure in that state, some interesting points were brought out. In the course of Duket's efforts to get a Colorado license, he appealed to a prominent Denver politician, who appeared before the board in Duket's behalf. During the course of the hearing, however, the politician himself seems to have become skeptical of Duket's good faith. Duket is said to have claimed at that time that he was curing tuberculosis with a "lymph" obtained from goats. The politician-friend asked Duket where he kept his goats. Duket is said to have hesitated and finally answered that he had one goat that he kept at a certain address in Toledo, Ohio. The politician had the chief of police of Denver wire the chief of police of Toledo to locate the goat. The Toledo police chief both wired and wrote that investigation indicated that Duket had not at that time and never had had any goats quartered at the address given.

### DUKET'S FINDLAY SANATORIUM

In 1910 and 1911 Duket was operating what he called the "Tubercular Sanitarium Company" at Findlay, Ohio. He was using this concern as headquarters for the exploitation of his so-called serum. Business apparently being slow, Duket seems to have gone about the country drumming up patients. He issued a somewhat elaborate booklet describing the sanatorium and giving some indefinite information regarding his medicament. When in a town he would send out this booklet to prospective victims with a rubber stamp imprint on its title-page giving the name of the hotel at which he was staying and the time that he could be seen.

### CLAIMS MADE FOR DUKET'S CURE

From this booklet we take the following quotations:

"The only treatment that is to be considered is an intravenous treatment with an antiseptic lymph."

"This antiseptic lymph is non-toxic, non-irritant and subdues the inflammation of the lungs."

"In our treatment we use an antiseptic lymph which is a recent discovery and has been used by ourselves exclusively."

"There is no other institution in the world that has the same antiseptic lymph."

"It is not made from any product from tubercle bacilli."

"When given intravenously, the action of the germs ceases. The patients are restored rapidly to their normal weight enabling the system to assist the antiseptic in destroying the germs and curing the disease."

With the usual assurance of exploiters of "consumption cures," Duket was not at all modest in the claims made for his "antiseptic lymph." Here is what he gave as the percentage of "cures" made by his "treatment":

Patients in the first stage, 90 per cent. of cures.

Patients in the second stage, 75 per cent. of cures.

Patients in the third stage, 50 per cent. of cures.

To a layman who wrote to the Findlay institution Duket replied in part:

"The length of time required to be at the sanitarium or to effect a cure is 10 weeks. In some cases, of course, it may be longer than that.

"We have made some very remarkable cures and hope that you will not delay in coming."

As this letter was not answered, a few days later another communication came from Duket, four pages in length, urging the prospective patient to come to Findlay. "The treatment is safe, and none but good results follow," the recipient of the letter was told. This does not seem invariably to have been the case. A tuberculous subject who had been to the Ohio State Sanatorium and returned greatly improved took Duket's treatment. Each injection was followed by a rise in temperature and chill and in a few weeks all the good that had been accomplished at the state institution was undone. The poor fellow died and his brother writes that neither the deceased nor he noticed any improvement when his brother returned from Duket's sanatorium.

Here then is another alleged cure for tuberculosis being foisted on the public by a man who has no scientific standing and who has had little or no scientific training. Nor is this all. Duket has succeeded in enlisting the help of men whose motives we need not question and whose influence is immeasurably greater than his own. Thus the potentialities for harm are enormously increased. At an early date we hope to be able to give our readers further details regarding the results of the "cure" itself. In the meantime, every physician will, in the interest of his tuberculous patients, do well to give them such facts as we have presented regarding this latest cure.

---

## TIME, THE REVEALER

The matter quoted below is taken from a report of the evidence before the Select Committee on Patent Medicines, at present in session in London, which appeared in the *Chemist and Druggist*. The subject was led up to by a statement of the chairman of the committee regarding that part of the United States Food and Drugs Act which requires that "patent medicines" containing acetanilid should have the presence of that drug declared on the label. Mr. Lawson, whose testimony is given, is the manager of Daisy, Ltd., a concern whose products are referred to editorially in this issue. The italics are ours:

"Mr. Lawson made an interesting statement on the subject as *told to him by the president of the Antikamnia Co.* He was informed that when the law was brought in in America it was decided that the acetanilid should be named on the label; the Antikamnia Co., to avoid that, stopped using acetanilid and substituted phenacetin. Later the American Board [Department] of Agriculture decided that phenacetin should likewise be disclosed, *but before that happened the company worked off their superfluous stock (containing acetanilid) on the European market.* Now Antikamnia contains phenacetin, but NINE-TENTHS OF THE ANTIKAMNIA TRADE IN THIS COUNTRY HAS BEEN BUILT UP ON PRESCRIBING BY MEDICAL MEN of the acetanilid preparation."

In reply to a question from the chairman, we read: "Witness said *Antikamnia had been for years, and still is, advertised in the medical papers.* Moreover, the company have representatives calling on doctors and getting them to prescribe Antikamnia. The chairman was very interested in that statement, which was evidently new to him, and he wanted to know *what kind of arguments such representatives used to induce medical men to prescribe acetanilid as Antikamnia.*"

---

## TONGALINE

### Sodium Salicylate Sold Under a Fancy Name

Tongaline, manufactured by the Mellier Drug Company, St. Louis, is essentially a preparation of sodium salicylate. It is also said to contain tonga, though whether it does or not we have attempted neither to prove nor to disprove. Tonga is an inert substance whose history in medicine, while interesting, is by no means unique. The story goes that it was used originally by the native "medicine men" of the Fiji Islands and that it consisted of an infusion of the roots and barks of various plants indigenous to those islands. A supply of the crude drug was carried to England by a man who had lived for a short time in the Fiji Islands and it was placed in the hands of a retail house in London. This occurred about 1879. In 1880, two English physicians of repute published laudatory articles on the therapeutic value of tonga in neuralgia and rheumatism. This created a demand for the drug which extended to the United States. It was put on the market in this country by Parke, Davis & Co., who were proceeded against by the London house for using the name "Tonga," which the British house had registered as a trade-mark. Parke, Davis & Co. won the suit and continued to sell what it called a "Compound Fluid Extract of Tonga."

It was not long before the therapeutic inefficacy of tonga in neuralgia and rheumatism was made apparent and the demand for it gradually diminished. At the zenith of its popularity, however, the shrewd idea had been conceived of commercializing this popularity and of perpetuating the word "tonga." Thus was Tongaline born. The Mellier Drug Company realized the impossibility of creating any marked demand for a nostrum unless it had some real drugs in it—hence the presence of the salicylates. What the actual composition of Tongaline is, no one but the manufacturers know. At one time the following was given as the formula:

| | |
|---|---|
| Fluid Tonga | 30 grains |
| Extract of Cimicifuga Racemosa | 2 grains |
| Sodium salicylate | 10 grains |
| Pilocarpin salicylate | 1/100 grain |
| Colchicin salicylate | 1/500 grain |

These amounts refer to the quantity of drugs in each fluidram of the preparation. Whether the nostrum still has this composition we do not know, but assuming that it has, it is quite evident that sodium salicylate is the essential and active ingredient.

Tongaline was first put on the market as a cure for neuralgia and rheumatism. Now the history of the nostrum business shows that it is commercially impracticable to establish a continued demand for a preparation recommended as a cure for only one disease. To be long-lived, a nostrum must be a panacea—it must be "good" for many things, if not for everything. It is not surprising then to find that Tongaline was not on the market long before it was being recommended for many and various pathologic states. Tongaline was even inferentially recommended for yellow fever during the epidemic of that disease in 1906. When criticized for such outrageous mendacity, the firm "hedged" and denied that it had intended to convey such an implication. Here are some of the claims made for Tongaline:

"It cures rheumatism, neuralgia, grippe, gout, headaches, malaria, sciatica, lumbago, tonsillitis, heavy colds and excess of uric acid."

"An infallible remedy for neuralgia, rheumatism, nervous headache, la grippe, gout, sciatica and lumbago."

"Exercises a positive and rapid anodyne effect."

"Has a peculiar affinity for poisonous and viscid secretions, which it eliminates promptly and thoroughly."

"Is a most efficient agent in the treatment of all forms of malaria."

"The ideal prescription for diseased conditions caused by habitual or periodic alcoholism."

"For indefinite aches and pains."

Is it conceivable that any physician in his right mind would believe that the salicylates would be of value in all the multifarious conditions here named? Yet under the magic word Tongaline the medical profession has for years been prescribing this mixture and, worse yet, the public has been paying for it. Is there any excuse for such unscientific empiricism? If not, how long will our profession tolerate it?

Some physicians who are surely familiar with the uses and limitations of the salicylates, instead of prescribing them in definite quantities and under their own names, prescribe nostrums containing them, such as Tongaline and Hymosa. Knowing the action and value of acetanilid, phenacetin, etc., some men prescribe these useful drugs in uncertain amounts under the names of Antikamnia, Pas-Avena, Ammonol, Phenalgine and what not. Instead of prescribing hexamethylenamin, they make their patients pay fancy prices for the same drug under the names Uriseptin, Formin, Cystogen, etc.

The economic phase of this problem is bad enough in all conscience but it is not the worst. There is the much greater evil of prostituting the science of medicine and setting back

the clock of therapeutic progress. Such things as these tend utterly to discredit the medical profession in the minds of thinking laymen. Within the past few weeks British physicians must have been chagrined by the facts brought out at the "patent-medicine" inquiry now going on. At least they would have been chagrined if their medical journals had had the courage to report the evidence as it was given at the inquiry. The chairman of the investigating committee expressed surprise when he learned that physicians were in the habit of prescribing such a well-known drug as acetanilid under a fanciful name and with no knowledge of the composition of the product. The chairman doubtless has many other surprises coming. Possibly one will come when he learns that the salicylates are prescribed under the name of a worthless and inert drug.

---

## ELIXIR OF TONGA COMPOUND

### Keeping a Dead Drug Alive by Artificial Means

The exploitation of Tongaline, just described, brings to light another evil of the nostrum business that is little appreciated. Tonga itself is therapeutically dead. But the name "tonga" still has commercial possibilities. This is because the extensive advertising of Tongaline has unconsciously kept alive in the minds of the medical profession a feeling that tonga has certain valuable—if mysterious—properties. As a result practically every large pharmaceutical house puts out a tonga mixture in the hope of reaping some financial benefit from the advertising of Tongaline. This illustrates once more the evil influence that proprietorship in medicine has on the science of therapeutics. If Tongaline or some similar mixture containing, or supposed to contain, tonga were not advertised for the next five years, tonga would be forgotten and relegated to the place it belongs—the therapeutic scrap-heap. But the power of advertising is sufficient to keep this utterly valueless drug alive just so long as it is sold in mixtures which contain in addition to the inert tonga some really valuable drugs.

Most of these tonga mixtures put out by pharmaceutical manufacturers appear in the form of compound elixir of tonga. These elixirs are claimed to contain tonga; whether they do or not, no one but the makers know. They also are claimed to contain the salicylates, cimicifuga, small amounts of colchicum and pilocarpin, and in some instances also acetanilid, gelsemium and potassium iodid. The name in most cases is deceptive, or at least misleading, in that the word "tonga" is emphasized while the important drug in the mixtures is given secondary consideration. We have arranged in tabular form some of the various tonga preparations and the composition that is claimed for them. Similar lists could be made of other equally unscientific mixtures that are put on the market by firms, which while professing to have the interest of scientific medicine at heart, are willing to prostitute pharmacy for profit.




Tongaline and some of its many imitations.

TONGA PREPARATIONS AND THE COMPOSITIONS CLAIMED FOR THEM

CLAIMS FOR COMPOSITION (GRAINS OR MINIMS IN EACH FLUIDOUNCE)

| Preparation and Manufacturer | Tonga | Cimicifuga | Sodium Salicylate | Pilocarpin Salicylate | Pilocarpin | Colchicin Salicylate | Wine of Colchicum | Colchicin | Acetanilid | Tr. Gelsemium | Fl. Ex. Hydrangea | Potas. Iodid | Lith. Benzoate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Elixir Tonga Compound—Parke, Davis & Co | 64 | 16 | 40 | 8/100 | ..... | 8/500 | .. | ..... | ... | .. | .. | .. | .. |
| Elixir Tonga Compound—F. Stearns & Co | 60 | 3¾ | 68 | 1/128 | ..... | 1/64 | .. | ..... | ... | .. | .. | .. | .. |
| Elixir Tonga Compound—Wm. R. Warner & Co | 120 | 16 | 80 | 8/100 | ..... | 8/500 | .. | ..... | ... | .. | .. | .. | .. |
| Elixir Tonga Compound—Eli Lilly & Co | 120 | 16 | 80 | ..... | 8/100 | ..... | .. | 8/500 | ... | .. | .. | .. | .. |
| Elixir Tonga Compound—Hance Bros. & Co | 15 | 16 | 40 | ..... | 8/100 | ..... | .. | 8/500 | ... | .. | .. | .. | .. |
| Elixir Tonga Compound—Ray Chemical Co | 4 | 60 | 14 | ..... | 8/100 | ..... | .. | 8/500 | 5⅜ | .. | .. | .. | .. |
| Elixir Tonga Compound—Nelson, Baker & Co | 4 | 60 | 14 | ..... | 8/100 | ..... | .. | 8/500 | 5⅜ | .. | .. | .. | .. |
| Elixir Tonga & Salicylates—Wm. S. Merrell Chem. Co | 120 | 16 | 40 | 8/100 | ..... | 8/500 | .. | ..... | ... | 16 | .. | .. | .. |
| Elixir Tonga & Salicylates—Sharp & Dohme | 120 | 16 | 30 | 8/100 | ..... | 8/500 | .. | ..... | ... | .. | .. | .. | .. |
| Tonga-Salicyl—Henry K. Wampole & Co | 20 | 0 | 40 | 1/10 | ..... | ..... | 40 | ..... | ... | .. | 8 | 4 | 16 |
| Tongaline—Mellier Drug Co | 240 | 16 | 81 | 8/100 | ..... | 8/500 | .. | ..... | ... | .. | .. | .. | .. |

# Correspondence

### Healthy Employees in Kitchen and Dining-Room

*To the Editor:*—In THE JOURNAL, April 26, p. 1310, appears a news item headed "Waiters Must Be Healthy," which mentions the safeguards against communicable diseases enforced by the Pennsylvania Railroad Company among its employees in dining-car and restaurant service. This is so fully in line with what I have been urging in St. Louis for a number of years that I desire to enlarge somewhat on the topic, as it is of immediate hygienic concern to every person who eats in public or semipublic places, as dining-cars, clubs, hotels and restaurants.

Several years ago a movement was begun here for the formation of a local club, the declared purpose of which was the advancement of wholesome civic conditions, general and special. On joining the club I conceived the occasion opportune to address a letter to its president, calling attention to the importance of starting right and with clean hands as concerned kitchen help and dining-room service, by requiring that every proposed employee should undergo a strict physical examination, to be conducted preferably by the health department as a part of its regular work, and that no one should be employed who could not present from that official source a certificate attesting the clean, sound personal health of the applicant. It was further advised that every person thus employed should be subject to supplemental tests as might be provided in rules to be framed later, and that employees of this selected class should receive a higher wage than those not thus tested, if the latter were taken into club service.

These suggestions seemed to find favor at first; but later, as is common, lions were found in the way, or what appeared as such—most likely on close examination they would have been found to be merely stuffed felines rather the worse for moths—and nothing was done. Some time later when a syphilitic waiter appeared to take an order for luncheon, I thought that the limit had been reached, and my resignation was soon sent in and accepted.

Such an experience is not exceptional, as any physician with open eyes may prove who frequently eats in public places, and the danger may be greatest in establishments of most pretentious claim in which sanitary suspicion would be lulled by fine appointments. It is not an uncommon occurrence in some of the most exclusive eating concerns for the fingers of the waiter to visit his mouth when supplying a napkin to a diner; and rolls, cutlery, plates, etc., are served with the same unsterile fingers. Tuberculosis, syphilis, diphtheria, cancer and other dangerous and revolting ailments affect the mouth and air-passages often in concealed form; hence the imperative hygienic need for barring from table and kitchen service among self-respecting people, by means of a searching medical examination, every person found thus affected, esthetic considerations weighing as well as those that are prophylactic and hygienic.

GEORGE HOMAN, M.D., St. Louis.

---

### Need for a Physician in the Mountains of North Carolina

*To the Editor:*—Far up in the mountains of North Carolina is a little hospital, founded and run by a trained nurse, Miss Lydia Holman, who for twelve years has quietly worked among these mountain people, not only bringing to them medical aid and care, but also teaching modern sanitary improvements, hygiene and social betterment. When the railroad ran its line through Altapass, a small building was erected for use during its construction, and after the completion of the road, seeing the splendid work Miss Holman was doing there, the railroad gave the building to her to use as a hospital.

Miss Holman's work covers a large area, patients traveling many miles to reach the little hospital, or sending for her in all sorts of weather, night or day, so that her work has really become that of a physician as well as a nurse, because she could not refuse medical aid when it was needed and there was no one else to give it. This even resulted at one time in her arrest for practicing medicine. Finally a doctor was found, but after a year or two of work down there he has left, and again Miss Holman, with the help of one or two nurses, is bearing the immense burden of this work.

Patients with typhoid (of which a large number of these people die), pneumonia, tuberculosis, all sorts of surgical cases and even the victims of a small-pox epidemic have been cared for by Miss Holman. One of the first things which called her attention to the great need of medical aid in this region, was a report of the terrible death-rate among the mothers, and the spectacle of babies sick and deformed for life because they had not had proper hospital treatment at birth.

For many months she has been looking for a physician to help her, and brave and plucky as she is, no woman can possibly keep on doing the enormous work she is doing and taking the great responsibility that she is taking without ultimately breaking down under the physical strain. This is an opportunity for some man to do a wonderful good in a community of our own white citizens, a race of people descended from the Scotch, Irish and Germans who fled to these mountains during the Revolution. They are self-respecting and independent, and although living such isolated lives far from civilization, when given the chance, they respond readily to those influences which make toward more enlightened social conditions.

It is not a place in which a man will gain general reputation, wealth or public praise, but to one who cares more about helping others than about worldly gain, this is an opportunity the possibilities of which cannot be exaggerated. The income would probably be about a hundred dollars a month and any fees a physician might make at the small hotel there. Of course only a man with the ability and training to cope with every sort of disease and emergency would be fitted for such a position; but when we think of all the fine medical schools scattered throughout the country, it seems as if there ought to be no trouble or delay in securing the right sort of physician.

We hear of many men willing and anxious to go to China, India and other lands as medical missionaries, or of physicians gladly volunteering to go to Labrador with Dr. Grenfell; surely there is one who will find his work in helping our own people—Americans who live such lonely, desolate lives, growing old and dying before their time because of the lack of teaching as to proper sanitary and hygienic modes of life, as well as aid in sickness. Among all our young physicians there must be a man who will respond to Miss Holman's call.

AGNES WILLARD BARTLETT, 21 Pierrepont Street, Brooklyn.

---

### Report of Cases of Wood-Alcohol Poisoning

*To the Editor:*—In THE JOURNAL of April 19, 1913, p. 1247, a query was inserted concerning articles on wood-alcohol poisoning. A report of four cases that I have treated may be of general interest.

In 1910 four adult male Winnebago Indians obtained 4 ounces of wood-alcohol at a drug-store on the pretense that it would be used as a liniment, but they drank the full quantity. Two of them soon became comatose and died on the third and fourth day after. The third was comatose three days and within a month had recovered except that his vision was completely lost. The fourth, who evidently drank only a small quantity, suffered no ill effects.

Another case occurred in 1912. A mixed-blood Menominee Indian obtained a pint of wood-alcohol from the matron at the Menominee Indian Hospital, saying that he wanted it to clean his paint brushes. He drank only a small part of this and continued his work for two days; on the third day he died after hours of excruciating pain in the epigastric and temporal regions.

All three deaths seemed to be due to respiratory suppression.

EDWARD L. SWADENER, M.D., Keshena, Wis.

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

## EXTRA-UTERINE AND INTRA-UTERINE PREGNANCY COMBINED

*To the Editor:*—The following case suggests the need of better knowledge of the possibilities of a combination of extra-uterine and intra-uterine pregnancy:

Mrs. X., aged 25, had been married three years. She had never been pregnant. Menstrual trouble began at 18 years of age, painful menstruation, scanty, occurring every twenty-four days. She had been troubled with cold hands and feet. Since marriage she had had pains in the back in the lower lumbar region and pain and soreness in the right ovarian region. When I saw her she had been taken with cramps some time before. There was severe hemorrhage; otherwise she was comfortable. She had been menstruating regularly and did not know that she was pregnant. She was taken to the hospital and curetted. A fetus corresponding in size to a three months' pregnancy was removed. After the curettage she was in good condition, considering the amount of hemorrhage she had had, for about twelve hours; then she suddenly developed symptoms of internal hemorrhage and died before I could reach the hospital. At necropsy the outer end of the right tube was found converted into a sac which had ruptured and a 3-months-old fetus was lying in the clot of blood. N. L. L.

ANSWER.—The symptoms of ectopic pregnancy and abortion are quite similar, and the differential diagnosis should be carefully made in all cases in which abortion is suspected. Failure to observe this rule has frequently led to currettements or other operations for incompleted abortions when the condition was a tubal pregnancy. Curettement of the uterus with a pregnant tube generally leads to rupture of the tubal sac with serious or immediately fatal results. The possibility of the coexistence of an extra-uterine and an intra-uterine pregnancy makes care in diagnosis and caution in treatment all the more necessary.

Careful bimanual examination should reveal a tubal sac or make its existence suspected. Any suspicion of an ectopic pregnancy is a contra-indication to a curettement. If the diagnosis is not sufficiently certain to warrant a laparotomy, the patient should be kept absolutely quiet in bed until certainty can be reached.

In a case like the one reported, when the curettement for a uterine abortion is undertaken, it should be possible to diagnose the condition of the adnexa while the patient is anesthetized. Failure to do so would suggest that the bimanual examination before or during the operation was neglected, and this would indicate a faulty technic. Manipulating a curet while holding the cervix only with a volsellum forceps is dangerous. The fingers should be used as the curet whenever possible, and this can be done only by pushing down the uterus from above over the finger in the cervix. When the cervix is insufficiently dilated this will not succeed, and the curet must be used. Always, however, the size, position and consistency of the uterus must be determined by bimanual examination. With such an examination, having the patient anesthetized, it should be impossible to overlook a tubal sac as large as that in the case reported.

## TECHNIC OF BLOOD EXAMINATION FOR SUGAR

*To the Editor:*—I have read with interest the leading editorial, "The Sugar Content of Human Blood," in THE JOURNAL (April 19, 1913, p. 1228). As I have at present both time and inclination, I should like to follow this matter up in my own little laboratory—one that I have just fitted out. Can you tell me where I may find the details of the technic in English? Or might it not be worth your while to publish the technic in THE JOUR. AL, as perhaps others, too, would like to see it?

ROBERT E. WHITE, M.D., Oshkosh, Wis.

ANSWER.—The blood is examined for sugar in the same manner as urine, but owing to the small amount present more delicate methods should be chosen and the protein constituents must be removed before the test is made. The more recent methods of removing proteins are by means of colloidal iron with the addition of sodium sulphate or the use of iron alum. The following is given by Cambridge in his recent work on glycosuria:

A weighed and measured quantity of blood is freed from albumin by boiling with sodium sulphate, and filtering. The precipitate is well washed, and the quantity of sugar in the filtrate is estimated. A certain amount of sugar is carried down by the precipitate, and unless the blood is quite fresh the action of the glycolytic ferment may cause serious error.

For clinical purposes the sugar in the peripheral blood-stream may be estimated by collecting 5 c.c. and at once mixing it with 100 c.c. of absolute alcohol, filtering off the precipitate, washing with hot water several times, evaporating the combined filtrates on a water-bath to about 0.5 c.c., and estimating the sugar in this. The estimation may be carried out by titration with alkaline safranin, or by Lohenstein's saccharimeter. If a large amount of blood is available, titration with Fehling's solution, etc., or polarimetry, may be employed.

Wacker has described a colorimetric method by which it is said that sugar can be accurately estimated in such small quantities of fluid as 0.3 or 0.4 c.c., with an error of but 0.01 per cent. The protein of the blood is removed with iron alum and sodium carbonate. To the filtrate phenylhydrazin-p-sulphonic acid and sodium hydroxid are added, and the red color is compared with a color scale made with the same reagent and a standard solution of dextrose. The figures given for normal blood by this method are higher than those found by previous observers.

The following method is described by J. J. R. Macleod in his work, "Diabetes: Its Pathologic Physiology":

A great improvement over older methods has recently been introduced by Rona and Michaelis, who have shown that the proteins of blood, but none of the sugar, can be precipitated by shaking the laked and diluted blood with colloidal ferric hydroxid (dialyzed iron), and then adding a small amount of an electrolyte, such as sodium sulphate.

## CALCIUM HYPOCHLORITE IN WATER PURIFICATION

*To the Editor:*—When was calcium hypochlorite first used in the treatment of a water-supply?

W. A. WOMER, M.D., New Castle, Pa.

ANSWER.—Although hypochlorite had been used as an emergency measure at Maidstone, England, in 1897, the calcium hypochlorite treatment as a practical process dates from 1908, when it was used by Mr. G. A. Johnson of New York for water purification at the Chicago Stock Yards. Previous attempts to purify the water of Bubbly Creek by a process of filtration in connection with the use of copper sulphate had been only partially successful. As the result of a lawsuit brought by the City of Chicago against the Union Stockyards Company, chlorinated lime (chlorid of lime) was substituted for the copper sulphate by Mr. Johnson's advice. The amount of chlorinated lime used was 45 pounds per million gallons, and this treatment reduced the number of colon bacilli in the sewage-laden water of Bubbly Creek below the number found in the Chicago city water-supply. Soon after the spectacular success of the Bubbly Creek experiments Mr. Johnson introduced the treatment for the water of the Boonton Reservoir at Jersey City and since then the method has been widely applied.

## LIST OF FOREIGN PUBLICATIONS

*To the Editor:*—Where can I find the names and prices of foreign medical journals? Your American Medical Directory gives an excellent list of those in the United States and Canada, and I find the names of many foreign ones in your Current Medical Literature Department, but not the price. P. R. S.

ANSWER.—A good list of foreign medical journals, with prices and places of publication, is now appearing in our "Guide to Current Medical Literature"—a pamphlet containing the semi-annual index of THE JOURNAL and other matter to fit it for use as an index medicus. This guide is issued twice a year at 50 cents a copy.

## THE PURSUIT OF EMPTY HONORS—THE ITALIAN PHYSICO-CHEMICAL ACADEMY

*To the Editor:*—I have received a notice of nomination to the Académie Physico-Chémique Italienne, located at Palermo, Italy, and before signifying my acceptance, would like to know the standing of this society. Please give me the desired information.

W. A. SHEPHERD, M.D., Richmond, Va.

ANSWER.—This fake "scientific" organization—one of a number of foreign diploma-mills—was discussed in THE JOURNAL, Oct. 21, 1911, pp. 1373 and 1380, and March 8, 1913, p. 770. We congratulate our correspondent on his caution in writing us. We fear, however, that not all members of the profession are so careful.

## IS CASTOR OIL AN OXYTOCIC?

*To the Editor:*—About twenty years ago I was told by an old negro midwife, if I wanted my labor patients to have an easy time during confinement, to give them castor oil every day for a few days before the expected event. Later I saw a short note in some medical publication, the name of which I cannot recall, stating that castor oil made labor easier.

In the seventh edition of Hare's "Practical Therapeutics," published in 1898, is found the following: "Previous to parturition it [castor oil] has been largely used to relieve the bowels of fecal matter, and is said by old practitioners to make labor easier than if any other purge is used."

After reading what Hare said about castor oil I began to give to all pregnant women coming under my care the following instructions about taking it: If they wished to have an easy time during labor, they should begin about two weeks before the expected time and take 2 teaspoonfuls of castor oil on retiring at night, and on the day labor began they should take 2 tablespoonfuls. Very few refused to take it. It was noticed, particularly in first labors, that the first stage was very short, the cervix rapidly and painlessly dilating. A more extended experience since confirms this action of castor oil. In first labors the cervix is frequently found fully dilated in from one to three hours.

ST. CLOUD COOPER, M.D., Fort Smith, Ark.

ANSWER.—The popular opinion expressed by our correspondent to the effect that castor oil given before parturition will make labor easier is noticed by Hare, it is true, but not at present with approval. We have not been able to consult the seventh edition of Hare's "Therapeutics," but in the ninth and following editions the quotation is not complete. The statement in full is as follows: "Previous to parturition it has been largely used to relieve the bowels of feces and is said by some practitioners to make the labor easier than when other purge is used. This is doubtful."

The National Standard Dispensatory (Hare, Caspari and Rusby) says: "The idea that it [castor oil] decreases the severity of labor more than any other purge, if given previous to parturition, is erroneous."

The experience of our correspondent has been very favorable and apparently differs from that of others. In drawing conclusions from such observations we should consider: (1) that a large number of cases must be observed in order to make conclusions safe; (2) the psychic impression on the woman and the personal equation of the physician must be taken into consideration. Castor oil, on account of its mildness, is used much more frequently in pregnancy than other cathartics. Without doubt it may do good when judiciously used, but it should not be relied on as oxytocic. The cleansing of the bowel may have had something to do with the ease of labor in the cases observed.

---

## A CASE SUGGESTIVE OF CREEPING ERUPTION

*To the Editor:*—I wish to report the following peculiar case: The patient is a healthy and particularly robust young man. About six months ago he felt a burning sensation in the inguinal region and on examining the skin he found a red streak 1½ inches long and 1/16 inch wide. One end of the streak was 2 inches above the pubis and that distance from the median line, and followed a crooked course diagonally outward. When I saw him again three months ago, the red streak was ¼ inch wide and 4 inches long. At present a depression can easily be felt on passing a finger over the red streak, but the epidermis does not fall into the cavity. The cavity is as wide as the streak, apparently as deep as the thickness of the skin, and as long as the streak. To the finger it feels as if a goose-quill could easily be put into the cavity. There seems to be no fluid underneath, but the epidermis looks as if something had burrowed beneath it. There is no involvement of the lymph-nodes, although the streak appears as if it had followed the course of a lymphatic. There has never been any sore to indicate a point of infection. There is no tenderness and the patient has experienced only the slightest sense of heat or burning. Three months ago the same symptom set up on the opposite side, and recently another line has started about an inch from the first and parallel with it. At present the earlier two lines are about 4 inches long. It seems to take about three months for them to become as large as the largest and they seem to be growing a little wider. When the epidermis is raised directly over, or including, the red streak, it presents the same appearance as epidermis of other parts, only it is pink.

J. L. TRACY, M.D., Toledo, Ohio.

ANSWER.—The account given strikingly suggests a case of creeping eruption. This condition is said to be due to the larva of a dipterous insect of the genus *Gastrophilus*. The larva is said to be located a quarter of an inch in advance of the active part of the line and in the cases reported it has advanced at the rate of an inch or more a day. In this respect the case described by our correspondent appears to be peculiar in its slow progress. Some observers have failed to find the larva. According to Sampson-Himmelstjerna the larva may be seen with a hand-glass as a black speck by pressing the blood out of the part with a flat glass. The wanderings of the larva have been known to continue for over two years. After a time the color of the skin fades out. The rational treatment is to destroy the larva, but hypodermic injections of antiseptics have usually failed to kill it. Hutchins suggests first the injection of cocain solution followed by the injection of one or two drops of chloroform, the needle being inserted behind and pushed forward in the burrow to the probable location of the parasite.

Cauterizing the area just in advance of the end of the line or excising it has been recommended. Stelwagon succeeded by cataphoretic application of a solution of mercuric acid, 2 grains to the ounce combined with the application of a drop of nitric acid to a point just beyond the end of the line, a point which he found with the aid of a magnifying glass.

---

## LITERATURE ON THE SEPTIC TANK AND SEWAGE-DISPOSAL PLANTS

*To the Editor:*—I want information relative to the success, efficiency and practicability of septic tanks or sewage-disposal plants. Can you refer me to sources of authoritative information? I shall appreciate any help you may be able to give me.

G. F. AMBROSE, El Dorado, Kan.

ANSWER.—The following should prove of value:

Baker, E. F.: Sewage Disposal: The Septic Tank, *Ill. Med. Jour.*, September, 1907; abstr., THE JOURNAL, June 22, 1907, p. 2150.

Morre, G. T.: Sewage Purification by Septic Tank and Chemical Precipitation, THE JOURNAL, Aug. 24, 1907, p. 677.

Holmes, B.: The Septic Tank in Sewage Disposal, *Lancet-Clinic*, Nov. 13, 1909.

The Septic Tank, editorial, THE JOURNAL, Dec. 10, 1910, p. 2067.

The Rise and Fall of the Septic Tank, editorial, THE JOURNAL, Nov. 5, 1910, p. 1650.

The Septic Tank, correspondence, THE JOURNAL, March 11, 1911, p. 761.

The Septic Tank, editorial, THE JOURNAL, Feb. 4, 1911, p. 355.

Booker, W. H.: Residential Sewage Disposal Plants, *Texas State Board of Health Bulletin*, September, 1912.

Baker, M. N.: Sewage Purification in America, 1893.

Dibden, W. J.: Purification of Sewage and Water, ed. 3, 1903.

Morse, W. F.: Collection and Disposal of Municipal Waste, 1908.

Raikes, Hugh P.: Design, Construction and Maintenance of Sewage-Disposal Works; Being a Practical Guide to Modern Methods of Sewage Purification, London, Constable, 1908.

Cosgrove, J. J.: Sewage Purification and Disposal, Standard Sanitary Manufacturing Company, Pittsburgh, Pa., 1909.

Trentham, W. H., and Saunders, James: Modern Methods of Sewage Disposal; a Practical Handbook for the Use of Members of Local Authorities and Their Officials, 1909.

Folwell, A. Prescott: Sewerage, the Designing, Coustruction and Maintenance of Sewerage Systems, 1910.

Watson, Hugh S.: Sewerage System, 1911.

Gerhard, W. P.: Water-Supply and Sewage Disposal of Country Homes, published by Van Nostrand Co., New York, price, $2.

Fuller, G. W.: Sewage Disposal, published by McGraw-Hill Book Company, New York, price, $6 (reviewed editorially in THE JOURNAL, Aug. 3, 1912, p. 372).

---

## REACTION FOR ALBUMIN IN THE SPUTUM

*To the Editor:*—Please give information on the albumin reaction in the sputum, its value and method of using it, or tell me where I can find it. ALBERT S. BARR, M.D., Greenville, Mich.

ANSWER.—The reaction for albumin in sputum is made by the ordinary tests for albumin in the urine. The diagnostic importance depends on the fact that albumin is most commonly found in pneumonia and in pulmonary tuberculosis. A negative finding was thought at one time to be sufficient to exclude tuberculosis. Several authors, however, have shown that albumin may not be present in the sputum of true pulmonary tuberculosis. It is frequently seen in benign affections, especially if the sputum contains occult blood. The presence of albumin should therefore be considered as only confirmatory of other tests.

The following literature may be referred to:

Gantz, M., and Hertz, R.: Differential Importance of Albumin in Sputum, *Presse méd.*, Jan. 18, 1911; abstr., THE JOURNAL, March 4, 1911, p. 702.

Roger, H.: Albumin Reaction in Sputum, *Bull. de l'Acad. de méd.*, April 11, 1911; abstr., THE JOURNAL, May 27, 1911, p. 1619.

Ferreira, C.: Albumin Reaction in Sputum in Early Diagnosis of Tuberculosis, *Presse méd.*, April 19, 1911; abstr., THE JOURNAL, May 27, 1911, p. 1621.

Roger, H., and Lévy-Valensi: Albumin Reaction in Pulmonary Tuberculosis, *Presse méd.*, May 20, 1911; abstr., THE JOURNAL, June 24, 1911, p. 1908.

Lévy-Valensi, J.: Albumin Test in Tuberculosis, *Med. Press and Circular*, May 15, 1912; abstr., THE JOURNAL, June 22, 1912, p. 2002.

Fullarton, R. S.: Albumin Reaction of Sputum in Pulmonary Tuberculosis, *Glasgow Med. Jour.*, July, 1912; abstr., THE JOURNAL, Aug. 17, 1912, p. 586.

Works, B. O.: The Quantitative Examination of Albumin in the Sputum in Pulmonary Tuberculosis, THE JOURNAL, Oct. 26, 1912, p. 1537.

Pindborg, J.: Albumin in Sputum, *Hospitalstid.*, Oct. 23, 1912; abstr., THE JOURNAL, Nov. 30, 1912, p. 2014.

# Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

## LAWS PROHIBITING FRAUDULENT ADVERTISING

Bills have recently been introduced in various states to prohibit the advertising of treatment for certain diseases. As was shown in The Journal, last week, this is in accordance with the general trend of the times. From an early day nearly all the states have sought to control, if not absolutely to suppress, such advertising.

Legislation for this purpose may be divided generally into two classes. In the first of these, the state forbids this type of advertising, enforcing compliance with its mandate by criminal prosecution. In the second, the same result is attempted by authorizing a revocation of license, either directly by the board of medical examiners acting in a quasi-judicial capacity, or by the board acting as a relator before a court of competent jurisdiction.

These laws have gone through a process of evolution. At first the enactments simply permitted a revocation of license for "dishonorable or unprofessional conduct," adopting a phrase familiar to physicians and thereby forbidding all acts which would be included under such a definition. The courts seemed a little dubious as to the construction of the phrase; consequently an attempt was next made to define "unprofessional conduct" specifically. Finally, the state stepped in and made certain acts misdemeanors, thus in some jurisdictions seemingly allowing two punishments for the same offense.

Examination of the statutes of the several states shows that the laws at present represent all three of these stages. As an illustration of the first class, the laws of Alabama, the District of Columbia, Indiana, Louisiana and Maryland[1] may be taken. These five statutes, while not exact duplicates of each other, are sufficiently similar in effect to be grouped together. All permit a revocation of a license for "unprofessional conduct," this being the only term used under which a physician might be held for "advertising." These early laws made no attempt to limit the offense strictly. Apparently at the time these laws were adopted, the spirit of commercialism and the desire to amass great wealth were not so prominent; consequently the general spirit of the profession was sufficient to control this tendency. The early cases show not a few prosecutions of empiricists and fraudulent herb-doctors.

The next step came in due time. The existing laws of Illinois, Iowa, Kentucky, South Carolina, New Mexico, New York and Texas[2] would seem to indicate a desire to define fraud more accurately. These laws speak of "false or fraudulent representations";[3] "likely to deceive or defraud the public;"[4] "convicted of illegal practice;"[5] "who offers . . . . to violate any provisions of Sect. 318;"[6] "conduct of a character likely to deceive or defraud the public."[7] This language is capable of a broad construction and would seem quite sufficient to warn the man of average intelligence that fraud and deceit is unprofessional conduct. And yet in Matthews vs. Murphy[8] the court holds the language of the Kentucky statute given above quite insufficient. "The statute does not advise the physician in advance what act or acts may be in violation of its provisions," says the court. Again, "As the statute does not advise him beforehand as to what is unprofessional conduct he could not knowingly or intentionally be guilty of it." Forsooth! Every physician knew and knows the meaning of "unprofessional conduct" as well as a merchant knows his "negotiable instruments." To declare a statute of this nature, or a portion of it, unconstitutional because the primal rules of pleading cannot be complied with is *reductio ad absurdum*. This case is not a precedent and has been relegated to oblivion whenever cited.

Whether or no these laws be constitutional is one question; the result produced under them is quite another. The growth of commercialization, the rapid strides which medicine has taken, the influx of large numbers of poorly trained men into the profession each year, and, most important of all, the development of this field by unscrupulous business men, all seemed to require legislation of a more repressive character. Oklahoma, Nevada, North Dakota, Tennessee, Utah, Washington and Wisconsin all evidence this type of legislation.[9]

These statutes were aimed specifically at advertising and all permitted the board of medical examiners or other authorities to revoke a license on practically the same grounds. These are:[10]

1. Conviction of felony or crime[11] involving moral turpitude.
2. Negligent or ignorant malpractice resulting in permanent injury or death of a patient.
3. The obtaining of a fee either directly or indirectly either in money or in the form of anything of value or in the form of financial profit either as a personal compensation or as compensation, charge, profit or gain for an employer or any other person or persons on the representation that a manifestly incurable, sick, diseased or injured condition of any person can be permanently cured.
4. Causing the publication, circulation, exhibition or display, publicly, of an advertisement, notice or information of any medicine or means whereby the monthly periods of women can be regulated, or the menses, if suppressed, can be reestablished, or whereby abortion can be accomplished.
5. Causing the publication, circulation, exhibition or display publicly of any advertisement relative to the treatment, alleviation, palliation, cure or prevention of any disease, weakness or condition of the sexual organs.

These laws, failing either in that they were too sufficiently specific, or because the administration thereof was somewhat lax, pointed the way for the statutes of Colorado, Minnesota and Wisconsin and to the bills submitted to the present legislatures in Illinois, Ohio and Oregon.[12]

The idea dominating these laws is to make the act of advertising certain diseases or methods of treatment in any manner, in any periodical, excepting perhaps medical journals and the like, and the publishing of such advertising, a misdemeanor, and affixing a penalty of either $100, or a jail sentence of six months, or perhaps both. The Minnesota law provides that the advertising shall *per se* constitute a prima facie case against the accused, thereby shifting the burden of proof; and the Colorado statute stipulates that the act of the agent in the general scope of his employment is the act of the principal. The Wisconsin statute is worthy of notice because of its careful wording and the moderate penalty. It is submitted that wrong conduct is not always prevented by reason of a heavy fine; rather certainty of punishment is the more to be desired in drafting these measures. To that end the statute must so read that the indictment can describe a definite act forbidden; this done the charge and the proof will the more readily and nearly conform. The fault with a vast number of such measures is that the prosecutor cannot lay an indictment under them with any degree of certainty.

The bill introduced in Illinois may perhaps be criticized for these reasons, and also perhaps that it does not go quite far enough. The idea embodied in the draft is highly commendable, but such laws must be capable of quick results. The bill must be so drafted that a motion to quash an indictment drawn under it cannot be sustained, or its constitutionality questioned on the ground of uncertainty; the finished law must be one that can be economically enforced by the state.

The Illinois bill, the latest effort to regulate objectionable advertising, is brief and simple. The text follows:

Section 1. Whoever shall advertise in any newspaper, publication, magazine, periodical, pamphlet or by circulation or form letter, or cause to be distributed any advertisement in any form whatsoever, to restore manly vigor, treat and cure lost manhood, stricture, varicocele, hydrocele, diseases of the

genito-urinary organs, or any venereal disease, or to cure cancer or tuberculosis, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding $100 or by imprisonment not less than one month nor more than six months, or both.

SECTION 2. Any owner or managing officer of any newspaper, publication, magazine or periodical in whose paper shall be printed or published such advertisement as is described in this act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding $100 or by imprisonment not less than one month nor more than six months, or both.

REFERENCES

1. Ch. 39 Ala. Code, Art. 1, Sec. 1637; P. A. of D. C., No. 174, Sec. 10; Ind. L. A., 97, p. 255, Sec. 5; M. P. A. La., Act 49-244-16 of 1894, 1908, 1912, Sec. 15; Md. L. Art. 43, Sec. 65.
2. R. S. Ill. M. P. A., Sec. 6; Ch. 17, Tit. 12 Iowa Sec. 2578; Ky. M. P. A. Sec. 11; S. C. M. P. A. Sec. 5 A; N. M., M. P. A., Sec. 6; Ch. 344 N. Y., Par. 11; Tex. M. P. A Sec. 12.
3. Ill. M. P. A. Sec. 6.
4. Ky. M. P. A. Sec. 11.
5. So. Car. M. P. A. Sec. 5 A.
6. Ch. 344 N. Y. Code. Par. 11.
7. Texas M. P. A. Sec. 12.
8. 23 Ky. 750; 63 S. W. 785, 54 L. R. A. 415.
9. Okla. S. B. 189, Sec. 13, approved June 10, 1908; Nevada M. P. A. Sec. 12; No. Dakota M. P. A. Sec. 11; Ch. 78 Tenn. Sec. 15; Ch. 93 Utah Sec. 1735; Ch. 192 Wash. Sec. 144; Ch. 196 Wis. Sec. 1436, e, f.
10. North Dakota M. P. A. Sec. 11.
11. *Sic* in original; "felony or misdemeanor" is suggested as more accurate.
12. Colorado H. B. 150 approved April 3, 1907; Ch. 162 Minn. Acts 1909; Ch. 156 Wis. laws 1907, Sec. 4590 u; Senator Hurburgh's bill, Ill. Leg. April 24, 1913; Oregon S. B. 300; Ohio H. B. 51.

# *Society Proceedings*

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Connecticut State Medical Society, Hartford, May 21-22.
Florida Medical Association, Miami, May 13-15.
Illinois State Medical Society, Peoria, May 20-22.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nebraska State Medical Association, Omaha, May 13-15.
New Hampshire Medical Society, Concord, May 13.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Oklahoma State Medical Association, Enid, May 13-15.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.
West Virginia State Medical Association, Charleston, May 21-23.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Seventh Annual Meeting, held at Rochester, April 28-30, 1913*

The President, DR. JOHN F. W. WHITBECK, Rochester, in the Chair

The one hundred and seventh annual meeting of the Medical Society of the State of New York was held in Rochester, April 29-May 1, and for the first time in its history, outside of Albany. New York was selected as the place for holding the next annual meeting.

The following officers were elected: President, Dr. William Francis Campbell, Brooklyn; vice-presidents, Dr. W. Stanton Gleason, Newburgh; Dr. G. F. Blauvelt, Nyack, Dr. Myron B. Palmer, Rochester; secretary, Dr. Wisner R. Townsend, New York (reelected); treasurer, Dr. Alexander Lambert, New York (reelected); delegates to the American Medical Association, Dr. H. L. Elsner, Syracuse; Dr. Floyd M. Crandall, New York; Dr. A. E. Vander Veer, Albany; Dr. Wesley T. Mulligan, Rochester; Dr. S. W. S. Toms, Nyack; Dr. John O. Polak, Brooklyn; alternates, Dr. J. M. Lynch, New York; Dr. H. T. Furniss, New York; Dr. Charles A. Wall, Buffalo; Dr. J. C. MacEvitt, Brooklyn; Dr. T. H. McKee, Buffalo; Dr. G. E. Davis, New York.

### Some Needed National Legislation

DR. JOHN F. W. WHITBECK, Rochester: Owing to the magnitude of the interests of the state of New York in its financial and populous importance, it does not seem unreasonable that this state, situated as it is, furthermore, near the federal capital, should essay to exert a potent influence on the acts of Congress in many, if not all, of the great and vital affairs of the whole people of the nation. For example, our House of Delegates, Jan. 22, 1910, passed a resolution urging Congress to authorize a Bureau of Public Health. Although Congress has not seen fit to establish a Department of Health, it is desirable that there should be one and that the enlargement of the powers of the Public Health Service, a department of the Treasury, is not enough. If the federal government could be persuaded that the highest interests of 90,000,000 inhabitants of the United States demanded an organization of a veritable national Department of Health, we should have a Secretary of Health, whose expert knowledge of the requirements and whose undivided attention to the administration of such a department, divested of pernicious political policies and the interference of "special interests," would definitely provide for a needful and efficient regulation of pure food and pure drug laws; a Division of Purification of Water-Supplies; a Division of Nutrition; a Division for the Study and Prevention of Accidents and Diseases of Industrial Workers; a Division of Vital Statistics; a Division of Education for the People in the Control and Prevention of Diseases. Then, too, we should have an adequate national chemical laboratory to solve many of the vexed problems of national importance. As has been stated, all of these divisions would come under one department, and would be under the supervision of one secretary, and would not be, as now, scattered among several departments with such a diversity of interests as should make the highest efficiency impracticable if not quite out of the question.

### Pain and Other Clinical Manifestations of Myocarditis

DR. ALEXANDER LAMBERT, New York: We must fall back on the clinical observations of the different forms of myocardial degeneration that are most likely to occur with certain of the general diseases, and to estimate from other signs and symptoms than by the graphic method what is the form of myocarditis present. Cardiac pain is a much earlier symptom in cardiac disease than is generally believed. The majority of physicians do not pay much attention to precordial pain unless it radiates down the left arm; then they believe it is due to some form of angina, and if the patient does not have attacks of breathlessness, or does not drop down with it, they are prone to call it pseudo-angina, especially if it occurs in women. The most frequent position of pain is between the fourth and sixth ribs over the pectoral muscle near the nipple. This area is the one in which there is frequent tenderness, but frequently the hypersensitiveness of the skin and the hyperalgesia remain for a day or two after the actual pain has ceased. It is not uncommon for pain in the left wrist to be treated as gout or rheumatism which, in reality, is the first expression of myocarditis. Shortness of wind is one of the early signs of myocardial degeneration.

### The Symptoms and Diagnosis of Involvement of the Heart in Syphilis

DR. HARLOW BROOKS and DR. JOHN H. CARROLL, New York:

1. Symptoms of cardiac involvement are manifested in a large percentage of cases of syphilis. 2. The symptoms of luetic heart disease may appear very early in the secondary stage, though most frequently not discovered until the tertiary period, largely because the patient attributes all his symptoms to the general disease, and special visceral signs are neglected. 3. The signs are those of an essential cardiac lesion, but differ from those idiopathic or simple cardiac cases in that there is here a greater tendency toward the involvement of the heart muscle and the coronary arteries. 4. Precordial pain is probably the most constant symptom, and one of the earliest. In a high percentage of cases this takes on a definitely anginal character. 5. Dyspnea, cyanosis and other usual signs of heart incompetence are customarily present long before true incompetence is evident. 6. In so far as the endocardium is concerned.

the greatest number of cases show combined mitral and aortic lesions; after these those of the aortic ring predominate. 7. Recognition depends primarily on the diagnosis of lues and on the association of a cardiac defect either of definite or suppositious nature. 8. The recognition of the nature of the general infection depends on the Wassermann reaction, the presence of associated lesions of a probable syphilitic nature, and finally on the history of this infection or of symptoms or signs indicative of it. 9. The most conclusive and important diagnostic test is the therapeutic test. 10. Recognition of the cardiac complication as probably luetic is best accomplished by the primary elimination, when possible, of other probable etiologic causes; by the early manifest tendency in luetic instances toward involvement of the myocardium and arteries; by associated arterial change, and finally by improvement or disappearance of the cardiac symptoms and signs under specific treatment.

### Selective Drug Action on the Nervous System as an Aid to Diagnosis

DR. NELSON G. RUSSELL and DR. CARROLL J. ROBERTS, Buffalo: The so-called animal nervous system, which supplies the organs of sense and all voluntary muscles, is to be distinguished from the vegetative system, which supplies the smooth muscle of viscera, certain cross-striped muscle and the secreting portion of glands. The vegetable system is further divided into the sympathetic and the autonomic systems. The autonomic system is made up of a cranial portion, a bulbar portion and a sacral portion. Owing to the importance of the vagus, the chief nerve of the system, the autonomic system is also called the extended vagus, and the study of the drug reactions of this system is called vagotonic. The organs mentioned have two sets of nerve fibers which are physiologically antagonists, and a balance is theoretically necessary for the normal functions of the organs to be carried on. Each system is acted on selectively by certain drugs. Thus pilocarpin acts as an irritant to the autonomic system and produces the same effects as electric stimulation. Atropin acts as a depressor of the autonomic system and counteracts the effects of pilocarpin. Epinephrin stimulates the sympathetic system, but as yet we do not know of a drug that has a depressing action on the sympathetic system. Pilocarpin might in certain susceptible individuals produce, through stimulation of the autonomic system, certain symptoms, and one so susceptible is called a "vagotoniker." According to Eppinger and Hess of Vienna, many of the so-called cases of hysteria and neurasthenia, and the neuroses are, as a matter of fact, due to irritability of the autonomic system, and they support their claims by abundant clinical proof. The method of procedure carried out in the investigation of cases is described. The practical application of the facts learned from a positive reaction is that any symptom produced by an injection of 0.01 gm. of pilocarpin, referable to an irritable autonomic system, would be relieved by atropin, the depressor of the autonomic system, and a case is reported to illustrate this point.

### Cardiac and Arterial Decompensation; Prevention and Treatment

DR. LOUIS F. BISHOP, New York: The treatment of broken compensation with uncomplicated valvular disease in young persons requires a study of its cause, which is often enough found to be muscular strain that has been out of proportion to the power of the crippled heart, particularly when there has been dissipation. Prolonged rest may be necessary, and sometimes the occasional use of digitalis is required. The diet should be liberal, and the auxiliary use of iron, arsenic and strychnin as a tonic is allowable if there is true anemia or nervous depression.

The treatment of broken compensation in combined cardiac and arterial disease, which corresponds closely to secondary low blood-pressure, which I have so often described in previous communications, is the most serious problem in cardiovascular disease. The condition develops after years of compensatory life, and the sufferer presents dilatation of the heart with feeble valvular orifices and pathologic relaxation of the blood-vessels causing dropsy, edema of the lungs, congestion of the liver, impaired cerebral circulation and partial paralysis of the kidneys. In this condition, persons are always highly sensitive to many proteins, even often to the proteins of milk. Secondary low blood-pressure is always present, though, at times, the blood-pressure measurement is misleadingly high on account of local vascular spasm. Unfortunately, they often come to the specialist's notice when the situation has been complicated by the liberal, but not always wise, administration of inappropriate drugs. The limits of this paper do not allow the full discussion of so serious a condition. The principles of treatment in my own hands involve the thorough cleaning up of the intestinal condition by the administration of at least an ounce of castor oil on three successive occasions at intervals of forty-eight hours; by the thorough digitalization of the heart; by the withdrawal, at first, from the diet, of eggs, fish, meat and soups, and, in a large measure, of milk; allowing bread and butter, vegetables and cereals; and as soon as possible, the commencement of graduated exercise, leading up to as much of an outdoor life as possible, and gradually to a more liberal diet.

DISCUSSION

DR. HUBERT SCHOONMAKER, Clifton Springs: As to the effect of the internal secretions on the circulation, we have come to recognize the "thyroid" heart. To make a diagnosis of cardiac neurosis, neurasthenic heart, or gastro-intestinal reflex, or what not, does not mean much. If we could recognize at the outset the cardiac condition or the thyroid condition, we could take care of the patient in such a way that, in all probability, exophthalmic goiter would not develop. Every internist should recognize in the face of cardiac arhythmia, and particularly in cardiac palpitation, which is at all persistent, the probability of disturbance of the heart due to abnormal internal secretions and possibly hyperthyroidism.

DR. BENJAMIN STEARNS, Unadilla: Dr. Lambert in speaking of pain recalls a patient I had a number of years ago who had typhoid. He was convalescing, when one afternoon he was taken with a severe pain in the hip, radiating to the left side, and before I reached the house he was dead. This was six weeks following typhoid. The poison not being entirely eliminated from the system caused the severe pain that produced paralysis of the heart and sudden death.

DR. E. NEUHOF, New York: I cannot agree with Dr. Lambert that pain in most of these cases is due to changes in the myocardium. I have seen similar conditions in children with acutely dilated hearts, in whom the main lesion was endocardial. I have made a study of twenty-odd cases of arterial fibrillation, and the first symptom was dyspnea.

DR. HENRY STARK, New York: In most instances in which these patients complain of pain, there is also dyspnea. It is one of the first symptoms. Pain in the precordial region, although attended by heart symptoms, may afterward be proved to be due to disease in connection with some other organ or tissue or bone than the heart.

*(To be continued.)*

---

## MISSISSIPPI STATE MEDICAL ASSOCIATION

*Forty-First Annual Meeting, held at Vicksburg, April 7, 1913*

*(Concluded from page 1391)*

### Pregnancy Following Double Ligation and Division Between Ligatures of Both Tubes

DR. F. D. SMYTHE, Memphis: Both tubes were divided and the distal ends anchored in the anterior layers of the broad ligaments. The operation was done June 9, 1910, and the woman was delivered of a 6½-pound baby Nov. 12, 1911, and is again pregnant.

DISCUSSION

DR. J. W. BARKSDALE, Winona: Dr. Smythe's paper is important from a sociologic point of view. The sterilization of the insane and criminals has come to receive a good deal of attention at the hands of the legislative bodies of our states, and it is a question which will be dealt with in some way or another at no very remote time. It is interesting to note in how many experimental cases conception has followed attempts at the sterilization of animals. I read within a year a report of the commission of Iowa with reference to the sterilization of criminals and insane, with a series of experiments done on dogs, in which every known operation was

done, except to remove the ovaries; and I think that in fully 80 per cent. of the cases conception occurred. The operation is one which in human beings is followed by pregnancy in at least 30 per cent. of the cases.

DR. C. J. MILLER, New Orleans: I think this can be explained from two different points of view, the physiologic and the pathologic. We know now of the transmigration of the ova, and that after most operations intended to accomplish sterilization, conception will again take place. I think in these cases a wedge-shaped portion of the fundus above the top of the uterus can be removed, and if you remove a portion of the tube going through the wall, you will not have pregnancy following. In those cases in which you want to be doubly sure you can bury the ovaries by splitting the broad ligament and placing the ovaries in the pocket behind the peritoneum. I have not as yet seen any definite reports of the usefulness of the operation.

### Treatment of Puerperal Eclampsia

DR. F. J. UNDERWOOD, Nettleton, called attention to the possibilities of preventing eclampsia, and emphasized the advisability of care of the pregnant woman. He then discussed the treatment of the eclamptic state, which he finds most successfully managed with large doses of veratrum.

#### DISCUSSION

DR. I. W. COOPER, Newton: I have found veratrum the most satisfactory drug to use. If it is used judiciously, and given in teaspoonful doses, we shall not have to bleed our patients very often.

DR. F. D. SMYTHE, Memphis: One obstetrician recommended teaspoonful doses of veratrum every hour until the pulse reached as low as 50 or 40, and he has not seen a patient have an eclamptic attack with the pulse at that stage. There is no reason to fear its toxic influence. Our first effort should be toward elimination of toxic material, and the most effective measure (especially does this apply to the obese) is phlebotomy. Next to that in importance is the rapid emptying of the uterus. Hypercatharsis should be brought about at once by the use of croton oil; and place patients with dry skin between warm blankets, and give a hypodermic of 1/8 to 1/6 grain of pilocarpin. The strongest point made in the doctor's paper is the importance of following up the treatment after delivery. It is on the careful watching and conscientious, intelligent application of therapeutic measures that our statistics so far as mortality of mother and child are concerned will depend.

DR. O. S. MCCOWN, Memphis: It is conceded that puerperal eclampsia is due to a toxemia of unknown origin, the result of pregnancy. This spends its force principally on the liver and kidneys, and nervous spasms result. Some time last year McPherson of New York reviewed the cases that had occurred in the Sloane Hospital, and the records showed that morphin gave about as good results as anything else. Many authorities advocate immediate emptying of the uterus at any cost, in whatever way seems to be indicated in the case at hand. There are others of equal prominence who advise letting the pregnancy go on and trusting to spontaneous delivery and to treating the patient. The bulk of testimony is rather against the use of chloroform or any of the chlorin products to control the convulsions, as the pathologic condition of the liver and kidneys in these patients is exactly the same as in case of death from chloroform poisoning.

DR. J. S. ULLMAN, Natchez: My first thought in a case of eclampsia is to relieve that convulsion. I do not measure the dose; I simply fill my hypodermic syringe, and if the patient does not improve soon, I give her another dose. My next thought is elimination, and I secure it with calomel—10, 20, 30, 60 grains—enough to do the work. Morphin does the very thing you do not want to do by tying up the liver. I had a case recently in which I used veratrum and calomel and obtained good results.

DR. J. W. MATTHEWS, Greenwood: I agree as to the value of the veratrum treatment, but when it is said that we must not use morphin, then I take issue. One of my patients was a negro woman aged about 18. She was having the most frightful convulsions I ever saw. I gave the woman ½ grain of morphin and 1/100 grain of atropin. The os contracted, but by the time I got my instruments ready there was a relaxation, and I delivered her all right. My only objection to the use of morphin is the consequent cessation of secretions, but I have always obtained good results from its use, and expect to give it again.

### Drainage in Pelvic Abscess and Pyosalpinx

DR. F. M. SANDIFER, Greenwood, considered the indications and contra-indications for drainage, and described various methods.

#### DISCUSSION

DR. J. S. ULLMAN, Natchez: When there has been no rupture of the tube in taking it out, there is no reason to believe that pus has been spilled in any other portion of the abdomen. There is therefore no reason why a drain should be put in, and aside from the oozing, everything usually goes along without any trouble in these cases.

DR. F. M. SANDIFER, Greenwood: In all cases of pyosalpinx in which the temperature is normal at the operation, I never drain, even though I rupture a tube. Those patients will progress nicely. There is no increase of temperature under the operation. Under these circumstances a drain is contra-indicated.

DR. N. A. MCLEOD, Brookhaven: We are getting further from drains as the years roll by. I would be governed in cases of a ruptured abscess in which the peritoneum has been smeared over with pus, largely as to whether it was a recent affair or whether it had had pus in there for a period of time. In acute cases of recent origin, and with the formation of pus, I would not hesitate to drain.

### Treatment of Hookworm Disease

DR. W. S. LEATHERS, University, gave some suggestions with regard to the diagnostic methods employed and the variation from the routine methods of treatment that is used in Kentucky. Two doses of salts are administered before the thymol, with a day intervening on which the patient ingests only liquids.

#### DISCUSSION

DR. MAY F. JONES, Hattiesburg: We have been treating a number of patients with hookworm at the State Normal. Thursday night at bedtime we give an ordinary dose of salts; Friday morning, at breakfast, a glass of milk; for dinner a bowl of soup, and for supper another glass of milk. Saturday the patient is required to stay in bed and at 6 a. m., we give a dose of 30 grains (in three capsules) of thymol; at 10 a. m. another 30 grains, and another dose of salts; at 1 p. m. the patient has had one or two free movements. Most of these patients have since been examined, and a very small percentage show infection remaining.

DR. C. C. BASS, New Orleans: In many of the writings suggesting treatment for the disease, the suggestion has been made that two purgations be given instead of one, say one each night, before beginning treatment on the third day. This treatment is well known to be productive of greater success than when the alimentary canal is not so thoroughly emptied. The most important point is that the alimentary canal should be thoroughly emptied. It seems to me that it would certainly promise better results if a second dose of salts were given on the night prior to the dose of thymol.

DR. W. A. DEARMAN, Long Beach: Considerable importance is to be attached to the way the thymol is administered. I have abandoned the use of thymol in capsules, because the capsule is not dissolved until it reaches the intestinal juices, and often the worms escape. I now give thymol in mucilage of acacia, followed by a glass of cold water. I usually give two doses of thymol—very little of it, but repeat it. The people should be impressed to wear their shoes. I have never seen the disease contracted except in a wet cow-lot.

### Etiology of Pellagra

DR. W. A. DEARMAN, Long Beach: I induced pellagra in a monkey by feeding it some of the pseudomembranous deposit from the tongue, and some of the saliva, of a pellagrin. The monkey died, having presented symptoms of pellagra. From

observations and the post-mortem findings I consider pellagra a gastro-intestinal intoxication caused by a specific saprophyte that thrives on carbohydrates and gives rise to a peculiar toxin which causes the disturbances noted in skin and mucosa. In treatment I have had best success with arsenic.

### Treatment of Pellagra with Opium: A Tentative Report

DR. J. W. GRAY, Clarksdale: I have treated and have reports on the treatment by others in fifty-nine cases. The results have been almost universally good. I administer from 5 to 30 drops of tincture of opium, three times a day, reducing the dose as soon as the symptoms begin to subside. I have not noticed the formation of a habit.

#### DISCUSSION

DR. W. T. MATTHEWS, Greenwood: I have had some experience with pellagra, altogether fourteen cases, and have used three treatments. Of the three I heartily endorse the opium treatment as used by Dr. Gray. I invariably start the treatment with thymol; I then follow with opium, and some times with chlorinated lime, and also calcium sulphid, with good results. But the patients treated with opium seemed to recover more quickly and with no symptoms of return, than did those when other treatments were used.

DR. T. M. DYE, Clarksdale: I treat my patients exclusively with opium, and clothes and stockings, and broad-brimmed hats to protect them from the sun. When a decrease of the dose of opium did not result in a decrease of the symptoms, I continued to increase the opium and gave castor oil for the constipation.

DR. E. R. GORDON, McComb City: We have patients who have not been given any treatment at all, and after a certain time the diarrhea seems to subside. Some of them have had recurrences in twelve months, and some of them have not. I have had some patients in whom opium did not control the diarrhea at all, but after a certain time it has naturally ceased.

### Chronic Malaria and Malarial Relapse

DR. C. C. BASS, New Orleans, described the phenomena of the malarial paroxysm and those of malarial cachexia. The relapse is not due to segmenting parasites that escaped destruction by quinin, but to the sexual form of the parasite which is more resistant and which is the only form that can reproduce in the mosquito. The cycle is about seven days. Relapse after long interval is explained on the ground of acquired resistance on the part of the patient and consequent retardation of the development of the parasite. Another source of supposed relapse is reinfection. A patient may be reinfected by mosquitoes that he has himself infected during his original attack.

#### DISCUSSION

DR. R. M. DONALD, Hattiesburg: There is hardly a doctor who has not seen patients have recurrences of fever after taking quinin. In my section practically all malaria is of the tertian type; if there was ever a case of the estivo-autumnal affection, I have never seen it. I lived for a number of years in the Delta where the type of malaria is almost entirely estivo-autumnal, and I tried my best to break it up and often the patient would get hemoglobinuria and die.

DR. J. T. LONGINO, Jamestown: Dr. Bass advises 30 grains of quinin a day to cure malaria. I do not believe that it will take 30 grains, or that there is any form of malaria requiring this much if it is assimilated.

DR. J. D. DONALD, Hattiesburg: I have given quinin by mouth in all its forms. Hypodermically, 20 grains to-day will stave off a chill to-morrow, and another 20 grains will stave off the chill the next day; and then when I have given 40 grains, if I leave off the quinin for a few days, the chill returns, and will return every day until I give quinin hypodermically.

DR. WILLIAM KRAUS, Memphis, Tenn.: If the asexual form remains in the blood without the sexual form, a mosquito can bite that patient indefinitely without reproducing that disease in other persons. The idea obtains of screening patients suffering from fever—such a patient is infinitely less dangerous than the patients who are apparently well, and going about but still carrying the germs in their systems.

### Whole-Time County Health Officer

DR. W. S. LEATHERS, University: The purpose of boards of health is to reduce sickness and to protect life. The keeping of vital statistics is the only satisfactory index of the efficiency of this work. The recent law passed through the efforts of this association will yield important results. Our present State Board of Health is accomplishing much through the new state laboratory, the inspector of municipal sanitation, the several field workers in the hookworm campaign and numerous bulletins and public addresses. The weakest spot in the battle-line is the county health officer—underpaid, untrained and hampered by the necessity of making his living by private practice. The popular fad to-day is conservation. Moreover, we know how to prevent most of the diseases that ravage the country. Yet the average annual sick-rate in Mississippi from seven common diseases (typhoid, tuberculosis, scarlet fever, diphtheria, malaria, uncinariasis and diarrhea) is about 460,000, with a death-list of over 8,000. The cost from sickness is over $16,000,000 a year—more than twice the total state revenue—while the economic loss from death (based on insurance estimates of life values) is over $12,000,000 in addition. A small part of this sum properly expended would eliminate a large percentage of the illness and death. The greatest need of to-day is the whole-time county health officer. His duties are as important and as onerous as those of the circuit judge and many other officials who are paid to give their whole time to the public service. At present in most counties his salary is merely nominal and his performance correspondingly small. His duties are many—school inspection, control of water-supplies and of food depots (hotels, groceries, slaughter-houses, etc.), administration of pure food laws, management of epidemics, and education of the public by addresses, bulletins, newspaper articles, etc. The entire time of a trained man is needed. Other states are beginning to move along this line. Mississippi can and should move with them. This reform will be accomplished when the people realize that "sick people are an expense to the state whether the burden be borne by the state or by the individual, for the wealth of the state is but the aggregate wealth of the people, and any state that will not assume the duty of caring for the public health will fail in its competition with other states."

---

## LOUISIANA STATE MEDICAL SOCIETY

*Thirty-Fourth Annual Meeting Held at Baton Rouge, April 22-24, 1913*

The President, Dr. B. A. LEDBETTER, New Orleans, in the Chair

### Officers Elected

The following officers were elected for the ensuing year: president, Dr. Fred J. Mayer, Opelousas; vice-presidents, Drs. A. J. Perkins, Lake Charles; A. J. Gladden, Monroe; W. S. Rutledge, Ruston; secretary, Dr. L. R. DeBuys, New Orleans; treasurer, Dr. E. W. Mahler, New Orleans.

New Orleans was selected as the place for holding the next annual meeting.

### What the General Practitioner Should Know about Gonorrheal Iritis

DR. R. F. HARRELL, Alexandria: In a certain percentage of cases of gonorrhea which begin as a local, specific urethritis, there occurs the absorption of bacteria or toxins from the urethra which invade the entire system and have a selective affinity for the serous fluids and surfaces of the body Most of these cases manifest themselves at first in the form of a gonorrheal arthritis of one or more joints, but we may have pericarditis, endocarditis, peritonitis or meningitis. Gonorrheal iritis generally, but not always, accompanies or follows an attack of gonorrheal arthritis. When the system is once invaded by gonorrheal toxins, the patient is not entirely free from the liability to attacks of iritis for

a period of ten years. In the local treatment of these cases we use atropin, eolyria and heat compresses. Dionin (10 per cent.) instilled two or three times daily, is one of the best remedies as its first effect is to bring about a great increase in the blood-supply to the eye, followed by a recession that opens up the lymph spaces and relieves the eye of a certain amount of disease process and also assists in the control of pain. The constitutional treatment consists in the use of antigonococcic serum and vaccines.

DISCUSSION

DR. GEORGE S. BEL, New Orleans: A patient of mine had gonorrhea, and six weeks following it he had an acute general septicemia, with acute endocarditis and pericarditis. The gonococcus was isolated from the endocardium and pericardium, showing conclusively that the germs invade other parts of the system than the urethra. The organisms were found in the tissues of the heart. This patient had a small aneurysm of the ventricle which perforated into the auricle and caused sudden death.

### Acute and Subacute Pharyngeal Tonsillitis

DR. HOMER DUPUY, New Orleans: If one recognizes infectious adenoids as they recur, and treats them properly, he may prevent (1) chronic hypertrophy, or adenoids; (2) infections of the middle ear and (3) extension into the lymphatics of the neck. As to treatment, sprays and douches should be condemned. To reach the postnasal space, argyrol, 20 to 30 per cent., and epinephrin solution, 2:3.000 or 2:4,000, in each nostril is both antiseptic and astringent and reduces the hyperemia and removes one of the features in the acute infection.

DISCUSSION

DR. LEON J. MENVILLE, Houma: A child, aged 6, had enlargement of the lymph-nodes of the neck. The case was diagnosed by a reputable physician as tuberculous adenitis, and later diagnosis was made of sarcoma. It was found that the enlargement of the lymph-nodes was due to adenoids and subsided on removal of the adenoids.

DR. J. A. CARUTHERS, Baton Rouge: From 40 to 50 per cent. of the children in our public schools to-day are affected with adenoids, and fully 50 per cent. of the old chronic catarrhal conditions in the middle ear in after life are due to adenoids. If these things can be relieved or stopped in early infancy, it is of infinite importance to do so, because later those chronic inflammations in the middle ear will suppurate, adhesions will form, and then it is absolutely impossible to give relief. I examined fifty children in the public schools and thirty-eight had enlarged pharyngeal tonsils.

DR. L. J. GENELLA, New Orleans: One hundred per cent. of children in the ninth year of age have postcervical adenoids. Between the ninth and eleventh year the percentage is less, and between 11 and 14 we find very few of them. In making a diagnosis of postcervical adenoids, one should be slow in attributing it to a pathologic condition in children 7 and 9 years of age.

DR. R. C. LYNCH, New Orleans: We are all accustomed to associate the presence of hypertrophy or disease of the pharyngeal tonsil with the infant or young child. I believe in New Orleans recently we have been in the midst of a mild epidemic of acute infections of the pharyngeal tonsil in adults giving rise to severe symptoms of toxemia. They were of a severe character, giving rise to myalgia, cervical pain, enlargement of the cervical lymph-nodes, and the presence of streptococci in abundance throughout the pharyngeal tonsil.

DR. G. C. CHANDLER, Shreveport: I do not think much of the medical treatment of adenoids. Operation for their removal is so simple and so quickly done, that I advise their removal at once.

DR. H. E. DUPUY: When the symptoms indicate chronic hypertrophy, nasal obstruction and enlargement of the lymph-nodes with respiratory symptoms, we should resort to radical treatment. We must be impressed with the fact that they have such a thing as adenoiditis in early life which is often so obscure in its general features that it escapes the observer.

### Ehrmann's Palmin Test

DR. J. A. STORCK, New Orleans: Of eight instances in which I applied this test, six proved positive, and in each the patient showed no evidence of any pancreatic disturbance. In the two instances in which no reaction occurred, there were evidences of pancreatic disease, fat droplets, ingested meat fibers, meat nuclei in the feces and sugar in the urine. Recently I have been using palm oil free of fatty acids for testing the function of the pancreas and can report it to give satisfaction.

### State and Local Legislation and What It May Accomplish for Sanitation

DR. S. D. PORTER, Baton Rouge: Suggestions for state and local legislation which may accomplish much for sanitation are: 1. More liberal appropriations for public health work. 2. The establishment of laboratories for the study of the causes of transmission of diseases. 3. A law similar to our medical practice and parish superintendence of education laws, prescribing the qualifications of health officers. 4. A law establishing medical inspection of schoolchildren, with more definite instructions to the schoolchildren in personal hygiene and general sanitation. 5. A law establishing a chair of hygiene and sanitation in our colleges and universities, and more systematic teaching of it in all our institutions of learning.

### Eclampsia

DR. CHARLES MCVEA, Baton Rouge: I have made it a rule to examine the urine of every pregnant woman every Wednesday morning. Of seventeen patients whom I have had, thirteen were primiparae; one was pregnant for the second time, two were pregnant for a third time, and one was pregnant for the seventh time. Eight had their convulsions at night. Four thought their convulsions were brought on by an approaching storm. Ten of these I saw for the first time in the convulsions. Ten had convulsions before delivery, two during labor and five after delivery—one six hours after delivery. Seven had their seizures or convulsions at or near the eighth month. Four were 16 years of age, two 17, nine were less than 25 and two were over 35.

When we do not have time to give calomel, an ounce of magnesium sulphate should be given. If the pulse is rapid, I use veratrum in doses of from 15 to 20 drops, hypodermically by preference. I do not believe in giving morphin because it interferes with the action of the skin, liver and kidneys. I do not believe in chloroform or ether, except as an expedient during delivery.

DISCUSSION

DR. J. C. WILLIS, Shreveport: Dr. McVea's excellent record is due largely to the fact that he has kept in close touch with his patients. Had he allowed many of them to go along without examining their urine, and had a large amount of poisonous material in the body, overlooked between analyses, accumulated, he would not have had such a splendid record. I have had better success since I have adopted a plan similar to the one Dr. McVea has outlined.

DR. ROBERT C. KEMP, Baton Rouge: The use of the sphygmomanometer in observing blood-pressure in these puerperal women is a valuable aid. It is rare that a woman will develop a convulsion if she has had a normal blood-pressure; but in the presence of albumin, with a high blood-pressure, the convulsive seizures become threatening to the lives of these patients.

DR. E. L. SANDERSON, Shreveport: I have had only two cases of puerperal eclampsia in five years of practice. I have examined the urine of these women every month for the first two or three months of pregnancy and later on every week or ten days. I believe intestinal intoxication is at the bottom of many cases of puerperal eclampsia, and at the time convulsions take place we may have an acute nephritis setting in.

### Emergency Surgery of the Skull

DR. ROBERT C. KEMP, Baton Rouge: Operation should be done in all cases of traumatic cerebral hemorrhage, not only to save the life of the patient immediately, but to prevent posttraumatic epilepsy. The success of surgery of the skull

depends entirely on a rigidly aseptic technic, for if sepsis enters the field, gloom will usually crown the result. The skull should be entered if possible at the site of the extravasation. I would advocate that every medical man be prepared to handle surgically every case of skull trauma in which hemorrhage exists. Success depends on careful aseptic technic and prompt action. In every case of unusual and alarming symptoms in the new-born, subdural hemorrhage should be considered.

DISCUSSION

DR. F. W. PARHAM, New Orleans: Many times we may have a serious injury from compression or actual injury of the brain from depressed bone without any evidence of it in the skin, except extravasation; and in these cases it would be well to make an incision in the skin and find out positively whether or not there is depression of the skull rather than let the cases go until symptoms are manifested.

### Petrolatum as a Substitute for Beck's Paste

DR. PETER S. SALATICH, New Orleans: Yellow petrolatum is easier to handle than Beck's paste and more readily obtained. Beck's paste requires a special syringe and some trouble to use. The method I use to prepare it for injection is simple. Petrolatum can be purchased in flexible tubes, already sterilized. Sterilize the amount necessary in an open vessel, set in the sterilizer or water bath, then draw it into one or more ordinary glass syringes and use partly warm or cool, as is done with Beck's paste. In the most foul and freely suppurating cavities, after one injection and without any other treatment, all odor and suppuration diminish. After an incision has been made (only a small one is necessary when petrolatum is used), all the pus is pressed out; the cavity is then filled with petrolatum and the wound needs no dressing for two or three days, at the end of which time very little odor and pus remain. The procedure is then repeated, and the dressings can remain for a longer period, only wiping of the abdomen with alcohol being necessary. It is marvelous how rapidly healing takes place in cases in which the entire wound above the fascial layers suppurates, and with less danger of hernia resulting. In all acute and subacute sinuses it is best to wait until a little serum or seropus exudes before injecting the petrolatum, especially if there is any fear of dead bone being at the bottom, which must be removed or the patient is made worse; for the petrolatum stops drainage and the pus must find some other means of exit.

### Prostatectomy Under Local Anesthesia

DR. CARROLL W. ALLEN, New Orleans: In cases in which I have applied the principle of anoci-association of Crile by resorting to a preliminary injection of the prostate with anesthetic solutions, there has been an improvement in the results, as these patients show practically no change in their physical condition after operation. The control of hemorrhage is accomplished by the logical addition of epinephrin to the injected solution; the absence of all bleeding in patients so treated is most striking, practically no blood being lost at all, just enough to moisten a few sponges; thus there is a decided gain for the patient, the two-shock-producing factors being eliminated. The results of this technic have been borne out by a more rapid convalescence of patients, and this method combined with a two-stage operation, opening the bladder a few days before under local anesthesia, has enabled me to carry to a successful termination cases of badly infected bladders in fever patients, on whom I would have hesitated to operate by any other method. I would urge that even under general anesthesia the surgeon resort to the preliminary injection of a local anesthetic combined with epinephrin.

DISCUSSION

DR. E. L. SANDERSON, Shreveport: In drainage of the bladder after prostatectomy one should be careful not to have the tube press on the posterior wall of the bladder as it will cause trouble. At necropsy I have seen two or three cases in which the weight of the retention catheter had perforated the posterior wall of the bladder.

DR. E. M. ELLIS, Crowley: I believe that the combined method of operating on these patients, especially those with a highly infected bladder, namely, opening the bladder a week before the final operation, draining it through the suprapubic route and irrigating it if necessary with antiseptic solutions, will relieve the kidneys of all previous pressure and put the patient in a much better condition for the final operation.

---

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 13-14. Sec., Dr. F. T. Murphy, Brinkley; Eclectic, Little Rock, May 13. Sec., Dr. C. E. Laws, Fort Smith.

FLORIDA: Jacksonville, May 12-13. Sec., Dr. J. D. Fernandez.

MASSACHUSETTS: State House, Boston, May 13-15. Sec., Dr. Walter P. Bowers, Room 159, State House.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

### Nebraska February and March Report

Dr. C. P. Fall, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Feb. 12-13, 1913. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, all of whom passed. Five candidates have been granted licenses through reciprocity. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| University of Alabama | | (1912) | 81.5 |
| Northwestern University Medical School | | (1909) | 79.5 |
| Creighton Medical College | (1911) 77.5; | (1912) | 82.4 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| College of Physicians and Surgeons, Keokuk | (1878) | Iowa |
| Drake University | (1905) | Iowa |
| University of Minnesota, Dept. of Med. and Surg. | (1890) | Minnesota |
| Jefferson Medical College | (1906) | S. Dakota |
| University of Tennessee | (1912) | Tennessee |

The March 12 examination consisted merely of the oral examination of one candidate, a graduate of Baltimore University, 1896, who passed with a grade of 80.4.

### Maine March Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, March 11-12, 1913. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 13, of whom 10 passed and 3 failed. One candidate was licensed through reciprocity. The following colleges were represented:

| College | PASSED | Year Grad. | Per Cent. |
|---|---|---|---|
| Cooper Medical College | (1895) 86; | (1898) | 82 |
| Hahnemann Medical College of Chicago | | (1912) | 85 |
| Medical School of Maine | | (1912) | 80 |
| Maryland Medical College | | (1912) | 80 |
| Boston University | | (1912) | 85 |
| College of Physicians and Surgeons, Boston | | (1912) | 76 |
| Tufts College Medical School | | (1908) | 85 |
| Harvard Medical School | | (1912) | 84 |
| Jefferson Medical College | | (1905) | 92 |

FAILED

| | | |
|---|---|---|
| Medical School of Maine | (1912) | * |
| Maryland Medical College | (1912) | 70 |
| College of Physicians and Surgeons, Boston | (1909) | 74 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| University of Vermont | (1911) | Vermont |

*No grade given.

# Book Notices

FATIGUE AND EFFICIENCY. A Study in Industry. By Josephine Goldmark, Publication Secretary National Consumers' League. Introduction by Frederic S. Lee, Ph.D. Containing also the Substance of Four Briefs in Defense of Women's Labor Laws by Louis D. Brandeis and Josephine Goldmark. Cloth. Price, $3.50. Pp. 890. Russell Sage Foundation. New York: Charities Publication Committee, 1912.

In 1892 John Lubbock introduced an early closing bill in Parliament, and defended it with a memorial on the injuries resulting from overlong hours in shops. In America Louis Brandeis suggested that a similar plea might be made in support of a law limiting the hours of women's work. When the Oregon law fixing a ten-hour day for women in industry was carried to the United States Supreme Court, the case was entrusted to Mr. Brandeis, and the brief he presented marked a radical departure in the defense of labor laws, for he based his plea on the physiologic limitations of woman's strength and on the harmful effects on the present generation and on the race resulting from the overwork of women. The Supreme Court decided in favor of the Oregon law, declaring that woman's "physical nature and the evil effects of overwork on her and her future children justified legislation to protect her."

Mr. Brandeis' briefs were prepared chiefly by Josephine Goldmark of the National Consumers' League, and consisted of citations from the works of physiologists and clinicians, the reports of factory inspectors and sanitarians, on the nature of fatigue, the manifestations of fatigue, the fatigue-producing elements in modern industry, and the pathologic effects of fatigue especially on the female organism and through her on the following generation. The present book contains these briefs as an appendix.

The book proper is a treatise on fatigue in all its aspects. The preface is written by F. S. Lee, who speaks of the quickness with which industrialism has accepted the achievements of science in inanimate things, and the slowness which it has shown in recognizing the teachings of physiology with regard to the workman himself. "Methods and machines have been revolutionized, but the human element has not yet been eliminated. The man, woman or child is still essential to the machine, and while the inanimate agent demands more and more of him, his fundamental physiologic powers are probably not so very different from what they were when he built the pyramids and made papyrus."

The fatigue-producing elements in modern industry are illustrated by Miss Goldmark through certain industries, the descriptions of which make it evident that the increase of nervous disease among working people at present is largely caused by the excessive speed and excessive strain on attention which modern machinery entails. One chapter deals with the increase of efficiency under the eight-hour day as illustrated by the piece-workers at the Zeiss Optical Works in Jena. Ernst Abbe, the inventor of the condenser which bears his name, appears here as the first exponent of scientific efficiency, at once a physiologist, a humanitarian and a captain of industry.

The book will serve as an admirable reference authority to all who are interested in industrial hygiene.

MALARIA—CAUSE AND CONTROL. By William B. Herms, M.A., Assistant Professor of Applied Parasitology, University of California. Cloth. Price, $1.50 net. Pp. 163, with 39 illustrations. New York: The Macmillan Company, 1913.

It may be a matter of some surprise to many to know that California, in certain sections, has considerable malaria. It is asserted that it, like hookworm, has been imported into the state—probably by settlers from the malarious districts of other Southern states. This book gives a history of the systematic efforts to eradicate the malarial mosquito by the health authorities in the state and the different communities in which malaria exists. Most of this work has been done under the supervision of the author of the book.

The campaign in any community always included a mosquito survey, the enlistment of the support of the local health authorities, the proprietors of land projects, the education of the people, including the children in the schools, and such permanent measures as drainage and filling, and temporary measures such as the oiling of ponds and all pools of stagnant water. Legal measures authorizing counties or communities to conduct antimalarial campaigns, with the assessment of the expenses, have not been entirely successful. The governor of the state, a few years ago, vetoed a bill passed by the legislature. One county, however, has passed an ordinance providing for antimalarial campaigns in any community on the initiation of ten or more residents, with power to levy assessments to pay the expenses. The State Board of Health and the department of entomology of the state university, of which the author of this book is the head, have taken great interest in the antimalarial campaigns throughout the state and have afforded assistance to all communities desiring to conduct such campaigns. In view of the extensive campaigns against malaria in the South, to be conducted by the recently appointed Malaria Commission, the experience of California during the past few years should be of considerable interest, as most excellent results have been attained in all instances in which efforts have been made to eradicate the malarial mosquito. The economic features of the problem are graphically and interestingly described in this book.

TUBERCULIN IN DIAGNOSIS AND TREATMENT. By Louis Hamman, Associate in Medicine in the Johns Hopkins University, and Samuel Wolman, Instructor in Medicine in the Johns Hopkins University. Cloth. Price, $3 net. Pp. 381. New York: D. Appleton & Co., 1912.

After more than twenty years of experimentation and clinical experience, the time has arrived, when a sufficient amount of truth regarding the tuberculin reaction as a diagnostic and curative agent has crystallized to make it worth while in the opinion of the authors of this work to put it into systematic and permanent form. The work is the result of a large personal experience, which permits the production of a book of special practical value. Since correct views regarding the important clinical phenomena involved in the use of tuberculin can only be based on a clear understanding of the nature of tuberculin and the limitations of its activity, a considerable amount of theoretical matter has necessarily been introduced. The limitations of tuberculin as a diagnostic agent are clearly stated, and its use only as a subsidiary method is strongly urged. The impossibility of distinguishing by its means in ordinary cases between tuberculous infection and tuberculous disease or between active and latent tuberculosis is well brought out. The authors are advocates of tuberculin treatment as a means of treatment to be used along with other measures, a method of treatment which the clinician dare not neglect, but which he cannot rely on to the exclusion of other useful methods. The book should form a useful guide to those who wish to use intelligently and safely this valuable method of treatment, about which there has been much uncertainty in the past.

MANUAL OF BACTERIOLOGY AND PATHOLOGY FOR NURSES. By Jay G. Roberts, Ph.G., M.D. Cloth. Price, $1.25 net. Pp. 206., with illustrations. Philadelphia: W. B. Saunders, 1912.

This book seems to be admirably adapted for the use of nurses. The author evidently believes that the trained nurse is destined to become the teacher of the masses along the lines of preventive medicine and sanitation; therefore he has devoted considerable space to the subjects of infection, immunity and bacterial and serum therapy. The technical details of laboratory work and microscopic diagnosis are given little space, as the nurse is not concerned in these branches.

ESSAYS ON GENITO-URINARY SUBJECTS. By J. Bayard Clark, M.D., Assistant Genito-Urinary Surgeon to Bellevue Hospital. Cloth. Price, $1.25 net. Pp. 174. New York: William Wood & Co., 1912.

This is a collection of clinical lectures delivered by the author before his classes. There is no attempt at comprehensive treatment of any of the subjects, each being considered from the author's own point of view. The book contains much matter valuable to one interested in genito-urinary subjects.

# Medicolegal

## Validity of Statute and Board of Health Rule as to Wrapping of Bread

*(State vs. Normand et al. (N. H.), 85 Atl. R. 899)*

The Supreme Court of New Hampshire overrules exceptions to a conviction of the defendants of a statutory offense in not wrapping in paper, as required by a rule of the State Board of Health, bread exposed for sale. The court says that the 1911 statute involved in the case declares that the existence or maintenance of any unclean, unhealthful or insanitary condition or practice in any establishment or place where food is produced, manufactured, stored or sold, or of any car or vehicle used for the transportation or distribution thereof, is forbidden, and provides that "unclean, unhealthful or unsanitary conditions or practices shall be deemed to exist . . . if food in the process of production, storage, sale or distribution is unnecessarily exposed to flies, dust or dirt, or to the products of decomposition or fermentation incident to such production, storage, sale or distribution . . . or if there is any other condition or practice which shall be deemed as endangering the wholesomeness of food." It furthermore empowers the State Board of Health "to make all necessary rules and regulations for the enforcement of this act." Under this statute, the State Board of Health adopted the following: "Whereas, bread is an article eaten without being subjected to any preparation, and commonly undergoes frequent and objectionable handling and exposure in connection with its distribution, sale and delivery from bakeries, stores and wagons, it is ordered that all bread loaves, before removal from the baking room, shall be wrapped in clean, unused paper, unprinted or printed on one side only. The use of newspapers or of any unclean paper for the wrapping of any articles of food is prohibited."

In view of the well-recognized medical facts that the germs of disease are distributed by flies when they come in contact with food designed for human consumption, like loaves of bread, and that typhoid fevers are often traced to that cause, it is clear that the statute has direct reference to the public health. Such a condition or practice is a constant danger to the health of the community; and the statute was enacted to protect the people from that danger, and if enforced it would manifestly have that effect. Hence it is within the police power of the legislature and is a constitutional enactment, so far as its purpose is concerned.

The wrapping of bread in paper when exposed for sale would seem to be the most feasible way of protecting it from the contamination caused by handling and by the presence of dust and flies and perhaps other noxious insects, and it is clear that if the statute had contained the rule in question it would have been a valid provision. Nor does the fact that it was made by the board of health under a delegated power from the legislature render it invalid as a rule. The statute is complete in itself. It in effect declares that bread unnecessarily exposed to flies and dirt is a public menace and provides a penalty for the infringement of any of the provisions of the act. But to secure an efficient enforcement of the act, and to accomplish the legislative purpose, the State Board of Health is charged with the enforcement of the law, and for that purpose it is authorized "to make all necessary rules and regulations." This provision was not intended to authorize the board to legislate, or to add to, change, or modify the statute. It was not intended as a delegation of legislative power. The "rules and regulations" were to be such as might be deemed necessary "for the enforcement of this act." In order to prevent flies from congregating on the loaves of bread in bakers' shops and in their carts, one of the objects the legislature had in mind, some general rule, if a feasible one could be devised, was necessary for the practical enforcement of the act; and when the board of health made the rule requiring loaves of bread to be wrapped in paper it was not legislating, but merely exercising a power conferred on them by the state as administrative officers. It was its duty to enforce the law, and the rule it promulgated in the exercise of that power was a means it adopted for the accomplishment of that purpose. The delegation of such power is not unusual. No discretion is vested in the board to determine whether such exposure of bread is or is not a nuisance, or what the penalty shall be for such exposure. The board is merely authorized to abate the nuisance declared to exist by the law-making power, and for this purpose—that is, the enforcement of the law—to make reasonable rules and regulations, for the violation of which, resulting in the continuance of the nuisance, a penalty is imposed.

## Sufficient Allegations to Show Liability for Malpractice

*(Williams vs. Union Pacific Railroad Co. (Wyo.), 124 Pac. R. 505)*

The Supreme Court of Wyoming reverses a judgment rendered for the defendant on a demurrer to the plaintiff's petition on the ground that it failed to state facts sufficient to constitute a cause of action. The court says that it was to be observed that the plaintiff alleged in the petition, among other things, that the defendant did not furnish him with proper hospital accommodations in the hospital provided for injured employees, and did not treat him properly therein, and did not furnish him the services of skillful or competent physicians or trained or capable nurses, and did not use or exercise due or reasonable care in the selection of such nurses and physicians and surgeons as were furnished to the plaintiff. With reference to cases of this character, it may be said that in general it has been held that a railroad company is not liable for the negligence of its surgeons if it has used reasonable care in their selection. The court thinks that is the correct rule. It is also held that the duty of a charity hospital ends with the selection of capable surgeons and nurses. And on demurrer everything alleged in the petition must be taken as true.

It was alleged in this case that the physician furnished did, in the performance of the operation, "carelessly and negligently, and unnecessarily cut a large hole in the neck of the plaintiff's bladder." The words "carelessly" and "negligently," as thus used, were not synonomous with the word "unnecessarily." The latter negatived the necessity of cutting the bladder in the performance of the operation while the former referred to the manner of doing and not to the necessity of doing. The necessity of cutting the bladder in the performance of the operation rested in the judgment of the surgeon, and called into activity his power to perceive and perform, which was the measure of his skill. If, therefore, he performed an act unnecessary to the operation with or without negligence, such act would be attributable to errors of judgment or want of skill.

## Summary Annulment of Revocation Certificate Reversed

*(In re Conrad (N. Y.), 140 N. Y. Supp. 630)*

The First Appellate Division of the Supreme Court of New York reverses an order of a special term of the Supreme Court setting aside and annulling a certificate of the Board of Regents of the University of the State of New York and the revocation of a physician's license. The court says it appeared that the petitioner, who was duly licensed to practice medicine in the county of New York, was, on the eighth day of April, 1904, convicted of the crime of attempted abortion, which is a felony, and sentenced to not less than one year and not more than two years in the state prison. The record of conviction showed that he had been theretofore convicted of "keeping lying-in hospital without a license." After serving sixteen and a half months at Sing Sing, he was paroled, and on July 5, 1906, finally discharged. Prior to Dec. 2, 1908, the Medical Society of the County of New York, a domestic membership corporation, applied to the Board of Regents of the University of the State of New York for the revocation of the license of the petitioner to practice medicine, and for the annulment of the registration of his license, on a petition duly verified based on the indictment, conviction and sentence of the petitioner for the crime of an attempt to commit an abortion, and on the first day of April thereafter the Board of Regents revoked the license and registration, and caused

the fact to be certified to the clerk of the county of New York by the first assistant commissioner of education of the department of education of the state of New York, and it was received and filed by the county clerk, who, acting pursuant to the provisions of the statute, thereupon marked the registration of the petitioner's license to practice medicine "Annulled." On the thirty-first ray of March, 1911, the governor duly issued a pardon to the petitioner. Without expressing any opinion with respect to the regularity or validity of the action taken under the statute with a view to annulling the license of the petitioner to practice medicine and the registration thereof, or as to whether he had, or has, any remedy by which his right to practice medicine may be authoritatively determined before he attempts to practice and thus subject himself to prosecution, the court is of the opinion that the court was without jurisdiction, on mere petition or motion, to grant the relief for which the application was made. The Supreme Court has no authority on a summary application over the county clerk, excepting in so far as he acts under the constitution and law as clerk of the court; and manifestly in filing the certificate of annulment and marking the registration of the license as required by the statute he was not acting as clerk of the court.

---

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Orthopedic Surgery, Philadelphia

*May, X, No. 4, pp. 499-723*

1 *Use of Intra-Articular Silk Ligaments in Paralytic Joints of Poliomyelitis Anterior. B. Bartow and W. W. Plummer, Buffalo.
2 Results Obtained by Implantation of Silk Tendons in Residual Paralysis of Poliomyelitis. N. Allison, St. Louis.
3 *Study of Condition Frequently Called "Sciatic Scoliosis." C. H. Bucholz, Boston.
4 *Seashore Treatment of Osteomyelitis. R. Hammond, Providence, R. I.
5 *Treatment of Congenital Flat-Foot by Tendon Transplantation. A. T. Legg, Boston.
6 Subluxation of Lumbosacral Joint as Cause of Paraplegia. Report of Case; Recovery after Manipulation. R. R. Fitch, Rochester, N. Y.
7 Tuberculosis (Primary?) of Supraspinatus Muscle. J. T. Rugh, Philadelphia.
8 Elephantiasis Neurofibromatosis of Foot with General Neurofibromatosis. J. T. Rugh, Philadelphia.
9 Treatment of Spastic Contractures by Neuroplasty. A. Stoffel.

1. Abstracted in THE JOURNAL, Aug. 3, 1912, p. 393.

3. **Condition Frequently Called "Sciatic Scoliosis."**—Sciatic scoliosis has been found a rather frequent affection by Bucholz. It is most frequent in the age between 30 and 40 years. It has never been observed in the age below puberty and is very rare in the age over 60. There seems no prevalence as to the side of the affection. Homologous cases are much less frequent than heterologous cases. Men are much more frequently affected than women; especially the extreme type is very rare in women. Traumatism plays an important, perhaps the main, rôle in the etiology. A marked lateral deviation is usually connected with a marked flattening or reversing of the lumbar lordosis. The prognosis is much better in cases with a definite traumatic cause than in those with an indefinite slow onset.

Among forty patients seen by Bucholz there are only nine women and only one of them presents a marked lateral deviation. Among the thirty-one male patients the cause has been a single trauma in twelve cases: Heavy lifting in six cases, a certain catch in chopping wood or shoveling coal in two cases, falling on the hip or on the buttocks in three cases, a sudden catch after a heavy day's work in one case. In the remaining nineteen cases the onset has been gradual and the cause was probably a frequent occupational strain of the sacroiliac or lower lumbar region. Frequent heavy lifting, heavy carrying (peddler), working on a sewing machine (tailor), occupation as motorman or conductor on a street car (three cases), frequent bending forward (shoe-cleaner), frequent athletic strain in rowing, etc. In a few cases exposure to frequent change in extreme temperature was mentioned as a further cause.

Among the nine female patients one reported a certain sudden wrenching of the back, one a single and one a repeated fall on the hip. In two cases the affection was due to childbirth, and in four cases with a slow onset the cause was unknown. The deviation of the back was marked or extreme in twenty male patients; in nine of those with a definite traumatic cause and in eleven of those with a frequent occupational strain. Three of the female patients showed a marked, none an extreme deviation of the back. Of those three, one reported a fall on her hip and one childbirth as cause, while in one case the cause was unknown. Among the male patients the general health and appearance was good in sixteen cases, fair in ten cases and poor in five cases. Two patients were fat men with a marked protuberance of the abdomen. Among the female patients six presented a poor and three a fair general health and appearance, one patient was a stout woman. The direction of the deviation was toward the affected side in only four cases, all being men. Two had reported a definite and two an indefinite traumatic cause.

Among the male patients seventeen presented a very flat or obliterated lumbar lordosis and in five cases the lordosis was even reversed. Only three patients showed an increase of the lumbar lordosis, while in six cases no note has been made. Among the female patients two presented a diminished, two a reversed and three an increased lordosis; in two cases no note has been made. Among the male patients with a definite traumatic cause the result of the treatment was satisfactory or good in six cases and not satisfactory in four cases. In two cases a distinct relief was noticed, but was not constant. Among the male patients with an indefinite cause the result of the treatment was very satisfactory in three cases only, a certain improvement was reported in four cases, inconstant improvement in one case. In eight cases the result was unsatisfactory; in six of them the time of treatment has been several months up to one and one-half years. In four cases no notes have been made as to the result, two of them being under observation only one or a few days. Among the female patients four showed a satisfactory result, three some improvement and two, both with a slow onset, no improvement. With a few exceptions it is noticed that the time between the onset of the disease and the treatment at the hospital has been much shorter in those cases which showed a satisfactory result than in the others.

4. **Seashore Treatment of Osteomyelitis.**—Hammond does not advocate non-surgical treatment because he says practically every case needs surgical interference, and should be treated according to its needs, whether it be the simple curetting of a sinus or the removal of the entire sequestrum, performed at the proper time as indicated by the studies of Nichols. After the surgical operation has been performed, however, there is nothing, in Hammond's opinion, which contributes so much to the upbuilding of the patient's general health and firm closure of the sinuses as a prolonged residence at the seashore with sea-bathing and exposure of the body to sunlight. He cites five cases

5. **Treatment of Congenital Flat-Foot.**—Legg transplants the tendon of the tibialis anticus to the periosteum on the under surface of the scaphoid. With a dry dressing over the incision the foot is put up in plaster in a slightly overcorrected position from the toes to the knee. It is Legg's practice to keep the foot in plaster for nine to ten weeks and then allow walking, supporting the arch for about two months by a felt pad. Massage without manipulation and hot and cold showers are ordered as soon as the plaster is removed. It is most important that the operation should be done at about the fourth or fifth year to obtain the best results.

### American Journal of Public Health, New York

*April, III, No. 4, pp. 297-412*

10 The Negro: His Relation to Public Health in South. C. E. Terry, Jacksonville, Fla.
11 Classification of Health-Board Expenditures. M. N. Baker, New York.
12 Collection and Disposal of City Waste and Public Health. P. M. Hall, Minneapolis.
13 Need for More General Cooperation between Health and Police Departments. S. M. Gunn, Boston.
14 Tuberculosis, a Public Health Problem. R. H. Bishop, Cleveland.
15 Public Dump and Public Health. C. E. Terry, Jacksonville, Fla.
16 Some Newer Problems and Newer Phases of Antituberculosis Warfare in United States. S. A. Knopf, New York.
17 Standard Methods for Bacteriologic Examination of Water. E. M. Chamot, Ithaca, N. Y.

### Boston Medical and Surgical Journal

*April 24, CLXVIII, No. 17, pp. 601-636*

18 Trichinosis. T. F. Leen, Boston.
19 *Diagnostic Significance of Leukocyte Count in Osteomyelitis and Tuberculosis of Bones in Childhood. E. W. Fiske, Boston.
20 Aspects of Milk Supply: Some Features of Milk Situation. J. O. Jordan, Boston.
21 Idem: Production of Certified Milk. J. A. Foord, Amherst, Mass.
22 Idem: Medical Milk Commission of Boston. R. L. De Normandie, Boston.

19. **Leukocyte Count in Osteomyelitis and Tuberculosis of Bones.**—The routine examination by Fiske, of children with tuberculosis of the bones and osteomyelitis, two-thirds of the cases in both diseases being in an acute stage, showed an average white count of 11,600 for the former and 16,200 for the latter, a significant difference of about 5,000 leukocytes. That this difference is constant, and is a reliable factor in diagnosis, is shown by the fact that in osteomyelitis but 24 per cent. of the counts were below 12,000 as compared with 66 per cent. in tuberculosis, while 39 per cent. of the former were over 18,000 and but 13 per cent. of the latter over 15,000. This difference is still more emphasized in the acute cases, which make up the majority seen in hospital practice, the average for osteomyelitis being 22,200 and for tuberculosis 11,400, a difference of nearly 11,000.

The conclusion drawn by Fiske from this series is, therefore, largely a confirmation of the well-known theory that leukocytosis does not occur in bone infection by the tubercle bacillus, but only in the presence of a pyogenic organism. Cases which are clinically tuberculous, and have a high white count, must find their explanation in some other focus of infection, or in a mixed infection at the original site. The only cases offering difficulty in diagnosis from the white count alone are those cases of osteomyelitis with a normal count or very low leukocytosis, which are commoner than most text-books affirm. In these, the relation of the count to other symptoms, such as the fluctuation of the count with the temperature or with the general condition (a relation which does not exist in bone tuberculosis), the presence of a freely draining bone abscess, especially if the count is low following operation, or the existence of a long standing, low grade process in a case in which the count has been at one time high, should point to a diagnosis of osteomyelitis, to be readily confirmed by other diagnostic data.

### Bulletin of American Academy of Medicine, Easton, Pa.

*April, XIV, No. 2, pp. 113-184*

23 Relation of Foreign Population to Mortality and Morbidity Rate of Philadelphia. L. J. Hammond and C. H. Gray, Philadelphia.
24 Teaching of Social Ethics and Its Relation to Conservation of Child. W. S. Hall, Chicago.
25 Relative Physical Advantages of School Lunches in Elementary and Secondary Schools. I. S. Wile, New York.
26 Course in Hygiene and Sanitation in School of Medicine of Syracuse University. J. L. Heffron, Syracuse, N. Y.

### Canadian Medical Association Journal, Toronto

*April, III, No. 4, pp. 261-354*

27 Some Clinical Observations on Arteriosclerosis. J. Third, Kingston.
28 Three Cases of Acromegaly with One Autopsy. E. J. Mullally, Montreal.
29 Abdominal Injuries. A. MacKinnon, Guelph, Ont.

### Georgia Medical Association Journal, Augusta

*April, II, No. 12, pp. 379-498*

30 Drainage Sequent to Certain Surgical Procedures. J. N. Ellis, Atlanta.
31 *Psychoses Accompanying Pellagra. E. M. Green, Milledgeville.
32 Case Histories in Neurology. L. M. Gaines, Atlanta.
33 *Parsimony in Nutrition. G. M. Niles, Atlanta.
34 Twin Pregnancy in Double Uterus. J. G. Earnest, Atlanta.
35 Cystoscopy as Aid in Surgical Diagnosis. W. S. Goldsmith, Atlanta.
36 Case of Splenomyelogenous Leukemia with Unusually High Leukocyte Count. W. H. Malone, Marietta.

31 and 33.—Abstracted in THE JOURNAL, June 8, pp. 1779 and 1782.

### Indiana State Medical Association Journal, Fort Wayne

*April, VI, No. 4, pp. 147-200*

37 Making of a Specialist. J. F. Barnhill, Indianapolis.
38 Bronchoscopy and Esophagoscopy. A. E. Bulson, Fort Wayne.
39 *Phenolsulphonephthalein as Determinate of Kidney Function. H. K. Bonn, Indianapolis.
40 Treatment of Chancroids with Cocain. F. M. Freeman, Goshen.
41 Thyroidism and Clinical Significance of its Perversions. P. F. Martin, Indianapolis.
42 Anomalous Internal Carotid Artery. A. P. Roope, Columbus.

39. **Phenolsulphonephthalein.**—Bonn has made observations with this test on eight normal individuals, eight kidney cases and seven prostatic cases. He found that phenolsulphonephthalein appears in the urine of patients having apparently normal kidneys in from two and one-half to eleven minutes, when injected subcutaneously. In patients with renal lesions of varying severity, he found in two cases of marked kidney disturbance, the drug having been given intravenously, that the dye promptly appeared in two and one-half minutes. Again, in other cases having approximately the same condition of affairs present, the drug, given subcutaneously, did not appear for from fifteen to twenty minutes. Therefore, he does not consider the time of appearance of the dye to be of much value. It simply tells when one should begin the collection of urine for percentage estimation.

The dye was excreted at a fairly constant rate in normal individuals, the first hour averaging 39 per cent., and the second 17 per cent. The average excretion of the drug for two hours was 56 per cent. In cases of renal lesions, the output of the dye was considerably decreased except in one case, that of a renal sarcoma, in which the remaining kidney was evidently doing the work of both kidneys. These abnormal cases averaged 24 per cent. for the first hour of the test, and 10 per cent. for the second, the total output being 34 per cent. Therefore, Bonn believes that the phenolsulphonephthalein output is markedly decreased where there exist lesions of renal origin.

Since a large number of these cases presenting renal disturbance have been operated, following which marked improvement has taken place, Bonn does not think that a low percentage of elimination of this dye should absolutely forbid operation, or be an absolute deciding point as to operation. He believes that a good plan to follow is to order forced water and repeat the test within a week. If the percentage of elimination has remained about the same, the probability is that the kidney is working at its maximum and will, in all likelihood, withstand the anesthesia and operation satisfactorily. It is unnecessary to have the patient drink a quantity of water before the test is made, because if reflex anuria occurs, the inhibition will be bilateral and water may be given at any time. This fact may even help to accentuate the findings from a diseased kidney.

When ureters are catheterized, Bonn says, it is essential to use the flute-end catheters or Garceau's one-catheter cystoscope, else there will occur leakage around the catheters and so produce errors in the percentage of dye eliminated. It is preferable, with ureteral catheterization, to give the drug intravenously and to take the percentage of dye eliminated every fifteen minutes for forty-five minutes. It is obvious that in an intravenous injection part of the dye may either not be forced into the vein or may perhaps leak from it.

This fact should cause an early appearance time but a delayed excretion. This dye test seems to meet all of the conditions which Geraghty and Rowntree set up, although Bonn does not believe that a test of this sort will inform a surgeon whether a patient can be operated safely. The fact that the test is absolutely non-toxic and does not seem to burden the kidneys and can be almost entirely recovered from the urine is decidedly in its favor. However, he regards the phenolsulphonephthalein test as the most accurate one for the determination of renal function.

### Iowa State Medical Society Journal, Clinton

*April, II, No. 10, pp. 697-768*

43 Bismuth Paste. J. C. Powers, Hampton.
44 Contusions of Eyeball. L. Weber, Davenport.
45 Value of Typhoid Vaccine in Prophylaxis and Treatment of Typhoid, and its Method of Administration. L. Reppert, Muscatine.
46 *Increased Diet in Typhoid; Arguments For and Against. M. J. Konefick, Algona.
47 Surgical Complications and Sequelae of Typhoid. J. C. Rockafellow, Des Moines.
48 Perforative Lesions of Intestine: Problems of Their Early Diagnosis and Treatment. A. J. Burge, Iowa City.
49 Value and Efficiency of Tuberculin Tests. H. V. Scarborough, Oakdale.

46. Abstracted in THE JOURNAL, May 25, 1912, p. 1629.

### Kentucky Medical Journal, Bowling Green

*April 15, XI, No. 8, pp. 307-338*

50 Tubal Pregnancy. S. T. Yeatts, Louisville.
51 Appendicitis; Report of Fatal Cases. E. S. Allen, Louisville.

### Medical Record, New York

*April 26, LXXXIII, No. 17, pp. 737-782*

52 What is Psychanalysis? E. W. Scripture, New York.
53 Gastralgia Nervosa and its Differential Diagnosis. J. Gutman, Brooklyn.
54 *Albumin Analysis of Sputum. J. Ritter, Chicago.
55 Epilepsy. C. R. M'Kinniss, Norristown, Pa.
56 Management of Puerperium and its Minor Abnormalities. B. A. Fedde, Brooklyn.
57 Early Diagnosis of Tuberculosis and Internal Antisepsis. C. Am Ende, New York.

54. **Albumin Analysis of Sputum.**—Ritter advocates that the examination of the sputum should become a routine method in every suspected or positive tuberculous case. The test is made as follows: Put 5 c.c. of sputum into a glass cylinder of about 25 c.c. capacity (glass cylinder must be supplied with a well-fitting ground-glass stopper), add 5 c.c. of distilled water and about 10 drops to 1 c.c. of glacial acetic acid, replace the stopper, shake well, and set aside. Shake occasionally during the next twenty or thirty minutes, then proceed to filter. If the sputum is suitable for filtration it will have separated into three distinct layers reminding one very much of an expressed stomach content ready for testing. Should the middle or watery portion of the sputum solution be still a little opaque, showing the presence of some remaining unprecipitated mucin, add a few drops more of the glacial acetic acid, again shake well and set aside as before. The fluid portion now appearing clear, proceed to filter it through a plain wetted filter and test the clear filtrate for albumin in the usual way by either Heller's test or the heat test, both of which are very satisfactory.

Ritter has found the ferrocyanid test the most reliable and accurate. If to an albuminous solution of sputum in a test tube a drop of 10 per cent. ferrocyanid of potassium solution is added, an approximate idea of the amount of albumin can at once be gathered by observing the drop of ferrocyanid solution carrying down the precipitated albumin and one can also notice the difference between a massive albumin content and one in which only a small amount of albumin is present by the manner in which the precipitated albumin falls to the bottom. Ritter says that if the chemical examination of the sputum is albumin positive but tubercle bacilli negative with physical findings obscure and indistinct, the intradermal injection of tuberculin will often change both to positive. A positive albumin reaction and a positive tuberculin test are of far more importance diagnostically than the negative clinical examination, also the negative value of the albumin and the tuberculin tests are of far greater, of more positive value, than the negative clinical examination, because a negative clinical diagnosis may still be doubtful, may not be positively negative. A single positive sputum finding cannot be considered positively and diagnostically tuberculous but a single negative albumin reaction can assuredly be considered as non-tuberculous. A negative sputum for albumin is also microscopically negative for the tubercle bacilli; usually with the open or infectious cases both albumin and bacilli will be found in the sputum, while, in the closed or non-infectious cases albumin minus the bacilli will be present. The positive albumin reaction is a sure indication of an inflammatory invasion of the pulmonary parenchyma which may be tuberculous, pneumonic or congestive, and the reaction is always negative when the inflammatory process has not affected the substance of the lung as in acute and chronic bronchitis and asthma, hence the reaction is of most importance in those cases in which the pulmonary infection is not yet manifest and the differential diagnosis lies between tuberculosis and simple bronchial catarrh. Albumin in the sputum is often the forerunner of the tubercle bacillus and albumin may be found in the sputum many months before the bacilli make their presence known, hence a positive sputum content with but meager or very slight physical findings and negative bacilli favors a possible incipient or pre-incipient tuberculous diagnosis, and like all clinical signs it must be considered with all the other signs, including both subjective and objective, to arrive at positive conclusions.

### Military Surgeon, Chicago

*April, XXXII, No. 4, pp. 327-425*

58 Some History of Annual Report of Surgeon General, with Extracts. A. G. Love, U. S. Army.
59 Proposed Method of Pitching and Striking a Field Hospital Rapidly. W. W. Reno, U. S. Army.
60 Indian Medical Service. H. W. Jones, U. S. Army.
61 Ill Effects of Smoke on Health and Comfort. J. B. Stoner, Washington, D. C.

### New Jersey Medical Society Journal, Orange

*April, IX, No. 11, pp. 545-598*

62 Physician as Public Servant. G. K. Dickinson, Jersey City.
63 Gunshot Wounds of Abdomen in Civil Practice. F. R. Haussling, Newark.
64 Eugenics. W. P. Melcher, Mt. Holly.
65 Pulmonary Embolism. J. A. Maclay.
66 Abdominal Cesarean Section. E. A. Ill, Newark.

### New York Medical Journal

*April 26, XCVII, No. 17, pp. 853-904*

67 Roentgen Rays in Inoperable Primary Carcinoma of Breast: Report of Twelve Cases. G. E. Pfahler, Philadelphia.
68 Intravesical Diagnosis and Treatment. L. Buerger, New York.
69 Operation, When Required, in All Common Rectal Diseases, without General Anesthesia or Pain. W. F. Burrows, New York.
70 Case of Vitiligo. N. T. Beers, New York.
71 Orbital Cellulitis. A. Wiener, New York.
72 Thyroid Medication in Children. M. B. Gordon, New York.
73 Newer Teachings of Diseases of Gastro-Intestinal Canal. M. I. Knapp, New York.
74 Electricity in Rectal Diseases. F. H. Williams, Boston.
75 *Treatment of Tuberculous Bone Abscesses and Sinuses with Tuberculin. W. S. Niblett, Baltimore.
76 Ointment in Granulating Wounds; Treatment. G. B. Massey, Philadelphia.
77 Syphilis. H. M. Greene, Portland, Ore.
78 Morphin in General Practice. C. J. Douglas, Boston.

75. **Tuberculous Bone Abscesses.**—In all his cases of this kind Niblett has been systematically using old tuberculin locally with good results since August, 1911. He says it is very stimulating to the sluggish granulations and converts the creamy pus into serosanguineous pus. After two or three injections the sinuses appear healthier and the discharge is markedly decreased.

The technic consists of the injection of about 120 minims of 1 to 500 old tuberculin solution into the depths of the sinus by means of a syringe or a small, soft rubber catheter, which is withdrawn as the injection is made, in the endeavor to bring the tuberculin into immediate contact

with the walls of the sinus. After three or four injections the strength of the tuberculin is increased from 1 to 500 to 1 to 250, or even 1 to 50. This is governed by the reaction, both local and systemic. The injections are given biweekly. There is some systemic as well as local reaction after the first injection. The patient's temperature may reach 101 or 101.5 F., with some lassitude, but this is less marked after the first two or three injections, and usually disappears entirely after subsequent treatments. Great care must be taken to use weak tuberculin solution, as it is desirable to avoid a rise of temperature.

### New York State Journal of Medicine, New York

*April, XIII, No. 4, pp. 177-232*

79 Perforated Duodenal Ulcer. N. Jacobson, Syracuse.
80 *Perforating Duodenal and Gastric Ulcers. G. D. Gregor, Watertown.
81 Cancer Problem. L. R. Colegrove, Elmira.
82 Early Diagnosis of Intestinal Cancer. F. H. Nichols, Jamestown.
83 Pulmonary Tuberculosis of Pregnant Woman. A. Jacobi, New York.
84 Operative Surgery of Goiter. J. P. Marsh, Troy.
85 Goiter from Surgical Standpoint. W. Lathrop, Hazelton, Pa.
86 Accidents of Hernia Operation. D. R. Kathan, Schenectady
87 Means and Methods of Reducing Death Rate from Surgical Operations. M. Clinton, Buffalo.
88 Uses of Plaster of Paris as Surgical Dressing. H. F. Gillette, Cuba.
89 Einhorn Bead Test for Estimation of Digestion. W. G. Morgan, Washington, D. C.
90 Diet in Acute Disease. W. S. Gleason, Newburgh.
91 Case of Gonorrheal Conjunctivitis Aborted by Two Per Cent. Solution of Nitrate of Silver. J. H. Claiborne, New York.
92 Immuno-Therapy in Ophthalmology and Oto-Laryngology. R. L. Crockett, Oneida.
93 Hypertrophy of Pharyngeal Lymphatic Ring as Causative Factor in Production of Epileptic Equivalents. W. S. Daly, Ogdensburg.
94 "Taking the Cure" in California. C. B. Slade, New York.

### Vermont Medical Monthly, Burlington

*April, XIX, No. 4, pp. 79-104*

95 Constipation. E. B. Watson, Williamstown.
96 Some Common Results of High Percentage of Fat Used in Infant Feeding. C. K. Johnson, Burlington.
97 Cardiac Disease with Special Reference to Treatment. J. P. Gifford, Randolph.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*April 12, I, No. 2728, pp. 753-804*

1 *Rheumatoid Arthritis. J. Barr.
2 Various Forms of Fibrositis and Their Treatment. A. P. Luff.
3 *Types of Organism in Series of Bone and Joint Tuberculosis of Children. J. Fraser.
4 Clinical Demonstration of Operation for Prolapsus Uteri Complicated by Hypertrophy of Cervix. W. E. Fothergill.
5 "Suppurating" Branchial Cyst. C. A. Robinson and G. W. Thomas.
6 Two Cases of Penetrating Wound of Heart Treated by Operation. E. De Verteuil.
7 Nascent Iodin Treatment of Lupus Nasi. P. W. Bedford.

1. **Rheumatoid Arthritis.**—The earlier the recognition of the disease, says Barr, the more successful the treatment. Attention should be first directed to the *prima via*, the teeth should receive scrupulous attention and all sepsis should be eradicated; the acid fermentation in the stomach should be eliminated, and this is most readily accomplished by cutting off all saccharin and farinaceous articles of diet, and placing the patient for a few days on an abundance of red meat with plenty of hot water. Red meat produces ammonia, which neutralizes the sarcolactic acid in the muscles; then milk to which some sodium bicarbonate and chalk or lime water have been added, junket and cream. Afterward green vegetables and farinaceous food, except oatmeal; a fair amount of fat should be given, especially olive oil or cod-liver oil; at least an ounce of one of these oils should be given every night at bedtime. Bacon gravy, fat bacon, cream, butter or margarine are valuable adjuncts, but beef and mutton fats had better be eschewed. The patient should take a liberal allowance of table salt with meals. All acids and acid fruits, rhubarb, tomatoes and asparagus should be avoided. When saccharoses are considered permissible, glucose and honey are better than cane sugar or jams, but perhaps a little marmalade may be allowed occasionally. When the patient is improving, grapes, bananas, nuts, stewed prunes and figs may be allowed; saccharin is better than sugar, more especially if the urine has become alkaline under treatment, and tends to deposit phosphates.

Regarding drink, there is nothing better than pure water, especially when hot, weak tea, milk and soda water (containing about 30 grains of sodium bicarbonate to the pint), plain barley water and raisin tea. Avoid all sweet and acid drinks, wine and malt liquors. Regarding alcohol, Barr thinks the patient is better without any, but if for any particular reason a little is ordered it should be in the form of whisky, gin, brandy, sloe gin or liqueur cognac. To correct the acid fermentation and improve the motor function of the stomach a good combination consists of bicarbonate, and 15 or 30 grains of aromatic chalk in a glass of milk about half an hour before meals, and a double dose at bedtime; often smaller doses suffice. An excellent stomachic of calcium chlorid hydrochloric acid and minute doses of the perchlorid of iron is very useful after meals; a small cholagogue pill should be administered regularly to keep the bowels open; for this purpose an excellent mixture can be made with the sulphate, bicarbonate and salicylate of sodium and liquorice.

It is imperative to get lime into the tissues and to lessen its elimination. For this Barr prescribes freely chlorid of sodium and potassium, sodium bicarbonate, chalk, lactate of lime and calcium glycerophosphate. If it be desired to get calcium rapidly into the tissues it may be given in a very dilute form subcutaneously, say a pint of sterile normal saline solution with 0.05 per cent. of calcium chlorid, and 3 per cent. of syrup of glucose. If the calcium chlorid be administered hypodermically in a concentrated form, it may readily produce gangrene of the skin and adjacent tissues. Iron is best administered in the form of underdone red meat, and yolk of eggs; arsenic, potassium iodid, guaiacol, and a host of remedies commonly prescribed are worse than useless.

Leukorrhea should be treated with injections, and any infection of the urinary tract should receive attention. Here vaccines will often prove useful, and the same may be said for pyorrhea alveolaris. General massage improves nutrition, and is highly beneficial; the hot air and electric light baths applied to affected joints often give much relief, but can scarcely be looked on as curative agents. Encourage the patient to take a fair amount of exercise short of fatigue when the disease has subsided, and to live hygienically.

3. **Types of Organism in Bone and Joint Tubercle.**—The proportion of bone and joint cases examined by Fraser was practically equal—thirty-nine were instances of joint disease, thirty-one of bone disease. The age incidence was absolutely limited to 12 years and under. In forty-one instances the bovine bacillus was present, in twenty-six cases the human bacillus occurred, and from the remaining three cases both human and bovine types were isolated. As a matter of routine, the family history was noted in each case investigated. In twenty-one instances there was a definite history of pulmonary tuberculosis having occurred in some member of the family in which the child lived, and in 50 per cent. of these cases the child was actually living in contact with a consumptive. The practical bearing is more evident when it is stated that out of the twenty-one above mentioned cases fifteen, or 71 per cent., were due to the bacillus of human tuberculosis. In fifty-two cases there was definitely stated to be no family history of tubercle; forty-three of these were bovine in origin, while only nine, or 17 per cent., were human. The difference is very striking, and the figures of the first group are explained by direct infection of the child from the consumptive patient with whom it stayed.

Practically speaking, Fraser says that the bovine bacillus is introduced into the body by a single route—that of infection from the alimentary tract, and the medium by which it is introduced is infected milk. As far as possible observations were noted of the source of milk supply in each of the above cases; twenty-five patients were nourished in infancy on

human milk, forty-one were entirely fed on cow's milk; in three instances the source of origin was doubtful. Of the twenty-five patients brought up on human milk, in only six cases was the bovine bacillus found. The remaining nineteen were infected with the human type. In the second group, those nourished on cow's milk, out of a total of forty-one, no less than thirty-seven were due to infection with the bovine bacillus. The remaining four were human. In the complete series there were four children less than 1 year old. All these children were nourished on cow's milk, and in every case the bovine bacillus was the organism present. It is interesting to note that in no instance was any attempt made to sterilize or pasteurize the milk.

## Clinical Journal, London

*March 26, XLI, No. 25, pp. 385-400*

8 Abdominal Injuries. V. Z. Cope.
9 Calculus in Upper Urinary Tract. F. J. Steward.
10 Early Recognition of Pulmonary Tuberculosis. F. J. Wethered.

*April 2, No. 26, pp. 401-416*

11 Significance of Pain in Ear. M. Yearsley.
12 Calculus in Upper Urinary Tract. F. J. Steward.
13 Ethyl Chlorid Anesthesia. C. F. Hadfield.

*April 9, No. 1, pp. 1-16*

14 Injuries to Semilunar Cartilages of Knee-Joint. R. Morison.
15 Treatment by Massage and Movement, Particularly in Relation to Fractures. R. C. Elmslie.
16 Diphtheritic Hemiplegia. J. D. Rolleston.

## Lancet, London

*April 12, I, No. 4676, pp. 1007-1074*

17 Relations of Medical Profession and Public. J. A. Lindsay.
18 *Effect of General Contraction of Peripheral Blood-Vessels on Mouse Cancers. C. Walker and H. Whittingham.
19 Treatment of Large Hernia. A. E. Barker.
20 Three Cases of Polycythemia. T. K. Monro.
21 *Series of 236 Cases of Total Enucleation of Prostate Performed during Two Years, 1911-12. P. J. Freyer.
22 Congenital Stricture of Lower End of Esophagus. R. Morison and H. Drummond.
23 *Records of Four Unusual Recoveries in Cases of Mental Disease. L. C. Bruce.

**18. Artificial Contraction of Peripheral Vessels in Mouse Cancers.**—The authors used pituitary extract and an ergot preparation. These two substances produced somewhat similar results to the substances used by Wassermann and by Neuberg and his collaborators. In the case of the pituitary extract, where the dose was larger and more injections were given, necrosis was induced as well as hemorrhages, and the growth of the tumor was apparently checked in a large proportion of cases. The authors suggest that in view of their experiments the probable explanation of the results obtained with the other substances used by Wassermann and Neuberg and his collaborators is a mechanical one, although, as the substances they used were highly toxic, their results, in the case of the animals that survived the treatment, were more perfect. They believe that it is possible that something might be done toward producing an effect on cancer cells by injecting substances which will tend to kill the cells, in combination with something which will contract the blood-vessels of the body. The passive dilatation of the vessels in the tumor should collect the toxic substance there, though, of course, it will be diffused over the whole body to a less extent. There is no evidence that Wassermann's or any of the other substances used have any specific action on cancer cells, as the contraction of all the blood-vessels excepting those in the tumors accounts for all the results that have been obtained.

**21. Total Enucleation of Prostate.**—Reviewing briefly his experience of this operation to the end of 1912, comprising 1,036 cases, Freyer states that the patients varied in age from 49 to 90 years, with an average age of 69¼ years. There were among them sixty-five octogenarians and eleven bordering on this age—viz., 79 years. The prostates removed ranged from ½ to 17 ounces in weight, the approximate average being 2¾ ounces. Though the patients were, of course, mainly drawn from the British Isles, practically every nation and race on the face of the earth are represented. The great majority had been dependent on the catheter for periods ranging from a few days to twenty-four years. Most of them were in bad health and many were apparently moribund when the operation was undertaken. Few of them were free from one or more grave complications, kidney affections resulting from backward pressure on those organs and predominating. In the larger number existence was rendered so painful and miserable that they were prepared to face any risk from operation provided they could be assured that in case of survival they could dispense with the catheter.

In connection with these 1,036 operations there were fifty-seven deaths, or 5½ per cent., the remaining 979 cases, with the exception of one case, being completely successful. In only this one case has the patient failed to regain the power of voluntary micturition, and in this instance the bladder was quite flaccid and seems to have been completely paralyzed by the extreme overdistention by the urine before the catheter was employed. With experience the mortality has gradually diminished from about 10 per cent. in the first 100 cases to a little over 4½ per cent. in the last 400. The causes of death were: uremia due to chronic kidney disease, 24; heart disease, 9; shock, 7; exhaustion, 3; septicemia, 3; mania (hereditary in one case), 2; malignant disease of the liver, 2; bronchitis, 2; pneumonia, 1; heart-stroke, 1; pulmonary embolism, 1; cerebral hemorrhage with paralysis, 1; and acute pancreatitis, 1.

In 190 cases the prostatic disease was complicated by the presence of stone in the bladder, mostly of the phosphatic variety due to cystitis. The operation in these cases partook of a dual character—prostatectomy in addition to suprapubic lithotomy. Among these there were 16 deaths (all of which have been accepted as resulting from the prostatectomy part of the operation), or 8.42 per cent. Among the remaining 846 cases uncomplicated with stone there were forty-one deaths, or 4.84 per cent., so that the mortality among the former was nearly double that among the latter. Freyer states that one of the most satisfactory features of this operation is that the patients, as a rule, state, after the lapse of months or even years, that they feel from ten to twenty years younger than before the operation. This remarkable rejuvenescence has so much impressed him that, apart from the physical pain and mental depression caused by the obstructive symptoms, he is persuaded that the enlarged gland pours into the system some internal secretion of a toxic or deleterious nature.

**23. Recoveries in Mental Disease.**—The records of Bruce's cases are of interest in so far that they demonstrate that even apparently hopeless cases of nervous and mental disease can never be safely pronounced incurable. CASE 1.—Patient, male, aged 30, labors under a mild type of imbecility, and was up to eight years ago a confirmed epileptic. His epileptic seizures commenced during infancy. When he first came under Bruce's care in 1899, and up to 1904, his epileptic seizures were very frequent, averaging between 200 and 300 each month. The fits were both diurnal and nocturnal. During 1904 certain serum observations were made in order to test a statement made by Ceni to the effect that the serum of epileptic patients when taken from the body develops certain antibodies which when injected subcutaneously into the patient yielding the serum, or into other epileptic patients, have a curative power. The patient was asked to give serum for the purposes of the observation. This he readily agreed to do. During a period of six weeks blood to the amount of 40 c.c. was drawn from the median basilic vein once a week, so that during the six weeks he yielded 240 c.c. of blood. The curious fact is this, that from the day of the first bleeding up to the present (that is to say, during a period of eight years) the patient has never again suffered from a single epileptic seizure.

CASE 2.—Patient was a woman of 57 when she first came under Bruce's care. She suffered from recurrent attacks of *folie circulaire* mania with barely recognizable periods of depression. Each of the attacks of excitement lasted about six weeks, with varying intervals of sanity. Her first attack of excitement occurred when she was 27 years of age. During 1902 1903, 1904 and 1905 she suffered from frequent attacks of mania, the onset of each attack being preceded and accompanied by an attack of nasal catarrh. She presented no other physical symptoms beyond a recurrent hyperleukocytosis of from 12,000 to 20,000 per cm. which accompanied the attacks,

and the presence of a specific agglutinin in her serum to a variety of streptococcus isolated from the blood of a case of acute mania. Her opsonic index to the same organism varied between 0.4 at the commencement of an attack to 2 at the termination of an attack.

Various attempts were made by means of injections of this streptococcus to produce immunity, but without effect, and no antibacterial substance could be demonstrated in her serum as the result of these injections. In October, 1905, it was decided to try the effect of feeding the patient on living cultures of the streptococcus which her serum agglutinated. The organism was grown in sterilized broth for forty-eight hours at 37 C. and then dispensed in 10-ounce bottles, of which she took one ounce thrice daily between meals, and this course was continued for six weeks. During this period her appetite and weight increased very markedly. At the end of the six weeks' course of treatment her serum was tested for immune body and was found to contain a specific bacteriolytic substance, which was demonstrated as follows: One part of a twenty-four hours' broth culture of the streptococcus was mixed with two parts of her serum; the mixture was drawn into a sterile pipet, which was sealed and placed in the incubator at 37 C. for three hours. A control of the serum of a healthy person was made at the same time. At the expiration of the three hours the contents of each pipet were spread on agar tubes and incubated. At the end of twenty-four hours' incubation it was found that in the tube inoculated from the patient's mixture of serum and broth culture there were only three colonies of organisms visible, while that inoculated with the pipet made from the control serum showed countless colonies. To prevent error the observation was repeated with a second control with the same result. From the date of treatment in October, 1905, to the date of discharge, December, 1907, the patient never suffered from another attack of mania, and up to the present time she has not had a relapse.

Case 3.—Patient, a woman aged 32, developed melancholic symptoms, with fixed delusions and marked impairment of nutrition at 30. She presented no physical disorder beyond the condition of malnutrition, a dry harsh skin, want of appetite, constipation and an irregular hyperleukocytosis of from 12,000 to 17,000 per c.m., the increase being chiefly in the polymorphonuclear cells. All sorts of remedies were applied in her case; she was treated with thyroid, hot baths, injections of cinnamate of soda and various vaccines with practically no effect. At the end of March, 1910—i. e., four years after the onset of her illness—she contracted scarlet fever. The fever was of a mild type with little constitutional disturbance, the highest temperature recorded being 101 F. As she convalesced from the fever a marked physical and mental improvement was noticeable, and by the end of April she had recovered. She has shown no signs of relapse up to the present time.

Case 4.—A woman, aged 27, became insane in May, 1904. She was morose, impulsive, absolutely intractable. She suffered from delusions of identity. At frequent intervals she was impulsive, suddenly attacking fellow patients or members of the staff, and these attacks were, so far as one could judge by her disjointed speech during these outbursts, directly the result of the delusions of identity she labored under regarding the persons she assaulted. No change was noted in her condition until May 5, 1908, when she was reported as having been found in an unconscious state in her bed in the morning. On examination she presented all the symptoms of a cerebral hemorrhage being completely paralyzed on the right side. When she recovered consciousness it was also noted that she was aphasic. Following on the seizure she developed a high temperature, which ran as high as 104 F., and this pyrexia, which was remittent in character, lasted for three weeks. At the end of the three weeks the paralysis was passing off and the power of speech was returning. Five weeks after the date of onset of the seizure she spoke quite clearly and collectedly. Further inquiries elicited the fact that her mind was a perfect blank for a period of four years—that is to say, from the date of the onset of the attack in May, 1904, to the convalescence from her cerebral hemorrhage in June, 1908. She made an excellent recovery.

### Medical Press and Circular, London

*March 26, XCV, No. 3855, pp. 321-348*

24 Intestinal Obstruction. J. E. Adams.
25 Location of Pus in Hand. A. A. McConnell.
26 Removal of Foreign Bodies from Cornea and Conjunctiva. C. H. May.
27 Syphilitic Disease of Bones and Joints in Children. O. L. Addison.
28 Spinal Analgesia—Development and Present Status of Method; with Brief Summary of 1,065 Cases. W. S. Bainbridge.

*April 2, No. 3856, pp. 349-374*

29 Extra-Uterine Pregnancy. H. R. Andrews.
30 Diagnosis, Prognosis and Treatment of Neurasthenia. J. S. R Russell.
31 Tabes Dorsalis Without Lymphocytosis. T. A. Williams.

*April 9, No. 3857, pp. 375-402*

32 Extra-Uterine Pregnancy. H. R. Andrews.
33 Early Diagnosis of General Paralysis. G. M. Robertson.
34 *Gonorrheal Vaginitis Treated by Vaccine. G. Fitzgibbon.
35 Treatment of Cancer by Colloid Copper. G. Herschell and R. J. Cowen

**34. Gonorrheal Vaginitis Treated by Vaccine.**—Of Fitzgibbon's six gonococcal vaginitis patients, three were children, one an adult with recent infection, probably of not more than four weeks' duration, and two were adults with chronic infection, which had existed for at least twelve months. Four of the cases cleared up uninterruptedly from the beginning of treatment, the other two improved but again relapsed; one of these finally became perfectly cured in so far as the absence of any sign of inflammation or discharge for a period of two months after cessation of treatment can be considered proof of cure. The sixth case became perfectly clear of inflammation and free from discharge for three weeks, but again relapsed and is still under treatment. Besides the treatment by vaccine inoculation, Fitzgibbon regularly carried out local treatment every second day in the early cases until there was a marked improvement as shown by the decrease of discharge and inflammation, and twice a week after that until cured, and he believes this is important and necessary—certainly in the chronic cases, as there is generally a condition due to mixed infection. In the case of children the infection may be, and often is, one of pure gonococci, and in these vaccine may be sufficient alone; but Fitzgibbon prefers to combine it with local treatment in the form of antiseptic swabbing and douching.

The local treatment he used in all cases was biniodid of mercury, 1:500 to 1:1,000, swabbed thoroughly through a Ferguson's speculum, or in the case of children douched through a speculum; and when there was erosion of the cervix the application of pure phenol. In one acute case in an adult he commenced by tamponading the vagina with iodoform gauze every second day for the first ten days, leaving the gauze in place for twenty-four to thirty hours. Fitzgibbon does not consider that the particular form of local treatment which he adopted has any special benefit in itself beyond promoting and maintaining a cleaner condition of the parts than would exist without it, and in being germicidal to other organisms which may be present in cases of mixed infection, but he thinks some local treatment on these lines should be regularly adopted.

### Annales de Gynécologie et d'Obstétrique, Paris

*March, XL, No. 3, pp. 129-192*

36 Histologic Study of Ovarian Pregnancy. (Les Grossesses ovariennes jeunes.) H. Paucot and A. Debeyre.
37 *Danger in a Future Pregnancy Another Argument in Favor of Nephrectomy for Unilateral Tuberculosis of the Kidney. A. Spire and A. Bœckel.
38 Roentgenotherapy of Uterine Fibroma. (Traitement des fibromyomes de l'utérus par les rayons x.) D. Chilaiditis and G. Stavrides.

**37. Nephrectomy from Obstetric Standpoint.**—Spire and Bœckel report experiences from their own practice and that of others showing that nephrectomy does not seem to affect the course of pregnancies later. Andrews has reported a case in which the woman passed through five pregnancies after nephrectomy, and Hartmann has reported 150 pregnancies in 115 women after nephrectomy with only three deaths; in two of the fatal cases the remaining kidney was known to have been diseased. In their three personal cases there was no trace of

albuminuria at any time during the pregnancy, delivery occurring without difficulty from twenty months to three years after the operation. Nephrectomy has been done in the course of a pregnancy in several cases without interrupting it. The fact that a pregnancy later is not interfered with by the absence of one kidney they regard as another argument in favor of operative treatment of unilateral renal tuberculosis. The pregnancy is almost certain to aggravate a renal tuberculous lesion, while the renal tuberculosis in turn has an injurious influence on the pregnancy. Lactation is contraindicated in case of renal tuberculosis while after nephrectomy there is nothing to prevent the mother nursing her babe.

### Archives Générales de Chirurgie, Paris

*March, VII, No. 3, pp. 257-384*

39 Treatment of Injury of the Venous Sinuses of the Skull. M. Auvray.
40 Modified Technic for Roux' Gastrojejuno-Esophagostomy. O. Uffreduzzi and J. Giordano.
41 Superficial Gangrene After Application of Lead Carbonate Salve. P. Mauclaire.

### Archives Générales de Médecine, Paris

*March, XCII, No. 3, pp. 197-288*

42 *Measurement and Charting of Curvature of the Spine. (Mesure et représentation des courbures dans les déviations de la colonne vertébrale.) Vital-Badin.
43 *Artificial Pneumothorax in Pulmonary Tuberculosis. (Le traitement de la tuberculose pulmonaire par la méthode de Forlanini.) E. Leuret.
44 *Respiration Exercises. (La méthode de l'exercice physiologique de respiration et les différentes variétés de gymnastique respiratoire.) G. Rosenthal.
45 *Treatment of Tuberculosis with Attenuated Tubercle Bacilli Treated with Sodium Fluorid. (Immunisation antituberculeuse.) G. Rappin.

**42. Measurement of Scoliosis.**—Badin gives an illustrated description of his "scoliosometer" and emphasizes the importance of the findings for estimation of the primary condition and progress of the curvature.

**43. Artificial Pneumothorax.**—Leuret describes the technic for induced pneumothorax and states that he has been systematically examining all his patients with pulmonary tuberculosis to discover those in whom it might be possible to induce the pneumothorax. He found only twelve in his eighty-six latest cases in which there was any possibility of applying the technic, and in the twelve favorable conditions were encountered in only three. He suggests that it might be wise to extend the application of the method to the chronic form of pulmonary tuberculosis when a severe acute exacerbation in one lung is causing great disturbance which might be temporarily arrested by compressing the lung in this way for a couple of months. His results with the method in general were such that he regards it as being far from suitable for a routine procedure, but in occasional cases it may prove effectual when otherwise the patients are doomed.

**44. Exercises in Breathing.**—Rosenthal emphasizes that the normal functioning of a machine wears it out less than when there is a screw loose or it is out of gear, and with a living machine there is not only the minimum of wear with normal functioning but the normal development of the organ is further promoted thereby. The respiration should be through the nose, ample, complete, rhythmical, and it may often be wise for the physician to give the patient a course of lessons in physiologic breathing, supplemented by general hygiene and means to strengthen the nervous system and harden the muscles and the skin. He has worked out a special system for respiratory exercises.

**45. Vaccination Against and Treatment of Tuberculosis.**—Rappin has reported a number of times on his method of treating and immunizing against tuberculosis by a vaccine made from attenuated tubercle bacilli deprived of their protecting envelop by treatment with sodium fluorid. He has been cultivating since 1894 the strain of bacilli he uses and this is his fourth report on the subject. His experimental research has been extremely encouraging, he says: guinea-pigs bore without harm above the fatal dose of tuberculin when it had been first mixed with his vaccine.

### Archives Internationales de Chirurgie, Ghent

*VI, No. 1, pp. 1-132. Last indexed Oct. 19, 1912, p. 1492*

46 *Horse-Shoe Kidney. C. Beyer Commenced in last volume.
47 An American Surgeon's Opinions of the Open or Operative Treatment of Closed Fractures J. B. Roberts.
48 *Histogenesis of Experimental Production of a Joint by Interposition of Foreign Body in a Fracture. (Histogenese della cavita articolari di neoformazione.) G. Bolognesi.

**46. Horse-Shoe Kidney.**—Beyer gives summaries of 264 cases he has found on record and discusses the possible disturbances from this anomaly and the best methods for diagnosis and correction. He emphasizes the importance of suspecting a horse-shoe kidney in all cases of abdominal tumors or urinary disturbances.

**48. Articulations Produced Experimentally in Fractured Bones.**—Bolognesi's article is accompanied by twelve plates showing the processes and tissues involved in the joint-like structure which is liable to develop between the stumps when a foreign body is introduced into a fracture.

### Archives des Maladies de l'App. Digestif, Paris

*March, VII, No. 3, pp. 121-180*

49 Influence of the Bile on Putrefaction in the Intestines. H. Roger.
50 Chronic Amebic Dysentery and its Treatment. G. Friedel.
51 Microscopic Examination of the Stools with the Polariscope. Wasserthal and Goiffon.
52 Comparison of Acute Colitis in Children and in Adults. A. Mathieu.

### Archives des Maladies du Cœur, etc., Paris

*April, VI, No. 4, pp. 225-304*

53 *The Diet in Cardiovascular Disease. (Du régime diététique dans les affections cardio-vasculaires.) H. Vaquez.
54 Causes of Flint's Murmur. (Pathogénie du souffle de Flint. (Insuffisance aortique et rétrécissement mitral relatif.) M. Carrieu and J. Anglada.
55 *Secondary Polycythemia and Heart Disease (Signification pronostique de la polycythémie secondaire dans les affections cardio-pulmonaires.) F. P. Weber.
56 Necessity for Identical Conditions in Comparing Blood-Pressure Findings (Des mensurations de pression dans les artères des membres inférieurs.) J. Heitz.

**53. The Diet in Cardiovascular Disease.**—Vaquez expatiates on the importance of modifying the diet to meet the indications in each case so as to relieve the system of all extra work and spare weak organs. We now are able to determine with precision the exact articles of food which can or cannot be eliminated with ease and those which the organism is unable to eliminate in certain conditions. We should not be guided by empiricism but by clinical observation and laboratory findings. The Karell diet is an example of empiric inaccuracy: By restricting the patient to milk alone and very little of that, we of course save the patient from the effects of ingestion of salt and of too much fluid and nitrogenous substances. The patients benefit by this but they suffer from the inadequate nourishment, and those who are able to take care of salt or fluids or nitrogenous substances, as the case may be, do not need this wholesale deprivation. He says it reminds him of Lauder Brunton's remark that physicians sometimes hide their inexperience behind a shotgun prescription thinking that the more substances they prescribe the better chance there is of some one of them answering the desired purpose. By reducing at the same time the intake of fluids, of sodium chlorid and of albumin, Karell and his imitators seem to apply this same principle. We should distinguish between the patients who need to have the intake of fluids reduced and those who are unfavorably affected by salt or by albumin. Vaquez adds in conclusion that those physicians who say that dieting in heart disease is nonsense, generally are blessed with unusually good stomachs themselves. By determining in each individual case the exact restrictions which it is necessary to impose and which can be avoided, the rest of us show evidence of a good heart at least.

**55. Secondary Polycythemia and Heart Disease.**—Weber reports eleven cases of polycythemia secondary to a cardio valvular affection. He regards it as a sign of serious conditions when it is accompanied by severe cyanosis. Prolonged rest in bed and small doses of potassium iodid, heart tonics, diuretics and expectorants, oxygen and venesection may prove useful.

### Archives de Médecine des Enfants, Paris

*April, XVI, No. 4, pp. 241-320*

57 The Blood and the Bone Marrow Changes in Infantile Scorbutus. (Hématologie et altérations ostéo-médullaires dans la maladie de Barlow.) P. Nobécourt, L. Tixier and Maillet.
58 *Acute Colitis in Children. V. Hutinel and P. Nobécourt. Commenced in No. 1.
59 Remineralization in Treatment of Pulmonary Tuberculosis in Children. (Traitement de la tuberculose pulmonaire de l'enfant par la méthode de Ferrier.) Galliot.

58. **Acute Colitis in Young Children.**—Hutinel and Nobécourt emphasize the importance of prophylaxis of intestinal derangement by general hygiene of the diet, avoiding abuse of eggs, milk and meat, treating constipation and stimulating the digestive glands and the liver and nutrition in general, regulating functioning of the nervous system, disinfecting the throat and keeping the children away from contact with others suffering from enteritis. They do not regard infection as the cause of acute colitis in young children but as the result. In treatment the aim should be to clean out the intestines and stomach and modify the mucosa. When the acetone odor of the breath, the constipation and fetid stools warn of the acute colitis, nothing but water should be allowed the child. The stomach and intestines should be cleared out by lavage and sodium sulphate should be given; from 5 to 15 gm. the first day and then from 1 to 5 gm. daily for a week. Castor oil may also be needed. Abdominal pain is relieved by moist heat or the ice bag or a small enema of one or two tablespoonfuls of water with from one to three drops of laudanum. To modify the mucosa, small hot enemas of silver nitrate at 0.2 per thousand or of ipecac, 1 or 2 gm. of powdered ipecac infused in 200 gm. of boiling water. Or the ipecac can be taken by the mouth in the dose of from 0.2 to 1 gm. infused in 100 or 200 gm. of sweetened water. A teaspoonful of this infusion is given every two hours until the stools grow more normal. The child should be allowed nothing but an occasional sip of ice water if there is much vomiting. If not, ordinary water or Heim and John's solution: 5 gm. sodium chlorid and 5 gm. bicarbonate to the liter of water. This restriction to water alone is maintained for from two to six days or more. Feeding is then commenced cautiously with rice water or barley water or a vegetable bouillon; then follow with tapioca or soft mashed potato or even chicken broth free from fat. Milk should be resumed later and very cautiously; it is better to give it cooked in a gruel than as milk. In severe cases buttermilk may be preferable. Not until recovery is complete should meat or eggs be allowed and then very cautiously, one egg yolk in a pudding. Colitis as a mere complication of an infectious disease and not due to errors in diet does not require such strict dieting. The digestion during convalescence should be stimulated with Vichy water which acts on the liver, pancreatin, or extract of bile or of the gastric juice, according to the individual conditions; epinephrin may be useful. Serotherapy is not required in this form of colitis. The symptoms with acute colitis show the multiple factors at work, the general infection, the intoxication from the abnormal products being generated in the intestine, the organic injuries resulting from this toxic action, the defective digestion and assimilation of the food, and possibly also anaphylaxis phenomena. The child must be carefully supervised afterward that chronic colitis may not become installed. Older children may develop a chronic mucomembranous colon affection, of primary inflammatory origin, the same as adults.

### Bulletins de la Société de Pédiatrie, Paris

*March, XV, No. 3, pp. 109-202*

60 *Sugar in Treatment of Uncontrollable Vomiting in Infants. (La modification du lait par l'hypersucrage—saccharose—dans les dyspepsies infantiles.) Variot, Lavialle and Rousselot.
61 *Treatment of Scoliosis from Malformation of Fifth Lumbar Vertebra. Nageotte-Wilbouchewitch.
62 *Infant Wards in Public Hospitals. (Rapport sur les améliorations à apporter au fonctionnement des crèches d'hôpital.) H. Triboulet.
63 *Abscesses in Pott's Disease. (La fréquence de l'abcès dans le mal de Pott dorsal.) C. Roederer and A. Weil.
64 Congenital Scoliosis. Lance.

60. **Sugar in Treatment of Uncontrollable Vomiting in Infants.**—Fifteen new cases are here added to the twenty previously reported confirming the prompt sedative action of much sweetened condensed or ordinary milk on the most tenacious and inveterate vomiting in young infants. Almost the only failure was in a child with congenital stenosis of the pylorus. The milk is heated and about 10 per cent. of sugar is added, to sweeten it about the same as condensed milk. The aspect of the casein in condensed milk and in this highly sweetened milk is entirely different from that of the casein of ordinary raw milk; the aspect is more like that of human milk. There is evidently, it is stated, some chemical action on the albuminoids of the milk from the large sugar content under the action of heat.

61. **Scoliosis.**—This author says that radiography has shown that scoliosis from malformation of the fifth lumbar vertebra can be corrected by raising the foot on the other side. The slanting of the pelvis induced by having the child wear something to raise one foot higher might do harm in older children. This emphasizes the importance of closer study of scoliosis in quite young children to permit proper measures for correction in time. The young and malleable vertebra yields to the action of the weight of the body when the foot is thus raised, gradually restoring the symmetry of the fifth vertebra or developing a compensating malformation in the fourth

62. **Infant Wards in Hospitals.**—Triboulet deplores the high mortality in the infants received into public hospitals, and insists on the necessity for putting an end to the present promiscuous environment. The infant ward should admit only infants with acute infectious disease or affections which cannot be treated elsewhere. No normal infants or subnormal and none with simple malnutrition should be admitted to the hospitals; they should be accommodated elsewhere. As infants are exceptionally susceptible to infection, they should be protected with special care against the numerous microbian contacts of the hospital environment, and hence isolation with the box system for each infant separately is absolutely indispensable. He thinks that there should be a nurse for each three infants in the ward, and pecuniary support should be given to the families who take their convalescent infants home early. The hospital infant ward should be only for cases requiring a brief stay.

63. **Abscesses in Pott's Disease.**—Roederer and Weil during the last two years have been systematically examining with the Roentgen rays every child with tuberculosis of the spine, and they have been surprised at the large proportion of cases in which shadows were found around the vertebral focus. In some, the Pott's disease was of long standing, in others of recent date, and in others merely suspected. They give several radiographs and call attention to the ease with which these abscesses can be detected by radioscopy before they induce any symptoms. These findings also emphasize the necessity for prolonged supervision after apparent healing of a vertebral process; with the present technic it is impossible to distinguish by radioscopy between incipient and florid abscesses or the cicatricial changes left after healing of an abscess in this region.

### Journal de Médecine de Bordeaux

*March 30, XLIII, No. 13, pp. 195-208*

65 *Tardy Recurrence of Uterine Cancer. A. Charrier and A. Parcelier.
66 Workmen's Compensation. (Les expertises en matière d'honoraires d'accidents du travail.) H. Verger and others.

*April 6, No. 14, pp. 209-224*

67 *Ipecac in Digestive Disturbances in Young Children. (Des remarquables effets de l'ipéca à toutes petites doses dans certains troubles digestifs tenaces de l'Enfance.) R. Saint-Philippe.
68 *Treatment of Postoperative Peritonitis. Colin.

65. **Recurring Cancer of the Uterine Cervix.**—In the case reported in a woman of 35 a typical cauliflower cancer of the cervix filled almost the entire vagina and immobilized the uterus. A palliative vaginal hysterectomy seemed to cure the patient entirely and she was free from all symptoms for nearly ten years when she succumbed to a recurrence. This case is cited as another illustration of how little we really know of cancer. We cannot explain why after extensive rad-

ical operations apparently eradicating the last trace of malignant disease, the patients die from recurrence within six or eight months, while in other cases a merely palliative intervention permits long years of survival. Theilhaber thinks that it may be possible to stimulate the defensive processes by the regeneration which follows venesection, and consequently he now as a routine procedure draws from 400 to 500 gm. of blood a week after every operation for cancer.

67. See the Paris Letter in THE JOURNAL, April 19, 1913, p. 1239. Also abstr. 58 above.

68. **Postoperative Peritonitis.**—Colin reports a case of this kind in which the two special dangers of peritonitis were particularly imminent, that from the toxic microbian secretions and that from the gastric auto-intoxication. He sought to attenuate the first by injecting 2 gm. of camphor every day into the peritoneum, in oil, striving to exert a kind of embalming action on the tissues. Camphor paralyzes the microorganisms and permits the phagocytes to attack them, no longer repulsed by the toxins secreted by the infecting agent. The camphor treatment was supplemented by very hot wet packs. He ascribes to the hot packs various phenomena of reflex vaso-dilatation, thus inducing hyperemia. To reenforce this action he made subcutaneous injections of sodium nucleinate which, according to Chantemesse, attracts leukocytes into the omentum. All these measures were supplemented by general tonic measures, injections of saline, etc., to promote diuresis and strengthen the heart. The gastric auto-intoxication was warded off by repeated lavage of the stomach. This relieved the patient immediately, arrested the pain, and put an end to the vomiting, thus arresting the violent contractions of the diaphragm which have such an injurious action on the intestines and spread the pus. He refrained on principle from morphin which paralyzes the omentum and reduces its bactericidal power and from ice which induces vasocontraction and checks the circulation in the region while leaving the lymphatics open for absorption. He declares that the lymphatics escape the action of vasoconstriction, their anatomy differing from that of the blood-vessels. One case is scarcely sufficient to base conclusions on, but his success in arresting the extremely severe diffuse peritonitis in this case in less than twenty-four hours he thinks is worthy of attention.

## Lyon Chirurgical, Lyons

*April, IX, No. 4, pp. 353-460*

69 *Treatment of Undescended Testicle. (Un procédé nouveau de cure radicale de l'ectopie testiculaire.) P. Gorse and Swynghedauw.
70 *Ligneous Tuberculosis of the Thyroid. (Tuberculose thyroidienne folliculaire à forme de thyroidite ligneuse.) L. Tixier and P. Savy.
71 Lesions in Stomach Walls Secondary to Perigastritis. (Les lésions du muscle gastrique consécutives aux perigastrites. Leurs rapports avec les troubles de la motricité stomacale.) L. Bériel and C. Gardère.
72 Fracture of the Malleolus. (La troisième malléole.—Fracture marginale postérieure.) E. Destot. Commenced in No. 3.
73 Nephrectomy for Polycystic Kidney. Cured to Date (4½ Years). L. Desgouttes and R. Olivier.
74 *Appendicitis from Helminths. C. Garin and A. Chalier.

69. **Treatment of Undescended Testicle.**—Gorse and Swynghedauw have applied in nine cases with most excellent results a radical method of correcting ectopic testicles which seems to be applicable in every case. They first incise the scrotum and introduce a large glass marble in case of children or a china egg for an adult, and suture the skin over it. This is worn for two months; by the end of this time the scrotum has been prepared so that the testicle when it is brought down into it will find a practically normal bed and will have no tendency to slide upward. The objection that the operation is done at two sittings with such a long interval is comparatively insignificant as the patients in these cases are generally children and the long interval is of little moment. They do not have to stay in bed, but of course have to keep quieter than usual while wearing the smooth foreign body.

70. **Ligneous Tuberculosis of the Thyroid.**—Tixier and Savy report a case and summarize four from the literature in which the thyroid became the seat of a follicular ligneous tuberculous process. The patients were three women and one man, all over 40, and a child of 2. The process developed in the course of a few months, afebrile, and causing functional disturbance interfering with the voice and breathing. In one of the cases there was severe pain radiating to the back of the neck; in another there was pronounced cachexia, but in the case reported in detail there was neither pain nor cachexia. The tumefaction is not considerable but the hard, solid consistency is striking; the tumor is adherent and is sometimes accompanied by enlargement of the submaxillary lymph-nodes. Cancer is generally suspected. With a syphilitic process in the thyroid there may be the same woody mass but the history of the case and other manifestations of syphilis, the benefit from mercurial treatment and the Wassermann reaction readily differentiate syphilitic thyroiditis. In the case reported the positive tuberculin reaction, enlarged lymph-nodes and suspected tuberculous affection of the apices served to confirm the diagnosis of tuberculosis although the tubercle bacilli have never been found in a case of this kind. The trouble seems to be primary and the prognosis unfavorable. Bruns' patient recovered after removal of the tumor, but Camara's succumbed to the progressive cachexia and in the case reported the patient seemed to be doing well after removal of the enlarged thyroid but dyspnea returned a few days later without known cause. A secondary tracheotomy tided her along for a time after the tracheotomy wound had healed, but there was still a little difficulty in breathing and she died suddenly in the night a few weeks later. Nothing was found to explain the fatality. The thyroid seems to be only rarely the seat of primary tuberculosis: Arnd was able to compile only forty-four cases from the literature, but our increasing knowledge in regard to "inflammatory tuberculosis" suggests that this occurs more often than hitherto deemed possible.

74. **Oxyuris Appendicitis.**—Garin and Chalier add another to the list of cases of chronic appendicitis from the presence of helminths inoculating the walls with virulent germs. They urge the pathogenic importance of helminths from this point of view, and the necessity for detecting their presence by examination of the stools in all cases of chronic abdominal trouble.

## Lyon Médical, Lyons

*March 30, XLV, No. 13, pp. 665-732*

75 Epilepsy in Course of Typhoid. F. Mouisset and L. Folliet.
76 Hour-Glass Stomach. (Les différentes forms de la bi'oculation gastrique et leur diagnostic radiologique.) Barjon.

*April 6, No. 14, pp. 733-776*

77 Correction of Deformity of the Nose. (Corrections des difformités du nez par opérations intra-nasales et inclusions prothétiques.) Garel and Gignoux.
78 Sero-Agglutination of the Pneumobacillus. M. Petzetakis.

## Presse Médicale, Paris

*April 2, XXI, No 27, pp. 261-272*

79 Technic for Salvarsan. (Injections intramusculaires huileuses d'arséno-benzol dans le traitement de la syphilis.) F. Balzer.
80 Importance of Salkowski and Kojo Urine Test for Diagnosis of Cancer. (Valeur clinique que le dosage de l'azote colloïde urinaire offre pour le diagnostic du cancer des viscères.) V. P. Semionow.
81 Congenital Stenosis of the Esophagus. Gnisez.

*April 5, No. 28, pp. 273-284*

82 Toxemia with Asystolia. Debove.
83 Restriction of Intake of Fluids in Management of Abnormally High Blood-Pressure. (Restriction des boissons dans la cure des hypertensions vasculaires.) A. Martinet and F. Heckel.
84 Stovain-Strychnin Spinal Anesthesia. (503 cas de rachianesthésie par la méthode du professeur Jonnesco.) Dimitriou and Saghinesco.

## Revue de Chirurgie, Paris

*March, XXXIII, No. 3, pp. 293-427*

85 *Cancer of the Tongue Under Age of 30. (Le cancer de la langue chez les jeunes sujets.) M. Gorse and Dupuich.
86 *Inflammatory Tuberculosis. (La tuberculose inflammatoire. Ses manifestations chirurgicales.) G. Cotte and H. Mamartine.
87 Occupational Aneurysm in File-Grinders. (Anévrisme professionnel de l'arcade palmaire superficielle.) J. Regnault and B.-Lacouture.
88 *Necessity for Avoiding "Dietetic Shock" in Operative Cases. (Recherches sur la nutrition des anesthésiés et des opérés.) E. Chauvin and S. N. Oeconomos.

85. **Cancer of the Tongue in the Young.**—The case is reported of an epithelioma of the tongue in a young soldier. Thirty cases are on record of cancer of the tongue in eight males and twenty-two females between the ages of 11 and 30. Irritation from the jagged edge of a tooth is an important factor confirmed by the location on the edge of the tongue. There was no suggestion of syphilis except mere suspicion in two cases. Recurrence is more liable in the young; only one case of long survival is known and of two years to date in another case.

86 **Inflammatory Tuberculosis.**—Cotte and Alamartine discuss the surgical aspect of tuberculous lesions of inflammatory nature without the specific lesions of tuberculosis. It is impossible to produce such attenuated lesions in experimental work as in this form of bacillosis in man. They discuss the involvement of the joints and bursae, bones and fibrous tissue, gastro-intestinal tract and genital organs. Any and all tissues are liable to be the seat of this inflammatory tuberculosis and entail defective development and modify the internal secretions. In nineteen patients with infantile genital organs, Hegar noted tuberculous antecedents in nine and acquired tuberculosis in two; Meyer found twenty-three with an inherited taint and nineteen with acquired tuberculosis in sixty cases of infantile genital organs, and Merletti found eighty cases with infantile uterus among 500 tuberculosis cadavers. The inflammatory tuberculosis may cause acute congestions or chronic changes of the sclerosis type or there may be neoplasm formations in which the absence of specific characteristics misleads as to their true nature. Until we are better posted on the subject, further research can be only along the lines of recording clinical coincidences: This alone reveals the true nature of the bacillosis in its most attenuated forms and atypical manifestations.

88. **The Dietetic Shock with Operations.**—Chauvin and Oeconomos report extensive research on the metabolism before, during and after general anesthesia which has confirmed the remarkable effect on the kidney functioning. The urine becomes pathologic in two directions; all the nitrogenous products become increased, evidently from exaggerated destruction of the albuminoid molecule, and, secondly, there is an almost constant and very pronounced acidosis manifested by the increase in ammonia, acetone, etc., pouring into the blood-stream quantities of toxic products. They call attention to the significant fact that these disturbances are observed whatever the anesthetic employed and whatever the mode of administration, inhalation, spinal anesthesia or local cocain anesthesia. The same disturbances are observed likewise after fasting when there has been no anesthesia nor operation. They have concluded that these disturbances are due in large measure to the restriction of the diet, preliminary to and following a major operation. Besides the operative shock and the shock of the anesthesia, we must reckon with the dietetic shock. The latter can be avoided, they state, and report experiences which show that the patients can be tided along past this phase by giving a simple and easily digested carbohydrate, such as glucose. They found most useful a mixture containing 150 gm. glucose, 6 gm. tincture of cinnamon, and 0.5 gm. tincture of nux vomica with water to make 300 gm. This mixture was taken the day before the operation and the three following days, and the urine showed none of the above pathologic changes.

### Revue de Gynécologie, Paris

*February, XX, No. 2, pp. 113-224*

89 Radiotherapy of Uterine Fibromas. A. Siredey.
90 Information to be Derived from the Urinary Apparatus as Guide to Operability of Cancer of the Uterus. H. Violet and J. Murod.
91 Intermittent Distention of the Inflamed Appendix; Eleven Cases. (De l'hydro-appendicitose.) L. Duroux.

### Semaine Médicale, Paris

*April 2, XXXIII, No. 14, pp. 157-168*

92 The Cerebrospinal Fluid in Meningeal Disease. (Que faut-il penser des prétendues erreurs de formule cytologique du liquide céphalorachidien dans les affections méningées?) E. E. Gaujoux

### Beiträge zur klinischen Chirurgie, Tübingen

*March, LXXXIII, No. 2, pp. 225-450*

93 *Experimental Production of Goiter. (Versuche über künstliche Kropferzeugung.) K. Blauel and A. Reich.
94 Tardy Hemorrhage with Appendicitis. Hauch.
95 Diverticulum in the Bladder. (Die radikale Behandlung angeborener Blasendivertikel.) J. M. van Dam.
96 Dermoids of the Floor of the Mouth. (Die Mundbodendermoide.) R. Hassel.
97 Dislocation of the Knee. (Luxationen im Kniegelenk.) W. Hering.
98 Hernia of the Ovaries and Tubes. (Ueber sog. eingeklemmte Hernien der Adnexe.) A. L. Matthey.
99 Functional and Anatomic Regeneration of Common Bile Duct After Intoduction of a T Tube. K. Propping.
100 The Clinical Picture of Fetal Chondrodystrophy. W. Jaroschy.
101 Successful Transpleural Resection of a Carcinoma in the Cardia. J. H. Zaaijer.
102 *Coasting and Ski Accidents. (Verletzungen beim Wintersport.) O. Bernhard.

93. **Experimental Production of Goiter.**—Blauel and Reich report extensive experimental research and review the literature, their conclusions harmonizing with those recently published from Wilms' clinic, obtained by a different method.

102. **Coasting Injuries.**—Bernhard reviews the experiences in the Engadine in the winters 1886-1913 with skating, coasting, ski jumping, etc. Each of these winter sports has a typical set of accidents to which it is liable. He says that the number of accidents is comparatively small, however, and their gravity is generally overrated. He describes the technics found most useful in treating the various types of fractures.

### Berliner klinische Wochenschrift

*March 31, L, No. 13, pp. 573-620*

103 Present Status of Treatment of Syphilis. (Die jetzigen Heilmittel der Syphilis und ihre Anwendung in der Praxis.) K. Touton.
104 Localization of Oxygen in Animal Tissues. (Tatsachen über die Reduktionsorte und Sauerstofforte des tierischen Gewebes.) P. G. Unna.
105 *Duodenal Ulcer in Infants. (Das Ulcus rotundum duodeni im ersten Lebensjahr.) W. Schmidt.
106 Surgery of the Spinal Cord. (Gegenwart und Zukunft der Rückenmarkschirurgie.) M. Rothmann. Commenced in No. 12.

105. **Duodenal Ulcer in Infants.**—Schmidt states that he found a duodenal ulcer in twenty infant cadavers out of 3,824 post-mortems in the last seven years. This represented 1.8 per cent. of the 1,109 child cadavers. The age ranged from five days to eleven months. In 2,715 necropsies of older persons he discovered only seventeen cases of duodenal ulcers, including two between 20 and 30; three between 30 and 40; four between 40 and 50, and four between 50 and 60, the other decades being represented by one each. This shows that duodenal ulcer is most prevalent during the first year of life. It was found in infants with rachitis, nephritis and other wasting diseases, including tuberculosis, and in malnutrition in general. In one case two ulcers were found; in one five, and in two instances three, evidently of different ages. In fourteen cases the duodenal ulcer caused absolutely no symptoms during life, and Morot recently stated that in 20 per cent. of his cases of duodenal ulcer in adults the lesion had caused no symptoms. In one child who had died of sepsis from extensive phlegmon of the trunk, the duodenal ulcer was found healed over.

### Centralblatt für die Grenzgebiete der Med. und Chir., Jena

*April, XVI, No. 4, pp. 425-510*

107 *Cerebral Syphilis. (Die operative Therapie des Lues des Centralnervensystems.) S. Schoenborn.
108 *Tuberculosis of the Stomach. (Die Tuberkulose des Magens.) D. G. Zesas.

107. **Cerebral Syphilis.**—Schoenborn has been able to find only fifty published articles on operative treatment of syphilitic lesions in the central nervous system, which he here reviews. Analysis of the various reports shows that circumscribed syphilitic changes in the brain and spinal cord are amenable to operative measures the same as inflammatory processes of other origin. The mortality is rather less, and the prospects for recovery are at least as good as with non-syphilitic processes. On suspicion of syphilis, specific treat-

ment should be instituted and a vigorous six-weeks course given before considering operative treatment unless there is pressing danger of blindness or a fatal outcome. The results of operative treatment compare very favorably with that with tumors of other kinds, but to date there is no statistical support for the assumption that operative treatment can accomplish more, on an average, than systematic therapeutic measures. There has been no material accumulated to date in regard to operative treatment of diffuse syphilitic processes, although Horsley has recommended it. Neither is there any evidence to date that operative treatment on the whole is more effectual than the usual antisyphilitic treatment. In the literature cited no case of complete recovery is recorded, either with syphilis of the brain or spinal cord. His compiled operative brain cases total thirty-four with a mortality of three, and of two in the nine operative cases of cord syphilis.

108. **Tuberculosis of the Stomach.**—Zesas analyzes 232 articles on this subject, and states that in the thirty-two operative cases recorded four were cured of the eight patients treated by resection, and eleven of the twenty treated by gastro-enterostomy, while all died of the four treated by pyloroplasties or gastrolysis. Gastro-enterostomy is thus shown to be superior to other operative measures in treatment of tuberculosis of the stomach, but the ultimate outcome depends naturally on the stage of the process. There should be no delay after the diagnosis is once certain. Spontaneous healing occurs very rarely but occasionally the stomach affection passes into a mild chronic stage; Margarucci and Hattute have reported survivals of fifteen and eight years. There are no pathognomonic symptoms, and the diagnosis is generally a necropsy surprise. Ordinary gastric ulcer is not rare with pulmonary tuberculosis, and true tuberculous gastric ulcers may be accompanied by hyperchlorhydria and hypersecretion. Hypochlorhydria is also frequent; in Ruge's case not only the clinical picture but the operation and the necropsy findings indicated cancer until the microscope brought the surprise that all the changes noted were of a tuberculous nature. As a rule, gastric cancer develops after forty while gastric tuberculosis generally affects younger persons. Another differential point is that with gastric cancer the pains are independent of the intake of food. Simmonds has reported a case in which both cancer and tuberculous ulcers were found in the dilated stomach. Others have reported tuberculous lesions in the stomach in syphilities.

### Deutsches Archiv für klinische Medizin, Leipsic

*CX, Nos. 1-2, pp. 1-188. Last indexed May 3, p. 1402*

109 Specific Gravity of the Urine in Various Diseases. (Ueber das spezifische Gewicht des Harns bei Krankheiten, seine Abhängigkeit vom Gesamttrockenrückstand und von einzelnen Bestandteilen des Harns.) L. Jacob.
110 Diaphragm Eventration. (Zur Eventratio diaphragmatica mit elektrokardiographischen Untersuchungen.) P. Baetge.
111 Hemolytic Jaundice. (Zur Frage des "Ictère hémolysinique" —Chauffard.) O. Roth.
112 *Importance of Calcium for the Growth. (Bedeutung des Calciums für das Wachstum.) F. H. McCrudden (New York).
113 Innervation of the Kidney. O. Renner.
114 The Sugar in the Blood during Fever. (Verhalten des Blutzuckers im Fieber.) H. Freund and F. Marchand.
115 *Karell's Method of Treating Cardiovascular Disturbance. (Wert der Karellkur zur Behandlung von Kreislaufstörungen). Wittich.
116 Influence of Ingestion of Food on the Metabolism. (Einfluss des Nahrungsaufnahme auf den Stoffwechsel.) F. G. Benedict (Boston).
117 Erroneous Conclusions from Some Recent Pharmacologic Studies of Digitalis Preparations. (Was bedeuten die neuen Befunde von Gottlieb und Ogawa über die Digitoxinresorption für die ärztliche Praxis.) Focke and R. Gottlieb.
118 The Functioning of the Congested Kidney. (Zur Kenntnis der Funktion der Stauungsniere.) W. Nonnenbruch.
119 Importance of the Antibodies in Tuberculosis. (Bedeutung der Antikörper bei der Tuberkulose.) J. Citron and J. Schürer.

112. Reviewed editorially in THE JOURNAL. See also Oct. 19, 1912, p. 1482.

115. **The Value of the Karell Diet in the Treatment in Circulatory Disturbances.**—Wittich discusses the value of the well-known Karell method of dieting in the different varieties of heart disease, on the basis of 100 carefully studied cases. In practically all forms of heart disease he finds a marked improvement in the subjective feeling of the patient. The only real contra-indication to its use is uremia or decided uremic symptoms. The best results are observed in cases of heart insufficiency due to simple chronic myocarditis. No medicine at all is required in these cases. The next most favorable group is that showing valvular lesions. Here medicines may sometimes be used as aids with advantage. The cases due to arteriosclerosis are somewhat less favorable, and those caused by nephritis least so, although even here the diet is of great value in conjunction with medical treatment. Where there is a tendency to uremia, the diet should contain little salt, but abundant fluid. The restriction of both fluid and salt is an essential factor in the Karell course. Diuresis is increased, salt elimination favored, dropsy and edema disappear, and in most cases the blood-pressure is decidedly reduced (The Karell method of dieting—the Karell "cure"—was described in THE JOURNAL, Feb. 17, 1912, p. 524. See also Abstr. 53 above.)

### Deutsche medizinische Wochenschrift, Berlin

*March 27, XXXIX, No. 13, pp. 585-632*

120 Talipes. (Behandlung des angeborenen Klumpfusses.) O. Vulpius.
121 Active Participation in the Circulation of the Blood by the Arteries. (Förderung des Blutstroms durch den Arterienpuls.) K. Hürthle.
122 Benefit from Intravenous Injection of Saturated Solution of Camphor in Treatment of Pneumonia, etc. (Wirkung gesättigter wässriger Kampferlösung.) H. Leo.
123 Serodiagnosis of Leprosy. (Serologische Untersuchungen bei Leprösen.) B. Möllers.
124 From the Seat of War. (Chirurgische Erfahrungen im Deutschen Roten Kreuz-Lazarett in Belgrad.) R. Mühsam, L. Schliep and Lotsch.
125 Emphysema. W. A. Freund.
126 Technic for Examination of the Urine. (Zur Harnanalyse.) E. Salkowski.
127 Roentgenoscopy of the Appendix Shows it Actively Movable. (Der Wurmfortsatz im Röntgenbilde.) M. Cohn.
128 The Physician and Medical Matters in Recent Novels and Plays. (Medizinisches und Mediziner in der neuesten Belletristik.) L. Finckh.

### Deutsche Zeitschrift für Chirurgie, Leipsic

*March, CXXI, Nos. 5-6, pp. 393-588*

129 *Perforated Gastric and Duodenal Ulcer. (Zur Klinik und Therapie des perforierten Magen- und Duodenalgeschwürs.) G. A. Wetterstrand.
130 Supplementary Ureters as Cause for Various Kidney Affections. (Ueber akzessorische Harnleiter.) A. Pawloff.
131 Appendix as Substitute for Bile Duct. (Möglichkeit eines Choledochusersatzes durch Einpflanzung des Processus vermiformis.) Molineus
132 The Superficial Nerves in relation to Technic for Local Anesthesia. (Anatomische Untersuchungen einiger für die Lokalanästhesie wichtiger Hautnerven bezüglich ihrer Durchtrittsstellen durch die Fascien.) F. Rost.
133 Hemorrhage in the Pancreas Knape.
134 Compressed-Air Apparatus for Pressure Massage, etc., in Hospitals. (Der Luftkompressor im Krankenhaus.) F. Kuhn.
135 *Bradycardia with Injury of the Liver. S. Rubaschow and H. Finsterer.
136 *Resection of Wrist Bones for Ischemic Contracture. (Eine neue Methode zur operativen Behandlung der ischämischen Kontraktur.) A. Horwitz.
137 Ascaridiasis of the Bile Passages Simulating Cholelithiasis in the Elderly; One Case; Eleven from the Literature. R. Rosenthal.
138 Hypernephroma in the Kidney. H. Harttung.

129. **Perforated Gastric or Duodenal Ulcer.**—Wetterstrand's patients were nearly all men; over 75 per cent. were saved by a prompt operation. The history of the cases showed ulcer symptoms in about 80 per cent. The behavior of the liver dulness is of great diagnostic importance as with air free in the abdominal cavity the area of dulness contracts or disappears. The total mortality, 45 per cent., is larger than with appendix peritonitis, but the prospect for a favorable outcome does not diminish so early as in appendicitis.

135. **Bradycardia from Injury of the Liver.**—Rubaschow declares that Finsterer's assertion that bradycardia is an important characteristic of injury of the liver is not correct, and his explanation of a bradycardia with liver injury as due to the action of the bile acids in the blood has not

received corroboration. Finsterer reaffirms the importance of the sign but insists that the bradycardia is only relative. A full, powerful and slow pulse should not be accepted as excluding internal hemorrhage from injury of the liver. This has occurred in several cases on record to the great detriment of the patient.

136. **Ischemic Contracture.**—Horwitz calls attention to the excellent results obtained in Bier's service by operative treatment, resection of the bones of the wrist, lengthening the flexor tendons if necessary. He advises not to waste time on massage and exercise before resorting to operative measures. The aim should be to operate before the muscles have become atrophied. The earlier it is done the less after-treatment is required.

### Medizinische Klinik, Berlin

*March 30, IX, No. 13, pp. 485-522 and Supplement*

139 *Tuberculosis in Children. (Ueber Tuberkulose des Kindesalter.) F. Hamburger.
140 Fracture of Elbow. (Diagnose und Therapie der Frakturen in der Nähe des Ellbogengelenks.) T. Vocekler.
141 Radium Emanations in Therapeutics. (Ueber die Aufnahme von Radiumemanation in das menschliche Blut bei der Inhalations- und Trinkkur.) H. Mache and E. Suess.
142 Alkali in Treatment of Albuminuria. W. Weiland.
143 *Sexual Neurasthenia. (Eine besondere sexuell Neurasthenie in reiferem Alter.) C. Hudovering.
144 Poisoning from "Hell-Oil" Nuts. (2 Fälle von schwerer Vergiftung durch Cureasnüsse.) A. Lippmann.
145 Radish Juice in Treatment of Gall-Stones. (Behandlung der Cholelithiasis mit Rettigsaft.) Grumme.
146 Technic for Cosmetic Operations and Treatment. (Die Technick der kosmetischen Encheiresen.) J. F. Kapp.

139. **Tuberculosis in Children.**—Hamburger insists that tuberculosis is an infectious process which accompanies civilized beings from childhood to the grave. Its resemblance to syphilis is striking; both have the primary lesion with enlargement of the glands in the vicinity, immunity to reinfection and, in striking contrast to this, the tendency to relapses. The resemblance is still more striking when we recall that in tuberculosis as well as in syphilis there are three well marked stages, a primary, a secondary and a tertiary stage. The tuberculous process in children is characterized by relative benignity. A large proportion of tuberculous lesions in children are recurrences, just as in syphilis; they show that the individual is incapable of rendering his bacilli innocuous. Measles displays a remarkable power in enhancing the predisposition to recurrence. This has been observed from the earliest days, attention having frequently been called to the epidemics of tuberculosis which have followed close on epidemics of measles. Every physician knows in his own experience of latent tuberculosis in some child which flared up into an acute form under the influence of trauma. In examining a child the possibility of tuberculosis should always be borne in mind. It is extremely frequent in children but it rarely occurs in the form of pulmonary tuberculosis; the latter may be regarded as the tertiary form of tuberculosis. It develops only in those who have harbored the tubercle bacilli for a long time, similarly to gumma in syphilis. The prognosis depends on whether the affection is primary or a recurrence, but above all on the age of the child at the time of the first infection. Fully 80 per cent. die of children infected before they are a year old, while only from 10 to 20 per cent. die of those in whom infection did not occur until the second year. The mortality continues to decline, dropping to 3 or 4 per cent. between 3 and 6 years, and after 6, to less than 1 per cent.; these figures refer to primary infection and not to recurrences. He advocates complete separation of young infants from the tuberculous; spit-cups will never alone ward off tuberculosis. Everything should also be avoided that would enhance the predisposition, especially measles and whooping-cough. When a child 2 or 3 years old develops phlyctenula, it must be protected with special care against measles and whooping-cough. In enhancing the resisting power to tuberculosis, ample nourishment is important but overfeeding is liable to do direct harm, the child frequently loses all appetite. In this case it often proves effectual to stop all food for a day or so; it is surprising to see how the appetite returns when all food is denied a child. In all cases of tuberculosis in children, treatment by general measures is the main thing; orthopedic measures are not enough alone. He is convinced that more harm than good has been done with tuberculin treatment of tuberculous children. Tuberculin treatment is still, he declares, in the tentative stage.

143. **Sexual Neurasthenia in Engaged Bachelors in the Forties.**—Hudovernig describes a form of psychoneurosis in men who had settled down into a bachelor existence with considerable business responsibilities but finally were making arrangements to get married and were worried for fear they were not going to be capable of fulfilling their conjugal duties. From worrying, it is merely a step to a neurotic phobia with psychic depression, loss of confidence in all the affairs of life, loss of appetite, palpitations, dizziness, vasomotor excitability, moderate tremor of the hands and exaggerated reflexes. The physical findings were negative except that the hemoglobin percentage was seldom over 70. The cure is soon complete as the physician convinces the patient of the psychic origin of his trouble. The previous history of the patient seems immaterial from the standpoint of the development of this neurosis.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*March 18, XXXIV, No. 33, pp. 345-352*

147 Herpes Zoster as Complication of Bronchitis or Pneumonia. C. Garmagnano.

*March 20, No. 34, pp. 353-360*

148 Modification of Panereatic Juice in Epinephrin Glycosuria. (Modificazioni della secrezione esterna pancreatica nelle glucosuria adrenalinica.) V. Paglione.

*March 23, No. 35, pp. 361-376*

149 Presence and Action of Sugar in the Organism. (Sul contegno e sull' azione degli zuccheri nell' organismo.) P. Albertoni.
150 Osteomyelitis. (Alcune rare forme di osteomielite.) M. Fasano.

*March 25, No. 36, pp. 377-384*

151 Hemostasis in Resection of Parenchymatous Organs. G. Caponetto.

### Policlinico, Rome

*March 30, XX, No. 13, pp. 437-472*

152 Influence of Radium on Blood-Pressure and Blood-Count. (Influenza del radium sulla formula ematologica e sulla pressione sanguigna.) G. Giacchi.

*March, Surgical Section No. 3, pp. 97-144*

153 Experimental and Clinical Study of Obstruction of Mesenteric Blood-Vessels. N. Leotta. Commenced in No. 2.
154 Two Cases of Multiple Peripheral Neurofibrosareomatosis. E. Magni.

### Riforma Medica, Naples

*March 22, XXIX, No. 12, pp. 309-336*

155 Permeability of Intestine Wall for Bacteria and the Protecting Action of the Omentum. A. Poddighe.

*March 29, No. 13, pp. 337-364*

156 The Adrenals. (Fisiopatologia delle capsule surrenali in rapporto al morbo di Addison ed alle sindromi surrenaliche.) C. Castellino. Commenced in No. 9.

### Semana Medica, Buenos Aires

*February 27, XX, No. 9, pp. 497-560*

157 Technic for Amputation of the Leg. (Amputacion osteoplastica de la pierna. Procedimiento di Bier modificado.) J. Caligiuri.
158 Echinococcus Disease of the Lung. (Quistes hidatidieos del pulmon.) J. P. Hemminges.
159 Heat and Life. (El calor y la vida.) D. Carbonel.
160 Tests for Invisible Writing. (Los metodos de Stockis para la revelacion de las escrituras secretas.) A. L. Marzo.
161 Hematuria. (Los hematuricos.) E. Perez-Grande.

*March 6, No. 10, pp. 561-620*

162 Septic Tanks and Disposal of Sewage in General. (Eliminacion de los residuos cloacales. Su depuracion biologica.) P. J. Pando.
163 Digestive Disturbances as Factor in Skin Diseases. (Subordinacion patogenica de las dermatoses a las dispepsias.) N. Rodriguez.
164 Tuberculosis of the Kidney. (Consideraciones sobre el tratamiento de la tuberculosis del riñon.) D. R. Molla.
165 The Functioning of the Brain (Actividad ecrebral.) D. Carbonel.
166 Abuse of Antiseptics in Treatment of the Eyes. (Sobre el empleo abusivo de ciertos medicamentos en terapeutica ocular.) S. Blanco.
167 Regeneration of the Blood in Anemia. (La regeneracion fisiologica de la sangre en las anemias.) J. C. Fillol.

# Miscellany

## The Care of Lepers in Hawaii

Until sixty years ago leprosy was unknown in the Hawaiian Islands. According to McCoy of the Public Health Service (*Public Health Reports*, April 18, 1913), the disease was at that time probably introduced by Chinese immigrants. For this reason the natives still call it "the Chinese disease." Its spread must have been rapid because four years later the board of health took measures to isolate the persons who were afflicted. This policy of segregation has been carried on ever since. Contrary to general opinion the lepers are not kept on a barren island far out in the ocean, nor is the colony controlled by guards to prevent escapes. On the contrary, the settlement is placed on a small peninsula about 9 miles square, jutting out from the northern side of the island of Molokai.

Molokai is a beautiful island and its leper settlement comprises only about one-fortieth of its total area. The lepers are satisfied to remain in the settlement and no guards are required. If any one should escape he would be apprehended and returned by the police of the island. The law requires that every case of leprosy be reported to the proper sanitary authorities by whomsoever may happen to have cognizance of it, whether physician or layman. Before the patient is sent to the Molokai settlement he is referred to the isolation hospital in Honolulu where he is given the benefit of at least six months' treatment. At the end of this time if improvement is noted treatment is continued. If there is no improvement he is sent to the settlement. At the discretion of the board of health the patient may be accompanied by a healthy adult, either wife, husband or parent. In many instances there are marriages among the lepers at the settlement.

Although this practice is condemned by some, McCoy is of the opinion that it is much better to allow it than to attempt to segregate the sexes. Whenever children are born of such unions they are at once removed to clean surroundings and cared for by the territory until they become self-supporting. At the settlement each family is provided with a house and some land. Besides this, ample rations, clothing, and medical attendance are furnished free. At present there are about 700 known lepers in the Hawaiian Islands. These are all either at the settlement or at the isolation hospital in Honolulu. It is believed, however, that there are many lepers at large unknown to the authorities. Leprosy is gradually dying out in the islands. This is not due to improved methods of treating it so much as to the fact that the native race, which is chiefly afflicted, is fast diminishing. There are now only about 36,000 native Hawaiians and about 2 per cent. of these have leprosy.

When compared with the results in the handling of other infectious diseases the success achieved with leprosy is not very flattering. This is due to many causes. Perhaps the fact that politics has necessarily entered somewhat into the situation is partly to blame; but the chief factors that interfere with the rapid extermination of leprosy are those which are inseparably bound up with the disease itself. Although it is known to be infectious, we do not know how the infection is carried. Although the period of incubation is not ascertained, we know that it is so long that early diagnosis is practically impossible. Many persons have the disease, probably in an infectious stage, before the signs are obvious which make their apprehension by the authorities possible. These are handicaps which render a quick solution of the problem impossible. Pending the acquisition of further knowledge concerning the natural history of the disease itself, it would seem that periodic examination of every one in the islands is the only way in which all cases can be surely detected during their incipiency.

**Propaganda for Reform in Italy.**—The question of regulation of the sale of patent medicines and proprietaries has recently been discussed in the Italian parliament, and the *Policlinico* quotes with approval from an article in the Venice lay paper, *Il Veneto*, which has taken an advanced stand in regard to the necessity for checking the fraudulent advertising of proprietaries. The article states that certain senators during the recent discussion called the attention of the government to the danger to the health and injury to the pocket of the public from the use of proprietary medicinal articles without the sanction of medical advice. Physicians have repeatedly protested against the exaggerated claims made for medical or specific specialties advertised directly to the public; but this is the first time that the echo of their protests has been heard in the halls of legislation. It is a sign of progress that the matter has now passed beyond the limits of medical journals and medical congresses; it shows that the government realizes the necessity for protecting the health of the public against the nefarious works of quacks. The presiding officer of the senate stated that he would use all his power to aid a reform which he thought would regulate the production and exploitation of fraudulent medical proprietaries. The article continued to the effect that medical advertising is becoming more and more exaggerated in the Italian press as a whole, promising miraculous cures, etc. This antihygienic and antisociologic commercialism should be attacked both by the medical profession and by the government. Various methods for controlling the sale of proprietaries are suggested and a vigorous effort is advocated to obtain restrictive legislation, while, on the other hand, it urges that every effort should be made to awaken and cultivate the hygienic conscience of the people. The article reviews what has been accomplished in other countries, and France is praised for its energetic action against the Maclaughlin electro-vigor belt company, which was compelled to pay damages of 30,000 francs to the representatives of the national French medical association. The sale of this electro-vigor belt has been forbidden in England, Germany and the United States, but it is still tolerated in Italy, where the proprietor can sell his goods without restriction. In conclusion the United States is lauded as the first to lead the way to protect the public against some of the evils of patent medicines, fraudulent labels, etc.

**Indirect Treatment of Gastric Ulcer.**—C. Alvarez (*Siglo Medico*, 1912, lix, 717) removed a tumor near the spine of a woman of 40 who had suffered for three years from a severe stomach affection rebellious to all medical measures. The tumor shelled out easily and at once all symptoms on the part of the stomach subsided and have not returned during the nearly fifteen years since. This experience suggested that the stomach trouble had been maintained by irritation from the nerves involved in the tumor, and that the manipulation and division of some of the nerve branches during the operation was responsible for the excellent effect of the operation. Alvarez experimented on the cadaver and on dogs, and here reports eight cases of stomach trouble or actual gastric ulcer, in which he put an end to the gastric disturbances by stretching the sympathetic in the region where he had removed the tumor in the case mentioned above. He exposed the interspaces between the sixth and ninth ribs and opened up the corresponding nerves. He then applied traction to those nerves, pulling on them from the periphery, with care not to injure the pleura, doing this on both sides. The result in the first case was the complete cure of the pain and vomiting from which the woman of 27 had suffered for three years with recurring hematemesis. Her stomach has been apparently entirely normal during the months since. The total acidity in this case before the operation had been 211 (normal 89); free hydrochloric acid 109 (normal 44); total chlorids 591 (normal 321). The findings in the other cases are also given in detail, all the patients showing marked improvement at once and all the gastric symptoms soon disappearing entirely. The gastric trouble seems to be kept up by a reflex, secondary hypersecretion of nervous origin; eliminating this, the reflex exaggeration of the secretion stops and the vicious circle is broken up. It is possible that stretching one nerve alone might answer the purpose, but his success with stretching the three pairs was so fine that he hesitates to modify the technic.

**The Control of Temperatures in the Pasteurization of Milk.**—In the pasteurization of milk it is desirable that no portion of the apparatus be overheated to such an extent as to scorch the milk. C. H. Kilbourne (*Am. Jour. Pub. Health*, March, 1913), suggests a method by which the temperature may be controlled in the pasteurizing apparatus and maintained at a uniform stage. He says that the usual method of applying heat to the pasteurizer is either to introduce the steam directly into the heating-chamber or to introduce it into the water which flows into the heating-chamber. In either case the chances are very great that some steam will strike the heating-surface before it has become condensed, and it will therefore cause some portions of the heating-surface to become superheated, which will impart a scorched taste to the whole body of milk, although the average temperature of the milk leaving the apparatus may be well below the pasteurizing temperature. It is desirable that the heating-surface with which the milk comes in contact shall never reach a temperature more than 15 degrees F. higher than that to which it is desired that the milk shall leave the apparatus. That temperature is 145 F., which means that the apparatus must not have a temperature higher than 160 F. One method of accomplishing this is to have a separate tank outside of the milk-heater filled with water, which is kept at a temperature of 160 F. by means of a thermostat placed in the pipe. This works all right when the milk is not forced too rapidly through the heater; in the latter case it drops rapidly below the desired 145 degrees after leaving the apparatus. Kilbourne's method of avoiding this is to attach a thermostat to the outlet pipe through which the hot milk leaves the heater, so arranged that it will control the flow of milk into the apparatus.

**The Bezoar as a Charm Against Disease.**—A charm against disease that may not be so well known as the buckeye or the potato for the prevention of rheumatism, or the madstone for the prevention of hydrophobia or the cure of snake-bite, is the bezoar. This is a mineral concretion which is found in the stomachs of herbivorous and ruminant quadrupeds and which sometimes has hair incorporated with it, when it is often called a hair-ball. As a rule bezoars have as a nucleus some indigestible substance taken into the stomach with the food; this nucleus gradually becomes coated with superphosphate of lime or ammonium or magnesium phosphate, in a similar manner to that by which some foreign substance in the oyster, becoming coated with calcium carbonate, is converted into a pearl. Bezoars which consisted entirely of mineral matter without the coating of hair were esteemed particularly in the Orient for their supposed medicinal virtues. The possession of a bezoar was believed to protect the owner against various diseases, and a bezoar was regarded as especially efficacious as an antidote to poisons, even the bites of venomous reptiles. Sometimes these charms were placed in costly settings and worn about the person, choice specimens commanding high prices, according to their size. A number of gold-mounted specimens have been preserved in the Court Museum at Vienna.—*Scientific American.*

**The Throat in Prophylaxis of Tuberculosis.**—Dr. Friedrich of Kiel has induced the association of German laryngologists to take steps to emphasize the importance of treatment of the upper respiratory tract and especially the larynx in combating tuberculosis. It is quite generally believed that tuberculosis of the larynx is incurable and that it occurs only in the latest stage of pulmonary tuberculosis when all treatment is hopeless. As a matter of fact, he says, laryngeal tuberculosis is curable in its early stages. It requires special local treatment, and if such treatment is not given promptly pain interferes with proper nourishment and the general health declines rapidly. Tuberculosis of the larynx is particularly infectious because of the frequent coughing and expectoration. Early and frequent examination of the larynx in all cases of pulmonary tuberculosis, and appropriate local treatment in positive cases are therefore very effective measures in limiting the spread of tuberculosis. He published an appeal on the subject in *Tuberculosis*, 1912, xi, 519.

# *Association News*

## THE MINNEAPOLIS SESSION

(*Continued from page 1459*)

### Local Committee on Arrangements

### (Concluded)

COMMITTEE ON SECTION MEETINGS

J. P. Sedgwick, Chairman. A. E. Johann, Secretary

COMMITTEE ON LADIES' ENTERTAINMENT

Mrs. W. A. Jones, Chm. Mrs. F. F. Wesbrook, Secretary

COMMITTEE ON ST. PAUL ENTERTAINMENT

J. W. Chamberlain, Chairman.

COMMITTEE ON FINANCE FOR ST. PAUL

F. W. Stumm, Chairman. C. E. Smith, Secretary.

### VICE-CHAIRMEN OF SECTION COMMITTEES

Practice of Medicine, J. E. Hynes.
Surgery, E. A. Moren.
Obstetrics, Gynecology and Abdominal Surgery, Ivar Sivertsen.
Ophthalmology, J. S. Macnie.
Laryngology, Otology and Rhinology, W. R. Murray.
Diseases of Children, M. Seham.
Pharmacology and Therapeutics, E. D. Brown.
Pathology and Physiology, F. H. Scott.
Stomatology, Jay N. Pike.
Nervous and Mental Diseases, A. S. Hamilton.
Dermatology, H. G. Irvine.
Preventive Medicine and Public Health, F. F. Wesbrook.
Genito-Urinary Diseases, H. A. Cohen.
Hospitals, L. B. Baldwin.
Orthopedic Surgery, E. S. Geist.

### MEETING OF NON-AFFILIATED ORGANIZATIONS

The American Academy of Medicine is to meet in Minneapolis June 13-15. The headquarters and meetings will be at the Hotel Leamington. The social session and banquet will be given at the same place on the evening of June 14. The general topic of the meeting will be "The Physical Basis of Crime," and several valuable papers are promised.

In connection with this meeting, the fourth annual conference of Western Medicine in Eastern Lands will be held Sunday afternoon, June 15, at 3 o'clock, in Westminster Church.

The American Association of Teachers of Diseases of Children will meet at the Commercial Club in the Hotel Radisson, Minneapolis, June 16. A morning session will be devoted to the reading of reports. In the afternoon, clinics will be given by local pediatrists, and the evening session will be devoted to the reading of papers. Further information may be obtained from Dr. J. P. Sedgwick, chairman of the Committee on Arrangements, Minneapolis.

### HOTELS AT MINNEAPOLIS

#### Desirability of Making Reservations at Once

The Subcommittee on Hotels for the Minneapolis session, submits the list of hotels on the opposite page.

Those who are particular about their accommodations should secure reservations at once. They can write direct to the hotels, or to Dr. S. Marx White, 1106 Donaldson Building, Minneapolis, Chairman of the Committee on Hotels, who will be pleased to give any assistance possible. In writing, one should state the scientific section of the Association preferred and as exactly as possible the lodgings desired, that is, the approximate price, whether with or without bath, and who will be in the party.

## TRANSPORTATION TO THE MEETING

### Rates for Round Trips to Minneapolis—Announcement of the Transportation Committee

The Committee on Transportation and Place of Session suggests that members consult the local ticket-agent in their home town for full information regarding rates, time limits, extensions and stop-over privileges preparatory to purchasing railway tickets for the Minneapolis meeting. The tariff schedules on file at every ticket-office will allow the local agent to quote rates from any point. In addition to this, with the assistance of the agent, a physician can plan for an additional trip either going or coming. Those who intend going to the Yellowstone Park, the Pacific Coast, Alaska or other points should arrange for tickets for the entire trip. These side trips, of course, may be arranged for from Minneapolis; but in most instances a better rate can be obtained if a complete itinerary is submitted to the local agent. The committee announces the following rates for the Minneapolis meeting:

The Transcontinental Association announces a fare via direct route from California common points to Minneapolis and St. Paul, of $75.70. Circuit fare, one way via Shasta route, or S. F. and P. S. S. Co. between San Francisco and Portland, or P. C. S. S. Co. between San Francisco and Seattle, $85.35 from San Francisco; from Los Angeles, $95.35.

From Bellingham, Everett, Spokane, Tacoma and Seattle, Wash., or Portland, Ore., to Minneapolis, $60. Inquiries should be made of your local ticket-agent for definite information concerning the date of sale and time-limit.

The Central Passenger Association advises the committee that summer tourist fares will be in effect at the time of the meeting in Minneapolis. These tickets are all of non-transferable form and will be on sale from June 1 to Sept. 30, 1913, with final return limit to reach original starting point not later than midnight of Oct. 31, 1913.

The Trunk Line Association has authorized the following rate of fare from points in its territory:

One and one-half first-class limited fare to trunk line western termini, plus summer excursion fares tendered therefrom for the round trip. Tickets to be sold to Minneapolis or St. Paul. Dates of sale, June 12, 13 and 14. Final return limit, tickets to be limited to reach original starting point, Oct. 31, 1913. Tickets to be sold going and returning by same route only. No validation of tickets for return passage will be required. Private or sleeping cars occupied by passengers in Minneapolis or St. Paul will be parked at a charge of $10 per car per day.

We are advised that special trains and special cars are being arranged for from various points.

J. RAWSON PENNINGTON, Chairman.

### Rival Routes Vying with One Another in Extension of Courtesies to the Profession

The railway lines between Chicago and Minneapolis are giving special attention to the question of transporting members to the meeting, and on some of the roads special trains, reserved for members and their friends, will be run. Railways from other points than Chicago will extend similar facilities to members in the East, South and Southwest.

### The President's Special

In honor of Dr. J. A. Witherspoon of Nashville, Tenn., President-Elect of the American Medical Association, a train to be known as the President's Special will be run from Nashville to Minneapolis. Three railways will cooperate in running this train and there will be a day's stop-over in Chicago.

The train will leave Nashville at 7:50 p. m., Sunday, June 15, and will be due in Chicago, via the Louisville and Nashville and Chicago and Eastern Illinois, Monday morning at 9:30. The train will leave over the Chicago, Milwaukee and St. Paul at 6:30 p. m., Monday, and will be due in Minneapolis at 7:45 Tuesday morning. Arrangements may be made to join this train by writing Dr. Perry Bromberg, secretary of the Tennessee State Medical Association, Nashville.

### Trains from the Southwest

Texas members have announced, after conference, that they will travel over the Rock Island to Kansas City, the

| Hotel, Section Headquarters and Street Address | No. of Rooms | Without Bath | | With Bath | |
|---|---|---|---|---|---|
| | | Single | Double | Single | Double |
| RADISSON—*General Headquarters*—Seventh St., bet. Nicollet and Hennepin | 320 | $1.50 | $2.50 | $2.50 to $5.00 | $4.00 to $7.00 |
| WEST—*Practice, Pathology, Dermatology, Hospitals,* and *Nervous*—Fifth St. and Hennepin Av | 375 | 1.50 to 3.00 | 2.50 to 4.00 | 2.00 to 4.00 | 3.50 to 6.00 |
| LEAMINGTON—*Surgery*—1013 Third Av., South | 600 | 1.50 | 2.50 | 2.50 to 5.00 | 5.00 to 7.00 |
| ANDREWS—*Obstetrics, Gynecology and Abdominal Surgery*—Fourth and Hennepin | 200 | ..... | ..... | 1.50 to 3.00 | 2.50 to 4.00 |
| DYCKMAN—*Ophthalmology*—Sixth St., bet. Nicollet and Hennepin | 200 | ..... | ..... | 2.00 to 4.00 | 4.00 to 6.00 |
| PLAZA—*Laryngology, Otology and Rhinology*—1700 Hennepin Av | 100 | ..... | ..... | 3.00 to 5.00 | 5.00 to 7.00 |
| MAJESTIC—*Pharmacology and Therapeutics,* and *Diseases of Children*—Seventh and Hennepin | 100 | 1.00 to 2.00 | 1.50 to 2.50 | 1.50 to 3.00 | 2.50 to 4.00 |
| NICOLLET—*Stomatology*—Washington, Hennepin and Nicollet Avs | 150 | 1.00 to 1.50 | 2.00 to 2.50 | 2.00 to 2.50 | 3.00 to 3.50 |
| ROGERS—*Preventive Medicine and Public Health*—27 Fourth St., South, corner of Nicollet | 150 | 1.00 to 1.50 | 2.00 to 2.50 | 2.00 to 3.50 | 3.00 to 5.00 |
| VENDOME—*Genito-Urinary Diseases*—19 Fourth St., South | 200 | 1.00 to 2.00 | 2.00 to 3.00 | 2.50 to 3.00 | 3.50 to 4.00 |
| ST. PAUL (in St. Paul)—*Orthopedic Surgery*—Fifth and St. Peter Sts. | 360 | ..... | ..... | 2.50 to 5.00 | 4.00 to 7.00 |
| OTHER HOTELS IN MINNEAPOLIS | | | | | |
| ALLEN—200 Third St., South, corner of Second Av | 65 | 1.00 to 1.50 | 2.00 to 2.50 | 2.00 | 3.00 |
| CAMFIELD—First Av., South, and Eighth St | 50 | 1.00 | 1.50 | 2.00 | 3.00 |
| CLINTON—Fourth Av., South, and Grant St | 65 | 2.00 | 3.50 | | |
| ELGIN—Hennepin Av. and Eighth St | 150 | 1.00 | 1.50 | 1.50 to 2.00 | 2.00 to 3.00 |
| HAMPSHIRE ARMS—Fourth Av., South, and Ninth St | 300 | 1.00 | 1.50 | 2.00 | 3.00 |
| HASTINGS—Twelfth St. and Hawthorne Av | 127 | ..... | ..... | 1.50 to 2.00 | 2.00 to 3.00 |
| MARYLAND—Grant St. and Vine Pl | 200 | ..... | ..... | 1.50 to 2.50 | 2.50 to 4.00 |
| NATIONAL—Second Av., South, and Washington | 200 | 1.00 to 1.50 | 2.00 to 3.00 | 1.50 to 3.00 | 3.00 to 5.00 |
| REVERE—316 Second Av., South | 100 | 1.00 to 1.50 | 2.00 to 2.50 | 2.00 | 3.00 |
| ROSSLYN—707 Summit Av | 70 | ..... | ..... | 1.00 to 1.50 | 2.50 to 4.00 |
| WILLISTON—500 Tenth St., South, corner of Fifth | 50 | 1.00 | 1.50 | 2.00 | 2.50 |
| ST. PAUL HOTELS | | | | | |
| ABERDEEN—Dayton and Virginia | 200 | ..... | ..... | 1.50 to 3.00 | 3.00 to 5.00 |
| FREDERICK—Fifth and Cedar Sts | 100 | 1.00 | 2.00 | 1.50 to 3.00 | 2.50 to 4.00 |
| RYAN—Robert St. | 300 | 1.00 to 1.50 | 2.50 to 4.00 | 2.00 to 4.00 | 3.00 to 6.00 |
| WILLARD—Tenth and St. Peter Sts | 200 | .75 | 1.25 | 2.00 to 4.00 | 3.00 to 6.00 |

Burlington from Kansas City to Council Bluffs, and then by the Northwestern.

The Missouri Valley and Southwest Special will run over the Chicago Great Western from Kansas City, leaving on the afternoon of Sunday, June 15, due in Minneapolis at 8:05 a. m. Monday, in order to give delegates time to get located in Minneapolis and attend the sessions of the House of Delegates and other special meetings which are to be held prior to the opening meeting of the Association on Tuesday. Reservations on this train, which will carry a number of delegations, may be made by addressing Dr. Charles Wood Fassett, St. Joseph, Mo.

### The Burlington's American Medical Special

The Burlington has arranged for an American Medical Special train, which will leave Chicago from the Union Station at 8:30 p. m., Monday, June 16, and will arrive in Minneapolis the following morning at 9 o'clock. This handsome train will carry the most modern equipment, including one of those thoroughly comfortable lounge cars, containing library, writing-desks, club-room for men, observation-room for women and a veranda sun-parlor entirely enclosed in glass.

The Burlington Route between Chicago and Minneapolis has been called for twenty years or more the Mississippi river scenic line. For almost the entire distance from Savanna, Ill., north, the rails are in sight of the majestic "Father of Waters," with a broad island-dotted expanse on the one hand and bluffs on the other. From Prairie du Chien to Lake Pepin, every reach and turn in the river presents to the eye magnificent scenes of grandeur and beauty. These scenes and the charm of Lake Pepin, along whose shores the American Medical Special passes for 30 miles, are alone enough to make the Burlington Route the choice of a great many. In addition, every mile is replete with historic and legendary interest.

A beautifully illustrated booklet, prepared exclusively for the American Medical Association, has been issued by the Burlington Railroad. This booklet gives information as to the route, rates, side-trips and hotels and a copy will be mailed on application. Reservations and other information may be obtained of A. J. Puhl, General Agent, Passenger Department, Burlington Route, 141 South Clark Street, Chicago.

### Chicago Medical Society Special on the Chicago, Milwaukee and St. Paul

The Chicago Medical Society Special will leave the Union Station, Chicago, at 9:30 p. m., Monday, June 16, and will run by way of the Chicago, Milwaukee and St. Paul Railway. There is no return special. The train will consist of electrically lighted standard and compartment sleeping-cars, buffet-observation car and dining-car in which breakfast will be served while traversing the west bank of the beautiful Mississippi River from LaCrosse to Minneapolis, a distance of 140 miles.

The Chicago, Milwaukee and St. Paul Railway announces that it owns and operates all of its equipment, including sleeping-cars with berths that are "longer, higher and wider," and that nothing will be left undone to make the journey to Minneapolis a thoroughly enjoyable one. Sleeping-car reservations should be made as early as possible of C. N. Souther, General Agent Passenger Department, Chicago, Milwaukee and St. Paul Railway, 315 Marquette Building, Chicago, who will assign the space and confirm the reservation by letter.

### Stop-Over Privileges at Rochester, Minn., or the Chicago Great Western

The Chicago Great Western announces that it is the only road by which one may pass through Rochester, Minn., the home of St. Mary's Hospital and the Mayos, without paying additional fare. Tickets between Chicago, Kansas City, St. Joseph, Des Moines and St. Paul and Minneapolis are good either direct or via Rochester at the passenger's option. Sleeping-cars are operated daily between Chicago and Rochester, as well as by the direct line between Chicago and Minneapolis. Convention tickets permit stop-over.

Four years ago a consultation was held over a badly run-down patient. Some of the foremost doctors in the country were called in, chief among whom was the late J. Pierpont Morgan. The consultation was held in New York, the patient being the Chicago Great Western Railway.

The normal function of the Great Western was the hauling of passengers and freight. As it was needed in constant service no "rest cure" was feasible. The railroad doctors therefore prescribed an abundant money chest to be drawn on freely in procuring new rolling-stock, bridges, terminals, automatic safety signals, new track and ballast—in fine, to build practically a new body. It is doubtful if ever there was a case on record in which the diagnosis was more accurate and certainly there has never been recorded a case in which the recovery was more rapid and complete.

To-day the Chicago Great Western is looked on as a strong line and a perfect artery for travel.

### The Northwestern Line

The trains of the Northwestern leave from the new passenger terminal, which is one of the finest monuments ever erected to the commercial life and spirit of the West. The rails are heavy and the track straight, so that an excellent night's rest can be taken before the passenger awakes in Wisconsin. The morning ride is through a charming open country, leading to St. Paul, which is built on the bank of the Mississippi River, on a series of imposing hills, almost directly opposite Minneapolis. In addition to its commercial activities it can boast of a beautiful location, delightful climate, numerous points of historical interest and an unending list of summer attractions. The Indian Mounds, the Fish Hatchery, Fort Snelling, Como Park, Minnehaha Falls and the State Capitol Building are all well within the city limits, and Lake Minnetonka and White Bear Lake are close at hand.

The Northwestern Line is splendidly equipped and handles a heavy traffic expeditiously.

It will be seen from the foregoing that railway facilities to Minneapolis are of the first order, and each of these railways will undoubtedly be used by members attending the annual meeting. The fare from Chicago to Minneapolis and return will be $16, double lower berth $2, section (double lower and upper) $3.60, compartment $5 and drawing-room $7.

---

## OUTSIDE EXCURSIONS

Many physicians and their families, attending the Minneapolis meeting, will wish to extend their annual holiday by way of excursions to the great sight-seeing regions of the Northwest.

A special committee on arrangements, appointed for this purpose, has planned several notable trips which are offered, at summer tourists' rates, to their guests.

On previous pages of this issue are some views of the scenes on these trips.

### The Yellowstone National Park

Parties will go by two special trains on a twelve days' excursion to the Yellowstone National Park, June 20 and 21. The Northern Pacific Railway will furnish these trains, and it promises something in the way of dining-car service that cannot be equaled anywhere in the country. It is an unusually interesting fact that the Northern Pacific owns and manages its own poultry and dairy farms, maintains its own bake-shops, and prepares all its meats in its own shops. The line has become famous as the "Big Baked Potato Route."

Dr. H. H. Kimball of Minneapolis, Chairman of the Excursion Committee, will make his third tour of the park with one of the special parties, and his committee is making every arrangement for the comfort and pleasure of the party. Both the Northern Pacific Railway and the Yellowstone Park Hotel Company will have many special features for this entertainment. This is not a trip that entails any hardships. The entire tour of the park is made in large comfortable Concord

coaches, and there is no horseback riding to do unless one is looking for that sort of travel. The highest altitude reached is a little over eight thousand feet, so that there is no danger in advising the most delicate persons to make the trip.

The Chicago party will occupy two special sleepers of their own. Reservations from other points scattered from Missouri River points to the Atlantic coast have now taken about all of two other cars, and judging from inquiries that are coming in to the Excursion Committee, all of the space on the two special trains already arranged for, will be taken by the date of the opening of the meeting.

### The Rainy Lake Country

Another possible trip to northern Minnesota extends to the beautiful Rainy Lake country. Minneapolis physicians who own islands at Rainy Lake, which lies on the international boundary line, will entertain friends at their summer home.

### Glacier National Park

Still another excursion for rest and recreation will be made to the wonderful Glacier National Park. This "personally conducted tour" through Glacier National Park will leave Minneapolis at 11:15 p. m., Friday, June 20, consuming eleven days for the round trip, eight and a quarter of which will be spent in viewing the wonders of Glacier National Park, while the balance of the time will be occupied *en route* through the famous farming and grazing regions of Minnesota, North Dakota and Montana.

Arriving at Glacier Park Station (eastern entrance) at 7:33 a. m. the second morning, breakfast will be taken at the new Glacier Park Hotel, erected at an expense of $100,000, and automobiles will be taken at 10 a. m. for St. Mary's Camp, 32 miles north. The trip from here will be via stage, launch and saddle-horses to the various camps in the interior of the park. These camps, of which there are eight, are built on the Swiss chalet plan and the sites are selected on account of their convenience and beauty.

In addition to the main tour, another has been arranged to accommodate those guests who do not desire to use saddle-horses.

While the Great Northern Railway dining-car service arranged is à la carte, the cost of the trips, on the all-expense plan, will be per capita $105, on the basis of $1 per meal on the diner. Members going to the Pacific Coast or to Alaska can stop over at Glacier Park Station and make this trip at a cost of $48, which includes all hotel and transportation expenses in the park.

A special illustrated itinerary has been printed and will be sent anyone on application to Dr. H. H. Kimball, chairman Excursion Committee. Reservations should be made as early as possible.

For those who desire to extend the trips from the Yellowstone National Park or the Glacier National Park to farther points, special opportunities will be given for excursions to the Colorado Rockies, to the Canadian Rockies, to California and the Puget Sound country, and on to Alaska for a twelve days' cruise by way of the Inland Passage, including visits to some interesting Indian and Eskimo villages and to some of the finest of the Alaskan glaciers.

### Alaska—Along the Shores and Beyond

From Seattle there are two lines of excursion steamers. Stops *en route* to Skaguay are made at all of the interesting ports, Prince Rupert, Ketchikan, Metlakahtla, Wrangell, Juneau, the great Treadwell gold mine, Sitka, and the glaciers, including Taku, now the most beautiful glacier along the shores of Alaska. The steamers contain two-berth rooms, and serve excellent meals. All of the steamers except the *Spokane* permit their passengers to stop off at Skaguay.

To form an idea of the inland voyage to Skaguay, one should imagine sailing up a river from a half to six miles in width for a thousand miles. The shores are lined with towering snow-capped mountains, verdure-clad below their summits down to the water's edge, and down their sides innumerable cascades rush tumultuously seaward. Countless islands are scattered throughout the course; here and there are glittering mammoth glaciers, and interesting Indian villages with their quaint totem poles. Yet as wonderful as is this voyage it is but a prelude to a trip of still greater scenic grandeur and interest from Skaguay to White Horse and Atlin, or down the great Yukon River to Dawson. Skaguay, the end of the voyage north, is the gateway to the fascinating interior, a land of flowers and sunshine, of delightful summers and indescribable grandeur—the Land of the Midnight Sun. An interesting trip is from Skaguay by rail via the White Pass and Yukon Route through the mountains to White Horse on the Yukon River, 110 miles from Skaguay. Nowhere can there be seen more awe-inspiring scenery than along this pioneer railway of Alaska. As one sits in comfort in the cars one can look down hundreds of feet below and see the old trail over which the gold-seekers in '97 and '98 were wearily toiling with packs on their backs to reach the summit of White Pass and then Lake Bennett.

On this trip one travels over the ground made memorable by that mad rush to the Klondike. There is Dead Horse Gulch, the once dreaded White Pass, Log Cabin, Miles Canyon, White Horse Rapids, and many other historic places.

Returning from White Horse the steamer awaits the passenger at Caribou (68 miles from Skaguay) that will carry him a distance of 80 miles through a chain of wondrously beautiful mountain-girt lakes to Atlan, described by a famous traveler as "the beauty spot of the world." At the head of Lake Atlin is the great Llewellyn Glacier, covering an area of 60 by 100 miles, said to be the largest glacier in the world outside of the polar regions.

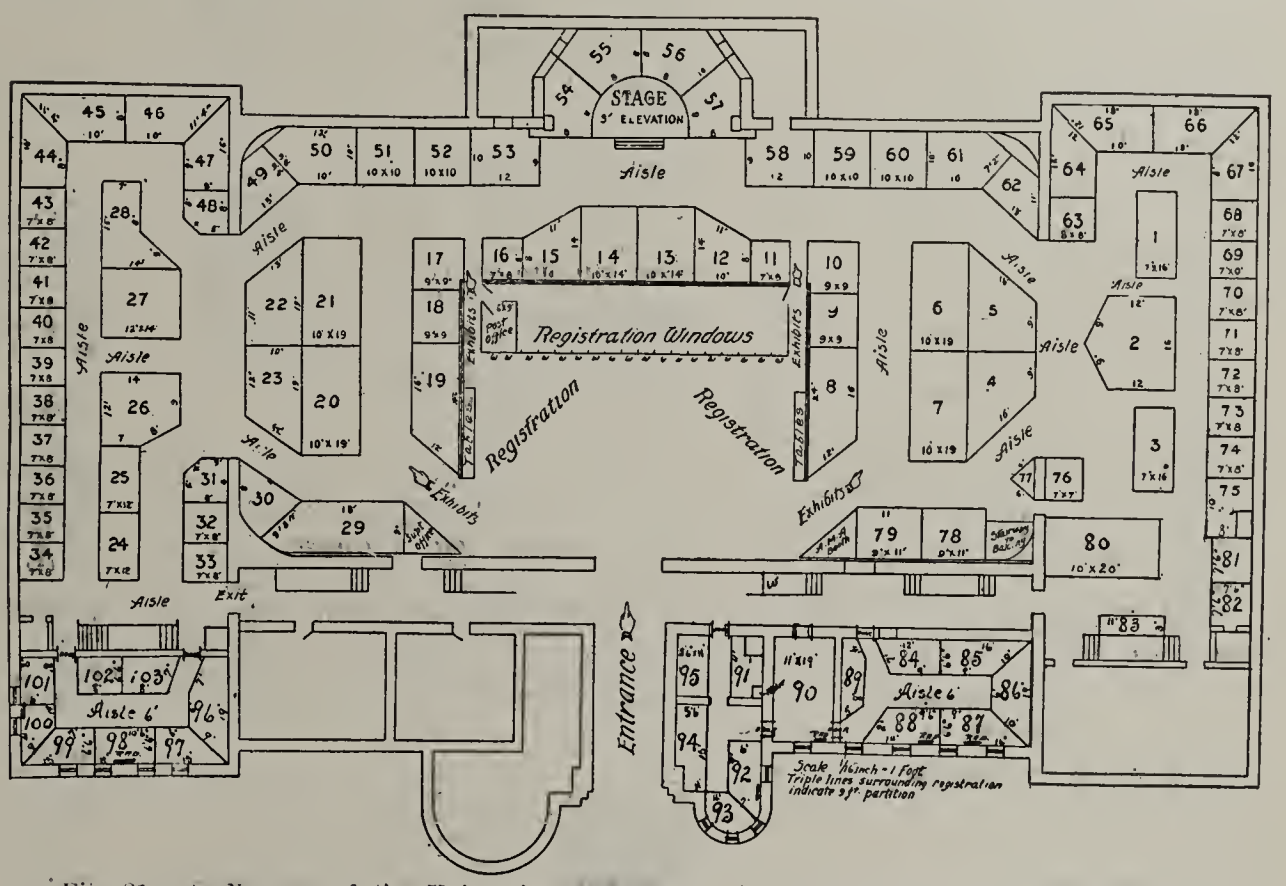



Fig. 21.—A diagram of the University Armory, showing the Registration Department and the Commercial Exhibit.

# THE COMMERCIAL EXHIBIT

## Books, Instruments, Surgical Appliances, Foods, Drugs, Furniture, Etc., to be Shown at Minneapolis

It is the aim to make the Commercial Exhibit each year of educational value to physicians rather than a mere trade show. The articles to be displayed this year have been carefully selected so as to carry out this conception of what the exhibit should be. It is of importance that the physician should keep posted on the newer medicinal, biologic and therapeutic products and the newer instruments, books, appliances and methods. The annual exhibit at the session of the American Medical Association affords the busy man an opportunity to accomplish this with the least expenditure of time. Enterprising manufacturers and publishers keep abreast of the new discoveries in medicine and surgery, to the advantage of the physician; and it is to the mutual advantage of the physician and the exhibitor that attention should be given to the displays at the annual meeting.

Following we give a list of the exhibitors and then a series of brief notices concerning those firms from whom we have been able to secure a statement for the purpose.

On the preceding page is a diagram showing the location of spaces in the Exhibit Hall.

### Exhibitors


| | Space |
|---|---|
| Allison Co., W. D.—Indianapolis | 52 |
| Ambulatory Pneu. Spl. Mfg. Co.—Chicago | 76 |
| Anatomik Footwear Co.—New York City | 3 |
| Apollinaris Agency Co.—New York City | 34 |
| Appleton & Co., D.—New York City | 79 |
| Arlington Chemical Co.—Yonkers, N. Y. | 57 |
| Bass Islands Vineyards Co.—Sandusky, Ohio | 99 |
| Bausch & Lomb Opt. Co.—Rochester, N. Y. | 37-38 |
| Betz Co., Frank S.—Chicago | 21-22 |
| Blakiston's Son & Co., P.—Philadelphia | 78 |
| Bolen Mfg. Co.—Omaha, Neb. | 82 |
| Borcherdt Malt Extract Co.—Chicago | 88 |
| Brady & Co., Geo. W.—Chicago | 92 |
| Burroughs Wellcome & Co.—New York City. | 14 |
| Buzzell-Flanders Co.—Boston | 103 |
| Campbell Electric Co.—Lynn, Mass. | 56 |
| Carnes Artif. Limb Co.—Kansas City, Mo. | 59 |
| Castle Co., Wilmot—Rochester, N. Y. | 51 |
| Chicago Medical Book Co.—Chicago | 19 |
| Clark & Roberts Co.—Indianapolis | 47 |
| Cleveland Press.—Chicago | 77 |
| Comfort Spring Cot Co.—Chicago | 84 |
| Davis Co., F. A.—Philadelphia | 11 |
| Deimel Linen Mesh System Co.—New York | 13 |
| De Vilbiss Mfg. Co.—Toledo, Ohio | 69 |
| Der Kurdirector Bad Nauheim—Germany | 81 |
| DeZeng-Standard Co., The.—Camden, N. J. | 62 |
| Draeger Oxy. Apparatus Co.—Pittsburgh | 89 |
| Electro-Surg. Inst. Co.—Rochester, N. Y. | 60 |
| Fairchild Bros. & Foster.—New York City | 58 |
| Forbes Dry Plate Co.—Rochester, N. Y. | 40 |
| Funk & Wagnalls Co.—New York City | 96 |
| Geneva Optical Co.—Chicago | 98 |
| Greeley Laboratories, Inc.—New York City | 97 |
| Hardy & Co., F. A.—Chicago | 27-28 |
| Horlick's Malt. Milk Co.—Racine, Wis. | 49-50 |
| Jaeckh Mfg. Co.—Cincinnati | 33 |
| Johnson & Co., Mead.—Jersey City, N. J. | 44 |
| Lea & Febiger.—Philadelphia | 20 |
| Leitz, Ernst—New York City | 12 |
| Life Saving Devices Co.—Chicago | 86-87 |
| Lippincott Co., J. B.—Philadelphia | 8 |
| Macalaster, Wiggin Co.—Boston | 48 |
| Medical Protective Co.—Fort Wayne, Ind. | 83 |
| Mellin's Food Co.—Boston | 26 |
| Meyer Co., Wm.—Chicago | 73-74-75 |
| Meyrowitz, Inc., E. B.—New York City | 61 |
| Miller Rubber Co., The.—Akron, Ohio | 35-36 |
| Minneapolis Bedding Co.—Minneapolis | 67 |
| Mosby Medical Book & Pub. Co.—St. Louis | 25 |
| Mueller & Co., V.—Chicago | 29-30 |
| Mulford Co., H. K.—Philadelphia | 45-46 |
| Myers-Dillon Drug Co.—Omaha, Neb. | 66 |
| National Pathological Lab.—Chicago | 30 |
| Noyes Bros. & Cutler.—St. Paul, Minn. | 90-94 |
| Pulvola Chemical Co.—Jersey City, N. J. | 70 |
| Rebman Company.—New York City | 68 |
| Roessler & Hasslacher Chem. Co.—N. Y. C. | 91-95 |
| Saunders Co., W. B.—Philadelphia | 4-7 |
| Scanlan-Morris Co.—Madison, Wis. | 41-42-43 |
| Scheidel-Western X-Ray Coil Co.—Chicago | 2 |
| Searle & Co., G. D.—Chicago | 31 |
| Sischo & Beard.—St. Paul, Minn. | 32 |
| Smith, Kline & French Co.—Philadelphia | 24 |
| South. Asep. Cotton Co.—Chattanooga | 100-101 |
| Spirella Co., Inc., The.—Meadville, Pa. | 17-18 |
| Squibb & Sons, E. R.—New York City | 80 |
| Taylor Instrument Co.—Rochester, N. Y. | 5-6 |
| Teter Mfg. Co.—Cleveland, Ohio | 71 |
| Victor Electric Co.—Chicago | 1, 63, 64-65 |
| Wampole & Co., H. K.—Philadelphia | 53 |
| Wappler Electric Mfg. Co.—New York City | 9-10 |
| Waterman Waterbury Co., The.—Minneapolis | 72 |
| Welch Grape Juice Co.—Westfield, N. Y. | 15-16 |
| Wilson Co., The H. W.—Minneapolis | |
| Wilson & Wilson.—Boston | 85 |
| Winkley Artif. Limb Co.—Minneapolis | 54-55 |
| Wood & Co., Wm.—New York City | 23 |
| Year Book Publishers.—Chicago | 39 |

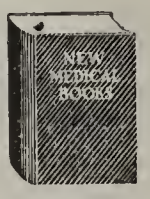

### Publishers and Books

D. APPLETON & COMPANY, New York. Space 79. For over fifty years D. Appleton & Company have been publishers of standard medical books. It has been their constant aim to give to the profession only works of individuality, distinction and absolute reliability. Their list has grown slowly; additions have been made with care and discrimination. The APPLETON name has come to be a guarantee of scientific presentation, sound judgment and ripe experience.

P. BLAKISTON'S SON & CO., Philadelphia. Space 78. "Portraits of Famous Medical Authors" will be distributed free at the exhibit. There will also be shown an extensive line of advanced medical books. A purchaser of Blakiston's books writes, "I have a number of your publications and want more. I have come to think that "B" means Best."




F. A. DAVIS COMPANY, Philadelphia. Space 11. Will exhibit among other books of unique and unusual interest several volumes of Sajous' new "Cyclopedia of Practical Medicine," thin paper, revised; new and revised editions of Ball's "Modern Ophthalmology," Phillips' "Ear, Nose and Throat," Bassler's "Diseases of the Stomach" and Morton's "Genito-Urinary Diseases." Also Lorand's "Rational Diet," Pettey's "Narcotic Drug Addictions," etc., etc.




FUNK & WAGNALLS COMPANY, New York. Space 96. Besides the widely read weekly, *The Literary Digest*, and the famous NEW "Standard Dictionary," many valuable new medical books, including Herman's "Diseases of Women," Choyce's "Surgery," Berkeley and Bonney's "Gynecology," Bishop's "Blood Pressure," Hollander's "First Signs of Insanity," are published by this long-established house.

LEA AND FEBIGER, Philadelphia and New York. Space 20. Especially valuable is Lea & Febiger's library of treatment, comprising White & Jelliffe's "Modern Treatment of Nervous and Mental Diseases," Hare's "Modern Treatment" (general), and Cheyne & Burghard's "Surgical Treatment." Also Koplik on "Children," Török & Grout's "Surgery of the Eye," Starr on "Nervous Diseases," Weeks on the "Eye," Stimson on "Fractures and Dislocations," and Hertzler on "Tumors."




YEAR BOOK PUBLISHERS, Chicago, Space 39. This booth will be devoted to the "Practical Medicine Series," the standard authority on the world's progress in Medicine and Surgery. Volumes for 1913, as well as for previous years, will be on exhibition. The series comprises ten volumes and presents, in complete and permanent record, the latest development in every department of Medicine and Surgery.

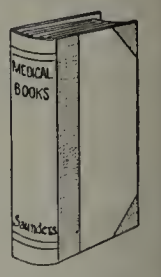
J. B. LIPPINCOTT COMPANY, Philadelphia. Space 8. This exhibit will contain a number of new and authoritative works on special subjects which will interest all physicians. Among them are Skillern's "Accessory Sinuses of the Nose," Kerrison's "Diseases of the Ear," Nonue's "Syphilis and the Nervous System," etc., etc.

The C. V. MOSBY COMPANY, St. Louis. Space 25. Will show the new and complete edition of the Golden Rule Series, five volumes; also a number of new monographs, such as Pottenger's "Muscle Spasm and Degeneration," Pottenger's "Tuberculin," Warfield's "Arteriosclerosis," Freeman's "Skin Grafting," Sophian's "Epidemic Cerebrospinal Meningitis," Schorer's Vaccine and Serum Therapy," and Portner-Lewis' "Diagnosis and Therapy of Genito-Urinary Diseases." Also advance illustrations and prospectuses of Loeb's "Operative Surgery of the Ear, Nose and Throat."

REBMAN COMPANY, New York. Space 68. In addition to well-known high quality atlases, a special display will be made of Adam's "Ophthalmoscopic Diagnosis" and Zinsser's "Diseases of the Mouth," both new; new monographs, such as "Ikonograms" by Gardner, "Sterility" by Hühner and Wegele's work on "Therapeutics of the Gastro-Intestinal Tract," and splendid textbooks, as "Guide to Midwifery," by Berry Hart, and "A Course in Normal Histology," by Rudolf Krause.

CLEVELAND PRESS, Chicago. Space 77. At this space especial attention will be given to the new *American Encyclopedia and Dictionary of Ophthalmology*, edited by Casey A. Wood, M.D., C.M., D.C.L., and a large staff of earnest co-workers. Every practicing ophthalmologist should call at this booth.

W. B. SAUNDERS COMPANY, Philadelphia. Spaces 4 and 7. Some of the new books and new editions in this exhibit of particular interest to physicians are these: The New Keen's "Surgery," DeLee's "Obstetrics," Cabot's "Differential Diagnosis," Murphy's "Surgical Clinics," Musser-Kelly's "Practical Treatment," Hornsby and Schmidt's "Modern Hospital," Kemp on the "Stomach, Intestines and Pancreas," Mayo's "Clinic Papers for 1912," Faught on "Blood-Pressure," Brill's "Psychanalysis," Fowler's "Operating-Room and the Patient," Grulee's "Infant-Feeding," Eyre's "Bacteriologic Technic" and Bohn and Painter's "Massage." There are also to be exhibited advance sheets and illustrations of other new editions.




WILLIAM WOOD AND COMPANY, New York. Space 23. New and up-to-date medical books, notable among which may be mentioned: "Reference Handbook of the Medical Sciences," Cunningham's "Manual of Practical Anatomy," Schmiedeu's "Operative Surgery," Chetwood's "Urology," Stedman's "Medical Dictionary," Kraepelin's "Psychiatry," Cabot's "Physical Diagnosis," Hutchison & Collier's "Index of Treatment," Savill's "Clinical Medicine," Castellani and Chalmers' "Manual of Tropical Medicine."

## Apparatus, Instruments and Furniture



W. D. ALLISON CO., Indianapolis. Space 52. Attractive, practical and time-saving office devices will be shown at this space. Automatic tables of the highest type; ingenuously designed medicine cabinets; examining and treatment chairs; stools; stands; waste receptacles; reception-room furniture and everything incident to the complete modern office. Representative styles will be on exhibit and are commended to carefnl consideration.

---



BAUSCH & LOMB OPTICAL CO. Rochester, N. Y. Spaces 37 and 38. New models in microscopes, microtomes, centrifuges and other laboratory apparatus and supplies for physicians will be displayed by this firm.

The instruments shown will form an instructive demonstration of the most recent improvements in diagnostic apparatus which advances in laboratory examination have made necessary.

---



FRANK S. BETZ CO., Chicago. Spaces 21 and 22. This exhibit will consist of an unusually large display of surgical instruments, batteries, operating-tables, lamps, coils, sterilizers, high-frequency outfits and complete medical, surgical and hospital equipment.

---

CLARK & ROBERTS CO., Indianapolis. Space 47. An interesting exhibit of metal surgical furniture. Among the new appliances to be shown will be found metal tables for physicians' office use, steel instrument cabinets for physicians and specialists, also specialists' complete outfits.

---



COMFORT SPRING COT COMPANY, Chicago. Space 84. This invention is intended to solve most of the difficulties of outdoor sleeping, temporary and permanent accommodations for berths and the transportation of invalids. The main features to be demonstrated are the unusnal comfort afforded the patient, due to the four springs by which the cot part is suspended and its sanitary convenience, the canvas part being readily removable for purposes of cleaning.

---



DEVILBISS MANUFACTURING CO., Toledo, Ohio. Space 69. A display will be made of their full line of appliances. A special demonstration will be made of the DeVilbiss Prescription Medicalizer, No. 16.

---



DEZENG-STANDARD CO., Camden, N. J. Space 62. In addition to a full line of electrically lighted diagnostic instruments for eye, ear, nose and throat work, there will be on exhibition a brand new instrument for doing refraction and muscle work; also muscle exercise. Among the several new things of particular merit on display will be the new electric perimeter and the new electric ophthalmoscope with perfect translucent color test. The new DeZeng Prism Ophthalmoscope will be displayed for the first time at this meeting.

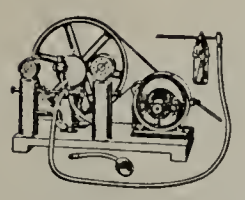
---

GENEVA OPTICAL COMPANY, Minneapolis. Space 98. New styles in eyeglasses, spectacles and instruments, especially the Elastik Eyeglass and the Geneva ophthalmoscope and retinoscope, ophthalmometers, phoro-optometers, etc. This company specializes largely in specially ground lenses and prescriptiou filling for oculists.

---

F. A. HARDY & COMPANY, Chicago. Spaces 27 and 28. Newest and latest designs of eye, ear, nose and throat instruments will be exhibited. Also a complete line of ophthalmological instruments and apparatus.

---



THE JAECKH MANUFACTURING CO., Cincinnati. Space 33. Complete compressed air and vacuum apparatus for all medical and dental purposes will be demonstrated. These outfits occupy small space, are easy to operate and by means of special valve equipment the pressure can be regulated to any desired force.

---



ERNST LEITZ, New York City. Space 12. In addition to microscopes, microscopic accessories and microtomes as used in the medical profession, the physician will have opportunity to see numerous other devices as used in educational work, but at the same time of interest to the profession. Such instrnments will include microscopes for research, photomicrographic apparatus, universal projection apparatus, drawing apparatus, etc.

---



LIFE SAVING DEVICES CO., Chicago. Spaces 86-87. The Lungmotor, a device for inducing artificial respiration mechanically, will be ingeniously demonstrated on a wax figure with rubber lungs, and electric illumination. This will show the practical processes of the induction of inspiration and expiration by this ingenious but simple machine. Especially useful for asphyxia by gases or fumes, asphyxia neonatorum, apparent drowning, strangulation, etc.

---

E. B. MEYROWITZ, Inc., New York. Space 61. Will show their standard model ophthalmometer, a new trial frame, the Schiötz tonometer, Zeiss binocular loupe, the Hertel exophthalmometer, improved electric ophthalmoscope with independent pocket battery and rheostat, a full line of scleral trephines, a "shockless" socket rheostat and a number of novelties in surgical instruments.

---




V. MUELLER & CO., Chicago. Spaces 29 and 30. As in former years, this firm will display a line of surgical instruments and apparatus, but a more complete exhibit will be made than in the past. All of the latest patterns of instruments, both of American and European make, will be shown. Surgical instruments for the eye, ear, nose and throat specialist, gynecologist, genito-urinary specialist and general surgeon; also specialties for the radiographer will be exhibited.

---

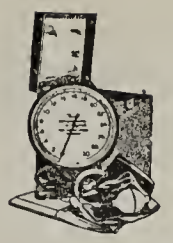


THE ROESSLER & HASSLACHER CHEMICAL COMPANY, New York, Chicago, etc. Spaces 91 and 95. The latest oxone-oxygen generator — Antogenor— automatically producing its own pressure up to 50 pounds, under perfect control of the operator, and adjustable for any purpose, will be shown. Used for vapor and spray medication, for insufflations, injections, for ordinary inhalations and for anesthesia, the machine makes oxygen therapy a practicable feature in the hands of the practitioner, the nose and throat specialist and the surgeon.

---

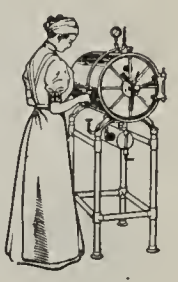
SCANLAN-MORRIS COMPANY, Madison, Wis. Spaces 41, 42 and 43. Hospital furniture, sterilizing apparatus and aseptic office furnishings. Among the new articles to be shown by this firm are the Minnesota design B3 operating-table; 1914 pattern high-pressure dressing sterilizer, and a complete line of aseptic office furniture suitable for the specialist, physician and for the surgeon.

---



TAYLOR INSTRUMENT COMPANIES, Rochester, N. Y. Spaces 5 and 6. The Dr. Rogers' Tycos Sphygmomanometer, in both the pocket and the new office patterns, will be demonstrated. The large dial (8-inch diameter) of the latter, graduated to 300 mm., affords an open reading which can be easily read 12 to 15 feet distant. Tycos fever thermometers, urinary analysis glassware and other instruments of medical and surgical interest will be exhibited.

---



WILMOT CASTLE CO., Rochester, N. Y. Space 51. Sterilizing Apparatus for hospitals, laboratories and physicians' offices, incorporating the latest features in design and construction will be exhibited by this firm. The apparatus will demonstrate the possibility of installing in a limited space a service that renders efficient and adequate sterilization for any particular office or institution.

---

## Apparatus—Electric




GEORGE W. BRADY & CO., Chicago. Space 92. There will be exhibited some of the work done by various x-ray operators who are using the new Paragon X-Ray Plates. These plates are said to have met with great success since placed on the market, owing to their very fine quality and great speed. Mr. Brady will be pleased to meet all using x-ray.

---




FORBES DRY PLATE CO., Rochester, N. Y. Space 40. An exhibition of Forbes x-ray plates. During the past year these plates have been introduced on the basis of true quality alone into the largest hospitals and used by many of the leading x-ray workers in the United States. Physicians who attended the previous meeting will be interested to observe the progress which has been made by this firm during the past year.

---



MACALASTER - WIGGIN Co., Boston. Space 48. An exhibit of x-ray tubes and various accessories. Particular attention will be called to the penetrator type of tube for heavy work. With this tube much better definitiou and penetration are obtained with the same amount of current than with any other tube. Tungsten target tubes are giving splendid satisfaction, and those to be exhibited at this booth will be well worth investigating.

---



THE WM. MEYER CO., Chicago. Spaces 73 to 75. Will show an entirely new line of INTERRUPTERLESS x-ray equipments, as well as other electrical apparatus, and will demonstrate their absolute method of obtaining radiographs. The new high speed "AGFA" X-RAY PLATES will be shown and also INTENSIFYING SCREENS of an entirely new type.

---

VICTOR ELECTRIC COMPANY, Chicago. Spaces 1, 63, 64, 65. Aside from their standard line of electromedical and x-ray apparatus, a number of recent additions will be on exhibition, among which might be mentioned: Victor Interrupterless X-Ray Transformer; combination fluoroscopic, stereoscopic and radiographic tube stand; combination stereoscopic and radiographic table; new type of therapeutic lamp; a new line of electric sterilizers; Victor Mullistadt; 1913 model of the Multiplex Sinusoidal outfit; and several other appliances.

SCHEIDEL-WESTERN X-RAY COIL COMPANY, Chicago. Space 2. Will demonstrate a complete x-ray equipment from the 12-kilowatt transformer to the smallest portable coil. A special attraction will be the fluoroscopic outfit in actual operation, as there is sure to be much interest for this special work.

## Foods and Milk Preparations

BASS ISLANDS' VINEYARDS COMPANY, Sandusky, Ohio. Space 99. Physicians and nurses are invited to call at our exhibit and receive a sample of our absolutely pure grape juices. The grapes from which our grape juice is expressed are from the famous vineyards on the Lake Erie Islands, justly famed for producing the best grapes grown in the world.

HORLICK'S MALTED MILK COMPANY, Racine, Wis. Spaces 49 and 50. Will exhibit and demonstrate the original genuine Horlick's Malted Milk, the record of which, as a nutrient, for almost thirty years, is sufficient testimony of its physiologic worth and excellence as a food product. We will also exhibit Horlick's Malted Milk Lunch Tablets, plain and with cocoa flavor. Horlick's Malted Milk Ice Cream will be served at certain hours during the convention.




MEAD JOHNSON & COMPANY, Jersey City, N. J. Space 44. An exhibit of their Dextri-Maltose (pure maltose and dextrin in about equal parts) will be made. It is non-proprietary and is a practical duplicate of the malt-sugar and dextrin preparations made in Germany, where they are largely used by pediatrists, especially those who employ the Finkelstein method of infant feeding.




MELLIN'S FOOD COMPANY, Boston. Space 26. A special effort will be made to furnish physicians with complete information regarding the materials that enter into the manufacture of Mellin's Food, the care used in the making, uniformity of composition, analysis of the product itself and when ready for actual use. Some new work is promised, having special reference to the usefulness of maltose and dextrin, as well as the early history of the chemistry of carbohydrates.

SMITH, KLINE & FRENCH CO., Philadelphia. Space 24. Will exhibit tubes of milk and milk modified with Eskay's Food acted on by artificial gastric juice, to show the effect their cereal modifier has on the curd, rendering the milk more digestible. They will also exhibit jars containing the ingredients out of which their product is manufactured; that is, barley, wheat and oats, sugar of milk and eggs.

ESKAY'S Albumenized FOOD

## Pharmaceuticals and Biologic Products

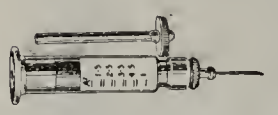
ARLINGTON CHEMICAL CO., Yonkers, N. Y. Space 57. As in previous years, the makers of liquid peptonoids and hemaboloids, preparations which are well and favorably known to physicians, will be represented in the exhibit hall, where, in charge of courteous and competent representatives, these preparations will be displayed together with other features which cannot fail to prove of interest to all who make it a point to visit the exhibit.

BORCHERDT MALT EXTRACT CO., Chicago. Space 88. Mr. F. H. Borcherdt and Mr. E. B. Wilson will demonstrate the manufacture of a pure barley malt extract; also the preparation of Dr. Keller's Malt Soup from Borcherdt's Malt Soup Extract will be shown. Borcherdt's Malt-Olive with hypophosphites will be exhibited and samples of these products will be available.

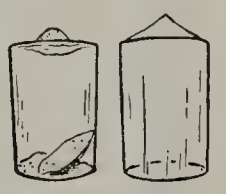


BURROUGHS WELLCOME & CO., New York. Space 14. An exhibit of their pharmaceutical preparations issued under their various trade-marks. Among these will be included "Tabloid," "Soloid," "Vaporole" products, "Tabloid" brand medicinal animal substances, "Wellcome" brand Sera and Vaccines and an assortment of "Tabloid" brand medicine cases, suitable for every need the physician has in this direction.

FAIRCHILD BROS. & FOSTER, New York City. Space 58. This exhibit will consist of standardized products of the gastric and pancreas glands; special enzyme products—trypsin, amylopsin, etc.; bile salts; a colonic food; culture of the *Bacillus bulgaricus*—all approved and interesting.

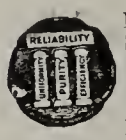


H. K. MULFORD COMPANY, Philadelphia. Spaces 45-46. A scientific exhibit of bacterins, serums and vaccines. Showing methods of production with working bulletins compiled from the latest information on the special subjects treated. This is not only designed to be an interesting but a scientific exhibit to aid every practitioner.



PULVOLA CHEMICAL CO., Jersey City, N. J. Space 70. See their unique tumbler test demonstration, showing (with comparisons) the non-absorbent quality of Pulvola. "The Doctors' Baby Powder" and general toilet, face and foot powder; also of Dolomol, the dry ointment or stearated dusting powder, in 20 medications on a neutral base (magnesia, not zinc), absolutely impervious and bland. See their white Ichthyol, odorless, dry, impalpable, adherent, non-crusting—the ideal dressing for chronic leg ulcers, bed sores, etc.

G. D. SEARLE & CO., Chicago. Space 31. The interesting feature of this exhibit will be the display of specially prepared, uniformly soluble hypodermic tablets.

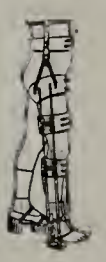



E. R. SQUIBB & SONS, New York. Space 80. Will give a demonstration of the disintegrability of their tablets and also exhibit a representative collection of their high quality chemicals and pharmaceuticals, together with some of the impurities removed from the regular U. S. P. grade of products in the process of repurification necessary to bring the articles up to the Squibb standard.

HENRY K. WAMPOLE & CO., Inc., Philadelphia. Space 53. A complete line of pharmaceutical products will be displayed by this firm, including those prominently identified with U. S. P. and N. F. standards. Pulverous pills, fluidextracts, elixirs, syrups, solutions, tinctures, ointments, soft elastic and hard gelatin capsules, effervescent salts, lozenges, compressed and hypodermic tablets will be aptly displayed in illustration of the advanced achievements to-day of the manufacturing pharmaceutist.

## Artificial Limbs and Supportive Appliances

AMBULATORY PNEUMATIC SPLINT M'F'G CO., Chicago. Space 76. At this booth a practical scientific demonstration of the application and use of the Ambulatory Pneumatic Splint will be given. It will be shown how this splint secures good bony union, with the greatest comfort. "Ambumatic" washable abdominal supporters and braces will also be shown.





BOLEN MANUFACTURING CO., Omaha. Space 82. Models will be used to demonstrate the practicability and many new ideas carried out in the "B. P." Abdominal Supporters. This exhibit will be of interest to all physicians as special explanations will be made for their benefit regarding the important points in the manufacture and adjustment of a perfect supporter.




ANATOMIK FOOTWEAR CO., New York. Space 3. A demonstration showing why many physicians prescribe shoes with this trademark as being the only shoes that satisfy the functional needs of the feet, correcting and preventing foot troubles (from plain foot-ache to bad flat-foot), and offering for the normal foot the comfort that is associated with its unimpeded natural action.



CARNES ARTIFICIAL LIMB CO., Kansas City, Mo. Space 59. A demonstration of mechanical artificial arms and hands by people wearing them for amputations both above and below the elbow. This should be of great interest to surgeons, especially as the artificial arm demonstrated has nearly all of the movements of the natural arm and hand, such as bending elbow, automatic opening and closing fingers, and rotating and flexing wrist.

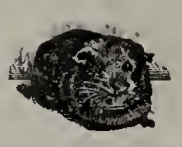
## Mineral Waters

APOLLINARIS AGENCY COMPANY. Space 34. Apollinaris water, which is mildly alkaline and naturally effervescent, will be exhibited. It is bottled only at the Apollinaris spring, Neuenahr, Germany, and only with its own natural gas, as stated on the label. The same company will also exhibit "Apenta," the Hungarian natural aperient water, which is noted for its well proportioned content of magnesium sulphate and sodium sulphate.

MYERS-DILLON DRUG CO., Omaha, Neb. Space 66. Will exhibit Mountain Valley Water. It is recommended as an eliminant and in the treatment of auto-intoxications. The complete analysis of Mountain Valley Water has been carefully made by competent chemists. Physicians will be given an opportunity to examine this analysis and decide for themselves as to the special indications for the use of water.

## Miscellaneous

DEIMEL LINEN-MESH SYSTEM CO., New York. Space 13. Physicians will have an opportunity to inspect the Dr. Deimel linen-mesh underwear. The different styles and sizes of the garments for men, women and children will be displayed.



NATIONAL PATHOLOGICAL LABORATORY, Chicago. Space 30. Complete medical analyses, including the $5 five antigen Wassermann, will be demonstrated. Meet our serologist, state suite, parlor floor, Radisson Hotel, for information regarding all complement-fixation tests and general laboratory work. GRAY OIL syringes will be displayed and instructions given for their use.



SOUTHERN ASEPTIC COTTON CO., Chattanooga, Tenn. Spaces 100 and 101. This exhibit will be interesting and instructive. Aseptic cartons will be shown, which are so prepared for the market that a portion of the absorbent cotton and surgical gauze can be drawn through a slot and cut off, leaving the remainder protected from septic contamination.



THE H. W. WILSON CO., Minneapolis. We will be there with a stock of maroon and gold bunting, souvenirs of the University of Minnesota, post-cards of all the medical buildings. Our store, known as the "University Book Store," is located at 1401 University Ave. S.E.—opposite the entrance to the University campus.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, NO. 20 CHICAGO, ILLINOIS MAY 17, 1913


## ANTIVIVISECTION LEGISLATION: ITS HISTORY, AIMS AND MENACE*


W. B. CANNON, M.D.

BOSTON


The early triumphs of experimental biology, about the middle of the last century, led to its rapid development as a means of advancing knowledge of physiology, bacteriology, pathology and, later, of other medical sciences. Accounts and rumors of experiments on animals soon aroused fears that many cruel and needless operations were being performed. In Great Britain popular clamor, stirred by the energy of a group of doctrinaires, culminated in the appointment, in 1875, of a royal commission to investigate and report the conditions under which animal experimentation was being conducted. So little had the sciences of pathology and bacteriology profited at that time by use of the new method that physiology almost alone was on trial at the hearings. In spite of this limitation of evidence the strong testimony forced the commission to conclude that abolition of animal experimentation, conducted to mitigate human suffering and prolong human life, would be impossible; and the commission therefore recommended a law licensing proper persons to engage in the practice, ensuring the avoidance or minimizing of pain, and providing for inspectors "of such character and position as to command the confidence of the public no less than that of men of science."

A writer in *Nature,* at that time (1876, p. 248), characterized this recommendation and its result in legislation as follows: "The evidence on the strength of which legislation was recommended went beyond the facts, the report went beyond the evidence, the recommendations beyond the report, and the bill can hardly be said to have gone beyond the recommendations, but rather to have contradicted them." Some of the most objectionable features of the bill, according to Sir Michael Foster,[1] were added as it was being passed through committee in Parliament.

The result of this measure has been that all British experimenters work on ticket of leave. The securing of the ticket is a slow process because of the large amount of red tape involved. In consequence, sudden or unexpected opportunities for research cannot be utilized. And if in the course of an investigation a new line of inquiry is suggested — an event which is often the most valuable and significant phase of the investigation — the ticket must be amended or a new ticket must be secured, to permit work in the new direction, and that means further delay and vexation and cooling of enthusiasm. Furthermore, for some experiments, securing a ticket is so hopeless that investigators must leave their work incomplete or go abroad in order to be permitted to pursue it. Study of the effects of snake-bite, for example, and search for antidotes — a matter of great importance to India because of the high mortality therefrom — had to be suspended in Great Britain because of the British act of 1876.[2]

One might suppose that, having secured such a degree of restriction of experiments on animals, the antivivisectionists would have rested content. Quite the contrary, however. Agitation against animal experimentation has nowhere else in the world been so violent and so continuous as in Great Britain during these past thirty-six years. In 1906, thirty years after the British antivivisection act was passed, the clamor and constant agitation led to the appointment of a second royal commission. After a very exhaustive inquiry, and after four years of study of the testimony, the commission reported that the scientific investigators, with rare exceptions, have "endeavored, with loyalty and good faith, to conform to the provision of the law," and that "the harrowing descriptions and illustrations of operations inflicted on animals, which are freely circulated by post, advertisement or otherwise, are in many cases calculated to mislead the public." The second commission merely suggested a few minor changes in the law, all of them within the province of the administration, and not requiring amendment of the act by Parliament.

I have reviewed in some detail the conditions in Great Britain, because they offer an example for us. In spite of drastic legislation, which, as a "penal measure" (it was thus referred to at the time of its passage), placed scientific investigation under suspicious surveillance, antivivisection societies have multipled, their activities have been unrestrained, and their aims now are avowedly the total abolition of what has proved to be the most fruitful mode of progress in the medical sciences. Thus the passage of legislation in Great Britain has, on the one hand, hampered and limited the efforts of investigators, and, on the other, utterly failed to satisfy the demands of the antivivisectionists.

The reason for the two parties being irreconcilable, the reason for compromise being impossible, lies fundamentally in a difference of moral emphasis. No longer is it the main contention of the antivivisectionists that the use of animals for medical research is unprofitable,

* This paper is one of the series prepared for and reprinted by the Bureau for the Protection of Medical Research of the American Medical Association for circulation among the public. Twenty-five of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, the circulation of the blood, protozoan tropical diseases, etc.

1. See letter in Hearing on a Vivisection Bill (S. 34), Senate Committee on District of Columbia, Washington, 1900, p. 99.

2. Minutes of Evidence, Royal Commission on Vivisection, 1907, Question 6833.

though that argument, strange to say, is still heard; they now take what they call "higher ground" and say that their opposition is based on the great moral wrong involved in the sacrifice of animals for man. As one of their witnesses stated, "I would not have one mouse painfully vivisected to save the greatest of human beings, or the life dearest to me." And recently a writer, in the Philadelphia *Journal of Zoophily* (December, 1912), has declared, "Vivisection is utterly detestable. It is immoral and demoralizing. Antivivisectionists should keep up an unceasing agitation and work unitedly in asking legislatures for laws of an entirely prohibitory character." All the antivivisection societies of Great Britain, and all but two or three of the societies in this country, exist expressly for the purpose of abolishing utterly operations on animals for medical and biological research.

The opposite moral attitude, that taken by the investigators, was expressed by the second British commission. Basing their judgment on the "average moral sense of Christian communities," which is "not offended by the sacrifice of lower animals for the food, clothing, adornment and, within limits, the sport of man," they concluded that properly conducted experiments on animals "are morally justifiable and should not be prohibited by legislation."

Although most antivivisectionists are ultimate abolitionists, and although some among them vigorously denounce merely restrictive legislation as a wicked compromise, which will seriously endanger the securing of their real aim, yet others among them have been quite ready to obtain any legislation whatever to which they might point as a mark of progress. Any sort of specious argument may be expected, when some legislation, even the most trivial and insignificant, is all that is wanted at first. Thus antivivisectionists have declared that their prime object is to stop the abuse of animals by ill-trained physicians, or by raw medical students, operating in private rooms, and that expert investigators and physicians interested in the promotion of medical research ought to be therefore strong supporters of their endeavors. Before this argument is accepted, a review of the attempts to obtain restrictive legislation in this country will be instructive.

The most energetic and persistent efforts to have restrictive laws enacted have been made in Massachusetts, New York, and Pennsylvania. I am best acquainted with the agitation in Massachusetts. Seventeen years ago there was presented to the Massachusetts legislature a relatively drastic bill aimed at the limitation and supervision of the experimental use of animals. At the first hearing the crowd was so great that the largest committee room was not large enough, and the meeting had to be adjourned to the old hall of representatives. The petitioners for legislation were ably represented by counsel. The remonstrants appeared as laboratory workers and practitioners of medicine and surgery to testify to what they knew and give reasons for objecting to the proposed bill. After several hearings the committee, convinced of the needlessness of any such bill, voted unanimously that the petitioners be given "leave to withdraw." Then came the sequence of "milder" bills. Attempts with these "milder" bills were made almost every year for the next decade.

During all these later years the laboratory workers conducted their own case; the petitioners were represented by able counsel; invariably the committee refused to report the bill. There was never any popular demand for legislation; interest was kept alive solely by the efforts and money of a few agitators. The number of petitioners attending the hearings gradually dwindled until, at the last, only their hired lawyer and a few elderly ladies constituted the remnant of the great crowd that came in 1896. Every victory for freedom of research made another victory easier, and just because committees again and again had found no reason to enact restrictive legislation, and because at each successive attempt the petitioners could advance no new arguments, it became always more possible to point to the fate of previous bills as a precedent to follow. In other words, the efforts of the antivivisectionists became classified in the legislative mind as chronic and unjustifiable.

In the course of these repeated hearings the most effective way of presenting the medical and biologic view was gradually developed. It consisted, towards the last, of the testimony of representatives of the educational institutions of the state, the colleges, medical schools and separate biologic laboratories, representatives of the several branches of the medical sciences, representatives of the state and city boards of health, representatives of the cattle bureau, representatives of hospitals, and prominent physicians and surgeons — in short, persons who knew thoroughly every interest that would be seriously affected by limitation of the use of animals for instruction and research. One person was selected to speak for each of the interests concerned and he was limited to ten minutes. Thus the objections to the bill were described to the committee in a series of brief, pointed speeches, so diverse in style and personality as to hold close attention. At the end the leader of the remonstrants summed up the general objections to the proposed bill and answered any arguments that previous speakers might have left untouched.

The history of the agitation in Massachusetts has been repeated in New York. The money of a few individuals has purchased the services of lawyers and a public speaker; and with this subsidized enthusiasm and with the aid of a newspaper made hostile because its disreputable advertising was stopped by the action of a local medical society, the small group of antivivisectionists began their usual tactics. Through pamphlets, leaflets, exhibits, special articles and lectures they thoroughly misrepresented the methods and the results of animal experimentation, until they obtained a considerable following of kind-hearted people who believed that the atrocities they described were actually being perpetrated within the confines of the state. Along with this misleading effort to rouse a detestation of the methods of medical research, the antivivisectionists tried to secure laws of a hostile character. Numerous fruitless attempts were made to enact restrictive bills, each less drastic and more plausible than its predecessors, and then, with steadily diminishing interest at the hearings they took a final step downward in their demands and are now asking for a commission of inquiry. This is the mildest and apparently the most reasonable request that they have made. Who is not appealed to by the call for an "open door"? But this request is supported by the same persons who formerly urged outright antivivisection bills and by some who, in their publications, advocate that animal experimentation be abolished. The present effort, therefore, is merely another attempt to get legislation started in one state so that it may be an example to others. There is no general demand for such investigation; it is assumed in the call for an "open door" that the doors of laboratories are now shut against experienced

persons (which is untrne) ; and the conduct of the investigation is placed not with judicially-minded persons, but with persons some of whom are committed in advance to an antagonistic attitude. Again the British experience may properly be cited to show the futility of attempting to secure any respite from abuse and vituperation by bending to the wishes of persons who are intent on doing their utmost to harass and impede the progress of medicine.

Experience in Massachusetts, New York and elsewhere has not only revealed the main provisions likely to be found in antivivisection bills, but has also brought forward the chief objections to these provisions. A brief summary of these points will be instructive:

1. *Experimentation is restricted to registered buildings.* This is impracticable, in the case of medical emergencies in conntry places, and would entail difficulties in experiments on diseases of animals used on farms, and of game animals, and hence would be inimical to the farmers and sportsmen of a state. In Great Britain portions of grouse-moors have been necessary for the study of "grouse disease." And Pasteur's proof of immunization against anthrax was made in field operations remote from his laboratory in Paris.

2. *Experimentation is restricted to the purpose of discovering new facts useful in saving or prolonging life or alleviating suffering.* This provision prohibits the use of animals (on the way to death in anesthesia) for the acquirement of technical skill. Thus persons training to practice surgery, for example, would be forced strictly to obtain their first experience by operating (or experimenting!) on human beings instead of the lower animals.

Furthermore, the provision abolishes the use of animals for teaching and demonstrating the methods and facts of physiology, and of all the other experimental biologic sciences, however free from pain these nses are. And, as is generally recognized, to learn to judge the functions of the body by studying inactive structure alone would be like learning to take the responsibilities of an engineer by examining an idle locomotive.

3. *The animal experimented on must be under a general anesthetic.* Often quite as effective anesthesia is produced by a local as by a general anesthetic and, furthermore, much less discomfort is likely to attend local anesthesia and there is no distress in recovering from it. Restricting experimentation to animals under general anesthesia, furthermore, prevents any attempt at finding new anesthetics, and thus either definitely limits mankind to those now employed, or requires the first tests to be made on human beings.

4. *Animals must be killed before recovering from anesthesia.* This process stops absolutely all work in experimental surgery, and in the application of surgical methods in physiology and pathology. If this condition had been enforced during the past fifteen years, some of the most valuable advances in medicine would have been rendered wholly impcssible.

5. *Every experimenter must make a report in writing, at certain times each year, stating the nature and results of his studies.* The compnlsory reports of all experiments would probably have as their only practical result ignorant prosecutions, followed by acquittal. Nothing is more evident in antivivisection literatnre than the inability of persons equipped mainly with ignorance and prejudice to read with understanding the technical reports of experts. Misunderstanding necessarily ensues. It is against sound public policy to discnrage legitimate experimental work by the prospect of such prosecutions.

Still another objection to compulsory reports is the danger to the community which might result from the premature publication of insufficiently tried methods of treating disease. Koch's forced premature publication of the action of tuberculin may serve as an instance, but more recent instances are not lacking. Cruelly false hopes, bitter disappointments, the spending of large sums uselessly in traveling far to seek relief from disease or to avoid death—such are the evil results that may flow from compulsory publication.

6. *Laboratories in which animal experimentation is be-being performed shall be open to inspection by authorized agents.* (Sometimes the bill specifies that these agents shall represent humane societies.) This provision has always met strong opposition—opposition which must be clearly defined, because it is usnally taken by the antivivisectionists as a confession of fear of detection in cruel deeds. To this innuendo, however, as Curtis has said, "Common sense calmly replies that no legitimate work in any calling can go on effectively in the presence of unbidden and ill-informed persons, suspicious if not hostile."

The appointment of persons whose qualifications to inspect laboratories are not stated is unjustifiable. To inspect banks experts in banking are appointed; to inspect laboratories experts in experimentation should be specified. The grossest errors of judgment have been made by ignorant persons, incapable, for example, of distingnishing between reflex movements of brainless animals and purposive acts. But the petitioners for restrictive legislation will not admit that experts in experimentation are fit persons to trust.

Even when inspectors are competent, as British experience has shown, they either become suspected of being in league with the experimenters, because they so rarely report abuses, or they are said not to be present in the laboratories when the atrocities are being perpetrated. Not content with occasional inspection, therefore, the British antivivisectionists are now advocating constant attendance of inspectors in laboratories so that nothing may escape scrutiny. The absurdity of this scheme is its strongest condemnation. Evidently no amount of inspection is going to satisfy the agitators unless their preconceptions are to be substantiated.

Besides the foregoing special objections to bills which are hostile to operations on animals, there are certain general objections:

1. *Restrictive legislation is not needed.* The welfare of the animals used in experimentation is already safeguarded by voluntarily imposed regulations providing for their bodily comfort, for their use in important purposes, and for their freedom from pain. The regulations, drawn up by the Bureau for the Protection of Medical Research of the American Medical Association, have been adopted by corporate vote in practically every medical school in the country in which research is being conducted. Mr. Henry Bergh, of the American Society for the Prevention of Cruelty to Animals, has referred to these as "the most exemplary, humane and beneficent regulations governing the practice of vivisection to meet the requirements of humanity." Only the director of the laboratory can make exceptions to the rules and he can do so only in the rare case in which anesthesia or death of the animal would defeat the object of the experiments.[3]

3. See Cannon, W. B.: Medical Control of Vivisection, Defense of Research Pamphlet, xvi, 1910.

The general adoption of the regulations in schools with active laboratories renders further legislation unnecessary. Burdening the statute books with unnecessary legislation is admittedly reprehensible.

2. *Such restrictive legislation is indefensible class legislation.* It is the function of the state to enact general laws against cruelty to animals; the proposed legislation places scientific men under peculiar surveillance and limitation. This is unwarrantable. The general laws regarding cruelty are adequate to cover cases of wanton infliction of pain, no matter by whom inflicted. A few years ago a professor in a veterinary school was convicted of cruelty on this basis, whether justly or not is not now pertinent; the fact is that the existing general law was adequate. Similarly two students of "optometry," in New York, were convicted under the general law providing for the punishment of causing in animals "unjustifiable physical pain, suffering or death." It is proper, therefore, to demand that the general laws against cruelty be applied before special legislation is framed.

3. *Such restrictive legislation is merely initial—an entering wedge—advocated with the purpose of advocating later more stringent law.* In the *Journal of Zoophily* (March, 1909) is this statement:

> We believe that in the course of time we shall have total abolition of vivisection, but as we cannot get it now, we think we may be justified in asking for something that will help the poor animals a little. Though we may not get abolition at once, we shall eventually.

This is the attitude taken by the moving spirits among the opponents of animal experimentation everywhere. As already shown, Great Britain has had a restrictive law, with registration of buildings, reports of experiments, and inspection, for thirty-six years. Yet there is no country in which agitation for abolition of animal experimentation is more active. The passage of the proposed legislation would therefore not allay agitation.

No other civilized country has followed Great Britain's lead; no British dependency has done as the mother country has done. As Sir Michael Foster declared, with reference to the British Act, "England offers in this respect at least an example to be shunned alike by her offspring and by her fellows."

In conclusion I wish to urge that everything possible be done to enlighten the intelligent public as to the great practical results of animal experimentation, the important problems that remain to be solved, the ideals of the investigators who are trying to solve these problems, and the essential humanity of their methods. The pamphlets published by the Bureau for the Protection of Medical Research of the American Medical Association, and the leaflets issued by the Committee on Experimental Medicine of the New York State Medical Society present an overwhelming array of facts highly serviceable in such education. Physicians who use in daily practice the results of laboratory investigations can do nothing more useful to medical progress than combating antivivisection arguments and explaining the dangers of compromise.

And I also wish to urge further that sharp watch be kept on attempts to secure legislation that now or in the future would hamper, or in any way interfere with, the efforts of men engaged in medical research. Our opponents will try to get a foothold in one state or another; and when they have done so they will point to that accomplishment as the result of their own prowess and as evidence of humanity and enlightenment of the people. And on the basis of action in one state they will begin work in others. For the welfare of mankind we must not permit their views to prevail.

Welch has summed up very precisely the reasons for opposing the efforts of the antivivisectionists. "The fundamental objection," he declared, "to the various legislative proposals to regulate animal experimentation by a system of licenses, of inspections, of specifications as to the purposes and conduct of the experiments, is that the enactment of such statutes would take the control of a matter of the highest importance to human welfare, and one requiring special knowledge and training and skill, out of the hands of the experts, who possess these qualifications, and would place it in charge of those who have not the requisite technical knowledge and experience. Not those who know, but those who do not know, would be given a discretion which might prove disastrous to the future of scientific medicine. This is a monstrously wrong principle to embody in legislation. Science has waged a long warfare through the centuries for freedom of investigation. The last of its battles is being waged to-day for freedom of experimental research in medicine. While I do not doubt the issue of this battle, I conceive it to be the duty of the public and of the press to support the cause of freedom in this contest, which is likewise that of true humanity."

Further information regarding antivivisection agitation, and regarding the value of animal experimentation to mankind, can be obtained by addressing the Bureau for the Protection of Medical Research of the American Medical Association, 535 Dearborn Avenue, Chicago, or the Committee on Experimental Medicine, New York State Medical Society, 17 West Forty-Third Street, New York City.

---

# VERTIGO

ALFRED C. REED, M.D.
Assistant Surgeon, United States Public Health Service
NEW YORK

From the subjective functional standpoint, the disturbance of bodily equilibrium characteristic of vertigo may be caused by two conditions. First, integrity of orientation in space is dependent on the harmonious interrelation of the different impressions coming to the brain from the end-organs concerned with the sense of spatial orientation. Hence this sense may be disturbed by lack of harmony in these impressions. Second, paralysis of certain of the muscles of the eye may produce vertigo, because under such conditions the images do not fall in corresponding parts of the retinae, and are as a result projected into different points in space by the two eyes, giving a sense of disorientation. Vertigo is always a symptom only and, while it requires relief, its diagnostic significance is of the highest importance. It is a good rule to make a careful differential diagnosis in every case.

The indications in any case of vertigo are (1) to diagnosticate and relieve or remove the underlying or essential cause of the condition, and (2) when this cause is not quickly evident, or the vertigo is reflex in origin, to institute measures directed toward the relief of the immediate dizziness and concomitant symptoms.

## DIAGNOSTIC SIGNIFICANCE OF VERTIGO

The first indication — to determine the diagnostic significance of vertigo — is of the highest importance. To reach a sound judgment as to the essential cause of

a vertigo it is necessary to keep in mind a clear classification of the conditions which may produce it, and by a process of elimination and association with other cardinal symptoms, arrive at the underlying cause. It is important clinically to consider first the approximate age of the patient and then to ask what type of vertigo is most apt to occur in that period. Dana[1] has given an excellent classification of the different forms of vertigo, which needs but to be arranged in age groups to be of the highest clinical use.

1. *Relation of Age to Cause of Vertigo.*—In the vertigoes of childhood, mechanical causes such as swinging play a prominent rôle. In any case of more than transient dizziness in a child which cannot be definitely assigned to mechanical causes, the first consideration is the ear. Most commonly the condition is due to a middle-ear infection which follows the acute infectious fevers, as measles, diphtheria, scarlatina, or pneumonia, and in which the labyrinth is involved. It must be remembered also that anemia and malnutrition may be responsible for the vertigo or it may be associated with functional disturbances of the heart. Again the vertigo of cerebral abscess and cerebellar tumor will be seen occasionally.

In early adult and middle life the vertigo can be traced most often to a vascular or reflex source, depending for instance on some disorder of the liver, stomach, intestine or female genital organs, or to arterial or myocardial changes. In this period ocular changes are fairly frequent, and of course mechanical and aural vertigoes are found. With increasing age the vascular and certain types of reflex vertigoes become more common. It is well to bear in mind this relation of age to the cause of a vertigo, in turning to a more detailed review of the various types.

2. *Vertigo Caused by Reflex Irritation.*—The more common forms of vertigo fall under Dana's group caused by reflex irritation, as from the stomach, liver, intestine, pelvis, etc. In treating these a sharp purgative may be followed by some such prescription as the following:

℞ Tincture of nux vomica ..... 5 parts
Tincture of cannabis indica ..... 8 parts
Sodium salicylate ..... 10 parts
Aromatic elixir, enough to make ..... 60 parts

Make a solution to be taken a teaspoonful three times a day after meals.

With acholic stools, incipient jaundice, and hepatic torpor, a stomachic and hepatic stimulant may be combined, as in the following:

| | | gm. or c.c. | |
|---|---|---|---|
| ℞ | Ext. nucis vomicae ..... | 150 | gr. ii |
| | Oleo res. capsici ..... | 300 | gr. iv |
| | Fellis bovis purif..... | 4 800 | 3 i |
| | Res. podophylli ..... | 210 | gr. iii |

Fiat massa et divide in pilulas xx.
Sig.: Take one pill after each meal.

3. *Vertigoes of Neurotic Origin.*—Somewhat similar to certain reflex vertigoes are those of a neurotic origin. Vertigo is a common symptom in neurasthenia and in various degrees of nervous and emotional stress; it may almost reach the dignity of a psychosis in these cases. According to Barany,[2] the vertigo of neurasthenia is characterized by a nystagmus with irregular movements of the eyes, never by the quick motion and slow return of labyrinthine vertigo. Neurasthenic vertigo is apparently independent of any labyrinthine disease. Palliative treatment here is secondary to a thorough and long-continued attack on the fundamental neurotic condition.

4. *Vertigo due to Vascular Conditions.*—Vertigo may be due to purely vascular conditions, as in the congestion or ischemia accompanying cardiac disease, arteriosclerosis, anemia or aneurysm especially of the thoracic aorta, all of which seriously affect the intracranial circulation. Obviously the indications here are to remedy the anemia, improve the efficiency of the heart, and, so far as possible, alleviate the effects of arterial degeneration. Treatment must therefore be directed to these cardiovascular conditions, keeping in mind that the vertigo is merely a symptom. Under this classification also fall the vertigoes due to toxins in the blood as in alcoholism and chronic nephritis. Here again the relief of the vertigo is incidental to the relief of the toxemia. Such conditions require free catharsis and diuresis, and perhaps no better diuretic can be used than theobromin-sodiosalicylate in 10-grain doses three times a day.

5. *Vertigoes of the Auditory Type.*—An important group of vertigoes with which the general practitioner is too apt to be unfamiliar comprises those of the auditory type. The importance of this group rests in the fact that here vertigo may signify serious and often dangerous organic disease. Auditory vertigo is due to some disorder of that branch of the eighth nerve concerned with space sensation. Many minor forms arise from congestion or ischemia of the middle-ear. The auditory nerve has two divisions. The first, the nerve of hearing, leads from the cochlea to the medulla and thence finally to the first and second convolutions of the temporosphenoidal lobes. The second branch leads from the semicircular canals to the middle lobe of the cerebellum, and thence forward to the cerebrum. Injury to this second branch in any part of its course causes a disturbance of space sensation and vertigo. Naturally the most common point of injury or stimulation of this nerve is in its end-organ in the labyrinth. A change of intralabyrinthine pressure, such as so often follows a quick and complete closure of the eustachian tubes, can produce such stimulation of the vestibular nerve. The air in the tympanic cavity is soon absorbed and the drum-membrane is pressed inward. Sudden deafness with tinnitus, stuffiness and dizziness, of a severity which may disturb the equilibrium, are the result. It is a mechanically induced condition, and opening the eustachian tubes with a catheter or forcing air through them with a Politzer bag or by forced expiration with the nostrils closed gives relief.

In this connection it is to be remembered that the ordinary mechanical vertigo due to a sudden difference in pressure between the external air and that in the cavity of the middle ear, such as occurs in changes of altitude, working under high air-pressure, etc., rarely requires treatment. Gradual accommodation to the new pressure and the act of swallowing usually suffice to equalize the air densities. In cases of inflammatory or other occlusion of the eustachian tubes, catheterization or inflation with a Politzer bag may be repeatedly necessary unless the tubes become normally patulous.

Much more serious is the true labyrinthe vertigo due to organic disease. Kerrison[3] classifies this type as the vertigo of vestibular irritation and the vertigo of vestibular paralysis. The irritative form he assigns to one of two causes. It may follow a comparatively mild labyrinthine inflammation or congestion, which irritates

1. Dana, C. L.: Vertigo, Internat. Clin., Series 2, iv, 115.
2. Barany, Robert: Physiologie und Pathologie des Bogengangs Apparates beim Menschen, 1907, Leipsic and Vienna.
3. Kerrison, P. D.: Labyrinthine Vertigo, New York State Jour. Med., Aug. 12, 1912, p. 418.

the end-organ of the vestibular nerve without destroying its function, or it may result from lesions which suddenly destroy or at least markedly decrease the function of these end-organs. This last process is equivalent to stimulation of the healthy labyrinth. The two labyrinths in health balance each other and act as a single organ. But if the function of one suddenly ceases, the unbalanced and excessive activity of the other for a time produces the symptoms of vestibular irritation, among which is vertigo.

Kerrison classifies the symptoms of vestibular vertigo as follows: Subjectively, it is rotary in character, external objects seeming to revolve around the patient. With closed eyes the patient feels that he himself is rotating rapidly. Objectively, the vertigo is invariably accompanied by vestibular nystagmus, in which there is a quick movement of the eye in one direction, and a slow return in the opposite direction. Voluntary rotation of the eye in the direction of the quick movement increases both the nystagmus and the vertigo. Barany's rule is to the effect that a vertigo not accompanied by a nystagmus and not influenced by the position of the eyes is not of vestibular origin.

The patient with vestibular vertigo tends to sway or fall in the direction opposite to the quick movement of the nystagmus and, therefore, will fall in different directions according to which way the head is turned. Kerrison points out that a vertigo accompanied by a nystagmus just like that here described, but in which the patient sways or falls regularly in one direction, no matter how the head is turned, and in which the aural caloric reactions are normal, is characteristic of certain cases of cerebellar abscess and is never the result of a lesion limited to the labyrinth. Seldom is operative interference necessary in these cases. Absolute rest and quiet in bed are the prime desiderata in all such cases.

The second or paralytic type of vestibular vertigo is called by Kerrison the vertigo of defective orientation. The patient who has passed the stage of vestibular irritation may be at perfect rest as he lies in bed, but any change of position, as for instance sitting up or rising, results in a sudden and transient vertigo. This recurs with each change of position to which the patient has not reaccustomed himself. To cure the condition it is only necessary that progressive graded movements be used to reeducate the sense of spatial orientation.

The term "Menière's disease" includes various forms of auditory vertigo associated with tinnitus and nausea, and always due to organic labyrinthine disease. Charcot's plan of giving quinin in increasing doses to cinchonism is recommended in this type. Sodium salicylate has been substituted for the quinin with reputed good effect. The multiplicity of drugs recommended is the best commentary on the difficulty of managing all cases alike.

6. *Ocular Vertigoes.*—These arise from imperfect refraction or from a disorder of the ocular muscles. They are much less common than aural and reflex vertigoes. Correction of the astigmatism or asthenopia gives relief.

There are various diseases of which vertigo is a symptom but in which no occasion arises for singling it out from other symptoms for special treatment. The so-called mechanical vertigoes, such as are associated with sea-sickness, car-sickness, and the rapid motion of an elevator or swing, are easily reduced to their component aural and ocular elements.

### TREATMENT WHEN CAUSE IS NOT APPARENT

When it is not soon apparent what the underlying cause of a vertigo may be, or when a reflex vertigo has been diagnosed, treatment should be instituted to relieve the immediate dizziness and its accompanying symptoms. In these cases a vigorous purgative should be given at once, either a teaspoonful of sodium phosphate or twice the quantity of sodii phosphas effervescens U. S. P. Instead of this, 1/10 grain doses of calomel may be given at ten-minute intervals until a grain or more has been taken. The patient should lie down. Amyl nitrite, weak ammonia, smelling-salts or some other volatile stimulant may be of immediate service. For internal administration probably sodium bromid in twenty-grain doses three times daily is most satisfactory. It is well to apply a mustard paper or plaster to the back of the neck, and the extremities must be kept warm by rubbing, and counter-irritation with a weak mustard bath or hot water bags outside of blankets. Occasionally counter-irritation of the mastoid region with a cautery is useful.

### SUMMARY

To repeat, vertigo is a symptom. Ordinarily its treatment is bound up with the treatment of its cause, and while engaged in relieving it the physician must not forget its diagnostic significance.

358 West Twenty-Ninth Street.

---

## A NEW DIFFERENTIAL LEUKOCYTE COUNT CHART

W. H. WATTERS, A.M., M.D.

Director of Department of Pathology and Bacteriology, Evans Memorial for Clinical Research

BOSTON

In the earlier days of hematology it was supposed that the leukocyte count was a quite reliable guide to the extent, progress and severity of various infections. It was shortly recognized, however, that other factors entered into the problem and that the degree of leukocytosis was more of an index of the amount of resistance, the fighting force possessed by the body, than of the virulence of the infection or of the actual progress of the combat between the invading bacteria and the natural resisting powers of the organism. Thus a normal leukocyte count or slight leukocytosis might mean little or no infection with no need of great resisting force or, on the contrary, it might be indicative of a very severe infection by which the body was overwhelmed without even a chance of combating it.

Some other additional index was needed to complement this early one. Such an index was found in the differential count, in which the percentage of the neutrophils or polynuclears was determined. At present we say in a somewhat loose way that the degree of leukocytosis is indicative of the amount of resistance put forth by the body and the percentage of neutrophils an indication of the virulence of the infection. Accordingly when we make a leukocyte and a differential count we can obtain information concerning both opposing forces.

Determination of these two factors and their deviation from normal is often of vital importance in adequately studying our cases. Unfortunately this normal is not by any means a fixed factor, the normal neutrophil percentage varying much with the degree of leukocytosis. This latter fact has been noted by all hemat-

ologists and has been well brought forward by Gibson who, in an article a few years ago, suggested a chart for tabular representation. According to that, the normal leukocyte count is placed at 10,000 and the normal neutrophil percentage at 75. Then, in a general way, he says the neutrophilic percentage should increase one for every thousand extra leukocytes if the proper proportions are maintained. Thus if the leukocyte count

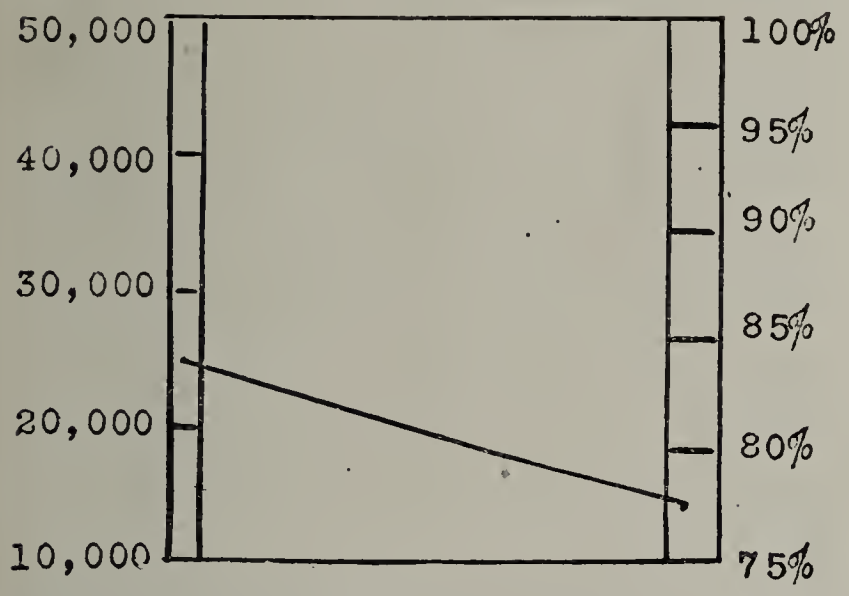



Chart 1.—Line descending—indications favorable. A mild case of infection with good resistance.

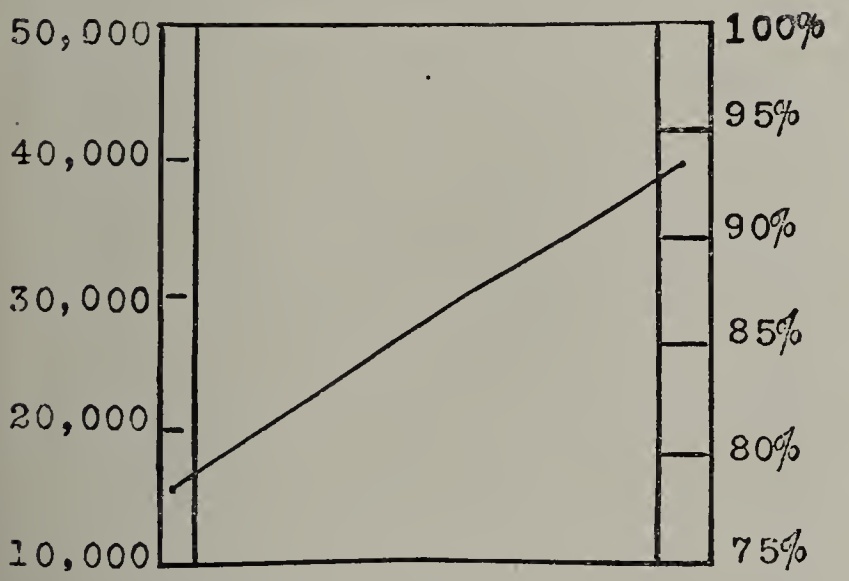



Chart 2.—Line ascending; indications unfavorable. A severe infection with rather poor resistance.

is 20,000 the normal nentrophil percentage should be 85; if it is 30,000 the neutrophil percentage should be 95 and so on.

If the neutrophils are present in greater abundance the prognosis is less satisfactory than if they are less so, and the greater the divergence the more serious becomes the prognosis. A chart was devised whereby the leukocyte count was placed on the left side and the corresponding neutrophil count on a level on the opposite one. The actual count in a given case was then plotted and the two points united by a straight line. If this line was horizontal or descending the prognosis was good, if ascending, particularly sharply so, it was more serious. The ideas advanced by Gibson were certainly valuable, as they gave a definite plan on which to work, rather than a previous rather vague impression of the same facts. I have tested them extensively during the last few years and have found them very useful. Certain modifications have seemed advisable and have been used with satisfaction for a considerable time. In order to explain them better the accompanying charts have been prepared. In Gibson's chart the weakness lies in the fact, it seems to me, that if the leukocyte count goes above 35,000 the neutrophils are above 100 per cent. The preferable way appeared to be to take out the extreme limits of the leukocyte count and of the differential count and then to divide the intervening spaces proportionately. This has been done in Charts 1 and 2.

It may be assumed that I am not speaking of any count of less than 10,000 as a leukocytosis, also that in adults the leukocyte count seldom exceeds 50,000. For a count of 10,000 a neutrophil percentage of 75 will be admitted to be about normal in adults. Equal spaces are accordingly given to each and the distances are divided proportionately. The leukocyte count is marked on the left, the neutrophil percentage on the right and the two points are united by a straight line. Just as with Gibson's original chart, a level or a descending line warrants decreasing anxiety while an ascending one serves as a danger-signal. This chart for single counts proves satisfactory but very frequently one desires to watch the progress of the disease from day to day and from this less satisfaction is noted. In such cases Chart 3 is employed. Here the leukocyte count is indicated by a solid line, the neutrophil percentage by a broken one, both charted in the same vertical plane. When the solid line is above the broken one or at least

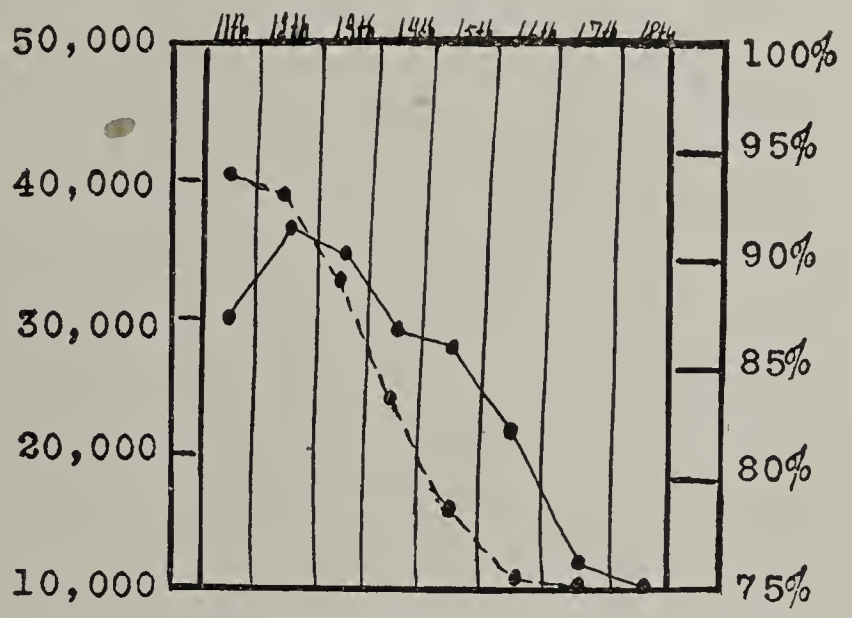



Chart 3.—Indications unfavorable on the 11th but gradually improving thereafter. A septic arm with operation and recovery.

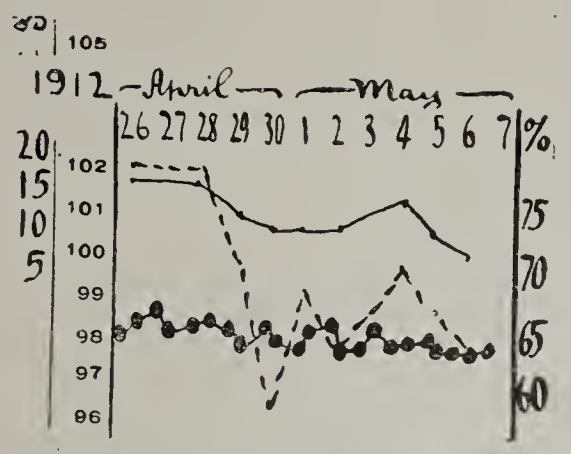



Chart 4.—Line with heavy dots, temperature curve; line with light dots, leukocyte curve; line composed of dashes, neutrophil curve. The first column of figures on the left shows leukocytes in thousands; in the second column shows temperatures.

on a level with it, the indications are that all is progressing well in the combat. If it falls below the broken one, however, it is equivalent to a call from Nature for more assistance, as the invaders are prevailing. A further modification of this chart is its transfer to a temperature chart in order to have in tabular form

the daily variations in all lines possible as shown in Chart 4.

The use of these charts has proved very satisfactory to me both from the standpoint of diagnosis and from that of prognosis. It is not maintained that they are by any means perfect; they will undoubtedly be improved as time advances. They are, however, the best means of tabulating these figures within my knowledge, and are here given publicity in the hope that they may be of some benefit to others.

80 East Concord Street.

---

# LARYNGEAL TUBERCULOSIS*

ROBERT LEVY, M.D.
DENVER

It is a pleasing commentary on the medical profession that however great the obstacles which confront it, and however baffling the solution of difficult problems, its efforts remain persistent. Were it not for this untiring patience many a discovery which has brought credit on our profession and inestimable good to humanity would still be unknown. It is no wonder, therefore, that tuberculosis is a constant source of interest and study, engaging the attention of scientists, practitioners and laymen with a grip that no amount of discouragement can lessen; nor is it remarkable that one of the complications of this disease which adds so much to the suffering of the sick should be no less interesting to the general practitioner than to the specialist, even though its treatment has been largely relegated to the sphere of the laryngologist.

Despite this union of general and special interest it must be admitted that the text-books on general medicine are prone to ignore many of the most important questions relating to the laryngeal complication of tuberculosis, passing too lightly over the remarkable change in our understanding of this disease, while special text-books dealing with diseases of the upper air-passages are equally negligent in overlooking the close relation between the general or pulmonary disease and its most frequent complication.

It must be borne in mind that the internist and the laryngologist are so closely related that the questions of diagnosis, prognosis and treatment depend on their combined efforts. The laryngologist becomes a valuable guide especially in early diagnosis and in accurate prognosis, and were he to examine the larynx of every patient with tuberculosis, his usefulness would doubtless be increased by his detection of tuberculous infiltration which passes unnoticed until the patient is beyond hope.

The importance of such examination is clearly reflected in the action taken at the last annual meeting of the Association of German Laryngologists,[1] in which it was urged that in all hospitals devoted to the combating of tuberculosis, the condition of the upper air-passages should receive special attention. This thought is further emphasized in my mind by a practical experience of many years in a section of the country to which tuberculous patients have looked with a hope born of such despair as only the verdict of the family doctor's diagnosis can inspire. Innumerable patients have been ordered away from home in whom the laryngeal involvement pointed to a hopeless future, while quite as many have been deprived of the benefits of change of climate because, in the absence of proper laryngeal examination, an early diagnosis was not established.

## FREQUENCY

It is doubtful whether any of us realize the frequeney with which this disease occurs, and it is only since we have learned to recognize early manifestations that we have fully appreciated its importance. Killian[2], in one of the latest artieles on laryngeal tuberculosis, speaks of its latent form and states that in order not to be surprised we must look with suspicion on the larynx of every tuberculous patient having bacillus-laden sputum. Comparing statistics of twenty years ago with those of to-day we can hardly believe that they are acurate. It was generally eonceded then that 30 per cent. of all eases of tuberculosis were laryngeal. Today, St. Clair Thomson[3] states that post-mortem findings show laryngeal involvement in 50 per eent. of those who die from tuberculosis and 72 per cent. as the frequeney of its occurrence in third-stage cases.

It is unfair, however, to eonclude that there has been an actual increase in the frequency of this affection. The higher percentage must be attributed to more careful examination and to our ability to recognize the lesion in its earliest stages. Were statistics available, I believe it could be shown that the apparent increase in frequency is confined to early-stage cases and that fewer late-stage cases exist than formerly. My own experience and that of several of my confrères bear out this statement. Its explanation is simple enough. Tuberculosis in general as well as that with laryngeal involvement is not only recognized earlier than formerly, but its treatment is resulting in more cures, more cases of arrest and consequently fewer late complications. In this connection it is interesting to read the statistics of the Japanese investigators, Harada and Yamoguchi[4]. These observers found tuberculosis of the upper air-passages in 16 per cent. of 42,431 throat and nose patients and in 6 per eent. of the necropsies of 2,162 individuals who died of tuberculosis. It is generally understood that tuberculosis is not uncommon among the Japanese.

Tuberculosis of the larynx in children, especially in very young children, is comparatively rare. Its frequency increases after the age of 12. Bonney of Denver in a personal communication reports a series of sixty-eight cases of pulmonary tuberculosis in children, in twenty of which there was laryngeal involvement. The average age of the twenty was approximately 15 years, the youngest child being 10 years of age. Nobécourt and Tixier[5] report the case of a child aged 3½ months in whom laryngeal ulceration, tuberculous in character, was disclosed post mortem, while Collet[6] found only four cases of tuberculosis in a thousand children of all ages.

---

* Read at the regular meeting of the St. Louis Medical Society, Feb. 22, 1913.

1. Campaign Against Tuberculosis of the Upper Air-Passages, Berlin Letter, THE JOURNAL A. M. A., Jan. 18, 1913, p. 221.

2. Killian, G.: Laryngeal Tuberculosis, Deutsch. med. Wchnschr., May 28, 1912.

3. Thomson, St. Clair: Practitioner, London, January, 1913, p. 243.

4. Harada and Yamoguchi: Centralbl. f. Laryngol. u. Rhinol., Dec. 12, 1912, p. 666.

5. Nobécourt and Tixier: Cited in The Practical Medicine Series, 1911, p. 326.

6. Collet, M.: Laryngeal Tuberculosis in Children, Lyon méd., Oct. 27, 1912, p. 677.

It is still believed by many that laryngeal tuberculosis is usually associated with advanced pulmonary tuberculosis (Osler[7]), and that the laryngeal lesion is only a local expression of the pulmonary involvement. Klebs[8] states that the earliest tuberculous manifestation is not usually coincident with incipient pulmonary lesions but with moderately advanced ones. Were every case in which the suspicion of tuberculous disease exists examined with sufficient care, laryngeal signs that are now overlooked would frequently be detected.

### EARLY MANIFESTATIONS AND DIAGNOSIS

Among the earliest signs we find slight intermittent hoarseness. This disturbance in the voice is due to one of several causes. It may be a simple weakness in the motility of the vocal bands due to anemia which, though a general manifestation of the general infection, is more prominent in the mucous membrane of the pharynx and larynx. This local expression of a general anemia is one of the signs that has always been looked on as extremely suggestive. It is followed in many early cases by a unilateral lesion associated with increased lameness on that side with or without slight redness and moderate swelling. The unilateral manifestation of early laryngeal tuberculosis is one of its most distinctive characteristics. It has been found that the lesion, in the majority of instances, is on the same side as the lung affection. Krieg[9] asserts that this is true in 92 per cent. of the cases, while Shaeffer[10] found early unilateral paresis on the same side as the lung lesion in 67 per cent. of the cases.

The explanation of this is not difficult, although there are numerous theories, any one of which is tenable. For instance, Jouty[11] believes that owing to the tuberculous lesion there is a trophic inferiority of the one side as compared with the other existing before it is possible to discover any laryngeal or pulmonary lesion. It is a recognized fact that the apex of the lung is the earliest site involved, and Cornet[12] states that the unilateral lesion in the larynx may be due to pressure of early apical trouble on the recurrent laryngeal nerve, or to enlarged bronchial lymph-nodes on the same side. Lake[13] believes the paresis to be due to a tuberculous myositis. Given a unilateral debility from nerve and muscular weakness, it is easy to understand the development of subsequent typical tuberculous changes on one side, this side being unable to cleanse itself of tubercle-laden sputum.

It is conceded that one of the most frequent of the recognized modes of infection is that by which a vulnerable mucous membrane takes on local infection. In certain cases of tuberculosis of the mouth, for instance, the local lesion can be directly traced to traumatism such as a rough tooth or a tooth extracted. The same vulnerability exists in a large majority of all tuberculous throats because of the existence of more or less chronic catarrhal pharyngitis and laryngitis. The mucous membrane in these cases loses much of its resistance to infection, and this resistance is still further lowered by the traumatism produced by every act of coughing. Coughing, however, is a salutary effort on the part of Nature to clear the laryngeal mucous membrane of accumulated secretions. Given a larynx one side of which is weak from whatever cause, bacilli-laden sputum remains more constantly in contact with this side than with the other. The sputal theory of unequal localization is therefore easily established.

A suggestive early symptom is excessive sensitiveness and irritability of the pharynx. Many persons resist by an act of retching even the use of the tongue-depressor, to say nothing of the laryngoscopic mirror. The irritability is markedly increased in a large proportion of tuberculous cases and, if it exists in connection with pallor, slight fever and hacking cough, it should be seriously considered.

Pain as a symptom has uncertain significance. It may mean a great deal and it may mean nothing. Being a purely subjective manifestation, its character necessarily differs according to personal equation. It is present as a rule in ulcerations, although these may exist without pain. Sensations described as discomfort by some and actual pain by others may be present without ulceration and without tuberculous lesions of any description. The common condition of dryness due to defective secretion as seen in the dry skin and the dry hair of the tuberculous patient has its analogue in a dryness of the mucous membrane of the pharynx and larynx which induces painful sensations more or less constant but particularly marked at night.

During the act of swallowing this sensation may be materially exaggerated, but an important distinctive point is found in the fact that the pain is most marked during an attempt at swallowing at other than the time of taking food. It is also complained of during the first part of the meal; but instead of being increased by the taking of food it is relieved thereby, completely disappearing in a few moments.

The onset of tubercle deposit in the submucous tissue, even without definite tuberculous ulceration, is frequently marked by early pain, and shows itself on physical examination as a circumscribed pale edematous swelling with small grayish or yellowish pin-point elevations distinctly appearing beneath the mucosa, and embedded in it. The pain in this instance is not relieved by the act of swallowing, although it may be diminished, because dryness at all times must be looked on as an exciting cause irrespective of tuberculous deposits. When, however, these deposits exist at the same time as the dryness the pain continues as long as any irritation is applied to them. The excruciating pain of more advanced tuberculous laryngitis is due, of course, to extensive ulceration, and has always been considered one of the characteristic differential points in determining the presence of this disease. It is unquestionably a valuable symptom in the diagnosis, but it should not be taken as pathognomonic. Ulcerations of extensive character may exist on the interior of the larynx and cause practically no pain. Moreover, there are many pathologic changes other than ulcerative which are typical of laryngeal tuberculosis, and in which pain is entirely absent.

As already seen, it is not my purpose to discuss the diagnosis of this disease when it is well established, but rather to impress certain typical features of early symptoms in order that an early diagnosis may be possible.

The use of tuberculin as a diagnostic aid is extolled by some, notably von Ruck,[14] who states that many

7. Osler, W.: Modern Medicine, 1907, iii, 632.
8. Klebs: Tuberculosis, 1909, p. 200.
9. Krieg: In Edwards' Principles and Practice, 1907, p. 354.
10. Shaeffer: Quoted by Cornet in Nothnagel's Encyclopedia of Practical Medicine, 1907, article on Tuberculosis.
11. Jouty: Jour Laryngol., Rhinol. and Otol., September, 1911, p. 491.
12. Cornet: See Footnote 10.
13. Lake: Laryngeal Phthisis, 1901, p. 17.
14. Von Ruck, S.: Prognosis of Tuberculosis of Larynx, New York Med. Jour., Aug. 17, 1912, p. 321.

cases show characteristic evidence of focal reaction to tuberculin preparations. Unquestionably this is true, but only to a certain extent, and should not be made the sole test.

The finding of tubercle bacilli in the sputum is confirmatory evidence of tuberculosis, but the question of differentiating the locality from which this sputum was derived throws the question of local tuberculosis open. In many early cases no cough or expectoration exists, and therefore sputum examination is impossible. Much light, however, may be thrown on the situation by carefully rubbing the suspected larynx with a firm pledget of cotton and subjecting this to bacteriologic scrutiny. I have frequently been rewarded by finding tubercle bacilli by this method.

A common error is made by the general practitioner in believing a case to be one of laryngeal tuberculosis because of the presence of intermittent or constant hoarseness coming on during the course of a pulmonary infection. The most frequent cause of this error is the coincident development of laryngitis sicca. In these cases the hoarseness may be extreme, and with it at times is associated some laryngeal obstruction. It often occurs in advanced cases at a time when laryngeal tuberculosis may be expected. The uniform redness and the presence of small scales of dry secretion in the larynx clear up the diagnosis.

The development of sudden aphonia following a pulmonary hemorrhage is also suggestive of the onset of the laryngeal complication, but one should not be led into error by a snap-shot judgment in this case, for I have frequently seen this sequence of events due to a sudden pronounced bronchial lymph-node infection producing such marked pressure on the recurrent laryngeal nerve as to cause complete fixation of one lateral half of the larynx. Should this occur in a very early stage of tuberculosis before the pulmonary lesion has been detected, it would have a bearing on the general diagnosis. Occurring after the pulmonary lesion has been well defined, it by no means indicates tuberculous laryngeal invasion.

During the course of pulmonary tuberculosis and while the patient is progressing favorably in every respect, the sudden development of hoarseness, increase in general symptoms, and return of the afternoon fever frequently suggest a new focus of trouble, and the natural supposition is that the larynx is the responsible structure. This is quite frequently an erroneous conclusion. Constitutional symptoms are more frequently due to new foci in the lungs, or to gastro-intestinal disturbances, than to laryngeal invasion. Such symptoms can be ascribed to the larynx only when objective examination shows this organ to be involved in the most intense acute manifestation. Hoarseness due to moderate redness, swelling or infiltration may mean laryngeal tuberculosis, but it is not necessarily the cause of serious constitutional symptoms.

## PROGNOSIS

Of all the questions concerning this disease, that of prognosis must possess the greatest significance. To know whether or not a disease is curable, how much may be expected from treatment, or how far spontaneous cure may be anticipated, affects all investigation and all problems of practical application. Without the encouraging hope of a favorable result, how little is the stimulus to original research! The encouragement given to the early investigators in general as well as local tuberculosis came from the reports of spontaneous cures.

The last twenty-five years and especially the last ten years have brought about a cheerfulness in our view of this affection which cannot be subdued by the most pessimistic. It has been a hard fight. It is still an up-hill effort, and were it not for the failure on the part of general text-books to recognize the curability of laryngeal tuberculosis, the way would be easy and more lives would be saved or at least made comfortable. Unfortunately we still see such statements as these: "The prognosis is not only bad in all cases, but when it develops as a complication of the pulmonary disease it adds an element of great danger to the previous condition."[15] No word of hope, none but of despair!

On the other hand, too great an optimism or the report of cures that must be open to question is bound to be so reactionary that discouragement becomes the greater. When we read that only mild and gentle measures cure a large percentage of early and a fair percentage of advanced cases,[16] we know that this is not borne out by the experience of many men. Our disappointment becomes so great that a return to a hopeless inaction is the result. The conservative but hopeful view is the only one which will serve to overcome the prejudice of the ages against the curability of this affection. Every case of cure, whether by spontaneous healing, by climatic influence or by judicious local treatment should be placed on record. All cases of failure should also be recorded, with an outline of the cause for such failure. In this way the extreme optimism of the enthusiastic specialist will be curbed, while the inherent pessimism of the general practitioner who has seen only the worst cases will at least be restricted.

The percentage of cures has been variously estimated by different authors, but it is almost impossible to generalize, for much depends on individual peculiarities. I know of no disease into the prognosis of which so many items enter as into that of laryngeal tuberculosis. The stage of the affection, the nature of the lesion, the situation of the lesion, the complications, the associated general or pulmonary involvement, the environment of the patient, his social position—all and more must enter into a consideration of the possible termination. Were we to study only the prognosis of early cases, the disease would no longer be one to be dreaded; on the other hand, were our statistics to be derived exclusively from late-stage cases, no hope would encourage us. A fair percentage of cures is given by Brüll,[17] who found that 58 per cent. of the patients were clinically cured when they left the sanatorium, and that of these 31 per cent. remained cured. The latter probably more nearly represents a reasonable estimate of curability in all cases.

Schroeder[18] reports 170 deaths of patients suffering from laryngeal and pulmonary tuberculosis, in only seven of whom the larynx could be held as the cause. Among his cured patients we find 30 per cent. men and 26 per cent. women. This agrees with the findings of the majority of writers, who find that although laryngeal tuberculosis is more common in the male sex,

15. French: Practice of Medicine, 1907, p. 390.
16. Pottenger: Pulmonary Tuberculosis, 1908, p. 243.
17. Brüll, L.: Curability of Laryngeal Tuberculosis, Beitr. z. klin. d. Tuberk., xxiii, No. 1; abstr., THE JOURNAL A. M. A., July 13, 1912, p. 151.
18. Schroeder: Cited in Centralbl. Laryngol. u. Rhinol., June, 1912, p. 323.

it is more fatal in the female. This must in a great measure be attributed to the occurrence of pregnancy, which Kuttner,[19] Freudenthal[20] and others have shown is one of the most serious complications that may arise in the course of tuberculosis. There is much discussion as to the induction of abortion in pregnant tuberculous women, the mooted question being with regard to the extent of the tuberculous involvement. Undoubtedly much individualization is necessary in arriving at a conclusion, but there can be little question as to the rapid progress of laryngeal tuberculosis in pregnant women, especially immediately following delivery. Therefore in cases presenting definite tuberculous lesion of the larynx, we should have no hesitancy in recommending artificial delivery.

The prognosis of laryngeal tuberculosis must be considered from two points of view, that relating to its influence on the general condition and to a possible fatal termination, and that relating to its effect on the voice. Generally speaking, the advent of laryngeal complication adds to the gravity of the prognosis. This statement applies only to those cases in which the nature of the complication is of the rapidly active type with marked edematous swelling and abundant deposits of tubercles. The seriousness of its effect on the general outcome increases with the lateness in the stage of the general disease in which it develops. In that form of laryngeal tuberculosis in which there is little or no tendency to ulceration, the form characterized by more or less firm infiltration, the progress of the general disease is not materially affected. Unquestionably the local and the pulmonary or general infection progress favorably or unfavorably one with the other, but on the whole the general infection is much more responsible for a failure to obtain laryngeal improvement than is the local affection for the general or pulmonary condition. On the other hand, the latter often improves in proportion to the favorable progress made in the larynx. This is especially true in those cases in which local treatment overcomes odynophagia, thus enabling the patient to take food. Freudenthal[21] says, "The curability of tuberculosis of the lungs depends very much on the cure of the laryngeal condition." While this may be rather a strong statement, it nevertheless possesses a large element of truth.

No one has more clearly outlined the character of cases in which a good or bad prognosis may be given than Heryng,[22] who states that the possibility of a cure is above all dependent on the constitution and resistance of the patient, together with the anatomic character of the pulmonary affection and its extent, the age, occupation and financial status of the patient and the period in which the proper treatment is begun. In addition to this, a good prognosis so far as life is concerned may be assured in the infiltrative type and in those of the ulcerative variety in which the lesions are sluggish in character and situated on the interior or more protected portions of the larynx.

The prognosis as regards the restoration of the vocal function is of great importance. The mental distress occasioned by the loss of voice can be appreciated only by those who have suffered a similar affliction and, although it must be looked on as of less actual importance than the general systemic disturbances, its gravity should not be underestimated. Unfortunately, in few cases in which complete loss of voice has occurred can it be restored to perfectly normal function; nevertheless a large proportion of voices can be restored to usefulness. Even in those cases in which extensive destruction of one vocal band has resulted or marked infiltration has been present, the patient may be rescued from a voiceless future. The cases offering the least hope in this particular are those in which the arytenoids and the interarytenoid space undergo extensive fibroid hypertrophy associated with perichondritis which invades the crico-arytenoid articulation.

19. Kuttner: Arch. f. Laryngol., xii.
20. Freudenthal: Laryngoscope, July, 1912, p. 273.
21. Freudenthal, W.: Prognosis and Treatment of Tuberculosis of Larynx, Laryngoscope, July, 1912, p. 971.
22. Heryng: Ann. Otol., Rhinol. and Laryngol., 1908, p. 1003.

### TREATMENT

It is not my intention in this paper to discuss individual or special lines of treatment any more at length than I have the pathology, symptomatology and prognosis of tuberculosis of the larynx. A consideration of the history of this disease shows how closely its curability, its treatment and in fact all large questions relating to it are bound together. We have already seen that the curability of the disease is largely dependent on an early diagnosis, which until comparatively recent years was the subject of but little consideration. Those cases which were in advanced stages and those complicated by extensive pulmonary tuberculosis were the only ones to which attention was directed. For many years local palliative measures in conjunction with general, dietetic, hygienic and climatic measures were the only ones recognized. Surgical intervention was, in fact, the first method of treatment which was directed with a definite purpose toward the cure of this affection.

Voltolini[23] in 1867 reported the case of a man, aged 54, suffering from advanced tuberculosis, whose larynx was filled with excrescences and covered with ulcerations. This case was treated by galvanocautery until the entrance to the larynx was freed. The deeper portions of the larynx were then seen to be filled with infiltration to such an extent that Voltolini was completely discouraged, and discontinued treatment, leaving the patient to his fate. This form of surgical treatment seems to have received but little attention and still less encouragement. In fact, Gottstein, in 1893, condemned the treatment on the ground that it might increase the trouble by producing postoperative edema. Other men, notably Schech, Gleitsmann, Schmiegelow and Screbrny, recommended this treatment more or less enthusiastically, but it was not until Ludwig Grünwald in 1907 published his monograph entitled, "Die Therapie der Kehlkopftuberculose mit besonderer Rücksicht auf den galvanokaustischen Tiefenstich und Aussere Eingriffe," that the galvanocautery received its just consideration.

The next surgical procedure was incision and scarification, advocated in 1880 by Moritz Schmidt of Frankfort. This operation was performed by knife or scissors, and consisted in incising the posterior wall and arytenoids in cases of dyspnea or dysphagia due to tuberculous edema or infiltration.

Submucous injection was first recommended by Major of Montreal in 1886. He injected 5 drops of a 30 per cent. solution of lactic acid into the infiltration of the aryepiglottic fold and in diffuse swelling of the epiglottis. Later Heryng injected iodoform emulsion, while other authors advised a variety of remedies. Chappell of New York described a special syringe which made it possible to inject with greater accuracy the remedy desired. He recommended solutions of creosote.

23. Voltolini: Die Anwendung der Galvanokaustik, 1867.

In 1886 Heryng of Warsaw promulgated a form of treatment which may be said to be more distinctly surgical than any method previously suggested. The idea of active surgical intervention more or less radical in character appears to have been the culmination of a gradual change of view from the former mild or entirely passive treatment in vogue. In 1879 Robinson wrote that he believed that all "caustic substances are radically wrong when applied to the ulcerated laryngeal surfaces of phthisis." Heryng's brilliant results were not confirmed by other observers; nevertheless, the surgical treatment recommended by him was on purely scientific principles, and therefore the removal of tuberculous masses by excision and the stimulation of tuberculous ulcers by curettement has been adopted as a recognized form of treatment. Krause of Berlin in 1887, Goughenheim of Paris in 1887, Gleitsmann of New York and numerous other reliable authorities have added their testimony to its value. The true status of the surgical treatment of tuberculosis is between the extremely radical measures first advocated by Heryng and others, and the extremely conservative method representing the relic of the early writers. Its true position has been more clearly defined by recognizing the fact that certain cases offer definite contra-indications, while others present ideal indications for surgical interference.

During the past few years there seems to have been no actual innovation or true advance in treatment. These years, however, have not been without great value, for they have been devoted to an adjustment of various methods previously recommended, to a separation of the good from the bad and to a more definite understanding of the indications for and the real value of each. Apparently the consensus of opinion in modern literature is strongly voiced in support of the following:

1. Treatment by means of rest to the vocal organ in conjunction with rest and general hygienic measures.
2. Local measures, modifications of surgical procedures. Among these the use of the galvanocautery seems to have at the present time the most advocates.
3. The relief of pain by injection or section of the superior laryngeal nerve.
4. The use of tuberculin

### REST AND OTHER CONSIDERATIONS

Too much emphasis cannot be laid on the necessity of complete vocal rest. While this is apparently a simple method of treatment, it will be found one of the most difficult to carry out satisfactorily. It should be insisted on in all cases and in all stages. Its beneficial effect is particularly gratifying in the early cases, namely, those in which unilateral redness or moderate infiltration is found. The ulcerative cases, especially when not too far advanced, are also remarkably benefited, and it was because of the recognition of this principle that Moritz Schmidt so many years ago advocated tracheotomy The patient should be instructed to express all of his desires in writing. When this cannot be carried out satisfactorily. whispering is permitted; but the whisper should be produced in the mouth and not in the throat

Besides local rest, much attention should be paid to general treatment, and although local measures must constitute a large element in the treatment of this affection, harm frequently results from insisting on the exertion necessary for the patient to keep appointments at the office. In other words, local treatment must give way in many instances to general treatment, especially when fever, rapid pulse, excessive cough and general depression point to the necessity of avoiding physical exertion. The establishment of sanatoriums has been of inestimable value in the treatment of general tuberculosis, and will be of similar worth in the management of laryngeal cases as soon as it is generally acknowledged that these cases should not be excluded from these institutions.

Recently the full importance of establishing through normal nasal respiration a more healthy condition of the upper air-passages has been recognized. At the meeting of the British Medical Association[24] in 1911 this was particularly impressed on us by such men as Watson Williams, Dundas Grant and others. In 1891 I stated my belief[25] in the importance of establishing a satisfactory hygiene of the upper air-passages, and made the following statement: "That every patient with phthisis shall breathe properly through the nose is of paramount importance in preventing a chronic catarrhal laryngitis which, having once obtained, furnishes good soil for the development of tuberculous laryngeal complication." One should not hesitate to free the nose of all obstructive lesions, and tuberculosis, instead of being a contra-indication to such operations as septal resection, is rather an indication for such an operation, except in very advanced cases.

Climatic treatment should also enter into a consideration of general measures and, notwithstanding the opinion of excellent English authorities to the contrary,[24] high altitudes and rarefied air do not increase the laryngeal complication or its severity. It is a recognized fact that dry and rare atmospheres have an excess of sunshiny days during which the patient can remain out of doors. It is not denied that the outdoor treatment has been the one great factor in the cure of tuberculosis. Humid, cloudy days are depressing and produce their injurious effects on tuberculosis in general. It must therefore be conceded, if we acknowledge the close relation between pulmonary and laryngeal tuberculosis, that whatever climate affects injuriously the pulmonary infection reacts injuriously on the laryngeal complication. The converse must naturally follow.

All of the means used in treating the general disease must enter into the management of the local affection and nothing be left undone that may improve the patient's general well-being. Fresh air, an abundance of sunshine and rest, and a maximum of nutritious food are the cardinal principles that must guide us in general treatment.

In order to enable a patient to take a maximum of food it becomes necessary to relieve dysphagia and odynophagia, and for this purpose, if for no other, local treatment becomes absolutely essential. It is remarkable what a variety of opinion one can obtain with regard to the benefits to be derived from local measures. One can find good authority for ignoring entirely the local lesion as well as for the most heroic topical measures. All degrees of activity between these two extremes will be found advocated by reputable men. Edwards,[26] who may be considered the mouthpiece of the general practitioner, states that local measures do not modify the process, that caustics do more harm than good, and that treatment is unsatisfactory. Hett[27] is a strong advocate of surgical treatment in all cases, even the most

24. Tr. Brit. Med. Assn., July, 1911.
25. Levy: Treatment of Laryngeal Phthisis, Tr. Colorado State Med. Soc., 1901.
26. Edwards: Practice 1907, p. 355.
27. Grant, D., Williams, P. W., and Hett, G. S.: Treatment of Tuberculosis of Larynx, Jour. Laryngol., Rhinol. and Otol., November, 1911, xxvi, No. 2.

advanced. Freudenthal,[28] Hutter,[29] von Navratil,[30] and many others express their approval of more or less strenuous local measures, but temper their statements with great conservatism. The opinion of Horne[31] may serve as a guiding principle; he states that the rational treatment is to preserve the mucous membrane covering the larynx and to induce a metaplasia of the columna mucosa into the squamous variety—that is, to induce a condition of pachydermia laryngis. He further states that this is the natural process of arrest and that it can be induced and imitated by absolute rest to the voice and the submucous puncture with a galvanocautery point.

Among the local curative as well as palliative measures none has been so highly praised within the last few years as the galvanocautery, and, although it is still unrecognized by many, it must be accepted at present as one of the most satisfying. De Reynier[32] believes it to be the only surgical procedure of any value. Others are nearly if not quite as enthusiastic. The galvanocautery may be used in all forms of the disease. Superficial ulcerations readily heal under its action, while edematous infiltrative swellings frequently shrink to comparatively small size. If the experiments of Wood[33] are accepted, its value will be beyond that of anything else which we have at our command. Wood states that he has no doubt that a retarding influence is exerted beyond the area actually destroyed by the heat, and his histologic studies bear out this assumption.

More heroic surgical intervention may be carried out with benefit in many cases, particularly in those in which the infiltrations are circumscribed and soft, and thus are easily extirpated by double curet or cutting forceps, as well as in deep ulcers of sluggish character that may be stimulated into healthy activity by thorough curettage. The extirpation of infiltrated masses or the amputation of the epiglottis depends largely on the extent of the lesion and its limitations. Even though the entire tuberculous involvement cannot be removed by amputation of the epiglottis or excision of circumscribed swellings, the result of such operations has been frequently gratifying, especially as palliative measures, as shown by Lockard[34] of Denver.

Relief of the intense suffering must be considered as one of the most important indications for treatment. While local applications of anesthetic and analgesic remedies afford some relief, they have never been very satisfactory. It is no wonder, therefore, that the laryngologic world has accepted almost as a unit the blocking or section of the sensitive nerve of the larynx, namely, the superior laryngeal branch of the pneumogastric. Without entering into a detailed discussion of this method of treatment, I should like to say that it is comparatively easy of performance and that the relief is marked in a large majority of cases. Failure occasionally results, but if the nerves on both sides are attacked, the patient will derive sufficient comfort lasting from one to three weeks to urge a repetition of the procedure. The injection of alcohol into the nerve seems to be the most generally accepted procedure. Cocain, stovain and other remedies have been less acceptable. The method of injection has been described by Frey, Hoffman and others. The great advantages to be derived from this remedial agent are concisely laid down by Boulay,[35] who states that three results are accomplished:

1. It relieves pain.
2. It prevents pain for the performance of intralaryngeal operations such as cauterization, etc.
3. It favors cure by allowing the patient to take food and by increasing his hopefulness.

The use of tuberculin in laryngeal as well as in general tuberculosis has for many years been a mooted question. I am satisfied that it is of value in many instances, especially as advocated by Meyer,[36] when combined with surgical measures. Blumenfeld[37] believes that it is of value, but that it should be used only in bad cases. Wilkinson[38] recommends it most strongly in all cases, and uses it to the exclusion of other remedies. Whatever view we take of its use, we can safely say that its application is desirable as an adjunct to local treatment, but that its administration must be carefully conducted. It should not be administered indiscriminately, especially when pulmonary activity is great. Selected cases that can be watched properly, preferably in sanatoriums, respond most satisfactorily.

As to the more extensive external surgical procedures such as tracheotomy, laryngofissure and laryngectomy, the work of Gluck and Sorensen[39] of Berlin stands out as the most prominent. Few as yet have had the temerity to follow in the footsteps of the surgeons, who radically extirpate the entire larynx for the relief of this affection. It is remarkable that Gluck has had the results reported, but even his success cannot make these procedures find favor with the profession at large. At any rate, so long as success has attended simpler measures, and so long as this success is rapidly increasing the number of cures, extensive, life-endangering operations must be condemned.

Metropolitan Building.

28. Freudenthal: Practical Medicine Series, 1911, p. 326.
29. Hutter: Wien. klin. Wchnschr., Feb. 3, 1910.
30. Von Navratil: Cited in Centralbl. f. Laryngol. u. Rhinol., March, 1912, p. 156.
31. Horne: Jour. Laryngol., Rhinol. and Otol., November, 1911, p. 601.
32. De Reynier: Cited in Centralbl. f. Laryngol. u. Rhinol., November, 1912, p. 593.
33. Wood: Tr. Am. Laryngol. Assn., 1911, p. 184.
34. Lockard: Tr. Am. Laryngol. Assn., 1911, p. 29.
35. Boulay: Presse méd., Jan. 28, 1911, p. 72.
36. Meyer: Cited in Jour. Laryngol., Rhinol. and Otol., June, 1912, p. 329.
37. Blumenfeld: Cited in Jour. Laryngol., Rhinol. and Otol., May, 1912, p. 294.
38. Wilkinson: Practical Medicine Series 1911, p. 329.
39. Gluck and Sorensen: Cited in Centralbl. f. Laryngol. u. Rhinol., etc., January, 1912, p. 51.

## THROMBOPHLEBITIS OF THE EXTERNAL ILIAC VEIN

MEDWIN LEALE, B.A., M.D.

NEW YORK

Of recent years a number of monographs have appeared on thrombophlebitis. Among these may be mentioned those of Clark,[1] Brooks and Crowell,[2] Jakowski,[3] Cordier,[4] Cohen,[5] Kraemer,[6] and Kistler.[7] In addi-

1. Clark: Etiology of Postoperative Femoral Phlebitis, Univ. Penn. Med. Bull., 1902-1903, xv, 154.
2. Brooks and Crowell: The Relation of the Coagulation Time of the Blood to Thrombosis in Phlebitis, Jour. Exper. Med., 1908, x, 271.
3. Jakowski: Ueber die Mitwirkung der Mikro-Organismen beim Entstehen der Venen-thrombosen, Centralbl. f. Bakteriol., 1900, xxviii, No. 3, p. 801.
4. Cordier: Phlebitis Following Abdominal and Pelvic Operations, THE JOURNAL A. M. A., Feb. 16, 1905, p. 1792.
5. Cohen: Arch. Int. Med., Nov. 15, 1911, p. 684; Dec. 15, 1911, p. 820.
6. Kraemer, F.: Zur Frage der pramonitorischen Symptome der Thrombosen bzw. Embolien, Deutsch. Med. Wchnschr., July 11, 1912, xxxviii, No. 28, p. 1313.
7. Kistler, H. D.: Thrombophlebitis of the Left Leg, THE JOURNAL A. M. A., Aug. 10, 1912, p. 437.

tion Ludwig Aschoff[8] in a recent lecture has carefully considered the etiology and pathology of thrombosis. On the other hand, little seems to have been written on this pathologic condition in cases in which it involves the veins within the abdomen. On account of the paucity of such recorded cases it is my intention to consider in this article thrombophlebitis of the external iliac vein, going perhaps more particularly into its symptomatology and differential diagnosis, and finally to report a case complicating an otherwise uneventful convalescence from typhoid fever.

The great relative frequency of the occurrence of thrombophlebitis in the veins of the left leg is a familiar fact to most of us, and it has been commented on by many authors. This can be explained in large measure by the peculiar anatomic relations of the blood-vessels and other structures in the lower left quadrant of the abdomen. As so ably pointed out by Kistler,[7] the blood-flow in the left common iliac and external iliac veins is somewhat retarded by the peculiar anatomic relations of these vessels with the left common iliac and external iliac arteries and particularly with that of the left internal iliac artery as it arches around the left external iliac vein just below the point of origin of the latter. This tendency to a partial obstruction may also be increased by pressure against the body of the fifth lumbar vertebra and its intervertebral disk. It is not surprising, then, that below this point of partial obstruction we find a mechanical reason for the localization of thrombi and a consequent localized phlebitis. These pathologic conditions, however, occur more often at a more distal point, as in the calf or the thigh, and only rarely in the abdomen in the external iliac vein.

Thrombophlebitis in any one of the veins of the body is usually consequent on one or more of a variety of causes, as a bacteriemia or toxemia resulting from the surgical infections or infectious diseases. Thus we may see it complicating puerperal fever, or any one of the infectious diseases in which we have a pronounced toxemia or bacteriemia, as in typhoid fever, pneumonia or diphtheria. It occasionally complicates heart-disease, gout and operations, even though in the latter there may be no direct evidence of infection. Again, a simple thrombus may form if the coagulability of the blood is increased from any of a number of causes. Anything which injures or lowers the vitality of the blood-vessels tends to determine the formation of a thrombus, as does also any factor which tends to cause a pronounced slowing in the blood-stream.

Jakowski after careful experimentation points out that in most cases a constriction of the vessel-wall is needed to bring about thrombus formation, even in the presence of a bacteriemia. This vessel constriction is readily explained in the cases occurring in the left leg, and also in those occurring within the abdomen in the left external iliac vein, for the anatomic reasons already given. The same anatomic factors leading to a partial obstruction, however, do not obtain on the right side, and hence this side is much less often affected. It is thrombophlebitis occurring in the external iliac veins with which it is my purpose to deal in this article.

The symptomatology of this condition may be clear or it may be very obscure, calling for most careful watching to differentiate it early and satisfactorily from other acute abdominal conditions. I shall first consider the symptoms of this condition as they usually appear, and then give a few points which may serve to differentiate it from such acute conditions as appendicitis and perforation of the intestine.

In examining for lesions of the external iliac veins, we must carefully bear in mind their location. The external iliac vein is the continuation upward of the femoral vein and begins at the brim of the pelvis and runs upward and backward to form with the internal iliac the common iliac vein. To the clinician the external iliac vein occupies the space running upward, inward and backward from a point a little to the inner side of the middle of Poupart's ligament, passing over the brim of the pelvis to a point at the lumbosacral articulation and opposite the sacro-iliac joint. It is in this space, then, when the vein is sufficiently infiltrated, or is harboring a thrombus, that the external iliac may at times be palpated. The farther upward and away from Poupart's ligament the pathologic process occurs, just so much more difficult does palpation become, and the more confusing may be an early accurate diagnosis.

The diagnosis of thrombosis of the external iliac vein, when it is merely an extension of a like process in the femoral up into the abdomen, presents little if any difficulty; but when the process begins in the abdomen before signs have presented in the leg, the acute symptoms simulating at times other abdominal conditions, then it is that a differential diagnosis may be fraught with much difficulty. An early diagnosis in these cases is very important.

The earliest symptoms are usually a dull ache or a more or less sharp pain in the lower part of the iliac region with a subjective sense of fullness in the same location. The pain is usually localized from the beginning. This pain may be merely a dull ache, but more often it is intense, and later usually constant. There is often a sense of tightness in the same location. There may be numbness and disturbances of sensation; but, when present, they are less localized than the pain, often extending from above Poupart's ligament down into the leg.

One of the most characteristic symptoms is the behavior of the pulse. Either synchronous with or at times preceding the onset of the pain there is a sudden rise in the pulse-rate. This acceleration may at times be a rise from about normal to 110 or even 150 to the minute. The character of the pulse is usually small and may be thread-like. There may be irregularity or even intermittency. A steady step-like rise in the pulse may be the first sign to direct our attention to the possibility of thrombosis. The height of this rise in the pulse-rate is, however, not long maintained. With, or often a few hours after, the rise of pulse, there is usually a rise in the temperature. The onset or exacerbation of the fever may be accompanied by a distinct rigor, or more often by chilly sensations. The fever is usually more severe with septic thrombi. At times there may be sweating, and more rarely a cold, clammy skin.

It will often be later, sometimes twenty-four hours or more, before it will be possible to elicit anything definite by palpation. The first sign then will be a fulness or slight sense of resistance, usually with marked tenderness. There may be a moderate rigidity of the overlying muscles. Still later, if the thrombus or the inflammatory thickening is not situated too far up and back along the course of the vein, it will usually be possible by very gentle palpation to locate a firm sensitive cord in the course of the vein.

8. Aschoff, Ludwig: Thrombosis, Cartwright Lecture of the Alumni Association of the College of Physicians and Surgeons, New York, delivered at the New York Academy of Medicine, March 12, 1913.

After the symptoms have been limited to the abdomen for hours, or more rarely for a day or two, the process of the disease is usually indicated by enlargement and edema of the leg, whether the process has extended downward into the femoral, or upward into the common iliac vein, or perhaps has only remained in the original site. The last-mentioned process, however, is rare, for the disease usually develops into a more or less extensive phlebitis with at times the formation of additional thrombi.

Later, if the inflammation should extend downward below Poupart's ligament, it would usually manifest itself as a red line of inflammation along the course of the femoral vein. There may be a sense of increased heat in the area immediately above Poupart's ligament, but this is more constant below the ligament when the inflammation passes into the leg.

When the thrombus is inflammatory in its origin, edema often first presents itself at or near the site of the thrombus, or the edema may gradually develop in the whole lower limb at the same time. When there is little accompanying inflammation, the edema is more apt to occur at a more distal point, well down in the extremity. Edema may be a late symptom, and often on this account it is not present to help us in making an early diagnosis, which from a surgical point of view may be essential. Over the site of the thrombus or phlebitis or both, there may be a pale or glossy appearance of the integument, and there is usually increased heat. Over more distal points, however, there may be a reduction in the surface temperature. These symptoms are more often found in the leg resulting from obstruction to the venous flow from the leg. Cyanosis or a dilatation of the veins of the lower extremity may occur later. The edema of cardiac and renal disease shows more pitting on pressure than does that following thrombophlebitis. As cardiac and renal disease may be accompanying conditions, it may be well to keep this point in mind. Many of the above-mentioned symptoms may at times be lacking, even in the late stages; but when a number of them are present, the diagnosis is not difficult.

In differentiating thrombosis of the external iliac vein from other acute abdominal conditions we should carry our physical examination farther, noting the presence or absence of distention, whether regional or general tympanites is present, or whether there is free gas in the peritoneal cavity. If there is dulness in the flanks, there is usually free fluid in the peritoneal cavity, or the colon is greatly distended from intestinal obstruction. Liver dulness becoming pushed up, diminished or obliterated, might point to a perforation; but this unfortunately, is often not an early symptom of perforation of the intestine. In other acute abdominal conditions the pain is frequently not localized at the onset as is that of thrombosis of the external iliac vein, the location of the latter being a more or less constant factor. A more diffuse pain, later becoming localized, is more often seen in other abdominal conditions. The same may be said in a general way of the tenderness elicited by palpation. The presence or absence of increased peristalsis or of paresis of the intestine should be noted. When there is an acute abdominal condition accompanied by a high grade of toxemia, a marked fall in the blood-pressure follows, with possibly a cyanosis, with or without clammy skin and great prostration, together with a steady advance in the symptoms, unless the pathologic condition is relieved.

When a tumor is present in thrombus formation it is usually seen or palpated as a cord-like swelling or induration following the course of the vein. Rigidity of the overlying abdominal muscles is not so marked in cases of thrombosis of the external iliac vein as it is in many other acute abdominal conditions.

One of the most helpful signs in the early diagnosis of this condition, which has already been mentioned, is the peculiar rapid step-like rise in the pulse, which often mounts to considerable heights. The pulse, however does not usually long maintain its phenomenal increase in rate, but drops to a rate more in keeping with the temperature.

A careful examination of the blood may be of value in assisting us in making an early differential diagnosis.

Under ordinary conditions an increase in the relative number of polynuclear cells is an index to the severity of toxic absorption, and the increase in the total number of leukocytes is evidence of the resistance of the body to absorption.

In the acute stages of most of the infections there is an increase in the polynuclear leukocytes. In the early stage of thrombosis there does not seem to be in many cases so marked a rise in the polynuclear leukocytes, or in the total leukocyte count. This is particularly helpful in differentiating thrombosis of the external iliac vein from acute abdominal conditions associated with the formation of an abscess, as for instance appendicitis or on the left side an acute diverticulitis of the sigmoid.

In typhoid fever, as is well known, there is usually a leukopenia and a relative lymphocytosis. In this disease, when there is a complicating purulent exudate, and this exudate is due to the typhoid infection alone, there is no leukocytosis and no polynuclear increase. Sondern[9] tells us that in mixed infections with typhoid bacilli, such marked polynuclear percentages are not found as we usually get in pure staphylococcus or streptococcus infections. The careful periodic examination of the blood, therefore, may give us valuable confirmatory evidence.

When we come to consider the prognosis of thrombophlebitis of the external iliac vein, we must bear in mind the fact that the thrombus may or may not occupy the whole lumen of the vessel. At the start these thrombi usually lie along the side of the vessel, but later on may extend and finally occupy the whole lumen, in which case we have an occluding or obstructing thrombus. In this latter instance the prognosis will depend on how rapidly or completely the collateral circulation is established, or whether or not the thrombus is eventually absorbed and the lumen partly or wholly established.

Another point to be considered is the possibility of the separation of an embolus with its attendant dangers. The general condition of the patient has also to be considered. Where the heart and blood-vessels are sound and the circulation otherwise good, we would expect a more rapid disappearance of the symptoms. At times an organized thrombus may entirely disappear. An aseptic thrombus gives a much better prognosis than a septic one, other things being equal. Careful observers believe that organization may be well started within a week, but this is by no means the rule, and even then secondary degenerative changes may take place later with their attendant dangers.

9. Sondern, F. E.: General Considerations in Reference to Blood Examination in Surgical Diseases, New York Med. Jour., Jan. 26, 1907.

The case which I am about to report is that of a young man, aged 20, of athletic build, and of good health and vigor. The most serious affection from which he had suffered was an attack of scarlet fever, through which I cared for him six years previously, and from which he made a complete recovery.

On being called to see him I found that he had been ill for six days with what was said to be gastric fever. His temperature was 105.4 F., with headache, pain in the back and the history of nosebleeds. The next day, the seventh of the disease, the spleen was palpable and the Widal showed agglutination and loss of motility. The routine search for the plasmodia of malaria was negative. The urine also was negative. On the eighth day rose-colored spots appeared on the abdomen and chest; and on the tenth day the pulse became dierotic. In other words, we had to deal with a clear case of typhoid fever. From the ninth day, when the temperature reached 105, the highest daily temperature, it went down by easy stages from day to day, until on the eighteenth day it remained at normal. A modified hydrotherapy was adopted varying from day to day, and he was kept on a rather high calorific diet. No cold baths were given.

Throughout the attack the heart and circulation had behaved well. The pulse at only three takings was over 90, and never over 92 to the minute. The average was in the lower eighties. It was as a rule fairly full, with, as usual, a tendency to dicrotism. I dwell on this point, because in this case the condition of the circulation was so good throughout the disease, that it seems to bear little etiologic relationship to the late complication which is about to be described. From the eighteenth to the twenty-fourth day convalescence was steady and uninterrupted.

On the evening of the twenty-fourth day, the seventh after the cessation of the fever, the patient was taken with a dull aching pain, alternating at times with one of a sharper character in the lower left quadrant of the abdomen. Coincidently with the appearance of this pain, the pulse began to rise and reached 132, then 140 to the minute, and became of small volume. The temperature rose only to 100.6, and that night fell again to 99, with later a drop in the pulse-rate to 102 to the minute. At the onset there was a distinct rigor.

Gentle palpation over the left iliac region discovered what seemed to be a localized point of tenderness about an inch and a half above the middle of Poupart's ligament. There was no fullness or increased heat. There was some rigidity of the left rectus. The patient was in a profuse perspiration. During the night and the morning of the following day the temperature rose steadily until it reached by the early afternoon, 103 F., the pulse hovering between 106 and 116 to the minute, its character being a variable quantity. During the day repeated blood-examinations were made by Dr. Ten Eyck Elmendorf, who remained with the patient for twenty-four hours for this purpose. The leukocyte count and the differential count were made at stated intervals. The total leukocyte count on the first examination was 16,750, later 14,700 and still later, 14,200. The differential count showed no marked polymclear increase, and the last examination showed a return of the eosinophils which previously had been absent.

About twenty hours after the onset of the symptoms the diagnosis of thrombophlebitis of the external iliac vein could be definitely established, for on very gentle palpation the thrombosed and thickened vein could be felt just above Poupart's ligament and a sense of increased heat was imparted to the palpating fingers. Twenty-four hours later the inflammation had extended well down into the femoral vein and moderate edema of the leg had developed. The active symptoms with fever lasted nine days, after which convalescence went on without interruption, and he made a complete recovery.

I have considered particularly the symptomatology of this infrequent and at times bewildering complication, hoping that a discussion of the subject may be of value to those who may encounter like cases.

852 Lexington Avenue.

# SKIN-GRAFTING WITHOUT DRESSINGS

JOSEPH WIENER, M.D.
Associate Surgeon, Mount Sinai Hospital
NEW YORK

Whenever we have a long list of drugs for a certain disease, not one of them is likely to be a specific. So in our surgery, whenever a large number of procedures are devised for any one lesion, the chances are that none of them "just fills the bill." So many different dressings to be used after skin-grafting have been suggested that we are forced to conclude that none of them is ideal. And yet I believe we have an ideal dressing for skin-grafts, and that is no dressing at all.

In January, 1907, I was asked to see a patient with extensive osteomyelitis of tibia and fibula following a crush wound. There had been extensive sloughing of the muscles and skin of the leg, so that, at a consultation of surgeons at the Long Island College Hospital, an amputation had been decided on. Although there had been a profuse purulent discharge, with septic temperatures for several weeks, and I did not feel confident of saving the limb, I advised against amputation. The patient was a strapping, healthy man of 43.

After I had done several operations on tibia and fibula, there was left an extensive ulcerating superficial area extending from the ankle to the knee, and involving about three-quarters of the circumference of the leg. Over this area the skin and some of the muscles had sloughed away. In the center of this area there was a sinus discharging pus from the tibia. There was continuous absorption from the large ulcerating area and the man's general condition in consequence did not improve much.

In spite of the fact that there was a discharging bone sinus in this region I covered the entire area, with the exception of the sinus, with Thiersch grafts. In the sinus I placed an iodoform gauze packing. Had I put any kind of a dressing on the leg, the pus from the sinus would have washed away the grafts. No dressing of any kind was applied, but the leg was swung from a bed-cradle. Twice a day the iodoform packing in the bone sinus was changed, without disturbing the grafts. In spite of the presence of this discharging sinus every graft took and the man's general condition rapidly improved. He has to-day a very useful leg. We could not have had a more unpromising case for skin-grafting. Could we have obtained such a result with any method of dressing after grafting?

The result in this private case, done over six years ago under such unfavorable conditions, was so striking that I have since that time used this method of open grafting. In several desperate cases in the service of Dr. Lilienthal at Mount Sinai Hospital we have had the most gratifying results. In some of the cases, as in my first case, there were discharging sinuses right in the area to be grafted. And yet the grafts almost always took. In one case, a double amputation of the breasts had left a very extensive ulcerating area involving almost the entire anterior surface of the chest. In spite of various forms of dressings, and different local applications applied during a period of several weeks, there was no sign of healing, and the patient's general condition, as the result of absorption from this large ulcerating area, was becoming steadily worse. The discharge was so profuse that we all agreed that grafts covered by any form of dressing would be unsuccessful. I covered the entire ulcerating area with thin grafts and left them

exposed to the air without any dressing. The grafts all took, the patient's general condition rapidly improved, and she soon left the hospital completely cured. It is probable that we saved the patient's life by this method of grafting. I doubt the success of other methods.

Our technic is the usual one for Thiersch grafts. The grafts are cut as thin as possible and applied in the usual manner. Suppurating sinuses in the grafted area are packed with iodoform gauze. These packings are changed, as often as they become saturated with the discharge, without disturbing any of the grafts. The grafts can be placed within a half inch of a discharging sinus and they will take. During the first day or two crusts of inspissated serum form between the different grafts; these crusts should not be disturbed. For seven or eight days, or even longer, no dressing of any kind is applied. Usually after the first day or two, the grafts have already become firmly adherent and have a healthy pink color. After seven or eight days a weak ichthyol ointment is applied over the entire grafted area. Under this dressing the crusts that have formed between the grafts drop off, and soon the area assumes a normal appearance.

I have found it inadvisable to apply a wet dressing, even a bland one, until at least two weeks have elapsed.



Fig. 1.—Skin-grafting without dressings, five days after operation. Note healthy appearance of all grafts.

If applied earlier, the wet dressing will in some cases macerate the grafts and thus, in part at least, vitiate the operation. It is true that even after the grafts have been macerated by a wet dressing, they will often recover their vitality when the wet dressing has been removed. But it is better not to run this risk. I even prefer to wait almost ten days before applying the ichthyol dressing. During these first ten days that the grafts are exposed to the air, they are steadily becoming more hardy; and nothing is really gained, whereas much may be lost, by putting on an early dressing. The accompanying illustration shows how the grafts look after five days; no dressing of any kind has been applied since the operation. The necrotic tibia, the seat of a compound fracture, can be seen about the middle of the leg. In grafts on the extremities the leg or arm is swung free from the bed-clothes. In grafts on the trunk, a cradle to keep off the bed-clothes is all that is required.

Our results from this method of skin-grafting, even in the most difficult cases, have been so much better than our former results with various methods of dressings, that we feel justified in recommending it. If the details set forth in this paper are accurately carried out, a single trial will convince the most skeptical of its advantages.

46 East Seventy-Eighth Street.

# PLAGUE ERADICATION IN PORTO RICO

R. H. CREEL, M.D.
Past Assistant Surgeon U. S. Public Health Service
SAN JUAN, PORTO RICO

Plague was reported present in San Juan by the local authorities June 19, four days after the first suspicious case was observed, a promptness of action unprecedented in the history of plague. A general cleaning up of the city followed, and tons of rubbish were removed.

In response to a request from the acting governor, United States Public Health Service officers experienced in plague work were at once sent to San Juan by Surgeon-General Rupert Blue, and formulated a plan for the eradication of the infection from the island.

Before discussing eradicative work in Porto Rico and the epidemiologic features connected therewith, it may be of interest to refer to several features concerning antiplague measures which were considered.

The particularly striking aspect of plague infection is the tenacity with which the infection among rodents will cling to a place. This condition obtains seemingly irrespective of social or climatic environment or geographic distribution. In civilized communities, partial suppression as pertaining to human case incident is not so difficult. Let any enlightened people know that plague has gained entrance among them and the efforts of the citizens will greatly advance the work of the health officials in cutting down the rat population, and human cases seem to cease when the rodent population is reduced 50 per cent. or thereabouts. This was noted in San Francisco, and recently in Porto Rico. This cooperation, though, will continue only so long as human cases occur. On the cessation of human cases, even though the infection among rodents may be unaffected, or even increasing, the cry will go up "Plague is over, let us quit!" and quit they do. It is the same in all countries where plague infection causes commercial prejudice against a port or works a hardship in business affairs. So it follows that plague suppression and plague eradication are two different procedures. It is therefore imperative that antiplague work accomplished in the first days of a threatened epidemic, when popular opinion is strongly approving all sanitary requirements, should be of as permanent a nature as possible. Ratproofing cannot be instituted too soon or enforced too vigorously.

In Porto Rico the cooperation of the people in plague suppression was as hearty and prolonged as could be expected in any country. But here, as elsewhere, occurred the lagging of interest, even antagonism, when eradicative measures continued after subsidence of human cases. It is this factor, then, this indifference of a community to rat infection as long as there are no human cases, that is largely responsible for the persistence of rodent plague infection. As a matter of fact, plague infection of the bubonic type, among people, is only of humanitarian interest. Plague being primarily a disease of rodents, the entire procedure of eradication concerns the rat and its parasites, and human case incidence can be ignored in pursuing a plan of campaign. This, of course, does not apply to pneumonic plague but only to the straight bubonic types that have occurred in the western hemisphere. Too often does the status of human cases serve as an index of the presence or absence of infection, without a proper survey of the rodent population. A number of places can be cited where suppressive measures were enforced only so long as human cases

occurred. On the subsidence of human infection the work dragged and finally ceased, the infection continued in rodents and a recrudescence followed soon or later. This has happened notably in Trinidad and different South American ports, La Guayra and Guayaquil especially, in the Canary Islands and in various parts of the Orient.

### THE PLAN PURSUED

The service plan of campaign and the extent of its enforcement, therefore, was based solely on the progress

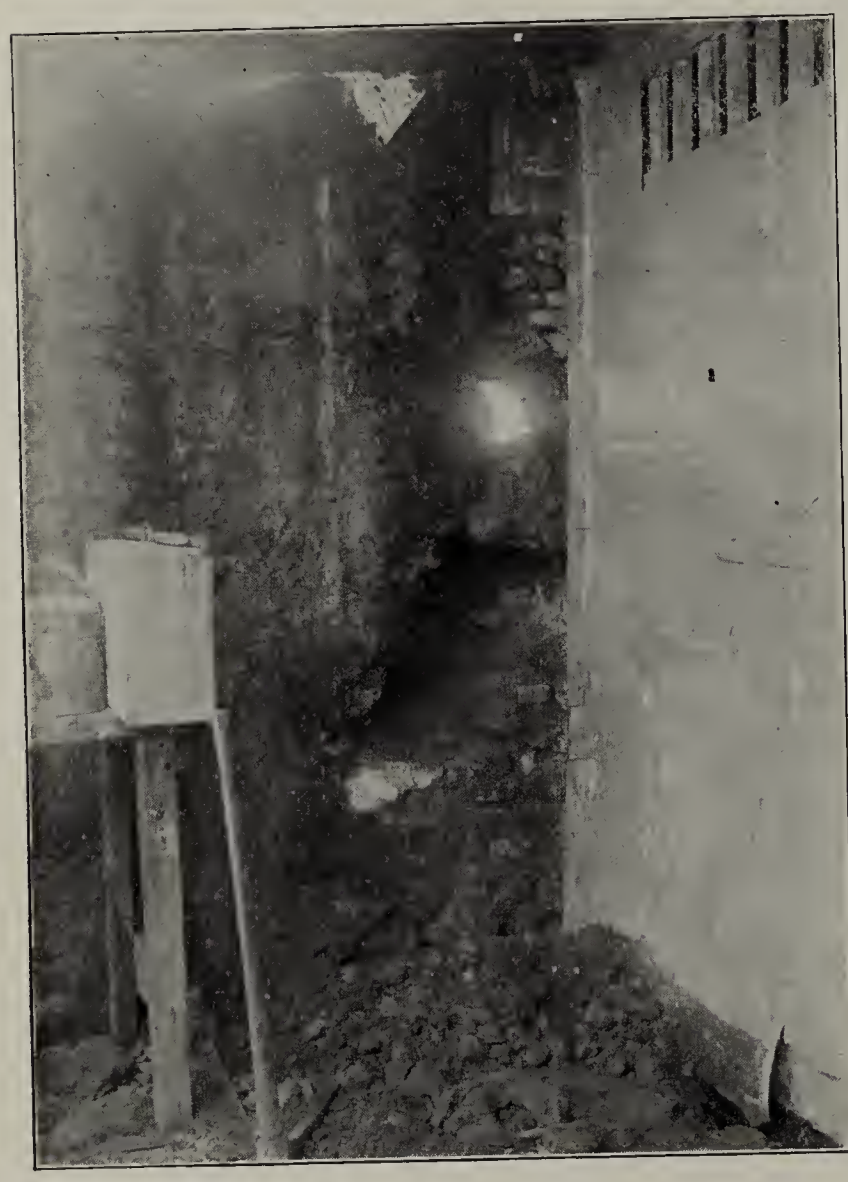


Fig. 1.—Mamposteria wall—stone, sand, clay and lime. Walls riddled with rat runs. Eight rats taken from interior wall. Site where plague rat was found.

of infection among rats, the above-mentioned factors being given primary consideration in the problem of freeing Porto Rico from plague. Especial attention was paid to the rat-proofing of all buildings, the one feature of permanent effectiveness in deratization. The work was prosecuted with such vigor during July, August and September, by the Public Health Service organization, aided by the insular government forces, that the last vestige of infection in San Juan was apparently destroyed on September 11. The last case of human plague in Puerta de Tierra, the district with heaviest infection, and where the first patient was discovered, occurred on August 5 and the last rodent case on September 11. On September 8, in a suburb of San Juan, occurred the last human case in Porto Rico. It is thus seen that from the discovery of the disease till the last rodent case was a period of only eighty-four days. During that time there were fifty-five human cases with thirty-six deaths. Sixty-six infected rats were captured up to January 1, which number includes seven from Carolina, in July, and six from Caguas and Arecibo in the period from September to January. No human cases, so far as known, have occurred in Arecibo or Caguas.

### ORGANIZATION

The essential points of the service organization were patterned after the service methods used in San Francisco in 1907-08, with modifications according to local conditions, and embraced the quickest possible rat-proofing of the whole city; wide-spread trapping and poisoning; inspection of inland-bound freight, to prevent transportation of rodents; the tagging of all rats so that the location of any infected rodent would be known and the progress of infection mapped out, and the sulphur fumigation (in conjunction with the intensive rat-proofing) of all infected premises. Disinfection was not utilized, being considered not pertinent to anti-pest measures in absence of pneumonic type, aside from involving a waste of time and money. Pulecidal measures were observed. Sulphur fumigation and petroleum, or petroleum emulsion, were the agents employed for this purpose.

The city of San Juan (the capital of Porto Rico, with a population of 50,000) is located on a headland. The site of the city is really in the formation of a peninsula, though two narrow estuaries separate it from the mainland with the formation of two islands. The estuaries are well bridged, however.

On the point of the peninsula is located the old city, together with the water front district called "La Marina" and another small suburb called "La Perla." Continuing inland, Puerta de Tierra is next met with. This is a district of San Juan built almost wholly of frame construction and separated from the older city by a quarter of a mile of unbuilt-on land. The suburb of Santurce (of modern construction) is built almost wholly of frame construction. A considerable stretch of unoccupied land separates Santurce from Puerta de Tierra, in addition to bridges over the estuary.



Fig. 2.—Roofing of country tiles, Caguas, P. R., which affords harbor for rats.

### RAT-PROOFING

The first step taken was the securing of a rat-proofing ordinance. In general the measure embraced rat-proofing requirements for dwellings, food depots, warehouses, docks, stables and chicken yards. Dwellings were required to be elevated 2 feet from the ground, with the underpinning free, or to have at the perimeter a concrete wall 2 feet below the surface of the ground and fitting flush to the floor of the building. All food depots, from

the smallest eating-place to the largest wholesale warehouse, were required to build a substantial concrete floor with side-walls of the same material extending 2 feet below ground level and 1 foot above the floor level, with the doors and windows so repaired as to exclude rats. All groceries, meat markets, bakeries, restaurants, general markets and warehouses in San Juan were so treated. Stables in Porto Rico consist only of the floor and roof, so it is not practicable to make them inaccessible to rodents. They were required, however, to have a concrete floor protected by sidewalls 2 feet in depth, the crib to stand free of all uprights with a flare from below upward, and lined on the outer side by galvanized iron. It may be added that stables in Porto Rico were found not to be the rat harbors that stables are in the United States, possibly for the reason that grass is chiefly used as feed, with very little grain. The above procedure at least prevented rat harborage about stables. Feeding-pens for chickens were required to be of concrete floor and walls, protected by one-fourth inch wire mesh.



Fig. 3.—Rat-proofing, by elevation, in Puerta de Tierra.

The requirement for docks included concrete floors and walls. One large dock in San Juan was built on filled in land. It had roof and walls of galvanized iron, but with bare earth floor. Owing to the constant settling of the ground a concrete floor was impracticable. The expedient adopted consisted in marginal rat-proofing (a concrete wall for the entire perimeter, doors fitting flush), and the interior space partitioned off by sheets of galvanized iron sunk into the ground and extending upward 5 feet. The floor space was thus subdivided into ten compartments. Once every two weeks one compartment was required to be cleaned and free of all cargo, the transfer to be effected in one day. By this procedure, not only can rats be killed but also a constant index of rodent infestation is afforded. All other docks were required to be free of cargo and cleaned once every two weeks. No matter how rat-proof a building may be, if a large quantity of freight is kept in storage, rats will accumulate therein, especially the *Mus rattus*. With exception of the dock just described, all piers were rat-proofed by concrete floors and walls.

The rat-proofing law was easily applicable to buildings of frame construction, but the class of construction in the older part of the city proved to be a problem. Most of the buildings are very old and were built long before cement was in use. Of broad walls, and constructed one against another, they may be considered sufficient from a structural standpoint, but the material of which they are composed offers no great obstacle to the passage of rats. Many had no foundations, the broad walls resting on the ground; others had shallow foundations of crushed brick with a few stones, with the interstices filled by a mixture of clay and sand. This old type of construction is known as *mamposteria,* and though somewhat different from the *pukka* construction in India, the description of buildings in Bombay by the Indian Plague Commission, both as to the nature of the material and as to the degree of rat infestation, is strikingly similar to those in San Juan. Whether the walls were built of crushed brick, or irregular stone, or brick on brick, the weak point was caused by the kind of mortar used. This old mixture of lime, sand and mud, through the onslaught of the elements, in the course of time loses its adhesive properties and becomes easily pervious to the passage of rats. Many of the walls were found to be riddled with rat runs and rat excavations. The fact that the walls were broad and had withstood earthquake shocks seemed to be sufficient argument with most of the householders that they were therefore rat-proof. Even the material evidence of rat infestation did not seem to be any refutation of this argument. As a matter of fact, the very breadth of the walls served all the more to make them rat harbors, the rats tunneling in all directions. That several cases of plague acquired their infection in buildings of this type emphasized the importance of making them as rat-proof as possible.

The absolute rat-proofing of these *mamposteria* walls was not possible. As destruction was impracticable, a device was used which was very effective. This consisted of a concrete capping on the walls, 2 feet in depth and extending upward from the floor, the latter to be of concrete. The court-yards in old San Juan likewise



Fig. 4.—Site where a plague rat was found, after elevation. Building formerly tight to the ground.

proved to be a feature out of the ordinary in rat-proofing. Even though a store-house might be rat-prooted to the extent of walls and floor, the pipes and wires running from the ground floor to the top of the building on the inside of the court would give easy access to such a building, more especially to the *Mus rattus* and *Mus alexandrinus.* The rat-proofing of courts, therefore, consisted in the requirement of the protection of pipes and

wires by a galvanized iron collar surrounding pipes and wires, 2 feet in diameter, similar to the rat guards on ship hawsers.

### RAT TRAPPING AND POISONING

For the purpose of trapping and poisoning rats the city was divided into districts and a foreman and four trappers were assigned to each. Over the foremen was placed a supervising inspector. The foremen were made responsible for the property of the trappers and for the



Fig. 5.—Rat-proofing in Puerta de Tierra.

efficiency of their work. As the local market could furnish scarcely over a hundred traps, a cable order was sent early in July to Washington for 3,000 traps of approved patterns. This number was increased in the latter part of July and August by 6,000 more. About 3,000 traps were in use for San Juan, the remaining number distributed in other parts of the island. To each trapper were assigned seventy-five traps, part cage and part snap pattern.

Forty trappers, ten foremen and one supervising inspector constituted the trapping and poisoning force in San Juan. During the hours when trappers were not attending to traps they distributed poison. Between July 1 and January 1, 600 pounds of arsenic and phosphorus poison were distributed.

All rats were tagged with the address from which they were taken. Only in the old city were there any large sewer mains. From these a large number of rats were taken.

A large majority of the houses in San Juan have no municipal number, so it was necessary to lay out the city in districts with special numbers. In this way the municipality of San Juan was divided into fifty-four districts, each district varying from one to four hundred buildings. When an infected rat was taken or a human case discovered, evacuation followed with sulphur fumigation. Chief reliance, however, was placed on the destruction of rat harborage and intensive rat-proofing. Infectivity of houses sufficiently prolonged as to cause secondary cases was noted in four instances, three of which were in *mamposteria* buildings. These, however, were in the first days of the epidemic before sulphur fumigation or rat-proofing had commenced. No guinea-pig experiment as to the infectivity of a house was performed, as the campaign was an eradicative one and not experimental.

Tables are appended giving data concerning classification of all rodents, infected rodents, and nature of buildings from which the latter were taken.

The rat catch increased during the first two or three weeks, reaching a maximum the last week in July. From that date on a steady decline ensued. This was most marked in Puerta de Tierra where the earliest and most careful attention was given to rat-proofing. Coincident with the decline of the rat population occurred the last human case in Puerta de Tierra. The last plague rat was taken from that district in September, when the rat population was reduced to 22 per cent. of the July maximum. By January 11 the rat population had fallen to 10 per cent. in Puerta de Tierra. This decrease is all the more accentuated by the fact that the trappers were week by week becoming more experienced, the number of foremen in September being doubled, so that the supervision was twice as strict as before, and the rat bounty, which was paid in addition to their salaries, was increased from five to ten cents, with an offer of one dollar for any infected rat taken. All these factors would naturally operate to increase the number of rats caught, so that from a comparative estimate it would seem that the percentage of reduction was really greater than is indicated by the actual number of rodents caught.

The result of rat-proofing measures, in Puerta de Tierra especially, is a good example of how unnecessary is the general destruction of property in plague epidemics. There was a loud clamor for the burning of this district at the inception of the epidemic, a procedure that has been pursued in no inconsiderable number of instances in different countries. Aside from the question of property rights and needless expense, a widespread conflagration would have served only to scatter infection.

In Porto Rico, as was noted in India, general insanitary conditions did not seem to be a factor influencing in any way the incidence of human cases. The most



Fig. 6.—Restaurant; site of plague infection, human and rodent. Concrete floor and walls substituted for plank flooring.

squalid part of Puerta de Tierra, a section located on the seashore, where from the nature of the swampy ground the houses had been built more or less elevated, was especially free from human cases. From a superficial point of view one would have expected this section of congested shanties and indescribable squalor to suffer heavily from the ravages of the disease. The swampy nature of the ground, which, being more or less

inundated by the daily tides, called for an elevated construction, operated for the salvation of these people. The better part of Puerta de Tierra was the section that had the majority of all cases. Puerta de Tierra, however, despite its present unsightly and general insanitary condition, is to-day the district of San Juan most free from rats, and, consequently the best part of the municipality from the point of view of plague. Of the 1,125 buildings, all are either elevated 2 feet with underpinning free, or have a concrete floor and side walls. The marked diminution in rat population could have been secured in no other way than by rat-proofing, as it is impossible to prevent people residing there from throwing foodstuffs about the streets and lots. The entire cost of rat-proofing Puerta de Tierra was $80,000.

Accompanying the tables of rats caught is given the catch of *Mus musculus*. No bounty was paid for *Mus musculus*, and the traps used were a large pattern intended solely for the catching of rats. While any efforts of the trappers along this line were discouraged, they were directed to turn in all captured mice. The increasing number of mice, therefore, which would have been very considerably multiplied had any special effort been made to catch them, all the more emphasizes the decrease in the rat population. It is well known that mice do not live or multiply in numbers when associated with *Mus rattus* or *M. norvegicus*.

### INSPECTION OF FREIGHT TRAFFIC

All inland-bound freight was inspected. Those packages that could harbor a rat were either unpacked and examined or fumigated by sulphur. In this manner fifty-seven rodents were taken from freight. None of them was infected. All freight cars were rat-proofed, and if left in San Juan freight yards over night, loaded or partly loaded, the doors were sealed by an inspector.

It is highly probable, though, that in those weeks that the epizootic prevailed, before the recognition of its presence, and immediately afterward before freight inspection was initiated, plague rats escaped from San Juan, causing the transmission of infection to Carolina, Arecibo and Caguas.

In answer to an inquiry sent to island health officials, in October, for the purpose of estimating the efficiency of this freight and car inspection, some sixteen replies were received stating that no rodents had been observed since the inauguration of the inspection, but several officials stated that before and in the first days of the epidemic, rodents had been observed escaping from cars and from packages of merchandise. This was especially noted in Caguas.

### EXTENSION OF INFECTION

The discovery of a case of plague June 26 in a freight handler at Carolina handling freight from San Juan indicated that the disease had spread beyond the latter place. It was probably transmitted by rats in merchandise. The man had not been out of Carolina, which was 14 miles from Jan Juan. Two other cases occurred in Carolina, the last on July 16. Seven plague-infected rats were taken from Carolina during July but none later. July 11 a plague rat was found dead in the streets of Rio Piedras, two or three miles distant from San Juan, from which place it had probably migrated. No human cases occurred. July 13 a fatal plague case in a boy occurred in Dorado, a town 34 kilometers distant from San Juan. The week previous to death, the boy had been out of Dorado as a stowaway in freight car *en route* from San Juan to Arecibo and probably contracted his infection from an infected rat in the San Juan freight. Sept. 23, 1912, a plague rat *(Mus norvegicus)* was trapped in Caguas, 23 miles from San Juan. Other plague rodents were taken from different parts of the town October 14, December 9 and 21. Eradicative measures similar to those instituted in San Juan were employed. A plague-infected rat was trapped in Arecibo October 11 and another October 25. Routine eradicative measures were instituted. No human cases occurred. Transmission of infected rats to these places through railroad merchandise seems the more probable theory, as no rat infection was found at intermediate points, although a noticeable mortality among rats on the San Juan-Caguas turnpike was reported two or three weeks prior to the discovery of the first infected rat at Caguas.

### PLAGUE PREVENTIVE MEASURES TO NON-INFECTED POINTS OF PORTO RICO

In view of the possibility of unknown rural spread of the infection among the rodents of Porto Rico, it was decided to institute active measures in the two other large seaport cities of the island. Service officers were sent to Ponce and Mayaguez in early August, and enforced the same measures in those places that were being effected in San Juan. No infected rodents were discovered in these two ports. Later on trappers were sent to Aguadilla, Bayamón, Manatí and other island towns, the rat catch being sent to the laboratory in San Juan, but no infected rodents were found from these places.

### LABORATORY METHODS

The method of rodent examination was the same as that used in the service operations in San Francisco. Laboratory attendants tacked the rodents on shingles, dissected them and made clerical records concerning their source and any other data pertaining to the work. Consideration of the gross lesions was depended on for diagnosis, and animal inoculation was required for purpose of confirmation of rats suspicious of infection.

There was a marked reduction of infected rodents in August, but a reliable estimation of the progress of rodent infection from the beginning of the epidemic in San Juan is precluded for several reasons. In the first week of rat examination there was no wide-spread trapping, and the rodents examined came from a comparatively small area. The town people at first turned in many dead rats, but later, as suppressive measures worked an inconvenience, they burned them. The difference between the technic employed the first week or two and that used during the remaining days of the epidemic, would be another source of error. The first cases were diagnosed by smear only, a bipolar bacillus determining the diagnosis; whereas later the gross lesions were considered and confirmation by animal inoculation was required. During July and August a considerable number of rodents were encountered presenting marked subcutaneous injection with bubo. Smears made from the tissues would not infrequently show bipolar bacilli or a diplococcus. Without animal inoculation these rodents might have been considered as probable plague.

In addition to the examination of rats 233 mongooses which were caught in traps were sent to the laboratory for examination. None of them was found infected.

A separate record for rat catch by districts was not started in San Juan until July 10. At first the rat catch in Puerta de Tierra came mostly from buildings, but recently almost wholly from the adjoining swamp

shrubbery and fields. The rat-trapping force and the number of rat traps maintained throughout the municipality did not vary, so that the percentage per trap is unnecessary in a comparative study.

TABLE 1.—CLASSIFICATION OF ALL RODENTS EXAMINED IN PORTO RICO FROM JUNE 23 TO JANUARY 11*

| | | | |
|---|---|---|---|
| Norvegicus | 23,453 | Mongoose | 233 |
| Rattus | 4,201 | Unclassified* | 309 |
| Alexandrinus | 5,962 | | |
| Musculus | 5,137 | Total number examined | 39,295 |

* The unclassified were those examined during the first week of laboratory examination.

TABLE 2.—CLASSIFICATION OF INFECTED RODENTS

| | | | |
|---|---|---|---|
| Norvegicus | 37 | Unclassified | 24 |
| Rattus | 4 | | |
| Alexandrinus | 1 | | 66 |

TABLE 3.—NATURE OF BUILDINGS FROM WHICH INFECTED RATS WERE TAKEN

| | | | |
|---|---|---|---|
| From dwellings | 23 | Turned in untagged | 21 |
| From food depots | 8 | Found dead on streets | 10 |
| From stables | 2 | | |
| From steamships | 2 | | 66 |

TABLE 4.—WEEKLY RAT-CATCH IN PUERTA DE TIERRA

| Date | Rats | Mice | Date | Rats | Mice |
|---|---|---|---|---|---|
| 7/10/12— 7/13/12 | 15 | 5 | 10/13/12—10/19/12 | 33 | 92 |
| 7/14/12— 7/20/12 | 193 | ... | 10/20/12—10/26/12 | 26 | 78 |
| 7/21/12— 7/27/12 | 176 | ... | 10/27/12—11/ 2/12 | 38 | 7 |
| 7/28/12— 8/ 3/12 | 174 | ... | 11/ 3/12—11/ 9/12 | 30 | 47 |
| 8/ 4/12— 8/10/12 | 154 | ... | 11/10/12—11/16/12 | 21 | 35 |
| 8/11/12— 8/17/12 | 136 | ... | 11/17/12—11/23/12 | 29 | 60 |
| 8/18/12— 8/24/12 | 102 | ... | 11/24/12—11/30/12 | 31 | 47 |
| 8/25/12— 8/31/12 | 98 | 7 | 12/ 1/12—12/ 7/12 | 20 | 57 |
| 9/ 1/12— 9/ 7/12 | 41 | 7 | 12/ 8/12—12/14/12 | 45 | 64 |
| 9/ 8/12— 9/14/12 | 58 | 13 | 12/15/12—12/21/12 | 20 | 68 |
| 9/15/12— 9/21/12 | 49 | 34 | 12/22/12—12/28/12 | 10 | 98 |
| 9/22/12— 9/28/12 | 51 | 21 | 12/29/12— 1/ 4/13 | 20 | 70 |
| 9/29/12—10/ 5/12 | 39 | 27 | 1/ 5/13— 1/11/13 | 14 | 126 |
| 10/ 6/12—10/12/12 | 48 | 43 | | 1,671 | 1,006 |

TABLE 5.—WEEKLY RAT-CATCH IN SAN JUAN

(The old city, Marina, and La Perla)

| Date | Rats | Mice | Date | Rats | Mice |
|---|---|---|---|---|---|
| 7/10/12— 7/13/12 | 15 | 8 | 10/20/12—10/26/12 | 82 | 19 |
| 7/14/12— 7/20/12 | 121 | 6 | 10/27/12—11/ 2/12 | 77 | 48 |
| 7/21/12— 7/27/12 | 322 | ... | 11/ 3/12—11/ 9/12 | 59 | 6 |
| 7/28/12— 8/ 3/12 | 357 | ... | 11/10/12—11/16/12 | 57 | 56 |
| 8/ 4/12— 8/10/12 | 363 | ... | 11/17/12—11/23/12 | 85 | 57 |
| 8/11/12— 8/17/12 | 257 | ... | 11/24/12—11/30/12 | 81 | 44 |
| 8/18/12— 8/24/12 | 233 | ... | 12/ 1/12—12/ 7/12 | 122 | 36 |
| 8/25/12— 8/31/12 | 198 | 15 | 12/ 8/12—12/14/12 | 73 | 55 |
| 9/ 1/12— 9/ 7/12 | 166 | 20 | 12/15/12—12/21/12 | 152 | 92 |
| 9/ 8/12— 9/14/12 | 131 | 30 | 12/22/12—12/28/12 | 97 | 96 |
| 9/15/12— 9/21/12 | 179 | 7 | 12/29/12— 1/ 4/13 | 68 | 70 |
| 9/22/12— 9/28/12 | 184 | 23 | 1/ 5/13— 1/11/13 | 82 | 55 |
| 9/29/12—10/ 5/12 | 102 | 33 | | 3,951 | 873 |
| 10/ 6/12—10/12/12 | 145 | 38 | | | |
| 10/13/12—10/19/12 | 143 | 59 | | | |

TABLE 6.—WEEKLY RAT-CATCH, SANTURCE*

| Date | Rats | Mice | Date | Rats | Mice |
|---|---|---|---|---|---|
| 7/10/12— 7/13/12 | 94 | 41 | 10/20/12—10/26/12 | 208 | 14 |
| 7/14/12— 7/20/12 | 160 | 6 | 10/27/12—11/ 2/12 | 222 | 10 |
| 7/21/12— 7/27/12 | 178 | ... | 11/ 3/12—11/ 9/12 | 154 | 9 |
| 7/28/12— 8/ 3/12 | 297 | ... | 11/10/12—11/16/12 | 142 | 16 |
| 8/ 4/12— 8/10/12 | 276 | ... | 11/17/12—11/23/12 | 92 | 29 |
| 8/11/12— 8/17/12 | 240 | ... | 11/24/12—11/30/12 | 87 | 25 |
| 8/18/12— 8/24/12 | 255 | ... | 12/ 1/12—12/ 7/12 | 108 | 31 |
| 8/25/12— 8/31/12 | 299 | 8 | 12/ 8/12—12/14/12 | 110 | 40 |
| 9/ 1/12— 9/ 7/12 | 319 | 14 | 12/15/12—12/21/12 | 124 | 64 |
| 9/ 8/12— 9/14/12 | 336 | 9 | 12/22/12—12/28/12 | 74 | 76 |
| 9/15/12— 9/21/12 | 342 | 8 | 12/29/12— 1/ 4/13 | 107 | 84 |
| 9/22/12— 9/28/12 | 341 | 13 | 1/ 5/13— 1/11/13 | 94 | 68 |
| 9/29/12—10/ 5/12 | 308 | 12 | | 5,502 | 600 |
| 10/ 6/12—10/12/12 | 254 | 3 | | | |
| 10/13/12—10/19/12 | 281 | 20 | | | |

*The rats being trapped in Santurce, as in Puerta de Tierra, now come chiefly from the swamp shrubbery and surrounding fields, instead of as formerly from buildings.

## FLEA SURVEY

The number of live rats examined for fleas during the months of July and August was not sufficient to permit an estimate of the percentage of infestation. The species of fleas found were: *Xenopsylla cheopis, Ctenocephalus canis, Echidnaphaga gallinacae,* and the *Rhynchoprion penetrans* (chigoe). The latter species of flea was one found only on human beings in San Juan. Burrowing beneath the skin, it ovulates, making a very painful nodule. Several plague cases were found to have these chigoe nodules. It would be of epidemiologic interest to know whether the female immediately penetrates the skin of her first host and ovulates, or whether she may feed on one or more hosts prior to depositing her eggs. This was not determined.

## SUMMARY AND CONCLUSION

From the foregoing it is seen that there were fifty-five cases of human plague in the Porto Rico epidemic, ten having occurred at the date of announcement of the disease and forty-five thereafter. All of them were of the bubonic type, with a mortality of 65 per cent.

Flea infestation in Porto Rico is very low compared with that in other tropical countries. The data are not sufficient to show whether or not there is a seasonal variation. The infestation of rats by chicken-flea in San Juan is noteworthy. The decline in rat population, as indicated by the weekly catch, was marked and to a large degree was the result of rat-proofing. The rat infection extended to four points outside of San Juan: To Carolina, a distance of 14 miles; Caguas, 23 miles; Arecibo, about 50 miles, and Rio Piedras, 3 miles. Only in the first-named village did human cases occur.

The presumptive evidence points to an extension by infected rats in merchandise. The infection in Rio Piedras might have been carried there by migratory rodent.

In Porto Rico the *Mus norvegicus, Mus alexandrinus* and *Mus rattus* infest houses, but the former predominates. *Mus alexandrinus* is the species chiefly found in rural districts. Sufficient data are not at hand as to the variation of breeding, but it is probable that there is no seasonal fluctuation of this nature among the rodents of Porto Rico.

It cannot be too strongly recommended that all ports should maintain their water front as rat-proof as possible, and as rat-free. Especially should this apply to those warehouses receiving foreign shipments. Maritime quarantine has proved of such great value that its defence is not necessary, but, nevertheless, short of prohibition of commerce, the procedure cannot be considered as absolute protection. The importation of rats as undetected stowaways in merchandise cannot be prevented where the port has extensive trade relations. Moreover, as a rodent infection may exist for several weeks prior to human cases, any port can in all good faith claim to be clean when, as a matter of fact, there may be wide-spread rat infection. It therefore behooves all seaboard cities to keep their water front premises as rat-free as possible, so that, should a plague rat gain entrance, the infection would be least apt to spread.

---

**Established Methods in Sanitation.**—The *Bulletin* of the Florida Board of Health says that it is an easy matter to follow in the wake of public clamor against imagined menaces to public health, but that it is not sound wisdom to recommend anything either to protect life or to preserve health on speculative theory or possibility. When deviation is made from this course the sanitarian is getting into deep water. Sooner or later a reversal of judgment follows, and the public, it is said, then begins to doubt whether the sanitarians really know what they are talking about. To play to the galleries of popular approval on the ground of progressive sanitation is really a hindrance to the advance of preventive medicine, and sooner or later reacts and brings discredit on the person or the board recommending it.

# THE FIRST SUCCESSFUL RESECTION OF THE THORACIC PORTION OF THE ESOPHAGUS FOR CARCINOMA

PRELIMINARY REPORT *

FRANZ TOREK, A.M., M.D.

Surgeon to the German Hospital and the New York Skin and Cancer Hospital, Adjunct Professor of Surgery in the New York Postgraduate Medical School

NEW YORK

The resection of the thoracic portion of the esophagus for carcinoma has been one of the greatest problems of modern surgery. A number of careful investigators have declared their standpoint in this matter to be that operations for carcinoma of the esophagus should be undertaken only if the new growth is either high up near the neck or low down where an anastomosis with the stomach can be made, but that the growths in the middle portion of the esophagus are not removable.

The reasons for excluding these cases from the realm of operative interference were, first, the inaccessibility of that portion of the esophagus which passes underneath the arch of the aorta, and, secondly, the danger of injuring the pneumogastric nerves which in that location branch in front of the esophagus like a plexus. Division of both pneumogastric nerves at a place before they reach the heart causes instant death, and at operations in that region it has been repeatedly observed that tugging at a vagus, or pinching it, is promptly followed by collapse in the pulse which persists until death sets in. Finally, the uncertainty of the closure of the upper stump of the esophagus and the consequent infection of the pleural cavity have been a great source of danger after resection of any part of the esophagus where an anastomosis cannot be made. The leakage from that stump is undoubtedly due to the tension in the esophagus from swallowed saliva. Every contraction of the constrictors of the pharynx temporarily increases the tension in this blind pouch, until the suture finally is unable to withstand the pressure from within.

Statistics show that carcinoma of the esophagus is most frequently found in the middle third, the location in the lower third coming next, while cases in the upper third are comparatively rare. On the other hand, metastases are found most frequently with those situated in the lower third, near the cardia. Since, therefore, the carcinomas at the cardia are not only numerically less frequent than those in the middle third, but are also more frequently associated with metastases and are therefore incurable, the most important problem in cancer of the esophagus is that of extirpating the carcinomas in the middle portion, the very ones that Sauerbruch and others have told us should be left alone.

In an operation performed at the German Hospital on March 14, 1913, I have shown that the resection of the middle portion of the esophagus for carcinoma is possible.

The patient, a woman, 67 years old, had a carcinoma of the esophagus beginning a little above the lower border of the arch of the aorta and extending from there downward for an inch and a half or more. I had performed a gastrostomy on her some time previously. The difficulties of the case being known, the problem was to plan the ways and means of overcoming them. It was necessary, first, to afford better access, secondly, to perform more careful dissection of the pneumogastric nerves, avoiding rough handling of them and, thirdly, to do away with the danger of leakage from the proximal stump of the esophagus after resection.

I shall not enter into the details of the operation, but simply outline the most important parts of it.[1] Instead of seeking access by going through two different intercostal spaces and dissecting off the scapula or by resecting several adjacent ribs, procedures recommended by others, I incised through the whole length of the seventh intercostal space, from the posterior end of which I extended the incision upward by cutting through the angles of the seventh, sixth, fifth and fourth ribs, which gave a much better exposure and is far simpler. The greater ease of access enabled me to dissect the pneumogastric nerves more carefully, and, to my great satisfaction, the pulse never wavered during this procedure, remaining between 93 and 96. The dreaded vagus collapse had therefore been safely avoided. The great difficulty of dissecting that part of the esophagus which passes behind the arch of the aorta was overcome by ligating a number of the thoracic branches of the aorta and lifting it forward. Last, but perhaps most important, to avoid the danger of leakage from the upper stump of the esophagus, I eliminated the esophagus from the pleural cavity altogether. This was done by dissecting the organ loose from its attachments all the way up to the neck and bringing it out through an incision at the anterior border of the left sternocleidomastoid muscle. Thus the pleural cavity could not possibly become infected from that source.

The thorax was closed without drainage. The patient made a good recovery. Some of the stitches were removed on the fourth day; the remainder were removed on the seventh day, when the wound proved to be completely closed. Pulse, respiration, and temperature had become normal by the fifth day.

Thirty-two years ago the first successful resection of the stomach for carcinoma was performed by Billroth. It took a very long time before the operation became popular; now its performance is by no means infrequent.

The operation for carcinoma of the esophagus, I feel certain, will gain friends very quickly, now that the way has been shown for its successful management. The details of the operation will be published presently. The most important thing to consider is that safety depends to a great degree on early diagnosis and early operation, and we must not forget that even very slight difficulty in swallowing may be due to cancer of the esophagus which requires operation. In the light of the success which attended this new method of attacking the disease, it becomes our evident duty to advise operation at once, and thus we shall have the satisfaction of saving the lives of many who otherwise would have been doomed to succumb to their affliction.

1021 Madison Avenue.

* Read at a meeting of the New York County Medical Society, March 24, 1913.

1. Anesthesia was given by tracheal insufflation according to the Meltzer-Auer method.

---

# SUCCESSFUL TRANSPLANTATION OF GRAFT WITHOUT PERIOSTEUM

HORACE G. WETHERILL, M.D., DENVER

Since the publication of my paper, "The Growth, the Death and the Regeneration of Bone,"[1] the question has been raised whether or not the ultimate result in my second case, in which the graft *was transplanted without periosteum*, was satisfactory.

I have been reminded that few attempts have been made to transplant grafts *en masse* in human beings, *without periosteum*, and that of these many have failed. It has been pointed out that a roentgenogram made four weeks after

1. Wetherill, Horace G.: The Growth, the Death and the Regeneration of Bone, THE JOURNAL A. M. A., March 29, 1913, p. 983.

operation is not evidence of success, and grave doubt is expressed regarding the satisfactory termination of this attempt to reproduce the bone under such circumstances.

Anticipating that the same doubts may have arisen in the minds of many other readers of THE JOURNAL from whom I have not heard, I should like to say that at this time, (six months after the operation) the patient is walking without crutches and is wearing no splint or cast, and that the shaft of the bone at the grafted point feels and appears larger in diameter than the tibia of the opposite leg.

The accompanying photograph (Fig. 1) showing the boy standing on the grafted leg with the sound one raised from the floor should be convincing, as is also the roentgenogram (Fig. 2) of the grafted tibia.

Remarkable regeneration of this bone is shown after only six months of growth, and it is fair to assume that by the end of a year the bone will be satisfactorily reproduced.

Permit me to call attention again to the vastly better union shown at the lower end of the graft, where my side splice was made, than at the upper end, where the graft was driven into the excavated medullary canal. This is beautifully brought out in this last roentgenogram, and is in my opinion an important practical demonstration of the advantages of this method of making the union (that is, by a broad lateral apposition of the fragments) whenever it is possible to do so.



Fig. 1.—A graft 3½ inches long *without periosteum* was transplanted into the left tibia to bridge a gap, Sept. 28, 1912. Result April 6, 1913, after six months.



Fig. 2.—Roentgenogram of tibia made April 5, 1913. Front and lateral views. Note firm union at lower end of graft where side splice was made, and somewhat imperfect union at upper end where the graft was driven into the excavated medullary canal. The small light spot over the lower end of the graft indicates the slight necrosis which still persists from the original infection. A small suppurating sinus on the skin leads down to it.

Even the limited low-grade infection which was mentioned as having occurred at this point, and which still persists, has not interfered in any way with union between the graft and the diaphysis, and though the union at the upper end was uninfected it is not so firm or satisfactory.

310 Metropolitan Building.

## IMPACTED URETERAL CALCULI RELEASED BY FULGURATION

H. D. FURNISS, M.D., NEW YORK

This case is of interest in that it shows an error of diagnosis and offers a suggestion as to a new method of treatment.

*Patient.*—Mrs. B. G., a large, stout woman, aged 49, referred to me by Dr. E. W. Peterson. Uneventful menopause. Ten normal labors and one miscarriage. Admitted to the Post-Graduate Hospital July 16, 1912.

*History.*—Eleven years previously she had a sudden attack of pain in the right lumbar region, radiating downward to the bladder. This lasted for a day or two, and she passed some gravel and had moderate hematuria. There was no similar trouble until three months ago when she had a recurrence of the attack of eleven years ago. Since that time she has had frequent and urgent urination, and at times sudden cessation of the urinary flow, before the bladder was empty. She has noticed that the urine is turbid and contains enough blood to discolor it slightly. In the past three months she has had much pain in the right lumbar region.

*Examination.*—Radiographs were made, and as they were not very good, no shadows of stone were seen. At the time patient called I did not see these radiographs and accepted the statement that they were negative for stone. There was nothing to be palpated in the kidney regions. Vaginal examination showed a hard mass on the right side of the bladder. The catheterized specimen of the urine showed a large amount of pus and some blood. Cystoscopy: In the region of the right ureter was seen a mass about the size of a pigeon's egg, with bullous edema on the periphery, that was taken to be a flat-based papilloma and, because of the induration as felt through the vagina and the bullous edema was regarded as in all probability malignant.

*Treatment.* — The mass described above was fulgurated on July 20 with the D'Arsonval current, and again three days later. On examination a week after the second treatment, I was surprised to see protruding from the portion of the supposed tumor over the part fulgurated a large, black, rough stone. I suggested to the patient that she come into the hospital and allow me to remove the stone. The procedure I had in mind was to give her an anesthetic, put her in the knee-breast posture and through a No. 12 or 14 Kelly endoscope deliver the stone into the bladder by cutting open the vesical end of the ureter; then, to crush the stone with a lithotrite, and wash away the fragments.

The patient became frightened, and did not return. I wrote her to call on me, and she did so on Jan. 31, 1913. At this time she stated that she had had a number of attacks of lumbar pain since I saw her last, and one quite recently. Cystoscopy showed two stones almost the size of pigeon's eggs free in the bladder. The orifice of the right ureter was about the size of a lead-pencil. The mass that had appeared like a papilloma had disappeared.

An unsuccessful attempt was made to crush these stones with a lithotrite under local anesthesia. I directed that she have radiographs made of the whole urinary tract, as the frequent attacks of right renal pain indicated the possible presence of other stones in the kidney or ureter. After this the patient again went from under my attention and I have heard nothing further from her.

There are several noteworthy features in this case. The first is the large size of the stones that had come down the ureter. I do not think there was any increase in size of the stones after their escape into the bladder, as the appearance was the same, and neither was larger than the estimated size of the one seen just after the fulguration. Second, it is very easy to mistake such a condition for a flat-base papilloma. In all cases in which a supposed growth is situated over the vesical orifice of the ureter, and the meatus is not to be seen, the thought of stone should be entertained. In such instances a good radiograph of the lower end of the ureter will clear up the diagnosis. Third, where haste is not necessary, on account of symptoms due to ureteral obstruction, fulguration of the bladder over the stone offers a simple and bloodless method of releasing these stones. It takes about a week for the fulgurated tissue to slough away and let the stone into the bladder.

393 West End Avenue.

## BURSTING RUPTURE OF THE STOMACH OF EXTRAORDINARY EXTENT

JOHN D. SINGLEY, A.M., M.D., PITTSBURGH

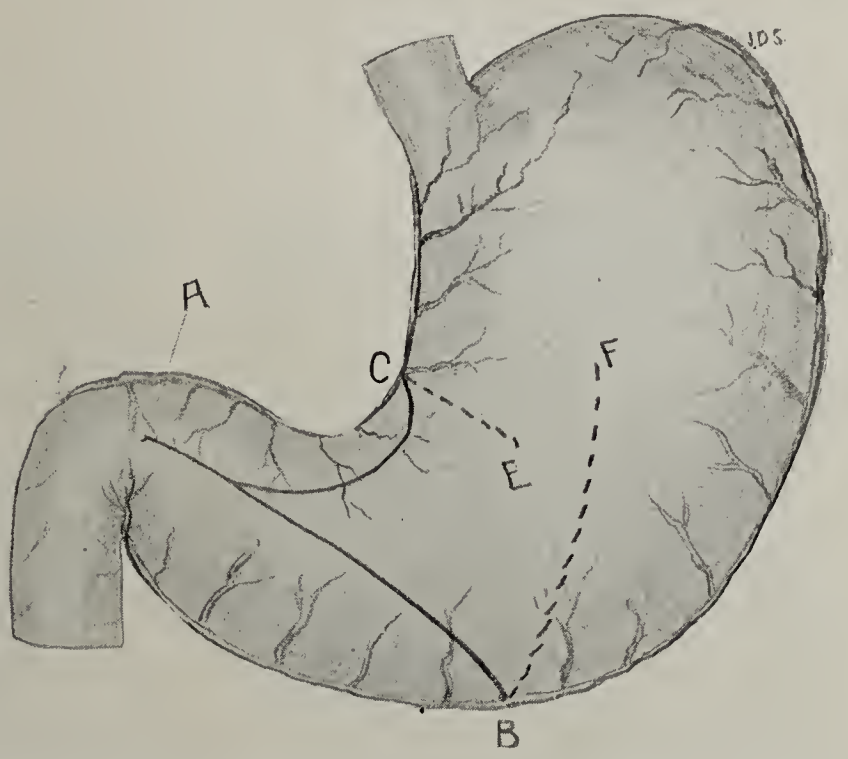
A somewhat thorough search of the literature leads me to believe that the case herewith reported is unique in the extraordinary extent of the rupture.

*Patient.*—B. M., aged 23, iron-worker, a large, well-formed, muscular man, was injured at 10 p. m. by having a large casting fall on him, striking his upper abdomen. He had eaten nothing after 6 p. m. When admitted to St. Margaret's Hospital at 10:30 p. m., he was in profound shock with a pulse of 136, temperature 96, respiration 26 (costal in type), skin relaxed and leaking. With appropriate treatment the pulse came down and improved in quality. There was no external evidence of trauma. The abdomen was flat in general but slightly full in the epigastrium. Percussion elicited dulness from the pubes to the umbilicus and in both flanks. There was no peristalsis. A doubtful history was obtained of the patient's having vomited blood and of his having passed some by rectum.

*Operation.*—A diagnosis of rupture of abdominal viscera, probably stomach, intestine or liver, with severe hemorrhage, was made and the abdomen opened through the upper right rectus at 1 a. m. After evacuating an enormous quantity of fluid and clotted blood, the stomach was found widely torn. Owing to the extent of the tear some difficulty was encountered in determining the proper relations of the torn margins. A glance at the accompanying illustration will indicate better than words can describe the enormous extent of the rupture. The viscus was completely torn across in an irregular manner with the exception of about 1½ inches (between E and F) of the posterior wall. The gastric artery at C and the gastro-epiploic artery at B were torn across, the rents extending into the gastrohepatic omentum above and the gastrocolic omentum below.

*Treatment and Course.*—The margins of the stomach wound were brought together with continuous inverting sutures of catgut and linen and the omental wounds closed with catgut, leaving sufficient space in the gastrohepatic omentum for the insertion of a split rubber tube with wick. A cigarette drain was placed in contact with the anterior and lower portion of the stomach. No stomach contents that could be recognized were found in the abdomen. The patient never rallied from the shock of hemorrhage and operation and died at 8 a. m.

*Remarks.*—Considering the lines of rupture, one is forced to conclude that the stomach burst at the moment of impact much as does a paper bag when inflated and struck. No such




Solid lines AB and AC, lines of rupture on anterior surface of stomach; dotted lines CE and BF, lines of rupture on posterior surface of stomach. Portion of posterior wall between E and F only part of circumference remaining intact.

rupture could possibly be produced by crushing force between the spine and the traumatizing agent.

812 North Highland Avenue.

## A NEW BOTTLE-HOLDER FOR FEEDING BABIES

A. C. SOPER, JR., CHICAGO

An adjustable bottle-holder for institutions caring for nursing infants has been devised on the lines of one first made by Dr. John A. Hornsby, of the Michael Reese Hospital. It is intended to lighten the work of nurses who must care for four or more bottle-fed infants at the same time, and to give the baby a better chance to feed slowly and steadily. We all know that babies when fed on the maternal breast seldom nurse uninterruptedly, but often stop for a period, look around, and then begin again. The nurse who holds the bottle at the bedside or has the baby on her lap is always rushed with work and is likely to be impatient for the baby to finish, and will not let it stop for an instant, but keeps pushing the nipple into the mouth until all is finished. This rapid feeding is one of the prime sources of indigestion, and often causes the baby to vomit. Also, bottles left on a pillow or blanket by the baby's head often roll away unnoticed by the nurse, who, coming around later must perhaps reheat the milk. The food is often spilled in this way and the baby goes hungry.

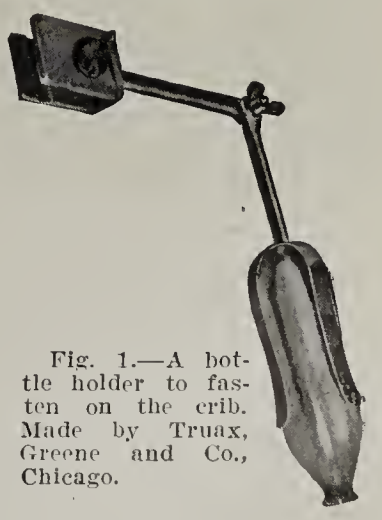


Fig. 1.—A bottle holder to fasten on the crib. Made by Truax, Greene and Co., Chicago.

This holder, being inexpensive and easy of adjustment, should find a place in all institutions that care for infants, and also in many homes.

4557 Evanston Avenue.

# CASES ILLUSTRATIVE OF (1) FRACTURE OF CARPAL SCAPHOID WITH LUXATION OF SEMILUNAR, (2) FRACTURE OF CARPAL SCAPHOID WITH PALPABLE DEFORMITY

P. G. SKILLERN, JR., M.D., PHILADELPHIA
Fellow of the Philadelphia Academy of Surgery

Close study of injuries about the wrist renders the casual diagnosis of "sprain" or "contusion" less and less tenable. I have pictured and described[1] four cases of sprain—or tear-fracture, including one of the wrist, which might readily have been diagnosed and treated as "sprain" or "contusion," but which demanded the same careful immobilization as though gross fractures. So, too, fractures of the bones of the carpus, of which that involving the scaphoid is the commonest, may readily be overlooked owing to their small size and firm ligamentary interunion, factors which mask or withhold the usual signs of fracture. That these fractures can be recognized, that their frequency is greater than statistics indicate, and that many cases of otherwise unaccountable crippled wrist would not occur, these two cases illustrate. They both were seen by me in the surgical outpatient department of the University Hospital, service of Dr. B. A. Thomas, and for the exceptionally clear skiagrams I am indebted to Dr. Henry K. Pancoast. In both instances the diagnosis was made before search by x-rays by simple attention to the anatomic conditions.

CASE 1.—E. H., white, male, inspector, aged 36, had a street accident injuring right wrist; mechanism unknown. The case was treated in another hospital for two weeks as a "bad sprain," skiagram taken at the time being declared negative. Following this wrist was crippled, flexion and extension being very limited, and patient had pain in joint on the slightest motion. Tendons were not adherent. Examination showed two signs which sufficed for diagnosis, tenderness in the snuff-box with hand adducted and a bony projection into the flexor tendons in the middle of the front of the wrist. There was no puffiness, ecchymosis, crepitus or preternatural mobility. The localized tenderness in the snuff-box indicated fracture of scaphoid, while the prominence anteriorly, with a corresponding gap on dorsum between os magnum and radius, was pathognomonic of coincident luxation of semilunar, which combination is second in order of frequency to fracture of scaphoid alone, depending solely on the direction and extent of the irritating force. Skiagram (Fig. 1) showed displacement of lower end of proximal fragment toward ulnar side and in front of os magnum and also elongation in vertical diameter of semilunar (compare with same bone in Figure 3). In the lateral view (Figure 2) the latter appears beautifully clear as a three-quarters moon, with the characteristic displacement forward to just below the anterior articular edge of radius. There is shortening of carpus by approximation of os magnum to radius. Owing to the long lapse of time (seven months) since the injury, but one method of treatment was indicated, removal of the semilunar with both fragments of scaphoid. Pain is relieved and motion increased.

CASE 2.—A. J., white, male, engine cleaner, aged 31, fell a week previously, striking right wrist. Examination revealed a tender prominence occupying and filling the snuff-box just below the styloid of the radius. Diagnosis was fracture of scaphoid. Skiagram (Figure 3) revealed the distal fragment (tuberosity) so shifted as to occupy and fill in the interval between the tip of the radial styloid and the trapezium. Patient refused manipulative or operative treatment. The distal fragment should have been ablated.



Fig. 1.—Fracture of scaphoid and luxation of semilunar. Note synostosis of tuberosity of scaphoid with tip of radial styloid.



Fig. 2.—Lateral view of Figure 1. Note palmar displacement of semilunar and approximation of os magnum to radius ("shortening of carpus") to occupy the space vacated by the semilunar.

Isolated fractures of the scaphoid are *not* to be treated by massage and passive motion. This bone is but feebly capable of osteogenesis and is constantly bathed by the synovial fluid, the amount of which would only be increased by massage and passive motion, thus adding fuel to the fire.

The proper treatment in early cases is immobilization for a period of about four weeks. If at the end of this time there is still no union, or if the case has been untreated, or has been treated by massage and motion with resultant non-union, the fragment (ordinarily the proximal) is to be ablated through a half-inch incision between the extensor communis digitorum and extensor carpi radialis brevior tendons.



Fig. 3.—Fracture of scaphoid with deformity. Note displacement of separated tuberosity below and just external to the tip of the radial styloid, where it can be distinctly felt. After operation in this case, the patient secured complete restoration of function.

The functional result obtained in those cases in which the patients have received this method of treatment is usually perfect.

241 South Thirteenth Street.

1. Skillern, P. G., Jr : Ann. Surg., February, 1913, p. 289.

## A SCLEROCORNEAL TREPHINE

BROWN PUSEY, M.D., CHICAGO

In my first use of the Stephanson trephine I felt the need of the shoulder attachment as a factor of safety. I used this attachment in several operations and in two of them found that the shoulder interfered with the application of the cutting surface at the sclerocorneal junction because of the fold of the turned-down conjunctival flap.

I then used the instrument without the shoulder attachment, but there is some danger in this.

To avoid these troubles (troubles at least for the beginner in this very promising operation), I have had made a trephine with a barrel of even diameter for 0.75 mm. from the cutting edge, then a slight flare, as shown in the accompanying pic-




A sclerocorneal trephine.

ture. This makes a very safe and very efficient instrument; indeed the instrument has proved so satisfactory that I venture to call attention to it.

7 West Madison Street.

---

## SHELF FOR RECTAL AND VAGINAL OPERATIONS

HENRY F. GRAHAM, M.D., BROOKLYN

In many rectal and vaginal operations a shelf conveniently placed will save much time when the operator finds it necessary to lay down and pick up his needle-holder, scissors, thumb-forceps, etc., frequently.

This device weighs about 3½ pounds and hooks on the lower end of the operating-table after it has been dropped. Thumbscrews permit of adjustment near to the table or farther away.

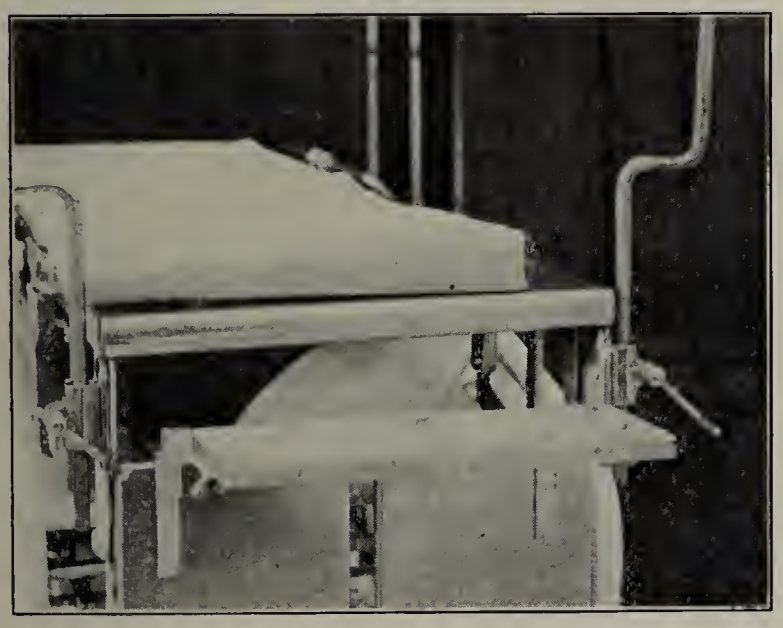


Fig. 1.—Shelf for rectal and vaginal operations.

After this had been made, I learned that Dr. E. B. Cragin of New York had used a similar device. In a letter he informs me that he has been using a shelf for about two years but has never described it in the journals.

---

## LONGITUDINAL FISSURED FRACTURE OF THE LOWER END OF THE RADIUS

JOSEPH LEWI BENDELL, M.D., ALBANY, N. Y.
Instructor in Surgery, Albany Medical College; Attending Dispensary Surgeon, Albany Hospital; Assistant Attending Surgeon, South End Dispensary

Few examples of longitudinal, or fissured, fracture of the lower end of the radius are on record. Cotton[1] speaks of only three specimens as constituting the entire evidence. Stimson,[2] who refers to the lesion as an incomplete Colles' fracture, has seen only one skiagram of the condition.

The condition was first described by Bigelow,[3] and although there are sundry references in the literature, published radiographic findings seem to be limited to Parrish's recent article.[4]

The latter, so far as I know, is the only published report (except this one) with roentgenographic illustration of the lesion.

### REPORT OF CASE

W. R., aged 31, truck-driver, Sept. 19, 1912, fell from the seat of his truck, striking his right wrist against the pavement. At the time of the accident he paid but slight attention to the injury, although he suffered some pain in the wrist, and



Roentgenogram of longitudinal fissured fracture of lower end of radius.

there was a moderate degree of limitation of motion. Shortly following, he was conscious of the fact that the wrist was swollen. A few days later, still suffering from the above-described symptoms, he decided to consult a physician. The latter, suspecting a fracture, applied a temporary dressing.

One week following the accident, the patient came under my care. The wrist at this time presented a moderate degree of edema, was sensitive to pressure, and manipulation caused pain. Deformity was, however, entirely absent.

Having in mind the possibility of a Colles' fracture without the presence of the characteristic deformity, I advised the use of the *x*-ray. A longitudinal fracture of the lower end of the radius of the fissured type, was revealed, as here shown.

1. Cotton: Dislocations and Joint Fractures.
2. Stimson: Fractures and Dislocations.
3. Bigelow: Boston Med. and Surg. Jour., 1858.
4. Parrish, Robert C.: Longitudinal Fracture of the Lower Extremity of the Radius, THE JOURNAL A. M. A., Jan 11, 1913, p. 123.

A plaster-of-Paris cast was applied to the wrist and lower arm for a period of ten days, at the end of which time passive motion and massage were instituted, and a roller bandage substituted for the cast.

The patient was discharged on October 20, and at the present time suffers from no disability.

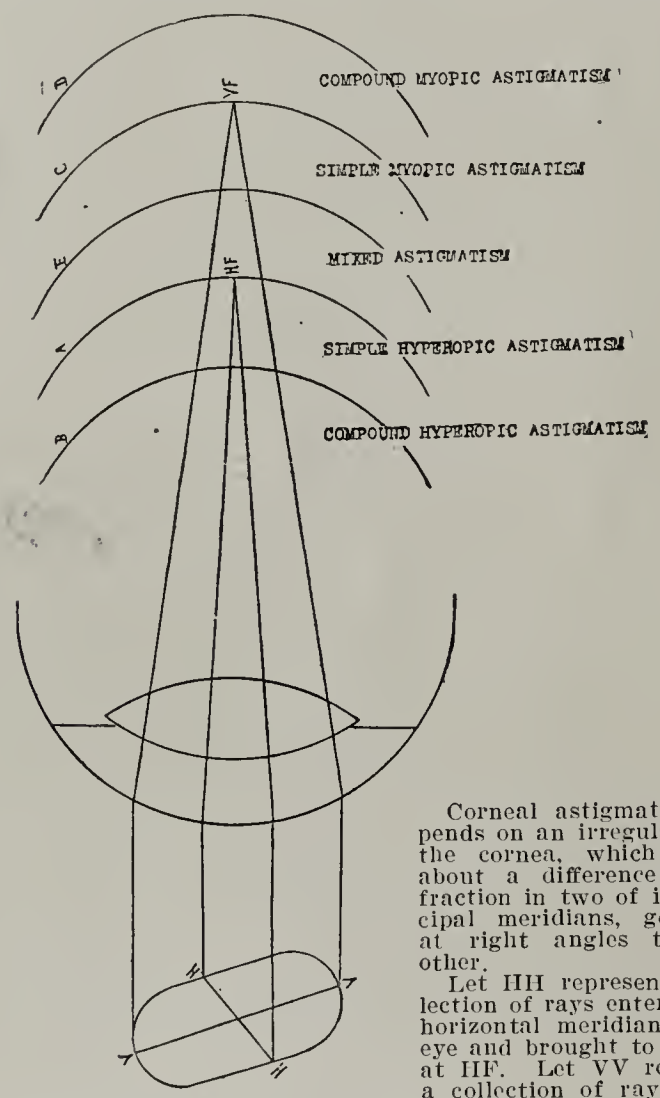
The above case is recorded, not because of its importance from a clinical point of view, but because of its rarity and its absence from the surgical literature. Doubtless, the fracture occurs with greater frequency than we might be led to believe, since absence of deformity and lack of definite symptomatology lead the attending physician to treat the injury as sprain rather than fracture.

178 State Street.

## A DIAGRAM FOR TEACHING THE VARIETIES OF REGULAR ASTIGMATISM

SIDNEY L. OLSHO, M.D., PHILADELPHIA
Instructor in Ophthalmology, Jefferson Medical College

With the accompanying diagram, I have been able to make the subject of astigmatism a little clearer to students. So far




Corneal astigmatism depends on an irregularity of the cornea, which brings about a difference in refraction in two of its principal meridians, generally at right angles to each other.

Let HH represent a collection of rays entering the horizontal meridian of the eye and brought to a focus at HF. Let VV represent a collection of rays entering the vertical meridian of the eye and brought to a focus at VF. Observe the interval between these foci. The kind of astigmatism present may now be said to depend on the length of the eyeball.

If the retina be situated as far back as A, we find one meridian of the eye (HH) emmetropic and one meridian (VV) hyperopic. Result: simple hyperopic astigmatism.

If the retina be situated at B, we find both meridians hyperopic, but the vertical meridian (VV) more so than the horizontal meridian (HH). Result: compound hyperopic astigmatism.

If the retina be situated as far back as C, we find one meridian (VV) emmetropic and one meridian (HH) myopic. Result: simple myopic astigmatism.

If the retina be situated at D, we find both meridians myopic but the horizontal meridian (HH) more so than the vertical meridian (VV). Result: compound myopic astigmatism.

If the retina be situated at E, we find one meridian (VV) hyperopic and one meridian (HH) myopic. Result: mixed astigmatism.

I have not been able to find a like diagram in any text-book. The nearest approach to it is one by Dr. Edward Jackson. I offer this with an elementary legend, which approaches the subject in a brief way.

1632 Walnut Street.

# *Therapeutics*

## TRACHOMA

This disease of the eyes is becoming of more and more importance as it becomes more and more widespread throughout our country. Therefore a brief summary of the elaborate presentation of the subject by Dr. Clark[1] of Evansville, Ind., will be valuable.

In 1897 the Secretary of the Treasury declared trachoma a dangerous contagious disease, and denied an immigrant afflicted with it entrance to this country, because of the discovery that the disease was being introduced and disseminated by immigrants. It seems to be undisputed that no country is free from the ravages of the disease, the history of which goes back to ancient times, and that no race is immune from it and no age exempt, except the very young. Dr. Clark tells us that in young children the conjunctiva does not have sufficient adenoid tissue to give the disease an opportunity to develop.

Dr. Clark states that in spite of all the bacteriologic investigations, the cause of trachoma is not yet known, the specific germ has not yet been discovered. It has been clearly shown, however, that in most cases of trachoma there is a mixed infection. The disease occurs in groups, in localities, in houses, in factories, and in schools, and is spread by contact or by contamination with articles like common towels, which are handled conjointly by the afflicted patient and his fellows.

The inflammation is located in the lymphoid tissue in the meshes of the connective tissue of the conjunctiva, and is "an enormous lymphoid infiltration with cells aggregating into masses, forming papillae, which, after receiving a vascular supply, degenerate, rupture and undergo cicatrization with the formation of the characteristic scar tissue of trachoma."

Clark believes that a more or less acute inflammation always precedes this chronic process. The acute symptoms are "those of a severe conjunctivitis with lacrimation, photophobia, pain," and some swelling of the lids. He finds the ocular conjunctiva injected, and more or less chemosis present. The palpebral conjunctiva and the fornix are congested and turgid, and the follicles are swollen. Eversion of the lid causes pain. More or less purulent discharge develops and papillae form, varying in size, depending on the situation in the conjunctiva. The color of these papillae varies according to the looseness of the conjunctiva, and they may amalgamate, forming masses or folds. The next stage, which occurs after a longer or shorter time, is that of scar-tissue formation; at this stage the secretion diminishes and the ocular congestion and photophobia cease. Still later the scar tissue begins to form in the region of the aggregations of the papillae, and with the progress toward cicatrization the so-called granulations of trachoma become separated into bands or islands, a very characteristic appearance when the inflammation is well advanced toward spontaneous recovery. This scar tissue is less abundant in the lower than in the upper lid. Its formation soon causes a lagging of the lids on movement, and later may cause ptosis. The course of trachoma is chronic, and, although there may be varying degrees of intensity of the inflammation and therefore a variation in the appearance of the conjunctiva, Clark believes that trachoma is always the same, and that to describe different types is only to cause confusion.

1. Clark, T.: Trachoma, with Especial Reference to the State of Minnesota, Journal-Lancet, March 15, 1913, p. 159.

Pannus, which occurs in from 30 to 50 per cent. of the cases, is probably caused by irritation from the granulations, or it may be a complication of trachoma.

The contraction due to the cicatrization of the inflamed tissue often causes more or less deformity and distortion of the lids. An unhealed or persistent pannus or the scarring from ulcers may cause blindness, and Clark says that about 90 per cent. of all cases of trachoma result in damaged vision. This damage ranges from a slight refractory error to complete loss of vision.

As previously stated, the diagnosis cannot be made from the discovery of a specific germ; therefore the disease must be diagnosed by inspection. The pathognomonic signs are hyperplastic granulations associated with scar tissue. Trachoma must be differentiated from follicular conjunctivitis. In this inflammation there is follicular hypertrophy and not a hyperplasia. There is no scar-tissue formation and no pannus, and in chronic cases there may be chalky deposits, a condition which Clark says he has never seen in trachoma. Follicular conjunctivitis, moreover, is not contagious, and may exist for years without the occurrence of any corneal inflammation. Clark believes that gonorrheal ophthalmia never becomes chronic, and therefore a chronic inflammation of the conjunctiva could never be due to the gonococcus.

The treatments recommended for this inflammation are legion. The important things to consider, as outlined by Clark, are the diminishing of the acute inflammation, the hastening of the absorption of the inflammatory products, and the prevention of scarring or deforming cicatrization. In acute inflammation he believes that some silver preparation or the glycerite of tannin, with or without cold applications, is valuable. If the conjunctiva is pale, with granulations and scant secretion, he would use stimulation with the copper stick. Often the stimulating treatment should be very mild. He does not approve of some of the severe treatments that have been recommended. He approves of expression of the trachomatous follicles with roller forceps, followed by the application of astringents. This treatment should be applied, of course, only when the inflammation is chronic, and not when there is acute inflammation. In some instances scarifying of the granular tissue should be done before expression is used. Every follicle that is diseased must be cleaned, else reinfection will occur; but the greatest gentleness must be used lest needless laceration be done. Local anesthesia may be needed. The treatment after these operative measures is cold applications, and occasional eversion of the lid to prevent adhesions and the formation of pockets. Subsequently it may be wise to apply the copper stick for stimulation. Other operative measures are well described by Crigler.[2]

The general condition of the patient should, of course, never be forgotten. Anything that tends to improve the hygiene, nutrition and general welfare of the patient will aid in helping any chronic inflammation. The treatment of pannus can be decided on only by expert advice, individualizing each patient.

The seriousness of trachoma, its contagiousness, the knowledge that thousands of would-be immigrants are waiting to come to America if restriction of this disease is removed, the amount of it already in this country, and, especially, its concentration in certain localities mean that measures for its prevention should be inaugurated by every state, city and town where the disease has been discovered. Neglect of the different boards of health or health officers to take measures to prevent the spread of this disease becomes more serious every year as more foreigners come, with the attendant crowding and ignorance in regard to ordinary cleanliness. Poverty, crowding, dirt and articles used in common tend to spread this infection rapidly. The time a given person with the disease may continue to disseminate it is not known, but is probably as long as the adenoid tissues of the conjunctiva are diseased.

While the number of persons having trachoma may be diminishing in some of our larger cities where both the government and the local authorities are alert to the danger of the disease and to the segregation necessary, other cities and communities should pass such ordinances as would cause every case of trachoma to be reported. School children should be inspected for this disease. Factories should also be inspected, and where the disease is discovered the owners should take measures to prevent its spread and to eliminate it if possible. A person with trachoma should be isolated and treated until he is well. A child who is discovered to have trachoma and is banished from school should be followed to its home by a visiting nurse or some inspector from the board of health to insure that the child does not spread contagion in its own home. A medical inspector should also examine all other members of the family to note if there are other cases of the disease.

Clark urges that school wash-rooms should have faucets for running water which are controlled by foot-pressure, so that the hands need not touch the faucets. The common towel should be abolished with the common drinking-cup. These rules for cleanliness apply also to factories, hotels, office buildings and all public institutions.

2. Crigler, L. W.: Trachoma, Its Etiology and Treatment, THE JOURNAL A. M. A., March 30, 1912, p. 925.

## *Special Article*

## BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(*Continued from page 1461*)

### *CLASSIFICATION OF BACTERIAL VACCINES*

Vaccines may be classified as *autogenous* and *stock vaccines*. Each of these classes is susceptible of further subdivision.

#### AUTOGENOUS VACCINES

Autogenous vaccines are derived from bacteria taken from the patient in whose treatment they are to be used. Autogenous vaccines are usually simple, being derived from a pure culture of a single causative organism derived from the affected tissues. In certain cases, however, differentiated mixed vaccines are employed. In some cases of mixed infection two or more species of bacteria are shown by bacterial examination to be associated in the diseased condition. These species are isolated, grown in pure culture, and converted into vaccines, and these vaccines are combined in dosage proper to the particular species at the moment of inoculation.

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

An undifferentiated mixed vaccine has been employed by cultivating all the organisms obtained from the pus or other diseased product without isolating and securing the bacteria in pure culture. This method has been urged as an emergency measure in case of rapidly spreading infection, like a traumatic cellulitis or puerperal sepsis, but on account of its great uncertainty and crudeness is to be condemned entirely.

### STOCK VACCINES

A vaccine made in bulk and afterwards subdivided to obtain proper dosage is called a "stock vaccine." All commercial vaccines are of the stock variety, since, even in the final single marketed doses, they are derived from an original or stock suspension prepared and kept in the manufacturer's laboratory.

Stock vaccines may be single, containing only one variety of bacterium, or mixed, containing two or more varieties.

*Polyvalence.*—To those stock vaccines composed of two or more subspecies or varieties of a particular bacterial species, the term "polyvalent" has been applied. The idea is that polyvalent vaccines possess a wider range of therapeutic affinity than ordinary. The device of polyvalent stock vaccines which fit the varieties of a given bacterial species is offered as a substitute to remove the necessity of a culture with correct bacteriologic diagnosis, and to relieve the physician from making an autogenous or personal vaccine.

The word has been variously applied. Stock staphylococcus vaccines with a mixture of the species albus, aureus, citreus, etc., are by some designated as polyvalent. Again, a stock *Staphylococcus aureus* vaccine, if made from cultures secured from different lesions as boils, phlegmon, osteomyelitis, etc., would be classed as polyvalent. In other bacterial species in which variation is supposed to exist in so-called races or strains, as streptococci, pneumococci and typhoid bacilli, the effort to make polyvalent stock vaccines of any one of these consists in combining suspensions of a number of cultures secured from different individuals and different lesions.

The very frequent failure to obtain satisfactory therapeutic results with stock vaccines of a single species, race, group or strain prompted the production of those called polyvalent vaccines. Like mixed vaccines they represent an effort to hit a minute and possibly uncertain target with a widely spreading charge of therapeutic ammunition. There are no satisfactory data to prove the superiority of any of the numerous kinds of polyvalent stock vaccines over the corresponding ones of a single source. They serve simply to complicate vaccine therapy, and to engender a false sense of security on the part of physicians using them.

### MIXED STOCK VACCINES

Mixed stock vaccines may be divided into those which are permissible and those which are objectionable.

Mixtures of stock vaccines are possibly permissible under certain circumstances. These circumstances are that a preliminary bacteriologic diagnosis has been made by which the identity of the species in a mixed infection has been ascertained, and that the mixture of the corresponding bacteria is made at the time of inoculation. Given the case of a cellulitis with streptococci and staphylococci identified by preliminary culture, or possibly by smears, if one had ready to hand a standardized stock vaccine of staphylococcus and of streptococcus, a portion of each to represent the desired dose could be mixed and injected, assuming that an acute process like this is suitable for vaccine therapy. For a reason to be dwelt on later, it is necessary to qualify somewhat the rationale of this procedure, which would prove successful only in case one were so fortunate as to hit on a race or strain of streptococci corresponding to that in the streptococcus vaccine.

Objectionable mixed stock vaccines include practically all the mixed vaccines now on the market. They are not even corresponding, in a sense that a preliminary bacteriologic diagnosis has established the identity of the bacterial species involved in the mixed infection under treatment. For the most part, they are to be used by the unscientific procedure of guesswork. The physician is expected to assume that two or more pathogenic bacteria contained in the mixed stock vaccine are the active agents in the case which he is treating. Having reached this assumption he discharges into his patient a mixture of bacteria including the ones whose presence is suspected, and several others, for these mixed vaccines are generally very liberal as to bacterial species entering into their composition.

### *USE OF AUTOGENOUS VACCINES*

Theoretically, autogenous vaccines are the agents *par excellence* of vaccine therapy. By their use antibodies of precise specificity are aroused, and specificity is found to be a predominating characteristic of antibodies as further progress is made in their study. In theory, therefore, the use of autogenous vaccines provokes the formation of exactly that class of immunizing substances best suited to combine with the bacteria engaged in the disease process, or to combine with and nullify the poisons elaborated by such bacteria. This theoretical assumption of the superiority of autogenous vaccines is sustained in practice. Instead of adding a heavier burden to the individual's immunizing mechanism, already taxed in its struggle against the invading bacteria, these bacteria reintroduced as autogenous vaccines, if successful, stimulate further therapeutic immunizing responses. The experience of expert bacteriotherapists attests to the correctness of this view. This is not to say that failure is impossible. It is still far too common, even in the practice of the most experienced and best-trained workers to justify any other than a most conservative attitude; but therapeutic success, if at all attainable, follows the use of correctly prepared and properly administered autogenous vaccines, while failure, if resulting from these procedures, certainly would not be averted by using impersonal or stock vaccines. In other words, the experience of the best-qualified specialists in vaccine therapy demonstrates that the most uniform and most satisfactory therapeutic results follow the use of autogenous bacterial vaccines. Autogenous vaccine therapy, having such strong claims for superiority, should be more generally adopted. The claims for such general adoption may be summarized as follows:

1. Any result that is possible in therapeutic immunization can be secured by autogenous bacterial vaccines.
2. Therapeutic results otherwise unattainable may follow the proper use of autogenous vaccines.
3. Autogenous vaccine therapy makes prerequisite a bacteriologic diagnosis, the only really scientific method of approaching the treatment of an infection.
4. If carried out in detail by the practitioner, it assures the possession of a certain skill and experience without which vaccine therapy is merely an empiric procedure.

5. It assures a personal, intimate touch between the practitioner and the patient.

6. It assures the independence of the practitioner from commercial vaccine interests.

7. It elevates vaccine therapy to its proper level of a special practice in the hands of thoroughly qualified physicians.

### OBJECTIONS TO AUTOGENOUS VACCINES

Certain objections to autogenous vaccines have been raised by good authorities. One of these is that in cases of rapidly progressing infections the time required to produce a vaccine entails a serious loss. In the hands of an expert, however, the first dose of autogenous vaccine can be prepared in from twelve to twenty-four hours after the culture-medium has been inoculated, in case the infection is due to the more usual pyogenic organisms. Therefore, objections to lost time become less serious, while there is the immense advantage of having available the precise organism or mixture of organisms causing the infection. Should the case be one with the more unusual organisms, it is altogether improbable that a stock vaccine would fit it. A more weighty objection concerns those bacterial species which are difficult to secure in culture or which are slow in growth, like the gonococcus, acne bacillus, influenza bacillus and tubercle bacillus.

Here one may be compelled to resort to stock vaccines while effort is being made to secure the autogenous one in case a culture is procurable; and it becomes a question of stock vaccines or none at all in those chronic infections like some gonorrheal rheumatisms, in which the germ is inaccessible. In case of the tubercle bacillus practically all workers resort to stock vaccine (tuberculins).

*(To be continued)*

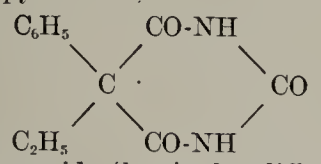
# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

**LUMINAL.** — Phenyl-ethyl-barbituric acid. — Phenyl-ethyl-malonyl-urea.—Luminal is phenyl-ethyl-barbituric acid, 2,4,6-trioxy-5-phenyl-ethyl pyramidin,




Phenyl-ethyl-barbituric acid (luminal) differs from diethyl-barbituric acid (veronal) in that one ethyl group ($C_2H_5$) has been replaced by one phenyl group ($C_6H_5$).

Luminal is a white, odorless, slightly bitter powder. It is almost insoluble in cold water, slightly soluble in hot water and readily soluble in alcohol, ether and chloroform, and in alkaline solutions. It crystallizes from boiling water in lustrous leaflets, and is precipitated unchanged by acids from its alkaline solutions. It melts at 170°-172° C.

If about 0.3 Gm. of luminal be shaken for a short time with 1 Cc. of normal sodium hydroxide and 5 Cc. of water, and the mixture filtered, the filtrate will yield white precipitates on the addition of mercuric chloride and of silver nitrate solutions.

If about 1 Gm. of luminal be boiled for five minutes in 10 Cc. of a 50 per cent. solution of sodium hydroxide, ammonia will be evolved.

If about 1 Gm. of luminal be dissolved in 5 Cc. of normal sodium hydroxide and the solution heated for four hours on a boiling water bath, the evaporated water being replaced, crystals of phenyl-acetyl-urea will separate on cooling. When recrystallized from dilute alcohol these crystals melt at 147° C.

If about 0.1 Gm. of luminal be dissolved in 1 Cc. concentrated sulphuric acid, the solution should be colorless.

If about 0.1 Gm. of luminal be incinerated, no weighable residue should remain.

*Actions and Uses.*—It is claimed that the introduction of the phenyl group increases the hypnotic power of luminal (phenyl-ethyl-barbituric acid) over that of veronal (diethyl-barbituric acid).

Luminal is said to produce sleep in the cat and dog with a satisfactory range between the effective and lethal doses, affording a deep quiet sleep, without injury to the respiration or circulation. Very rarely a period of excitement precedes sleep.

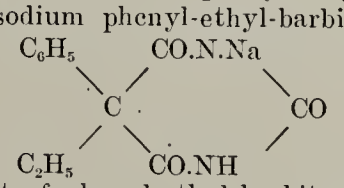
It has a sedative action on respiration, lessening the frequency of breathing, although the volume of each respiration is increased. It kills by respiratory paralysis. It is eliminated by the kidneys, a certain portion being probably decomposed in the organism. No injury to the kidneys nor gastric disturbances have been observed.

Luminal is claimed to be a useful hypnotic in nervous insomnia and conditions of excitement of the nervous system.

*Dosage.*—From 0.2 to 0.3 Gm. (3 to 5 grains) increased if necessary to 0.8 Gm. (12 grains). A maximum dose of 0.8 Gm. (12 grains) should not be exceeded. Smaller doses are sometimes efficient.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 1,025,872 (May 7, 1912; expires 1929). U. S. trademark No. 87,327.

**LUMINAL-SODIUM.** — Sodium phenyl-ethyl-barbiturate.—Luminal-sodium is sodium phenyl-ethyl-barbiturate,




the mono sodium salt of phenyl-ethyl-barbituric acid.

Luminal-sodium is a white, crystalline, hygroscopic powder, readily soluble in water. On long standing or prolonged boiling of the aqueous solution one molecule of carbon dioxide is liberated and phenyl-ethyl-acetyl-urea is precipitated. Its aqueous solution is alkaline to litmus.

If luminal-sodium be incinerated the residue should respond to tests for sodium.

If an aqueous solution of luminal-sodium be treated with a solution of potassium pyro-antimonate a white precipitate will be formed.

Luminal-sodium further responds to the tests given under luminal (which see).

*Actions and Uses.*—See luminal.

*Dosage.*—For hypodermic injection luminal-sodium is used in the form of a 20 per cent. solution, prepared by dissolving the salt in boiled and cooled distilled water; 2 c.c. (30 minims) of the solution contain 0.4 Gm. (6 grains) of luminal-sodium. The dose of luminal-sodium is 10 per cent. greater than that for luminal.

Luminal-sodium may be given hypodermically in doses of 0.1 to 0.3 Gm. (1½ to 5 grains).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 1,025,872 (May 7, 1912; expires 1929). U. S. trademark No. 87,327.

**STREPTOCOCCUS VACCINE** (See N. N. R., 1913, p. 226).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

*Streptococcus Vaccine* (Polyvalent).—Marketed in vials and in syringes containing respectively 50 million, 100 million, 200 million and 400 million killed streptococci.

**TYPHOID VACCINE** (See N. N. R., 1913, p. 227).

Lederle Antitoxin Laboratories, New York City. (Schieffelin and Co., New York.)

*Typhoid Vaccine.*—Marketed in vials and in syringes containing respectively 100 million, 250 million, 500 million and 1 billion killed bacteria.

*Typhoid Vaccine* (For Prophylactic Treatment).—Marketed in vials and in syringes, each package containing 3 doses, the first dose containing 500 million killed bacteria, while the second and third dose each contain 1 billion killed bacteria.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, MAY 17, 1913

## RESPIRATION AND THE CIRCULATION

The movements of respiration are commonly described as having a distinct influence on the circulation by acting as an auxiliary to the heart in accelerating the blood-stream. There is assumed to be a constant aspiration of blood from peripheral parts into the thorax. The heart is portrayed as thus being better supplied with blood during inspiration than expiration, thereby tending to raise the arterial blood-pressure. The inspiratory descent of the diaphragm is believed to increase the flow into the heart by raising the positive pressure in the abdomen, so that blood is pressed out of the abdominal veins and sucked into the heart and the thoracic veins. During respiration there also occur changes in the pulmonary capillaries whereby their capacity may be increased and the resistance they offer to the flow of blood will be diminished. The effects of the respiratory movements on the systemic blood-pressure are thus explained by the influence they exert on the lung vessels or lesser circulation.

These conventional views have not remained unchallenged. Lewis believes that the variations in pericardial pressure, that is, the direct influence of the thoracic movements on the heart, play a much more important part than changes in the pulmonary circulation in such phenomena as the production of the respiratory undulations in the blood-pressure. Indeed, he concludes that it is not possible to make any general statement as to the nature of the blood-pressure response to a particular respiratory act, the effect of the respiration varying according to the type of respiratory movement.

In the Yale Medical School, Drs. Henderson and Barringer[1] have critically reviewed the evidence for some of the current notions regarding the reputed rôle of the movements of respiration in assisting the heart to propel the blood-stream. This is commonly supposed to be particularly conspicuous and physiologically helpful during the hyperpnea attending muscular exertion. These investigators conclude, contrary to the familiar belief, that neither the augmented respiration nor other influences can induce the enormous systolic discharges at rapid rates of heart-beat that have been believed to occur during vigorous physical exercise. According to Henderson and Barringer, the utmost assistance that respiration can afford is the maintenance of a venous pressure sufficient to distend the right ventricle as rapidly as it relaxes and as fully as the duration of diastole allows — conditions without which the heart action becomes subnormal.[2] Contrary to the general opinion, these investigators further hold that the influences of the rhythmic changes of the negative pressure of the thorax on the thoracic veins, on the heart and on the pulmonary blood-vessels are in reality of no considerable importance in relation to the velocity and volume of the arterial blood-stream. Under normal conditions of venous supply the respiratory variations of arterial pressure are mainly due, they believe, to corresponding alterations in the heart-rate.

After hemorrhage or in circulatory shock, when the venous pressure is below normal and the heart is therefore acting with less than full efficiency, the auxiliary action of respiration may become more important. Forcible expiratory contractions of the abdomen may momentarily increase the venous supply to the right ventricle to such an extent that the output of the left ventricle is augmented to a more nearly normal volume. These newer theories, along with the designation of the failure of the venous supply to the right heart as the "critical factor" in so-called circulatory shock, deserve careful consideration. The latter phenomenon is quite distinct from the vasomotor failure and abolition of the peripheral resistance of the arterial system seen in the shock manifestations induced by section of the spinal cord.[3]

1. Henderson, Y., and Barringer, T. B., Jr.: The Influence of Respiration on the Velocity of the Blood-Stream, Am. Jour. Physiol., 1913, xxi, 399.

2. Henderson, Y., and Barringer, T. B., Jr.: The Relation of Venous Pressure to Cardiac Efficiency, Am. Jour. Physiol., 1913, xxxi, 352.

3. Henderson, Y., and Barringer, T. B., Jr.: Am. Jour. Physiol., 1913, xxxi, p. 362.

## NEW ANALYSES OF HOT SPRING WATERS

Hot springs are found in many parts of the world. Where they are reasonably accessible they are frequently made a part of a "health resort" established to exploit the curative properties of the waters. The heating of the springs is probably accomplished by deep-seated waters which are converted by contact with heated masses in the interior of the earth into vapor. This ascends through fissures toward the surface, where it meets cold springs and heats them.

When it is remarked that "hot water is hot water anywhere," so that this feature of hot springs need not induce patients to travel away from home to obtain the benefits of thermotherapy, the enthusiasts for these health resorts assure us that the waters contain other features than the heat. In many cases chemical analysis has failed to reveal any unusual content of mineral constituents to account for the alleged therapeutic effects. This is true, for example, of the waters at Hot Springs in

Arkansas, where the government reports freely admit that the dissolved matter is low in amount. These waters, like those of some other deep springs, are radio-active; and in the absence of more convincing evidence along other lines the therapeutic value of the baths at the Arkansas Hot Springs is attributed to the radio-activity of the waters rather than to any mineral constituent. The use of the waters is, however, combined with so many other features of hydrotherapy, thermotherapy, dietary supervision and hygienic living that it must remain an open question whether in truth the waters *per se* have any specific curative virtues.

It is important to have full information regarding all the factors in connection with such resorts, so that an unbiased estimate of their real merits can be frankly made known. A recent report to the United States Geological Survey brings facts regarding the waters of the Breitenbush Hot Springs.[1] They are situated near Breitenbush Creek on the west slope of the Cascade Mountains in Marion County, Oregon. The valley of the Breitenbush is narrow, and the formations exposed are lavas of the Cascade Range series. More than sixty hot springs, in three general groups, lie along both sides of the stream for almost a third of a mile. A few cold springs, entirely different in character, are within the limits of the groups, but as they are normal for the region they are unimportant. All the hot springs have nearly the same temperature, and the manner of their grouping suggests a common origin. Reputed curative properties have been assigned to the various springs, and a crude "health resort" has been constructed. Many patients take the waters each year, and if the place were more readily accessible it would undoubtedly enjoy a large patronage. The government analyses now published show that the several hot springs are merely separate outflows from a common source. The water is characterized by a content of sodium chlorid of approximately 1.5 parts per thousand, resembling other "salt" waters; but it contains small amounts of silica, calcium, bicarbonates and sulphates. The report suggests that "minimum medicinal doses of both sulphates and carbonates might be obtained by drinking about 4 liters [4 quarts] of the water, but the disagreeable and even nauseating taste of the chlorids would make the drinking of that amount in one day a herculean feat. It is certain that any curative properties attributable to the mineral content are psychologic rather than physiologic." Without prejudice as to other therapeutic possibilities, of which the still problematic radio-active hypothesis may be one, the possession of authentic information regarding all such reputed health-giving agencies is greatly to be desired as an aid to rational critique and just appreciation. To seek light in this domain is not necessarily to deny the testimony of empiric clinical experience.

1. The data are given by W. VanWinkle in Jour. Ind. and Eng. Chem., April, 1913, p. 300.

## ANTINEURITIC FOODS

The discovery that a disease (polyneuritis) similar in many respects to human beriberi can be induced in birds by a diet of polished rice has given a great impetus to the investigation not only of these analogous diseases, but also of the dietary antineuritic factors in general. The study of human cases involves large elements of chance and uncertainty. The results are slow in their development, problematic in their outcome, and largely dependent on conditions which are outside the range of adequate control or management. It is often a matter of watching and waiting for Nature's experiments. Most of these handicaps are removed when it becomes possible to institute the desired conditions and to observe desired pathologic states at will. The requirements of months are satisfied by days or weeks when the assistance of animal experimentation is available. The need of complete verification on human material is, however, always to be kept in mind. In a sense this forms the corollary of the experimental investigation of lower forms.

We have already noted[1] that an active antineuritic substance (or substances) has been isolated from foods in some purity, or at any rate extracted in relatively concentrated form by various investigators. It is more than likely—indeed, rumors of success are already afloat—that an antineuritic agent of comparatively simple chemical make-up will soon be synthesized or prepared; but investigations of this sort on a large scale involve great expense as well as technical difficulties, so that in lieu of the [awaited] announcement of the precise composition of the tangible antineuritic substances, some knowledge of the relative available concentration of the active component *in* certain common foods is likely to be of value. Doubtless they could be used effectively to supplement the diets which are believed to be deficient in the case of large groups of individuals. The Lister Institute in London has lately supplied information along these lines. Cooper[2] has determined the amounts of various foods which are necessary to prevent the occurrence of polyneuritis for a definite time in adult pigeons fed on polished rice. As pigeons fall ill with the disease in about three weeks when fed exclusively on such rice, the bearing of our earlier remarks on the relative advantages of preliminary animal experimentation becomes obvious.

It appears that the rapidity of the onset of the polyneuritis in pigeons depends in some measure on the amount of food eaten. Well-fed birds do not remain free from the affection so long as those receiving less rice. In explanation it has been suggested that birds fed on a smaller, insufficient ration have to rely on their own tissues for supplementing the food-supply, and are thus able to obtain for use a larger proportion of the anti-

1. The Relation of Rice to Certain Diseases, editorial, THE JOURNAL A. M. A., Feb. 24, 1912, p. 557; Recent Japanese Investigation on Rice Bran in Relation to Disease, editorial, ibid., Sept. 14, 1912, p. 883.

2. Cooper, E. A.: The Protective and Curative Properties of Certain Foodstuffs Against Polyneuritis Induced in Birds by a Diet of Polished Rice, Jour. Hyg., 1912, xii, 436.

neuritic substance distributed in the tissues than the well-fed birds.

The antineuritic substance appears to be most irregularly distributed among foods. Yeast is more efficient, according to Cooper, in preventing the polyneuritis induced by a polished rice diet than is any other food material tested by him.[3] Egg-yolk exceeds all the other foods of animal origin in antineuritic value. Its capacity for preventing the disease is not measurably altered by boiling for a few minutes. In addition to these two products, heart-muscle, lentils and barley will be effective in the prevention of beriberi; on account of their cheapness the dried lentils and unhusked barley will probably be most practicable for this purpose. Raw beef has only a small efficiency. The fact that heart-muscle is much more potent brings with it the reminder that in human beriberi heart failure is a common symptom. Sheep brain has only a low concentration of the antineuritic substance, suggesting that the latter, though essential for the integrity of the nervous structures, is not contained in them as such.

The relative efficiencies of the various foods in preventing polyneuritis and in maintaining the body-weights of birds fed on polished rice do not correspond. This indicates that the antineuritic constituent and the substances maintaining body-weight are not identical. Cooper believes that the latter substances are not protein, fatty or lipoidal in nature.

## STAPHYLOCOCCUS CULTURES TO CAUSE DIPHTHERIA BACILLI TO DISAPPEAR FROM CARRIERS

It long seemed as if little or nothing of any real account could be done to hasten the disappearance of diphtheria bacilli from the throats and noses of carriers. Removal of large tonsils and of adenoids as well as the usual treatment of other chronic nasopharyngeal conditions have not been uniformly and promptly successful; and it does not seem that the disappearance of the bacilli can be hastened by the use of ordinary gargles of various kinds. The conviction was forming that really there was nothing to do but to let "Nature take its course."

The results of certain experiences recently reported with the procedure suggested by Schiötz,[1] a Danish physician, however, indicate that a really serviceable method may have been found. By chance Schiötz observed that a patient with a sore throat apparently due to *Staphylococcus aureus* did not contract diphtheria, although placed in a diphtheria ward; and furthermore that intercurrent attacks of sore throat were followed by the disappearance of diphtheria bacilli previously present. This led him to introduce broth cultures of staphylococci into the throats of chronic carriers of diphtheria bacilli with altogether gratifying results; that is to say, the bacilli promptly vanished and the carriers suffered no harm whatever. There are now several reports at hand of equally satisfactory results with this procedure.[2] In no case has any evil been noted and in almost all cases the bacilli have disappeared quickly. Lorenz and Ravenel found staphylococcus spray more effective than the ordinary antiseptic applications in diphtheria as judged by the promptness of the disappearance of the bacilli in most of the cases so treated.

Usually fresh broth cultures of staphylococci have been applied either on swabs or in the form of spray into the throat and nose at intervals of three or four hours or so. The way in which the staphylococci act under these circumstances is not known. De Witt did not find any antagonism between the staphylococcus and the bacillus in test-tube experiments. In view of the success of the Schiötz method, which appears to be quite harmless under the circumstances, further trials seem fully warranted. If further experience yields results as satisfactory as those obtained hitherto the problem of the diphtheria carrier will have been simplified very much and the necessity for much irksome quarantine removed. It would be highly interesting to learn whether sterilized cultures of *Staphylococcus aureus* or sterile products of the growth of this germ also can cause diphtheria bacilli to disappear from the throat, because if so, there would be no hesitation whatever about making use of the method, which perhaps might be applied with advantage in the later stages of all cases of diphtheria.

## WHO IS RESPONSIBLE FOR THE LITHIA WATER FRAUD?

It has long been recognized by physicians that one of the greatest frauds perpetrated on the American public is the exploitation of the so-called "lithia waters"—some of the most widely sold of which contain less lithia than does the water of most of the rivers of the United States. Millions of dollars have been expended on these waters and now the United States government, under the federal Food and Drugs Act, is spending large sums in an effort to compel the dealers to label their products truthfully, and the dealers are spending still larger sums in an effort to perpetuate the present labels.

Who is really responsible for the "lithia water" delusion? We regret to have to state that it is chiefly the medical profession. It originated in the medical profession; it was founded on some crude and unscientific experiments and perpetuated by members of the

3. See also Barsickow: Experimentelle Untersuchungen über die therapeutische Wirkung der Hefe bei der alimentären multiplen Polyneuritis der Meerschweinchen und Tauben. Biochem. Ztschr., 1913, xlviii, 418.

1. Schiötz: Ugesk. f. Læger, 1909, lxxvi, 1373; abstr., The Journal A. M. A., Jan. 29, 1910, p. 422.

2. Page, Henry: Diphtheria Bacillus-Carriers, Arch. Int. Med., January, 1911, p. 16. Catlin, S. R., Scott, L. O., and Day, D. W.: Successful Use of the Staphylococcus Spray on Diphtheria Carriers, The Journal A. M. A., Oct. 28, 1911, p. 1452. De Witt: Jour. Infect. Dis., 1912, x, 24. Lorenz, W. F., and Ravenel, Mazyck P.: The Treatment of Diphtheria Carriers by Overriding with Staphylococcus Aureus, The Journal A. M. A., Aug. 31, 1912, p. 690. Wiener: New York State Med. Jour., 1913, xiii, 75.

profession blindly accepting the statements of exploiters of all kinds of waters dubbed "lithia waters" to meet the demand originally created by physicians. In a similar way the profession is largely responsible for many of the "lithia" nostrums which are being foisted on the public as "uric acid solvents."

There is a question of greater present interest, however: Is the medical profession now laying the foundation for similar frauds in the future? The answer must unfortunately be in the affirmative. As repeatedly pointed out, many of the proprietaries advertised in medical journals and used by physicians to-day will be the typical "patent medicine" of to-morrow. Just as the lack of scientific training and the resultant gullibility led to the lithia water fraud, so now the lack of thorough education (with all that this term implies) is responsible for the present proprietary evil.

The most discouraging feature of the case is that many medical students are not receiving an education which will safeguard them from falling into the same errors; in only a few schools, for example, do the students receive instruction which would enable them to point out to a patient in a few convincing words the fallacy of the use of the so-called lithia waters. It is certainly a remarkable fact that although the number and complexity of new drugs are increasing at a rate hitherto unknown, never in the history of medicine has the study of drugs been so neglected in many of the leading medical schools as at present. This is not altogether a question of poverty, for several of these schools have recently introduced excellent departments of bacteriology, preventive medicine, physiologic chemistry and the rather indefinite subject of "experimental medicine," although they have no department of pharmacology, or practically none. It would seem to require no argument to show that the students of such institutions are not receiving the education to which they are entitled.

Serious attempts to discover new remedies of value have been practically abandoned by the medical schools; in the efforts of our Association, through the Council on Pharmacy and Chemistry, to keep its members informed on new drugs, as much reliance has had to be placed on men outside of medical schools as on those connected with medical schools. The teaching of the fundamental facts concerning the drugs which every physician, be he an internist or a specialist in any branch, uses every day is left largely to chance. Is it not time for our medical schools to reinstate the study of drugs, even if some of the work in other branches has to be curtailed? The medical profession should recognize its part in the origination and perpetuation of such frauds as that of the "lithia waters," and our medical schools should realize that graduates of to-day in their knowledge of these important subjects are often relatively no better off, if indeed they are as well off, as graduates of two or three decades ago.

## PROGRESS OF HOOKWORM ERADICATION

The completion of the third year of activity of the Rockefeller Sanitary Commission for the Eradication of Hookworm finds commendable progress to have been made as evidenced by the annual report of the commission for the year 1912. Undoubtedly the actual work done has been vastly augmented by the stimulation of popular and professional interest in the eradication of hookworm infection and the present wide-spread recognition of the physical, mental, social and economic menace of this disease.

The survey of foreign countries for the prevalence of the hookworm, as noted in THE JOURNAL a year ago,[1] showed a general infection of those parts of the earth lying between 36 degrees north latitude and 30 degrees south latitude, a belt 66 degrees in width encircling the earth. Within this belt is included a considerable part of the United States; eleven states in particular have been found heavily infected. In Texas 83 counties have the infection and of the 884 counties in the other ten states, infection has been found in 796. It is presumable that the remaining 88 counties will also be found infected when the work is extended to them. In all, 238,755 persons were treated at an expenditure per person treated of 77 cents, as compared with 140,378 persons treated in 1911 at an average expenditure per person of $1.05, and 14,443 treated in 1910 at an average expenditure per person of $4.66. In the three years, a total of 393,566 persons have been treated for uncinariasis.

The total expenditure of the commission for the year was $184,671.60 in addition to which the sum of $22,482.44 was spent by counties, and $19,972.52 by states for fighting the hookworm, making a grand total of $227,126.56. The microscopic examinations made in 1912 numbered 326,951, as against 90,724 in 1911, and 14,789 in 1910.

There is an excellent and increasing tendency to use the microscope in diagnosis. The procedure is simple and every physician should employ it. Experience teaches that many persons are infected who present very slight or no clinical signs of the disease and, on the other hand, that not every anemia that manifests symptoms is due to the hookworm. In this connection it is of interest to note that in his annual report for the year 1912, on the examination of immigrants at San Francisco, Dr. W. C. Billings[2] calls attention to the fact that 1,556 cases of uncinariasis were certified in 1912, this being more than double the number certified in 1911. Billings ascribes this increase to improved methods of examination and points out that the results conclusively demonstrate that at least in Oriental races it is impossible to detect all cases of hookworm infection by clinical examination alone, and that the microscope is absolutely essential. He found a high ratio of infections with negative clinical signs.

1. Report on Hookworm Eradication, editorial, THE JOURNAL A. M. A., June 22, 1912, p. 1946.
2. Billings, W. C.: Annual Report U. S. P. H. S., 1912, p. 142.

In connection with the field work against hookworm infection, various studies were conducted. Among these was an investigation of 129 cases of amenorrhea due to the hookworm which illustrated the unsuspected frequency of uncinariasis as a cause of amenorrhea. An effort is being made to discover a better vermifuge than thymol. This is a very important point. Although thymol has proved efficient, its careless use is attended with certain dangers and there is a distinct need for a more efficient vermifuge without the necessity for dietary restrictions and purgation.

The method of treatment recommended is as follows: A dose of Epsom salt is administered on the evening of the first day, or one dose is given at 5 p. m., a light supper at 6 p. m., and another dose of Epsom salt at 8 p. m. On the second day one third of the dose of thymol is given at 6 a. m., one third at 7 a. m., and one third at 8 a. m. At 10 a. m. another dose of Epsom salt is given. This permits the withdrawal of the last one or two doses of thymol if unfavorable symptoms supervene. The average dose is 30 grains. It is considered best in giving the Epsom salt to dissolve a tablespoonful of the salt in a tablespoonful of water, administer this and then have the patient drink copiously of water. After the morning dose of salts following the thymol, water should not be given so freely. During the administration of the thymol, little if any water is allowed. About an hour after the third dose of thymol, a cup of coffee without milk is permitted, and half an hour after the morning salts, one or two cups of coffee without milk but with crackers.

## Current Comment

### THE MECHANISM OF PROTEIN ASSIMILATION

Inasmuch as recent studies by Folin and his associates and also by Van Slyke and Meyer have made it appear likely that the problem of protein assimilation is in reality a question of how the digestion fragments, the amino-acids, are disposed of in the organism, it becomes of great interest to trace them from the alimentary canal through the blood-stream to the tissues to ascertain their final fate. Van Slyke and Meyer[1] have found that amino-acids introduced into the circulation quickly disappear. The suggestion is obvious that either they are destroyed or removed with great rapidity by the tissues. The more recent work of the New York investigators makes it evident that a concentration in the tissues occurs. The muscles, liver, kidney, spleen and pancreas, for example, soon contain about ten times as much amino-acid nitrogen as is found in the blood per unit of mass. The amount of amino-acids thus taken up out of the blood by different tissues varies, that taken by the brain being especially small. The means by which these products of digestion are held in the tissues appear to be physical rather than chemical; indeed, the facts thus far known are consistent with the assumption that the amino-acids are taken up from the blood and held in the tissues by absorption, chemical transformation of the absorbed compounds following later. The amino-acids thus retained disappear from the kidneys at a rate incomparably greater than that at which they leave the muscles or other organs. Their disappearance from the liver and kidneys is accompanied by an increase in the urea content of the blood. Van Slyke believes that while the muscles are stored with amino-acids up to their saturation-point after heavy protein feeding, the liver and kidneys metabolize their portion of the products as rapidly as they receive them; so that perhaps the entire task of removing the digestion products from the blood-stream when the other tissues become saturated devolves on these two sets of organs. To this may be added the hypothesis that most of the proteolytic products which the liver and kidneys take up are normally broken down, the nitrogenous portion appearing as urea.

1. Van Slyke, D. D., and Meyer, G. M.: Distribution of Amino-Acids in the Body, Proc. Soc. Exper. Biol. and Med., 1912, x, 38. Van Slyke, D. D.: Protein Assimilation, abstr., THE JOURNAL A. M. A., April 12, 1913, p. 1183.

### A COUNCIL ON PATENT MEDICINES

The better class of drug journals, in common with the better class of the pharmacists themselves, have long recognized the anomalous position in which the modern druggist stands. On the one hand, the druggist urges physicians to return to rational prescribing and to eschew proprietary products; on the other hand, the druggist himself stands before the medical profession as a dispenser of "patent medicines" — proprietary remedies of the most unscientific and frequently fraudulent type. In commenting on this unfortunate state of affairs, the *Journal of the American Pharmaceutical Association* in its April issue says that the druggist's position has been pressed on him by force of circumstances "in which patent medicines represent his business necessities while the propaganda for rational prescribing represents his aspirations for better things and his strivings for a more professional, as well as a more profitable business." Recognizing that something must be done if pharmacists wish to retain the confidence both of the physician and of the public, and to keep their professional standing, the *Journal* recommends that the American Pharmaceutical Association appoint a council that shall stand in the same relation to "patent medicines" that the Council on Pharmacy and Chemistry of the American Medical Association stands in relation to proprietary medicines. As the drug journal puts it, the work of the council whose creation it suggests should be "to determine first of all whether there is or can be such a thing as a legitimate proprietary medicine ["patent medicine"] which a druggist can conscientiously recommend and sell to the general public, and whether on the whole the public is benefited or injured by the use of such ready-made medicines." If the council decides that there are "patent medicines" which the druggist may recommend and whose sale will benefit the public, its next work would be "to determine whether it is possible to draw a distinct line of demarcation between legitimate and illegitimate remedies. . . ." The growing distrust in the whole "patent medicine" business is such that it behooves our sister profession to rid itself of the stigma

which the sale of worthless, and in many cases dangerous, preparations is bringing on an honorable profession. A council such as the editor of the *Journal of the American Pharmaceutical Association* recommends might do much toward this end. If it is brought into existence and does its work thoroughly and honestly, we can with a certain degree of accuracy prophesy what will happen: Some of the most vicious "patent medicines" will be driven off the market. Others less vicious but worthless will have their sales greatly curtailed. As a corollary of this, the American Pharmaceutical Association may expect organized opposition in the form, possibly, of a League for Pharmaceutical Freedom. The *Journal of the American Pharmaceutical Association* will be vilified by many, if not most, of the privately owned drug journals. And last, but not least, the editor of the *Journal* will become the center of an attack in which all the resources of blackguardism and billingsgate will be brought to bear in an attempt to besmirch and blacken his reputation. But the fight will be well worth while.

---

## AN EARLY REFERENCE TO INFECTION CARRIERS

That healthy persons may be carriers of infection by the persistence and proliferation of the causal germs in the healthy human body has been known for fifteen or twenty years. The possibility of this kind of carrier of infection does not seem to have been at all familiar to our forefathers and yet the conception seems to be expressed quite clearly by Richard Mead,[1] the father of quarantine, when he says: "If there be any Contagious Distemper in the Ship: the *Sound* men should leave their cloaths, which should be burnt; the men washed and shaved; and having fresh Cloaths, should stay in *Lazaretto* thirty to forty days. The reason for this is, because Persons may be recovered from a Disease themselves and yet retain *matter* of *Infection* about them a considerable time." In these words are expressed a truth the significance of which was not clearly grasped until nearly two hundred years after they were written. Richard Mead is the author also of the following dictum which, besides its general application, has a very special meaning for the typhoid carrier: "As *nastiness* is a great source of *Infection,* so *cleanliness* is the greatest *Preventative.*"

1. Mead, Richard: Short Discourse concerning Pestilential Contagion and the Method to be Used to Prevent It, ed. 7, London, 1721, p. 22. In this and the following quotation the italics are in the original.

---

## THE POISON LABEL—A NEEDED AMENDMENT

For the purpose of safeguarding the public against the dangers of poisons, Mr. French of Idaho has introduced into the House of Representatives a proposed amendment to the federal Food and Drugs Act. The amendment which refers to the labels and containers of poisons declares that a drug shall be deemed misbranded:

"If the contents of the package be a virulent poison and shall not be placed in a container labeled 'Poison' and shall not contain on the label at least one suitable antidote and the name of the person, firm or corporation dispensing the substances, and in the case of liquids, in addition thereto, said container shall be a colored glass roughened bottle of a type described by Secretary of the Treasury, the Secretary of Agriculture and the Secretary of Commerce."

Idaho is to be congratulated on having a representative whose solicitude for the public safety may be the means of strengthening the Food and Drugs Act. In the past it has been altogether too easy for careless or unscrupulous manufacturers to sell powerful drugs without giving the purchaser any hint as to the potency of the product he was buying. Another amendment should be made, or the proposed one modified, so as to protect the public still further. All "patent medicines" containing poisonous drugs should be required to be labeled "Poison." The protective action of such an amendment would soon be demonstrated. In Great Britain, where there is such a legal requirement, preparations like Winslow's Soothing Syrup, containing such insidious poisons as morphin, have to be labeled "Poison." As a result the Winslow concern has taken the morphin out of its British product and has substituted a drug that is not listed in the schedule of poisons. But Winslow's Soothing Syrup still goes to American babies with its deadly morphin. The value of the requirement lies in the fact that the word "Poison" has a very real and definite meaning to any person that reads English. The same cannot be said of the chemical names for various poisons. Thus the most ignorant of mothers would hesitate to give her child a "patent medicine" that was labeled "Poison," but she would pay little attention to the statement that it contained morphin, for instance. The weakness of the present federal law has been referred to many times. As the law now stands. "patent medicines" may go to the public containing such deadly poisons as strychnin, atropin, prussic acid, arsenic, etc., with no warning or hint of the presence of these drugs.

---

## DEVELOPMENT BY LIMITATION IN MEDICAL EDUCATION

True development, vigorous and useful, in every phase of life and activity requires certain limitations or restrictions. Unrestricted expansion or growth often leads to a dissipation of energy and resources which amounts to degeneration. Streams are often rendered deeper, more navigable and therefore more useful by being confined in narrower channels. Fruit-trees are best developed and produce better fruit if by a careful pruning the life energies are retained in a smaller number of branches. Men in the professions or in other walks of life can do their best work by devoting themselves to certain special lines of work. So in medical education limitations are essential and, considering the vast oversupply of medical schools existing in this country a few years ago, the pruning process has resulted in an unquestioned improvement. In certain cities and in some states the energy and resources formerly dissipated among several separate medical colleges are now, through a merging of the schools, being concentrated into one. A few months ago[1] the Johns Hopkins Medical School fixed a limit to the number of students to be taken into each class in order that it might better train those it did enrol. A few

1. Limiting Enrolments in Medical Schools, Current Comment, THE JOURNAL A. M. A., Oct. 26, 1912, p. 1550.

years ago two state universities, those of Missouri and North Carolina, discontinued the clinical years of the medical course, believing that it was better to develop effectually the work of the first two years than to continue to give in an unsatisfactory manner the full four-year course. And now word has been received that the trustees of Dartmouth Medical School, the fourth oldest medical school in the United States, have voted to discontinue clinical teaching and the granting of the M.D. degree, recognizing that the limited hospital and dispensary material at Hanover is no longer adequate to furnish modern physicians with a satisfactory clinical training. Such action as this is necessarily drastic, especially in an institution which has granted medical degrees year after year for more than a century; but the decision is characteristic of institutions like Dartmouth, which have at heart not only the interests of education and of the students individually, but also the welfare of the public. That medical education at Dartmouth will be bettered is certain, since the resources formerly expended in a four-year course will hereafter all be used to develop the equipment and teaching of the laboratory subjects. With its entrance requirements of two or more years of collegiate work all the medical students will leave Dartmouth holding baccalaureate degrees, and will therefore be alumni of that institution, even though the medical degree is no longer granted. These men will carry with them credentials of having taken two years of medical work. With the further development of the equipment of the teaching and of research — and in this respect Dartmouth has an exceptional opportunity — the medical credentials held by these students will undoubtedly make them eligible to complete their medical courses in any of the best medical schools where ample clinical facilities are available. This action by the trustees of Dartmouth College furnishes another example of the magnificent decisions which, in the last few years, have marked the campaign for better-trained physicians in this country.

---

# Medical News

## COLORADO

**State Board Notes.**—At the annual meeting of the State Board of Health, April 28, Dr. Sherman Williams, Denver, was elected president; Dr. Jacob Campbell, Boulder, vice-president; Dr. Paul S. Hunter, Denver, secretary, and Dr. Crum Epler, Pueblo, treasurer.——The State Board of Health has voted unanimously to request the governor to veto the lying-in hospital bill recently enacted by the legislature.——Dr. Frank E. Rogers, Denver, has been appointed a member of the Colorado State Board of Medical Examiners.

**Protests of Denver Physicians.**—At a meeting of Denver physicians, April 30, a committee was named to prepare resolutions protesting against the election of a layman as head of the Department of Social Welfare. Dr. Aubrey H. Williams was made chairman of the committee.——Many Denver physicians are preparing to enter a vigorous protest against the adoption of a charter amendment, May 21, which, it is alleged, would place the health department of Denver under the control of the Medical Department of the State University.

## DISTRICT OF COLUMBIA

**Personal.**—Dr. Erwin F. Smith, plant pathologist in the Department of Agriculture, is said to have declined a position with the Rockefeller Institute for Medical Research at a salary at more than double that which he receives from the government.——Dr. Eva C. Reid of the medical staff of St. Elizabeth's Hospital for the Insane, has resigned, to accept a similar position in the State Hospital at Talmage, Cal.

**Eye, Ear and Throat Hospital Opened.**—The Washington Eye, Ear and Throat Hospital is now open at 4 Iowa Circle, with the following medical staff: surgeon in chief, Dr. Oscar Wilkinson; assistants, Drs. T. F. Wickliffe, I. P. Hunt and S. B. Pole; consulting surgeons, Drs. W. P. Carr, C. S. White and H. L. Taylor; consulting physicians, Drs. Philip Roy, William Barton, C. R. Luce and O. H. Coumbe; anesthetists, Drs. Thomas F. Lowe and I. P. Hunt.

## ILLINOIS

**New Officers.**—Livingston County Medical Society, twenty-fifth semi-annual meeting at Pontiac, May 1: president, Dr. B. F. Elfrink, Chenoa; secretary-treasurer, Dr. John Ross, Pontiac.

**Personal.**—Dr. M. E. McGann, Joliet, is reported to be seriously ill.——Dr. F. W. Wilcox, Minonk, who was operated on recently for appendicitis in Chicago, has returned home and resumed practice.——Dr. W. C. Bridge, Elgin, sailed for Europe, May 3.——Dr. and Mrs. J. W. Spear, Mason City, have returned from a trip to Cuba and the Isle of Pines.

**Recommends Inspection and Supervision of Hospitals.**—The State Charities Commission in its third annual report, recommends state inspection and supervision of hospitals and sanatoriums of every character which receive sick persons for treatment, and urges the public to take a sympathetic and humane interest in the state charitable institutions and in all questions relating to them.——The commission also voices its opposition to the system of fining, as practiced throughout Illinois. It believes it to be wrong to fine the head of a family for misdemeanor and take from him that which should go to his family for their support. Fines so levied should be collected and paid over to the family for its support, and while the offender is held a prisoner, he should be compelled to work and his earnings should be delivered to his family.

**More Eligibles for County Institution.**—The following additional list of those eligible for positions on the attending staff of Cook County Hospital has been announced: department of tuberculosis, Drs. William J. Butler and Arthur F. Beifeld; department of skin and venereal diseases—Drs. Frank Edward Simpson and Edward G. Harnes; department of gynecology—Drs. Bertha Van Hoosen, Channing W. Barrett, Carey Culbertson, Herbert M. Stowe, Frank M. Lynch, Franklin H. Martin, Arthur H. Curtis, Samuel L. Weber, Henry F. Lewis, Ernst Saurenhaus, Sidney Klein, W. A. Newman Dorland, Edward L. Moorhead, Noble S. Heaney, George de Tarnowsky, Henry Schmitz, Alfred J. Willits, G. Schmanch; department of obstetrics—Drs. Herman Marion Stowe, Henry F. Lewis, William George Leo, David S. Hillis, W. A. N. Dorland, Carey Culbertson and Otto H. Rohelack; department of eye—Drs. Edward V. Brown, George F. Suker and Jacob W. Clark; department of surgery—Drs. A. Belcham Keyes and Charles E. Humiston.

### Chicago

**Personal.**—Dr. Robert B. Preble, who was attacked with appendicitis while en route to Washington, May 5, was operated on in George Washington University Hospital the next day and returned to Chicago, May 11.——Dr. Frances Dickinson has been elected president of the Arts-Crafts Institute Guild.——Dr. Charles F. Sanborn has been appointed assistant warden of the County Hospital and assumed his duties, May 9.——Dr. John A. Hornsby, formerly superintendent of Michael Reese Hospital, has been appointed county hospital efficiency expert and will advise with the county board and county architect in matters concerning the plans for the new Cook County Hospital and other hospitals to be erected by the county.——Dr. Frank S. Johnson has been elected president and Dr. S. C. Stanton secretary of the Physicians' Club of Chicago.——Dr. Dean D. Lewis is on a trip to the Southwest, including attendance at the meeting of the Arizona State Medical Association.

## KANSAS

**New Officers.**—McPherson County Medical Society organized at McPherson, May 2: president, Dr. L. A. Bradbury, Galva; secretary, Dr. G. R. Dean, McPherson.——Atchison County Medical Society, reorganized, May 5, at Atchison: president, Dr. M. T. Dingess; secretary-treasurer, Dr. E. T. Shelly, both of Atchison.

**State Society Meeting.**—The forty-seventh annual meeting of the Kansas Medical Society was held in Topeka, May 7-8, and the following officers were elected: president, Dr. M. F. Jarrett, Fort Scott; vice-presidents, Drs. C. C. Nesselrode, Kansas City; J. F. Gsell, Wichita, and G. A. Blasdel, Garnett; secretary, Dr. Charles S. Huffman, Columbus (reelected); treasurer, Dr. L. H. Munn, Topeka (reelected); councilors—second district, Dr. H. B. Caffey, Pittsburg; sixth district—Dr. Archibald D. Jones, Wichita; tenth district — Dr. D. R. Stoner, Quinter; eleventh district—Dr. J. A. Dillon, Larned; twelfth district—Dr. W. F. Fee, Meade, and delegate to the American Medical Association, Dr. George M. Gray, Kansas City. Wichita was selected as the next place of meeting.

## MARYLAND

**New Hospitals.**—Ground will be broken very soon for an emergency hospital at Easton to be constructed of reinforced concrete, brick and stone, with a central building and wings. ——Plans have been prepared for a new building for the treatment of tuberculous patients at the Springfield State Hospital, Sykesville. It is to be two and one-half stories in height, 67 by 97 feet, and of brick and concrete construction.

**Anniversary of Sheppard and Enoch Pratt Hospital.**—The sixtieth anniversary of the granting of the charter to the trustees of the Sheppard Asylum, Towson, by the legislature of Maryland, May, 1853, was celebrated at the Enoch Pratt Hospital, May 8-10. On the first day, the address of welcome was given, followed by a historical address by Dr. Edward N. Brush; an address on "The Present Position of the Asylum as an Educational Factor in Medicine," by Dr. Edward D. Fisher, New York City, and a paper on "The Work of the Hospital" by Dr. William Rush Dunton, Jr., Towson. After inspection of the hospital, a buffet luncheon was served at the Casino at 6:15 p. m. and in the evening, an address was delivered by Dr. Adolf Meyer, director of the Phipps Psychiatric Clinic, followed by papers by former members of the staff. On the evening of the second day the principal address on "The Transition of American Psychiatry from the Asylum to the Hospital," was delivered by Dr. Edward Cowles, Boston, followed by five papers on technical subjects by former members of the staff. The third day was devoted to a bazaar for the sale of work of the handicraft classes and to field sports.

### Baltimore

**Psychiatric Clinic Opened.**—The Phipps Psychiatric Clinic of Johns Hopkins Hospital opened for the reception of patients, May 1.

**Personal.**—Dr. Thomas P. Sprunt of Johns Hopkins University has been appointed professor of pathology in the graduate school of medicine of the University of Alabama, Mobile.——Dr. Arthur Wegefarth fractured his leg near the ankle while boarding a street car, May 6.

**Club Inspects Clinic.**—Under the escort of Dr. Adolf Meyer, the Interurban Clinical Club opened its seventeenth annual meeting by going over the new Phipps Psychiatric clinic building at Johns Hopkins Hospital, May 2. After inspection of the clinic and the reading of papers, luncheon was served at 1 o'clock, after which the club went into session for the afternoon and in the evening dined at the Maryland Club.

**Faculty Members Promoted.**—The following members of the adjunct faculty of the University of Maryland School of Medicine have been advanced to professional rank: Dr. Thomas C. Gilchrist, dermatology; Dr. Frank Martin, operative and clinical surgery; Dr. J. Mason Hundley, clinical gynecology; Dr. Joseph T. Smith, hygiene and medical jurisprudence; Dr. St. Clair Spruill, clinical surgery; Dr. R. Tunstall Taylor, orthopedic surgery; Dr. John R. Winslow, laryngology and rhinology; Dr. James M. Craighill, clinical medicine; Dr. Joseph E. Gichner, clinical medicine and physical therapeutics; Dr. Charles W. McElfresh, clinical medicine; Dr. Irving J. Spear, neurology; Dr. Gideon Timberlake, genito-urinary diseases; Dr. John G. Jay, clinical surgery; Dr. Nathan Winslow, clinical surgery; Dr. Page Edmunds, clinical genito-urinary diseases; Dr. Richard H. Johnston, clinical laryngology and rhinology and Dr. William Tarun, associate professor of ophthalmology and otology.

## MASSACHUSETTS

**Personal.**—Dr. Charles F. Painter has been elected dean of Tufts College Medical and Dental schools, vice Dr. Harold Williams, retired.

**Contagious Disease Hospital for Boston.**—The finance commission has recommended that the city council appropriate $297,800 for the erection of a new building on the Payne property site to accommodate two hundred cases of contagious disease.

**New Officers.**—Dorchester Medical Society, May 1: president, Dr. Edward J. Brearton; secretary-treasurer, Dr. J. T. Kendricken.——North Essex District Medical Society at Lawrence: president, Dr. F. W. Anthony, Haverhill; secretary-treasurer, Dr. J. Forrest Burnham, Lawrence.

**Evening Eye Clinic.**—The first evening eye clinic in Boston was recently opened at the Boston Dispensary. About forty patients appeared on the first evening, all of whom were working people who were unable to attend a clinic during the day. Dr. Edward Hartshorn is in charge of the clinic.

**Seeks Anti-Cancer Fund.**—Dr. William Duane, for six years radium research assistant at the Currie Laboratory, Paris, has been secured by the Harvard Medical School to organize for the Harvard Cancer Commission, a laboratory in which cancer may be studied from the point of view of the physicist. The university requires $250,000 for the establishment of this laboratory. For the present, experiments will be conducted in the Collis P. Huntington Building.

**Conference Medical Committee Appointed.**—To solve problems arising in connection with the workmen's compensation act, and especially the question of reasonable allowance for compensation for medical and hospital services, the following committee has been appointed to confer with the State Industrial Accident Board: Drs. Frederick J. Cotton, Francis D. Donoghue, Frank E. Allard and William H. Ruddick, Boston; F. W. Anthony, Haverhill; Samuel E. Fletcher, Chicopee, and Samuel H. Calderwood, Roxbury.

**Septic Sore Throat in Canton.**—Under date of May 10 it was reported that nearly 400 of the 3,000 inhabitants of Canton were afflicted with epidemic septic sore throat, with ten deaths. Pneumonia, erysipelas and scarlet fever as complications have been frequent during the epidemic. The disease is believed to have originated from the milk of one of the principal dairies supplying the town, cases of sore throat having occurred in the family of the dairyman on whose route nearly all the cases have occurred. Daily inspection of dairies has been instituted, milk is required to be pasteurized and the sterilization of containers of milk is enjoined. The public schools and the public library have been closed and other preeautionary measures have been adopted.

**Tropical Medicine Expedition.**—Dr. R. P. Strong, professor of tropical medicine; Dr. E. E. Tyzzer, assistant professor of pathology and director of the Harvard Cancer Commission; and Mr. O. T. Brues, instructor in entomology, comprise a commission which sailed from New York, April 30, for a five months' tour of investigation and study on behalf of the Department of Tropical Medicine of Harvard Medical School. The first object of the expedition is to obtain material and specimens for the department, and Guayaquil, Ecuador, has been selected as the objective point because it is a hotbed for tropical diseases. The second object of the expedition is to study verruca peruviana. The expedition will obtain fresh material on various tropical diseases and, on the way to and from Peru, will inspect important hospitals on the Isthmus of Panama and elsewhere.

## MICHIGAN

**Tuberculosis Exhibit.**—The Detroit Society for the Study and Prevention of Tuberculosis of which Dr. H. M. Rich is vice-president, is holding an exhibit in the new Dime Savings Bank Building which is attracting great interest.

**New Registration Board.**—The governor has appointed the following as members of the State Board of Registration in Medicine: Drs. G. W. Nafe, Fremont; Albertus Nyland, Grand Rapids; George Le Fevre, Muskegon; W. T. Dodge, Big Rapids, and C. B. Burr, Flint.

## NEW HAMPSHIRE

**Commencement at Dartmouth.**—At the commencement exercises of Dartmouth College, April 25, the degree of doctor of medicine was conferred on a class of ten.

**Personal.**—Dr. J. E. Reynolds, superintendent of the New Hampshire Tuberculosis Hospital, has been appointed superintendent of the Bonnie Burn Sanatorium, Scotch Plains, Elizabeth, N. J.

**School Suspends Clinical Teaching.**—Word from Dartmouth College states that at a meeting of the board of trustees held April 26, it was voted to suspend the granting of the degree of doctor of medicine after the graduation of the class of 1914.

All the energies and finances available for the medical school will be hereafter spent in developing the work of the first two years. Dartmouth Medical School was the fourth medical college organized in the United States, having been established in 1797.

## NEW YORK

**New Officers.**—Buffalo Medical and Surgical League, April 8: president, Dr. Julius Richter; secretary, Dr. Frank C. Kleckner.

**Home for Public Health Association.**—A committee consisting of Drs. John M. Lee, Montgomery E. Leary and Henry T. Williams has purchased the Robey homestead, Rochester, for a home for the Rochester Public Health Association, at a cost of $12,000.

**Hospital News.**—Several thousand dollars have been raised for the new Benedictine Hospital to be erected in Innis Avenue, Poughkeepsie.——A free dispensary for tuberculosis is to be opened in the Ashley Building, Lockport, $2,000 having been appropriated by the city council for this purpose.

**Personal.**—Dr. Frank E. Howard, Friendship, was operated on at St. James' Mercy Hospital, Hornell, for appendicitis, May 7.——Dr. John F. Dwyer has been appointed assistant surgeon of the New York Central system at Corning, vice Dr. Thomas Foley, resigned.——Dr. Francis J. Lennon, Buffalo, has been appointed medical director of the Tuberculosis Dispensary and Dr. Nelson W. Strohm, assistant medical director.

### New York City

**Personal.**—Dr. Ira S. Wile has resigned as conference physician of the Riverside Kitchen of the New York Diet Kitchen. ——Dr. Linsly Rudd Williams, New York City, has been appointed State Health Commissioner to suceeed Dr. Eugene H. Porter. The salary of the commissioner has been increased to $10,000 a year.

**Warned of Final Clean Up.**—Commissioner Lederle has announced that the final stage of the spring clean up will be begun May 12 and will continue each day until May 16. Seven hundred thousand folders printed in four languages have been sent to householders throughout the city. The commissioner is firmly convinced that this campaign of sanitation and education will result in a marked decrease in the infant mortality this summer.

**Memorial for Dr. Morrow.**—A meeting to commemorate the life and work of the late Dr. Prince A. Morrow will be held by the Society of Sanitary and Moral Prophylaxis at the Academy of Medicine, May 22. Dr. Edward B. Bronson will speak on "Dr. Morrow, the Physician;" Dr. Edward L. Keyes, on "Dr. Morrow, the Educator;" William A. Purrington on "Dr. Morrow, the Philanthropist;" Rev. John P. Peters on "Dr. Morrow's Work in Uplifting," and Dr. Charles W. Eliot on "The Pioneer Qualities of Dr. Morrow as a Social Reformer."

**Boys Take Health Pledges.**—The schoolboys of this city have been asked to sign a pledge which is to remain in force until June 6 that they will abstain from using cheap candies, unwholesome pies, greasy pastry and soda water flavored with highly colored syrups. The request came from the Public School Athletic League and promises as a reward that the boys who keep this pledge will excel in the athletic contests to be held in Central Park on June 6. The boys are furnished a special hygienic program arranged by Dr. G. Ward Crampton.

**Appointments at the College of Physicians and Surgeons.**—The trustees of Columbia University have appointed Dr. Hans Zinsser to the chair of bacteriology made vacant by the death of Professor Hiss. Drs. Walton Martin and H. H. M. Lyle were appointed professors of clinical surgery; Dr. Frank C. Matthews and Dr. William A. Downes were appointed assistant professors of clinical surgery; Dr. C. C. Leib was made assistant professor of pharmacology; Drs. James Alexander Miller and Austin W. Hollis, were appointed professors of clinical medicine; and Drs. Lewis F. Frissell and T. Stewart Hart, assistant professors of clinical medicine.

## NORTH DAKOTA

**New State Board Members.**—The following have been appointed members of the State Board of Medical Examiners: Drs. G. M. Williamson, Grand Forks; Albert W. Skelsey, Fargo, and Francis Peake, Jamestown.

**State Society Meeting.**—The twenty-sixth annual meeting of the North Dakota State Medical Association was held at Minot, May 7 and 8. Grand Forks was selected as the next meeting place, and the following officers were elected: president, Dr. Murdock MacGregor, Fargo; vice-presidents, Drs. R. Hudson Beek, Lakota; Victor H. Stickney, Dickinson, and Andrew Carr, Minot; secretary, Dr. H. J. Rowe, Casselton (reelected); treasurer, Dr. Charles S. Crane, Grand Forks; delegate to the American Medical Association, Dr. James Grassick, Grand Forks, and alternate, Dr. Blake McK. Lancaster, Crosby.

## OHIO

**Physicians' Building for Cleveland.**—A twelve-story structure is projected at Cleveland, intended for the exclusive use of physicians. It is to be located on Euclid Avenue, near the Fuller Hotel.

**Alumni Contribute to Relief Fund.**—Dr. M. H. Urner, secretary of the Ohio-Miami Alumni Association, reports that $600 has been subscribed by members of the association for the relief of physicians who suffered in the recent floods.

**Women's Hospital Established.**—The Women's and Children's Hospital, Maternity and Dispensary has been organized in Cleveland by the Women's Hospital Association. The president of the association is Dr. Martha A. Canfield and Dr. Josephine M. Danforth is secretary. A training school for nurses is to be operated in connection with the hospital and the social service system is to be inaugurated.

**University Medical School Probable.**—A bill recently passed by the state legislature makes possible the merger of the Starling-Ohio Medical College and College of Dentistry, Columbus, with the Ohio State University. The building of the medical college is said to be valued at $300,000. It is free from debt and has been offered to the trustees of the university. The merger will probably take place within a year.

**Personal.**—Dr. A. Luther Pomeroy, Windsor, was the guest of honor at the Ashtabula County Medical Society, May 6. Dr. Pomeroy has practiced in the county for sixty-seven years. ——Dr. D. B. B. Conklin has been elected president pro tem of the Board of Health of Dayton.——A number of physicians of Columbus were invited by Eugene F. McCampbell, secretary of the State Board of Health, April 27, to meet Maj. Thomas L. Rhoads, M. C., U. S. Army, who has been in charge of the sanitation work in Dayton, following the recent flood. Major Rhoads was also entertained at a farewell dinner at Dayton, April 26.

**Hospital Staff Appointed.**—Newark Hospital Association announces the appointment of the following medical staff for the ensuing year: chief of staff, Dr. W. S. Turner; surgeons, Drs. C. H. Stimson, A. J. Mitchell, U. K. Essington, W. H. Knauss and H. J. Davis; visiting physicians, Drs. W. C. Rank, W. B. Nye, H. H. Postle, J. T. Harbottle, J. P. H. Stedem, J. W. Barker and George N. Brown; consulting physicians, Drs. Carl E. Evans, H. D. Rank, J. N. Wright, Jr., H. E. Hunt, J. P. Latimer, S. D. McClure and C. J. Loveless; pediatrists, Dr. W. J. Kennedy, and diseases of the eye, ear, nose and throat, Drs. C. B. Hatch, C. S. Morse and D. J. Price.

### Cincinnati

**Gives Library to Hospital.**—Dr. B. Merrill Ricketts, first house surgeon of the New York Skin and Cancer Hospital, has given a library of 5,000 books and 10,000 monographs to that institution.

**New Medical College Building.**—At a meeting of the faculty of the Ohio-Miami Medical College, May 1, Drs. C. R. Holmes, H. M. Knower, Martin Fischer, Edward Reemelin and Dr. Julius Eichberg were appointed a committee to devise ways and means for the erection of a building for a new medical college on Eden Avenue, nearly opposite the new city hospital and on the hospital grounds. The building is expected to cost $250,000 and to accommodate about two hundred students. The intention is that this building shall be a memorial to Dr. Daniel Drake, the father of medicine in Ohio.

## OKLAHOMA

**New Society.**—The Northeast Oklahoma Medical Society was organized at Tulsa, April 29. Ottawa, Delaware, Craig, Mayes, Nowata, Rogers, Tulsa and Washington Counties are included in the territory of this society. The following officers were elected: president, Dr. G. H. Butler, Jr., Tulsa; secretary, Dr. J. V. Athey, Bartlesville, and treasurer, Dr. W. A. Howard, Chelsea. The next meeting will be held in October in Bartlesville.

## OREGON

**Class Anniversary.**—The sixth anniversary of the class of 1907 of the Medical Department of the University of Oregon, was celebrated by a dinner at the Hotel Oregon, April 29, at

which ten of the twenty graduates were present. Preliminary arrangements were made to organize an alumni association.

## PENNSYLVANIA

**New Officers.**—College of Physicians of Pittsburgh, May 8: president, Dr. Edward Stieren; secretary, Dr. G. A. Holliday.

**Alumni to Meet in Harrisburg.**—On May 6, Jefferson Medical College alumni of Northumberland, Adams, Dauphin, Cumberland, Franklin, Lancaster, Perry and York counties assembled in Harrisburg, where an all-day clinic was held, and the Southern Chapter of the Jefferson Medical College Alumni Association was organized.

**Councilman in Easton.**—Dr. W. T. Councilman of Harvard Medical School delivered a lecture in the auditorium of the Easton Public Library, April 29, on "The Nature of Disease." This meeting was arranged through the Speakers' Bureau of the Council on Health and Public Instruction of the American Medical Association.

**Typhoid Vaccine for Guardsmen.**—On May 8, Adjutant-General Stewart sent an order to local commanders of the three regiments embraced in the First Brigade and of the First Squadron of Cavalry, that every member of the National Guard of Pennsylvania must submit to inoculation with antityphoid serum before the annual encampments.

**Tuberculosis Hospital in Progress.**—Plans have been prepared for the new tuberculosis hospital for Pittsburgh on the Leach Farm in the Highland Park district. Two ordinances have been passed, one authorizing the completion of the specifications and drawings, and the second authorizing advertisements for bids and the letting of the contract.

**Dinner to Dr. Kelly.**—The members of the Lackawanna County Medical Society gave a banquet, April 19, at Scranton, in honor of Dr. Howard A. Kelly, Baltimore. At the meeting of the society, Dr. Kelly spoke on "The Power and Useful Influence of Radium," and on the following evening delivered a lecture at the Y. M. C. A. Auditorium on "The Social Evil."

**Personal.**—Dr. J. W. Geist, Wilkes-Barre, has been appointed local surgeon for the Lehigh and Wilkes-Barre Coal Company, vice Dr. Frank L. McKee, deceased.——Dr. E. A. Gerberich, Shamokin, is suffering with neuritis of the leg which has incapacitated him from work for the last two months.——Dr. Henry C. Bartleson, Lansdowne, is reported to be seriously ill in the Presbyterian Hospital, Philadelphia.

### Philadelphia

**New Officers.**—Physician's Motor Club: president, Dr. J. J. Robrecht; secretary, Dr. H. A. Sutton.

**Baby Clinics in a Church.**—Beginning May 13, clinics will be held every Tuesday afternoon in St. Stephen's Church, Germantown. The clinics will be free and two nurses will be present to assist.

**Hospital Building Free of Debt.**—On April 16 a check for $25.000 was received for tne completion of the new hospital building of the Woman's Medical College, near College Avenue and Twenty-First Street. This donation leaves the building free from debt.

**Reception to Newly-Elected Professors.**—The Medical College of Philadelphia gave a reception April 30, at the Bellevue-Stratford Hotel in honor of Drs. Thomas McCrae and Philip B. Hawk, newly-elected members of the faculty of Jefferson Medical College.

**Personal.**—Dr. Ignazio Cortese was exonerated April 30 on charges made by a patient's husband regarding treatment given in an obstetric case.——Dr. Herbert J. Baldwin on April 28 was exonerated of any blame in the death of a colored child who was knocked down and killed by Dr. Baldwin's automobile, April 24.

**New Surgical Pavilion.**—The new surgical pavilion to be erected at Thirty-Fourth and Spruce Streets in accordance with plans for the rebuilding of the entire hospital group of the University of Pennsylvania, is to be five stories and a basement in height, with an eventual addition of four stories. On the ground floor the x-ray department is to be located and also the gymnasium and orthopedic department. On the second and third floors, surgical wards will be established, with accommodation for seventy-five patients, with the necessary dressing rooms, preparation rooms, etc. On the fourth and fifth floors three operating rooms will be provided, each seating from twenty-five to thirty-five and having anesthetizing rooms connected with each, and above these floors will be a roof garden. The entire building is in the Jacobean style.

**Phipps Institute Dedicated.**—The magnificent new building of the Henry Phipps Institute at Seventh and Lombard Streets, was dedicated, May 10. Dr. Edgar F. Smith, provost of the University of Pennsylvania, presided. A historical sketch of the institute prior to its connection with the university was given by Dr. Lawrence F. Flick. The principal address was made by Dr. Hermann M. Biggs, New York City, who reviewed the tuberculosis situation and offered suggestions as to future activities and influence of the institute. One of the features of the ceremonies was the presentation of the degree of doctor of laws to Mr. Phipps, who has given about $1,000,000 for the erection of the institute, and who sets aside $50,000 each year for its support. A similar honor was conferred on Dr. Edward L. Trudeau, who in 1884 founded the Adirondack Cottage Sanitarium. Mr. Phipps and the trustees of the university gave a dinner to the distinguished guests at the Bellevue-Stratford in the evening at which Dr. J. William White was the toastmaster.

## TEXAS

**Sanitation at Texas City.**—Congress is to be asked for a special appropriation of $100,000 for sanitation, drainage and screening of the quarters of the division of troops now encamped at Texas City.

**League will Build Sanatorium.**—The Houston Antituberculosis League announces that within the next two months it will erect a joint county and city tuberculosis clinic. The structure will be of the bungalow type, with five large and a number of small rooms, with abundant porches, sterilizing rooms, etc.

**New Hospitals.**—The contagious disease annex to the John Sealy Hospital, Galveston, has been completed and is in active service.——The Walter Colquitt Memorial Hospital for Tuberculous Children which is practically completed and is now being furnished by the Adoue Seamen's Bethel, given by the family of the late Mr. Adoue, will be opened about May 15.

**Personal.**—Dr. Robert Boyd, Weatherford, was operated on at Hillcrest Sanitarium for appendicitis, recently, and is said to be doing well.——Dr. J. P. Simonds, Galveston, who recently completed a sanitary survey of Galveston, is conducting a similar work in Beaumont.——The office of Dr. Albert O. Menefee, Tatum, was burned April 19, with a loss of about $1,000.

**Honor to Ross and Gorgas.**—At the annual meeting of the State Medical Association of Texas, San Antonio, resolutions were introduced by Dr. Albert Woldert, Tyler, setting forth the service rendered humanity by Dr. Donald Ross, Liverpool, England, who discovered the true method of conveyance of malarial fever from the sick to the well and on whose discoveries was based the demonstration of the true method of the conveyance of yellow fever made by the United States Army Commission; and the services of Col. William C. Gorgas, M. C., U. S. Army, in the Panama Canal Zone, by putting in force and using the measures necessary totally to eradicate yellow fever and other tropical diseases in the Canal Zone; and recommending that a committee of seventeen members consisting of the president, secretary, and board of councillors be appointed to be known as the Ross and Gorgas Commemorative Committee, to enlist interest and support, and to solicit subscriptions for a fund to have erected monuments in the Canal Zone or other testimonials commemorative of the services of Drs. Ross and Gorgas.

## VIRGINIA

**New Officers.**—South Piedmont Medical Society at Danville, April 15: president, Dr. James Morrison, Lynchburg; secretary, Dr. George A. Stover, South Boston.

**Painter in Richmond.**—Under the auspices of the Board of Charities and Correction, Dr. Charles F. Painter, Boston, delivered a lecture at the Mechanic Institute on "The Treatment and Training of Crippled and Deformed Children."

**Site for New Hospital.**—The Johnston-Willis Sanatorium has purchased for $40.000, the lot and residence once occupied by Dr. Charles M. Shields at Fifth and Franklin Streets, Richmond, and within the next year expects to erect a hospital building as an annex to the present hospital at Sixth and Franklin Streets.

## GENERAL

**Gorgas Returns to the United States.**—Colonel William C. Gorgas, M. C., U. S. Army, chief sanitary officer of the Canal Zone, arrived in New Orleans, April 30, on his way to Washington. He expects to spend several weeks in the United States before his return to his post.

**Fighting Food Frauds.**—The Eastchester Health League has opened a pure food show at Bronxville and is pushing a campaign against food adulterations. They hope to teach adulterators to keep their ware out of Bronxville and the vicinity. Both the federal and state governments have prepared exhibits.

**Pediatrists Elect.**—The American Pediatric Society, at its annual meeting in Washington, D. C., May 5-7, elected the following officers: president, Dr. Samuel M. Hamill, Philadelphia; vice-president, Dr. Matthias Nicoll, New York City; secretary, Dr. Samuel S. Adams, Washington, D. C.; treasurer, Dr. C. H. Dunn, Boston, and editor and recorder, Dr. Linnaeus E. LaFetra, New York City. The place of meeting for 1914 will be New London, Conn.

**New Dermatologic Officers.**—At the thirty-seventh annual meeting of the American Dermatological Association, held in Washington, D. C., May 6 and 8, the following officers were elected: president, Dr. James McFarlane Winfield, Brooklyn; vice-president, Dr. S. Pollitzer, New York City; secretary and treasurer, Dr. Oliver S. Ormsby, Chicago, and member of council, Dr. William A. Pusey, Chicago. Chicago was selected as the next place of meeting.

**Anglo-American Medical Association.**—At the annual meeting of the Anglo-American Medical Association of Berlin, the following officers were elected: president, Dr. L. D. Green, San Francisco; vice-president, Dr. Carl C. Franklin, New York City; secretary, Dr. George A. Lassman, Baltimore, and treasurer, Dr. Samuel Zielouka, Cincinnati. Any member of the medical profession in good standing is eligible to membership, the dues being fifteen marks.

**Railway Surgeons' Meeting.**—At the annual meeting of the Association of Railroad Chief Surgeons in Chicago, May 6, Dr. W. H. Bohart, C. &. E. I. Railway, was elected president; Dr. Guy G. Dowdall, Illinois Central, Chicago, vice-president, and Dr. L. J. Mitchell, editor of the *Railway Surgical Journal*, secretary, all of Chicago. A committee was appointed to cooperate with the committee of the American Medical Association concerning the promotion of public health and railway sanitation. It was also decided to seek the cooperation of state boards of health and health officers in various localities, in order to obtain supplies of better water and ice on railway trains.

**Medical Museum Association.**—An informal business meeting of the International Association of Medical Museums was held at the Army Medical School, Washington, D. C., May 5, Dr. A. S. Warthin, Ann Arbor, in the chair. The meeting was called first, to discuss the organization of a local American section in the international body and the perfecting of the organization of the association as a whole on the international basis. It was reported that a sectional society had already been organized as a branch at Frankfort-on-the-Main, Germany, under the directorship of Prof. B. Fischer of the Seckenberg Institute, known as the "Verein zum Austauch anatomischer Praeparaten." Steps have also been taken to establish local secretaries in France, Belgium and England, the Seckenberg Institute remaining as a central European Bureau of Exchange. The second object of the meeting was the making of preparations for the coming of the triennial international meeting to be held in conjunction with the Seventeenth International Congress of Medicine in London, Eng., August 6-13, and the secretary was directed to communicate with the members from various countries suggesting the formation of sectional societies or committees under control of the main body, and requesting each nationality to send representatives to the meeting to be held in London, there to discuss, formulate and establish the mechanism of government of the international association and of its sectional societies. The third order of business was the report of the committee on the organization of a central bureau for North America for the preservation of results of original research. Dr. Leo Loeb, St. Louis, announced that the committee had selected McGill University, Montreal, as the most suitable locality for the new substation and that Dr. Maude E. Abbott had offered her services as curator. The association approved these arrangements and the secretary was asked to write to the leading American investigators in medical research requesting them, after the completion of a given research, to send their material to McGill University, where it will be preserved, catalogued, indexed and at all times available for reference.

**American College of Surgeons.**—The organization of this society at Washington was briefly noted in THE JOURNAL May 10, 1913, page 1471, with the list of officers elected. The committee charged with the arrangements made a list of about five hundred surgeons of all specialties, from the large cities, the important universities, the special and general surgical societies, the important surgical clinics and hospitals, besides many independent surgeons from various parts of North America, and of these five hundred some three hundred were present to become founders of the organization. It was decided that all these five hundred should be fellows of the College of Surgeons without further formality. Others, whose surgeonship can be unquestionably approved by the committee on credentials, are to be accredited fellows without the formality of an examination. Fellows are divided, for the purpose of classification, into four groups, to be designated Classes A, B, C and D. Class A shall consist of the founders. Class B shall consist of the members of the special surgical societies constituting the Congress of American Physicians and Surgeons, and one hundred each, nominated by an accredited committee, from the Section on Surgery of the American Medical Association, from the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association, from the General Surgical Section of the Clinical Congress of Surgeons of North America, from the Surgical Specialties of the Clinical Congress of North America, from the American Association of Obstetricians and Gynecologists, from the Canadian Medical Association, from the Southern Surgical and Gynecological Association, and from the Western Surgical Association. Class A shall consist of surgeons of prominence of ten years in the practice of surgery or a surgical specialty who, in the opinion of the committee on credentials, are eligible for fellowship in the college without formal examination. Class D shall consist of surgeons who cannot, in the opinion of the regents, be classified under A, B or C, and for whom the college must establish an examination or other evidence of acceptable qualifications. Fellows will be admitted only to classes A, B and C until the boards of regents and governors agree on standards of requirements for Class D at a meeting to be called in Chicago, November, 1913.

## FOREIGN

**International Congress on Medical Climatology and Hydrology and on Geology.**—The ninth international gathering to discuss questions connected with the treatment and prevention of disease by mineral waters, climatic and meteorologic factors, is to be held at Madrid, Oct. 15-22, 1913. M. O. Leighton and J. C. Stevens of the Geological Survey are mentioned as official delegates from this country. The secretary's address is Encarnacion 10, principal, Madrid, Spain.

**Death of Calleja.**—The death is reported from Madrid of Professor Julian Calleja y Sanchez, dean of the medical department of the University of Madrid, and president of the Real Academia de Medicina. He presided over the meetings of the International Medical Congress held at Madrid in 1903. His chair in the medical faculty was that of descriptive anatomy and embryology, and he has always been a zealous worker to elevate the standards of medical education and preventive medicine.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, April 25, 1913.

### Wounds in the Balkan Campaign More Serious than at First Supposed

Medical Inspector-General Delorme of the military health service drew further conclusions from the campaign in Thrace, at the Académie de médecine, April 22, dwelling in particular on wounds received in battle. He pointed out that the effects of the Bulgarian bayonet, which is short and broad, were terrible. As to bullet wounds, so many slightly wounded soldiers were seen in the convoys near the battle-fields, or from among those who had been removed from the field to the hospitals in the rear, that military correspondents and many surgeons received the impression that bullet wounds in this campaign were uniformly slight.

According to Delorme, this impression was not correct. Bullets from the rifles now used cannot produce invariably slight lesions, except in the region traversed. The lesions are simple, benign, severe or very grave according as the projectile comes from a distance or close at hand. All degrees of injuries can be made by the same sort of projectile in the same battle; it is a question of velocity and range. Explosive effects have been observed from bullets fired at short range; wounds made at intermediate distances have been severe, especially when the diaphyses of the long bones

have been hit. At greater distances the wounds are correspondingly light. In the Thracian campaign the most effective ranges for the Bulgarians have been the short and the intermediate ranges, at which they have inflicted serious and very severe wounds on their adversaries. The Turks, at least at the beginning of the campaign, fought from a distance. This often proved a benefit to the Bulgarians, who profited also in a more general way from the less vulnerable character of the Turkish bullet (the German S ball), owing to its lighter weight and the point, which permitted it to penetrate and pass through the tissues more as a puncture than by punching through and making an abrasion. This bullet made slighter lesions than the Bulgarian. The aperture was more restricted, its course of less diameter, the perforations in the epiphyses cleaner, and penetrations of the skull, chest and abdomen perhaps less severe. Perforations of the large diaphyses of the bones, which are of the greatest concern to army surgeons, are as a rule less comminuted; the area of free splintering is more circumscribed and the fissures smaller. Shock is slight or negligible, even at close range.

At the beginning of the war the severity of wounds from bursting shells was exaggerated. The truth is that the penetrating power of shrapnel is less than that of rifle-balls. Owing to the shape and the lower velocity of the missiles they produce lesions different from those made by rifle-balls: larger, but not so deep, often complicated by the presence of the wounding body and by bits of clothing; fractures are simpler and less comminuted, but more exposed to suppuration.

It has been admitted that the losses sustained by armies have been decreasing since the beginning of the last century, according to the numbers engaged. The Balkan war and the war in Manchuria were exceptions to this rule and should alter the wide-spread wrong impression as to the general benign character of wounds made by rifle-balls.

### Fear of the Competition of Foreign Practitioners

For some time certain physicians have been protesting at the continual increase in the number of foreign medical students. The question was discussed at the recent meeting of the Associations corporatives des étudiants en médecine (THE JOURNAL, April 26, 1913, p. 1312). It was also taken up by the Syndicat médical de Paris. Dr. Roulland called attention to the insistent protests of German students. The demands made by the Germans are about as follows:

Only a limited number of foreign students should be permitted to matriculate in the schools.

A certificate of good character should be asked, signed by officials in the country from which the student comes.

A certificate should be required showing that the student has successfully passed an examination in German.

No foreigner should be admitted to any official position.

Dr. Roulland asked if the situation in France is analogous, and answered the question in the negative. He believes that foreign students should not only be welcomed, but should be invited; that our laboratories and hospital services should be opened for the purpose of giving instruction, and that this should even be given in the mother tongue of the visiting medical student. At the same time the students should be distributed in order that the Paris school might not be overcrowded. In 1903 at Paris French medical students numbered 3,100 men and 83 women; foreign medical students, 248 men and 70 women. In 1913 the French medical students numbered 3,291 men and 229 women; the foreign medical students, 564 men and 329 women. In other words, in ten years the number of French students changed little, but that of foreign male students increased two times and of women five times.

In view of this increase Dr. Roulland believes that it would be unsafe to admit foreigners and women freely to the examinations for internships and externships. He proposes to limit the number of foreign applicants to 5 per cent. more than the number required, and to consider the foreign applicants as supernumeraries and on a second list. The Syndicat médical de Paris adopted this proposition and at the same time voted that the privileges accorded to foreigners asking for the government doctorate of substituting equivalents for the regular requirements should be abolished as soon as possible by decree; that foreign students should be compelled to undergo the same examinations as French students for degrees, including the bachelor's, and that with the exception of internships and externships all the offices given at examinations or by appointment by the state or public administration should be reserved for natives exclusively. The *syndicat* also asks that medicolegal findings to be used in court proceedings and other documents of a public nature shall be valid only if signed by French physicians. The suggestion was made that naturalized physicians should not be permitted to acquire the same privileges as natives until after five years from the time of naturalization, but this restriction was not adopted.

It is doubtful if these apprehensions and precautions are justified by actual conditions. As I have already shown (THE JOURNAL, Aug. 31, 1912, p. 732), the majority of foreign students come to France only for instruction with no idea of obtaining the government doctorate, which alone gives the right to practice.

### Dioradin Again

I mentioned in a previous letter (THE JOURNAL, Feb. 22, 1913, p. 608) the suit brought against Dr. Samuel Bernheim by Dr. Louis Dieupart, who had been ordered to prescribe Dioradin but had refused to do so and had therefore lost his position in a dispensary. The court decided against Dr. Dieupart, declaring that the administrative council of the dispensary had the undeniable right to impose on the physician the exclusive use of a product "which had given rise to no criticism by the medical profession." Since this decision might create a dangerous precedent, the commission on professional interests of the Syndicat médical de Paris took up the question. It was assumed that the judge was impressed by the documents submitted to him in the case — perhaps papers presented in various congresses according to which Dioradin possesses marvelous properties. His statement that the preparation was not criticized by the medical profession was therefore made in good faith. The judge, however, cannot be admitted to have the right to declare that a given product has curative properties on the pretext that the medical profession has made no protest against its use. Nothing authorizes such assumption. There are in fact a large number of products with regard to which the medical profession keeps silent and the properties of which are far from being demonstrated. A physician has always the right and the duty of prescribing only what he believes useful to the patient. This principle ought to be respected everywhere and by all. Accordingly the *syndicat* passed the following resolutions:

1. Each physician is alone responsible for and the sole judge of the treatment that he prescribes and of the medicines that he orders.

2. A chief of service in a public or private dispensary is master of the treatment that he directs and ought not in any case to be obliged to conform to a therapeutic course prescribed in advance.

3. The *syndicat* regrets that the court has denied this and protests energetically against the decision.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, April 18, 1913.

### Sixth International Congress on Physiotherapy

The first topic was the treatment of disturbances of the circulation by physical measures. The leading addresses were by O. Müller of Tübingen, Vasquez of Paris and E. Zander of Stockholm.

#### TREATMENT OF CIRCULATORY DISTURBANCES BY PHYSICAL MEASURES

Müller spoke on the use of baths in circulatory disturbances. The most ordinary form of bath for these conditions is the cool carbonated saline bath, which acts on the heart as well as on the blood-vessels. The carbon dioxid and the salt excite the activity of the heart; the temperature of the bath affects the blood-vessels by dilating or contracting them and thus protects and exercises the heart. Very fine gradations of the temperatures and of the proportions of carbon dioxid and salt can be obtained. Cool carbon dioxid baths slow the action of the heart and make it more effective and uniform. At the same time they contract the arterioles in the periphery, increase the blood-pressure and dilate the arterioles in the internal organs, particularly in the abdomen, so that a deepening of the respiration takes place, which favorably influences the blood-current in the veins and is calculated to equalize the distribution of blood. The heart has to perform greater work through this change and is thus exercised. The thick layer of bubbles of carbon dioxid which surrounds the body prevents the giving off of so much heat as occurs in ordinary cold baths, so that in the carbon dioxid bath a pleasant feeling of warmth results. In the warm carbon dioxid bath

the pulse volume is increased, but the bath has the reverse effect on the arteries from cold baths. As a result the internal vital organs receive less blood, but the heart has a slighter task to perform; it is therefore protected. In the treatment one begins with baths of temperature midway between these two extremes, that is, about 93.2 F., and raises or lowers the temperature to protect or to exercise the heart, as desired. As the carbonated baths make considerable demands on the organism, it is absolutely necessary that they be given only under medical supervision. A course of carbonated baths at home, taken without interrupting the patient's occupation, is often injurious. Similar conditions to those of the carbonated baths are found in the electric baths and in those which contain bubbles of oxygen and air, which, however, have a milder action than the carbon dioxid baths.

Vasquez discussed the dietetics of disturbances of the circulation. He believed it possible by rational nutrition to influence the heart and vessels prophylactically in cases of permanent high blood-pressure from disease of the kidneys and arteriosclerosis. An increase of blood-pressure is produced to the highest degree by alcohol. This could not be demonstrated in other forms of diet. In the dietetic treatment of developed arteriosclerosis it is very important to restrict alcohol and to reduce the quantity of food taken as much as possible, and further to give salt-poor foods and little meat. In the more severe forms of the disease milk and vegetable diet must have the chief place. In milder forms of heart disease, special dietetic treatment is not necessary. In the severe cases the restriction of meat and the introduction of milk diet is to be recommended. The excessive use of liquids by patients with heart disease is not so well borne as the solid foods. It is possible to lessen the work of the heart in disturbances of the circulation by lessening the supply of liquids. If the heart disease is caused by disease of the kidney, the salt-free diet recommended by Widal and Strauss should be used.

Zander reported on the movement treatment in diseases of the circulation. In kinesitherapy a distinction must be made between active movements in the joints and passive movements in the tissues. The combination of various manipulations is characteristic of the Swedish method. Massage acts on the circulation to the extent that it favors the movement of the blood and lessens the work of the heart. Local edema can be influenced favorably by massage. This form of passive movement may be compared in many respects to the gymnastic breathing exercises. The difference in the amount of blood in the lungs in inspiration and in expiration is quite marked, so that by the active respiration a suction of the blood into the chest and expulsion of it results, producing effects very similar to those of massage.

Active movements have a distinct influence on the circulation of the blood. If a muscle is doing its work it needs more blood than when it is resting. Muscular exercise requires therefore the sending of the blood from the internal organs to the extremities, which is therapeutically valuable in pathologic conditions characterized by excessive amounts of blood in the internal organs. Zander does not regard it as demonstrated that muscular exercise causes hypertrophy of the heart. At any rate, among athletes the findings are not uniform. The heart may become more powerful without undergoing hypertrophy. No physical exercise imposes such a task on the heart as valvular disease, which forces the heart to extreme exertion. By exercise and training the capability of the heart to accommodate itself to requirements is increased. A further possibility of producing compensation is to be found in the periphery: that is, in the muscles. In trained muscles the vessels react better than in untrained ones; but persons with heart disease cannot be trained in the same way as the healthy. The gymnastic exercises must not tax the brain, but should be as far as possible automatic and above all be adapted to the strength of the patient. Walking is especially to be recommended, but even this is too one-sided, as it calls into play only part of the muscles.

### PHYSIOLOGIC EFFECTS OF ALTITUDE AND AIR-PRESSURE

Cohnheim of Heidelberg discussed the physiologic action of altitude. In mountain altitudes the proportion of blood-cells increases in differing ratios in different animals. In the mountains an increased formation of red blood-cells and hemoglobin takes place; in healthy persons this is evident only after some weeks, but then in the course of months and years may prove very considerable. Experiments performed on artificially anemic animals show an immediate increase in hemoglobin. The influence of high altitude should be investigated not only on healthy men and animals but also on patients and sick animals.

Stähelin of Basel spoke on the influence of the daily variations in the air-pressure and the blood-pressure. Continuous tests of blood-pressure on patients with stationary pulmonary tuberculosis have shown that in the majority the blood-pressure falls on a sudden sinking of the barometer pressure. The cause of this sinking is not certain; but it is important that a generally measurable influence of a meteorologic factor has thus been established. In other diseases an influence of this sort is not shown, probably because the variations in blood-pressure produced by the disease itself conceal the effect of the weather.

### LATENT DIABETES

Reicher of Schwarzburg-Morgentheim discussed the clinical balneotherapeutic relations of latent diabetes. There are many conditions difficult to explain which are to be referred to diabetes. Among these are especially neuralgia, sciatica, furuncles, itching of the skin and chronic eczema, diseases of the gums, carbuncles, phlegmon, cataract and unexplained loss of weight. In spite of the diabetes present, it may not be possible to demonstrate the sugar in the urine, but it can be shown to be present in the blood by the method of Reicher and Stein. These cases are designated as latent diabetes. They must be treated in the same way as other cases of diabetes, with dietetic measures and mineral waters.

### VARIOUS THERAPEUTIC MEASURES

Klotz of Tübingen reported on the treatment of acute fall of blood-pressure with pituitary extract. The preparation causes in case of lowered blood-pressure an increase by exciting the contraction of the arterioles and at the same time increasing the activity of the heart. It is to be recommended in all cases in which a lowered blood-pressure is due to the relaxation of the blood-vessels in the splanchnic area, and also in acute loss of blood, operative shock and toxic lowering of blood-pressure. The combination with intravenous infusion of salt solution materially assists the action of the preparation.

Bruns of Marburg recommended breathing under reduced pressure for the treatment of disturbances of the respiration and circulation. The apparatus for respiration under reduced pressure produces a permanent difference between the pressure of the atmosphere on the surface of the body and the artificially lowered pressure in the lungs, and hence an increase in volume of the vessels in the lesser circulation, and a permanent fall of pressure that lessens the activity of the right heart. It is indicated in insufficiency of the respiratory organs and the disturbances of the circulation occasioned by it, and also in mitral disease, coronary sclerosis, stenocardia and fatty disease of the heart. In asthma it is a good method of respiratory gymnastics. In cases of anemia, also, this method has given good results.

Bergmann of Altona discussed the treatment of disturbances of the circulation by changing the pressure in the lungs. This method of treatment deserves marked attention as a protective treatment of the heart not only in cases in which decompensation is already established, but also as a prophylactic measure in cases in which compensation is still present. The distribution of the blood in the lesser circulation, the relative fulness and the amount of work put on the various sections of the heart and the circulation through the coronaries are modified by the changes of pressure in the air of the lungs in such a way that a suitable combination must be favorable.

Mache and Sness of Vienna and Ramsauer and Holthusen of Heidelberg reported on the absorption of radium emanation by human blood in inhalation and drinking treatments, which appeared to be suitable to introduce radium emanations into the blood and to keep them there for some time. Only medical and practical considerations are competent to determine which of the two methods is to be preferred. The possibility of exact dosage is in favor of the inhalation method, and the advantages of the drinking method are its great convenience and small cost.

*(To be continued)*

## VIENNA LETTER

*(From Our Regular Correspondent)*

Vienna, April 27, 1913.

### The New Law Dealing with Epidemic Diseases

In Austria we have long had strict and exhaustive regulations pertaining to all matters of epidemic diseases of cattle and other animals, but no law dealing with the fight against such diseases if they attack human beings. All that has been

done in this respect has been based on simple ordinances of several ministers. Finally by the united efforts of medical and non-medical men a bill was offered by the government, but it encountered much opposition. It was interesting to note how much polities can deteriorate a man's sound sense. For political reasons the law was attacked by medical men, or at least they thought they had to oppose it, in order to please their constituents. Needless to say, a desperate campaign was waged against the bill by the "nature healers" and antivivisectionists, seconded by the agrarian circles, who feared that the interference of the officers of health would be detrimental to the interests of the agrarian magnates, so often opposed to the interests of the general public. But after a severe struggle the law has been passed. It is yet far from fulfilling all that could justly be wished, but several important improvements have been attained. Thus, for instance, the compulsory notification of infectious diseases has been regulated; diphtheria, scarlet fever, all forms of epidemic and cerebrospinal meningitis, poliomyelitis, puerperal fever, typhoid, cholera, plague, anthrax, glanders, erysipelas, rabies and whooping-cough must be reported, while trachoma, measles, rubeola and mumps need not be reported, but should be. Doctors who suffer pecuniary loss through the application of the law will receive compensation, but the problem of compulsory vaccination, for instance, has not been solved.

The law contains five principal parts, providing for: (1) the discovery and notification of disease; (2) preventing and fighting disease; (3) the payment of costs and of compensations arising out of the application of the law to the individual, corporations or municipalities; (4) the fines for infringement of the law, and (5) general organization of the medical service in connection with the law. Some of these points are worthy of consideration. Thus the first point defines as notifiable only such diseases as appear temporarily in an epidemic way, while diseases commonly present, like tuberculosis and syphilis, are excluded. Every officer of health, practitioner or nurse called in for the first time to the case, must report it to the board of health of the district, unless it has been reported by some one else. The second part regulates the methods of isolation and disinfection, of the purification of the water-supply and the prevention of its contamination, the care of the food-supply and the prevention of contamination (especially in shops, markets and public sales and auctions). The closure of infected lodgings, the control of certain persons, the closure of schools, the control of itinerant venders and of traffic (quarantine) is also fully dealt with. The disinfection, for instance, has to be effected in lodgings with formaldehyd solution, to be used in the shape of gas, and by washing with a 1:20 solution of phenol (carbolic acid) or compound solution of cresol.

An important addition to the present state of affairs is the third chapter, which does away with the uncertainty of costs of prophylactic medicine. Special care is taken to ensure a pension for medical men or their families, in case of anything happening to them in this service; the nursing staff also is adequately provided for in this respect. The costs of the application of the law to fight epidemic diseases will be defrayed by the state, and a liberal arrangement will ensure promptness. Payment for notification of disease, which was desired by the profession, could not be obtained. Altogether the doctors were bound to accept the law, regarding it only as a payment on account, working under the idea that it was better than no law at all.

### The Sale of Pathogenic Bacteria

A crime in a German town has called the attention of the public to the dangerous possibility of being poisoned with the aid of scientific institutes. A man had killed two wives and tried to kill a third one by the administration of living typhoid bacteria, which he had procured under false pretenses from the serotherapeutic institute in Vienna. This magnificent scientific state institution contains the largest and best-equipped collections of bacteria and all the latest outfits for their growth in a special department known as the "Kral Museum." Hitherto it has been easy to get quite a large supply of any pathogenic microorganism. The authorities in charge of the institute seem never to have realized that extensive precautions were necessary to prevent abuse on the part of their customers. A simple request by letter resulted in the mailing of carefully packed glass tubes containing any required bacteria, and the laboratories all over Europe which were regular customers of the Vienna institute will in future have to prove their good faith for procuring their goods before getting them. It has been decided now that only public scientific laboratories and medical men of recognized scientific standing will be regarded as competent to receive such dangerous weapons. In his former attempts the murderer had been lucky enough to avoid all suspicion, as he styled himself "chemical laboratory" on his letter-head, and in spite of repeated requests for fresh bacteria—he could have made fresh cultures himself if he had been really the owner of a laboratory—nobody thought of foul play.

## Marriages

JAMES PAUL AUSTIN, M.D., Philadelphia, to Miss Margaret L. Thomas of Germantown, Philadelphia, April 26.

JOHN SCHAFER SCHNELLER, M.D., Catasauqua, Pa., to Miss Kathryn Johnson of Freeland, Pa., April 30.

GEORGE R. CLAYTON, M.D., Lima, O., to Miss Florence A. Foss Bailey of Highland Park, Ill., April 23.

SARAH ELLIS SWEZEY, M.D., and Prof. Harry Thompson Avey, both of Allahabad, India, recently.

ALBERT VANDER VEER, M.D., to Miss Sylvia A. de Murias, both of New York City, May 12.

ROBERT DORLAND PAUL, M.D., Chicago, to Miss Ethel Eriksen of Tacoma, Wash., April 28.

HENRY ISAAC LEVITON, M.D., Chicago, to Miss Theresa Lurkin of California, recently.

HERMAN M. BAKER, M.D., Stendall, Ind., to Miss Grace Sleno of Evansville, Ind., April 30.

HAROLD L. ROSE, M.D., Oglesby, Ill., to Miss Lena Penning of Chicago, April 29.

## Deaths

**Louis Adolphus Duhring, M.D.**, the eminent dermatologist of Philadelphia; died at his home in that city, May 7, aged 67. He was born in Philadelphia, and after his graduation from the University of Pennsylvania in 1867 and an internship of fifteen months in the Philadelphia Hospital, he went abroad, studying dermatology in Paris, London and Vienna. On his return to the United States in 1870 he opened a dispensary for skin diseases in Philadelphia. For ten years he was attending physician and since that time consulting physician to the dispensary. In 1871 he was made lecturer on diseases of the skin, and five years later professor in the University of Pennsylvania. He was a member of the Medical Society of the State of Pennsylvania, vice-president of the American Dermatological Association and a member of many societies connected with his specialty at home and abroad. His best known works are his Atlas of Skin Diseases which appeared in 1876; his Practical Treatise on Diseases of the Skin, which appeared a year later, and was translated into French, Italian and Russian, and his Text-book of Cutaneous Medicine, which appeared in 1898.

**Francis Parker Kinnicutt, M.D.** College of Physicians and Surgeons, New York City, 1871; a member of the American Medical Association; professor of clinical medicine in his alma mater; president of the Association of American Physicians in 1906-7; a member of the New York Academy of Medicine; attending physician at the Presbyterian Hospital, New York City; consulting physician to St. Luke's, the General Memorial, Women's and Babies', Minturn and Vassar Brothers' hospitals and to the Hospital for the Ruptured and Crippled; a director of the Children's Aid Society, and co-editor, with Dr. N. B. Potter, of the English translation of Sahli's Clinical Diagnosis; died suddenly May 2, from cerebral hemorrhage, just after he had completed the reading of a paper before the Practitioners' Society, New York City, aged 66.

**Asbury J. Vance, M.D.** Vanderbilt University, Nashville, Tenn., 1881; of Harrison, Ark.; a member of the American Medical Association; once president of the Arkansas Medical Society; a member of the American Association of Railway Surgeons and Association of Surgeons of the Missouri and North Arkansas Railroads; and local surgeon for that road at Harrison; a member of the State Board of Health and president of the Boone County Board of Health; died in a hospital in St. Louis, April 28, aged 56.

**Arthur Ames Bliss, M.D.** University of Pennsylvania, Philadelphia, 1883; a member of the Medical Society of the State of Pennsylvania; chairman of the section on laryngology and otology in the College of Physicians of Philadelphia and once president of the American Laryngological Association; consulting laryngologist and aurist to Chestnut Hill Hospital and the Hospital for Epileptics; for more than twenty years laryngologist and otologist to the German Hospital and Mary Drexel Home, Philadelphia; died at his home in Philadelphia, May 1, from acute nephritis, aged 53.

**Edgar Garceau, M.D.** Harvard Medical School, Boston, 1890; a member of the American Medical Association, French Association of Urology; American Urological Association; American Gynecological Society and many other learned bodies; surgeon to the Boston Dispensary; gynecologist to the Out-Patient Department of St. Elizabeth's Hospital and consulting surgeon to the Quincy Hospital; author of a standard textbook on "Tumors of the Kidney"; died in Boston, April 29, aged 46.

**Frank James King, M.D.** Starling Medical College, Columbus, O., 1894; a member of the American Medical Association; first president of the Grand Forks District North Dakota Medical Society and for three years treasurer of the North Dakota State Medical Association; for more than twenty years a practitioner of St. Thomas, N. Dak.; a well-known specialist on the eye and ear; died in a hospital in Rochester, Minn., April 29, from carcinoma, aged 48.

**Charles Huntoon Knight, M.D.** College of Physicians and Surgeons, 1874; a member of the American Medical, American Laryngological and American Therapeutic associations; consulting laryngologist to the Manhattan Eye, Ear, Nose and Throat Hospital, the State Hospital for Crippled and Deformed Children and Stony Wold Sanatorium; professor of laryngology in Cornell University; died at his home in New York City, April 29, aged 63.

**Henry Swift Upson, M.D.** College of Physicians and Surgeons, New York, 1884; of Cleveland, O.; a member of the American Medical Association and American Neurological Association; professor of neurology in the Western Reserve University; attending physician to Lakeside Hospital and consulting neurologist to St. Alexis Hospital; died in Rome, Italy, April 23, aged 53.

**William Gomez Ward, M.D.** University of Alabama, Mobile, 1895; a member of the Medical Association of the State of Alabama; surgeon for the Mobile Light and Railroad Company; for several years physician of Mobile County and a member of the city council of Mobile; died at his home in Mobile, April 23.

**James H. Judson,** (license, years of practice, Illinois, 1882); a practitioner for forty-seven years; assistant surgeon of the One Hundred and Forty-Second Illinois Volunteer Infantry during the Civil War; for many years supervisor and school director of his district; died at his home near Polo, April 28, aged 73.

**Alexander E. Walker, M.D.** Eclectic Medical Institute, Cincinnati, 1897; a member of the Nebraska State Medical Association; was found dead in his apartments in Union, Neb., April 25, from a gunshot wound of the head, aged 38. It is believed that Dr. Walker was murdered and robbed.

**John Coert Dubois, M.D.** New York University, New York City, 1855; acting assistant surgeon, U. S. Army, during the Civil War, with service under the Sanitary Commission; for more than fifty years a practitioner of Hudson, N. Y.; died at his home April 29, from senile debility, aged 81.

**Jacob L. Noble, M.D.** University of Maryland, Baltimore, 1876; a member of the Medical and Chirurgical Faculty of Maryland; formerly health officer of Caroline County, Md.; died suddenly at his home in Preston, April 29, from valvular heart disease, aged 63.

**Charles Wallace Price, M.D.** Medical School of Maine, Brunswick, 1875; a veteran of the Civil War, in which he served both in the Army and Navy; formerly a member of the State Medical Association; died at his home in Richmond, Me., April 25, aged 68.

**Leonard Bailey, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1857; some-time president of the Connecticut Eclectic Medical Association; died at his home in Middletown, April 29, aged 78.

**James M. Pocock, M.D.** Medical College of Ohio, Cincinnati, 1874; formerly an officer of the National Guard of Washington; died at his home in Colfax, Wash., April 19, from cancer of the stomach, aged 63.

**James Reid Mitchell, Jr., M.D.** Cornell University, New York City, 1908; a member of the American Medical Association; for three years a practitioner of Fort Worth, Tex., but for three weeks a resident of Dallas; died in his office in Dallas, April 12, from the effects of poison accidentally self-administered, aged 28.

**Herman Kahn, M.D.** Royal University of Würzburg, Bavaria, Germany, 1861; later district surgeon for the British Government in South Africa and staff surgeon in the Bavarian Army during the Franco-German War; died at his home in New York City, May 1, aged 79.

**George Edmund Stackpole, M.D.** Harvard Medical School, 1870; a member of the Massachusetts Medical Society; formerly a practitioner of Malden and Dorchester, Boston; died in a hospital in Brookline, Mass., April 22, aged 69.

**Orlando Webb Sutton, M.D.** Eclectic Medical College of the City of New York, 1891; for several years postmaster at Bath, N. Y.; died suddenly at his home in that place, April 25, from heart disease, aged 63.

**Patrick Joseph Timmins, M.D.** University of Georgetown, D. C., 1878; for more than thirty years a practitioner of Boston; died in the Carney Hospital in that city, May 4, from carcinoma of the liver, aged 62.

**Mary Bridges Beattie Cornish, M.D.** University of Toronto, Ont., 1906; later pathologist of St. Luke's Hospital, New Bedford; died at her home in Everett, Mass., April 24, two weeks after childbirth, aged 30.

**Samuel M. Richardson** (license, Ohio, 1896), a veteran of the Civil War and for more than half a century a resident of New Matamoras; died at his home, about April 23, from senile debility, aged 85.

**Walter Scott Thorne, M.D.** Bellevue Hospital Medical College, 1869; a member of the American Medical Association; died at his home in San Francisco, April 22, from chronic nephritis, aged 72.

**John H. Grady, M.D.** University of Louisville, Ky., 1868; formerly of Columbia, Ky.; a Confederate veteran; died at the home of his daughter in Quincy, Ill., April 22, aged 70.

**James McBride Woods, M.D.** Jefferson Medical College, 1863; for thirty-three years a practitioner of Toronto, Ont.; died at his home from the effects of a fall, April 24, aged 73.

**George Alexander Williams, M.D.** University of the Victoria College, Coburg, Ont., 1870; formerly of Bay City, Mich.; died in the State Masonic Home, Alma, April 29, aged 69.

**James Fisher Whittaker, M.D.** Starling Medical College, Columbus, O., 1879; for thirty-three years a practitioner of Bloomingdale, O.; died at his home, April 30, aged 72.

**Robert Spearman Edwards, M.D.** Medical College of Georgia, Augusta, 1862; of Trussville, Ala.; died at the home of his son in Brighton, Birmingham, Ala., April 29, aged 65.

**Eddy Bert, M.D.** University of Göttingen, Germany, 1864; for many years a member of the American Medical Association; died at his home in Chicago, May 8, aged 72.

**John W. C. O'Neal, M.D.** University of Maryland, Baltimore, 1844; a veteran of the Civil War; died at his home in Gettysburg, Pa., April 24, from senile debility, aged 92.

**Lee Roy Moore, M.D.** Memphis Hospital Medical College, 1908; was found dead in his office in Brunswick, Tenn., April 28, from an overdose of chloroform, aged 30.

**Conrad P. Strauss, M.D.** College of Physicians and Surgeons, Baltimore, 1887; died at his home in Baltimore, May 2, from carcinoma of the throat, aged 47.

**William Silliman Irwin, M.D.** University of Tennessee, Nashville, 1906; of Falfurrias, Tex.; died in San Antonio, Tex., March 28, from heart disease, aged 35.

**Octavius B. Schmall, M.D.** Medical College of Indiana, Indianapolis, 1882; of Cincinnati; died in the Longview Hospital in that city, March 3, aged 59.

**William B. Spain, M.D.** Vanderbilt University, Nashville, Tenn., 1907; died at his home in Talbotton, Ga., April 26, from heart disease, aged 28.

**Benjamin W. Pratt, M.D.** Columbus (O.) Medical College, 1882; died at his home in Goodland, Ind., April 15, from pneumonia.

**Pembroke S. Edwards,** (license, 9 years of practice, Michigan, 1900); died at his home in Grand Rapids, May 1, aged 76.

**Ruffin Cole Claiborne, M.D.** Tulane University, New Orleans, 1903; died at his home in New Roads, La., April 27, aged 33.

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## COLLYRIUM-WYETH

"I should be glad of any information about Wyeth's Collyrium and would also like to know if the position taken by this concern measures up to the requirements of the Council on Pharmacy and Chemistry."

This inquiry was received from a Boston physician, who enclosed with his note the letter quoted below that he had received from John Wyeth & Brother, Philadelphia, the makers of the preparation in question:

"We have your letter of the 22d inst., in which you request us to send to you formula for 'Collyrium,' and in reply thereto, beg to advise, being a corporation you will, we think, appreciate why we are not at liberty to disclose the various formulas under which our preparations are made. Such is the competition in the trade that secrecy in this respect is a valuable asset.

"You will not for a moment think that we take this position through any distrust of your discretion or good faith, but because we feel that our duty to the stockholders of the company prohibits us from disclosing our formulas.

"Let us assure you however, that the eyewash contains only the simplest and most harmless remedies well known to the medical profession."

John Wyeth & Brother seek the patronage of the medical profession and desire physicians to use their preparations, but "being a corporation" they "are not at liberty to disclose the various formulas" of these preparations. In other words, they expect physicians of the country to prescribe "patent medicines" of whose composition they must be ignorant and to rely wholly on the word of John Wyeth & Brother as to the innocuousness of these products.

The letter is an insult to the physician to whom it was written. If physicians were not so apathetic in cases of this kind, the corporation of John Wyeth & Brother would long since have been forced "off the fence"—it would have become either a "patent medicine" concern or would have confined its activities to the manufacture of pharmaceutical products and ethically exploited proprietaries. Now what about this Collyrium-Wyeth. It was analyzed in the Chemical Laboratory of the American Medical Association and the chemists report:

"The specimen of Collyrium-Wyeth examined was a clear, colorless liquid having a faint odor like benzaldehyd. Qualitative tests demonstrated the presence of antipyrin, free boric acid and sodium borate. Acetanilid, ammonium salts, glycerin, nitrates, phosphoric acid and pyramidon were absent. Such potent alkaloids as atropin, cocain, homatropin and pilocarpin, which are often used in ocular surgery, were not found. Preparations of goldenseal were not present. Quantitive examination indicated that the composition of the preparation examined is essentially as follows:

| | |
|---|---|
| Antipyrin ..... ..... . | 0.41 gm. |
| Sodium borate (borax)... ..... ... | 0.55 gm. |
| Boric acid ..... . | 2.14 gm. |
| Water (by difference) to make... .. | 100.00 c.c. |

The secret of such a formula must indeed be a "valuable asset!" We venture the assertion that if the medical profession did its duty, the corporation of John Wyeth & Brother would find that its "duty to the stockholders of the company" constrained it to abandon secret "patent medicines" and to confine its activities to a legitimate line of pharmaceutical products. An examination of the firm's pricelist reveals but a very few secret-formula preparations of the type represented by Collyrium, hence it would probably not seriously damage the business of the firm either to eliminate all such formulas from its pricelist or to enable the physician to use them intelligently, if they deserve it.

## THE PROPRIETARY EVIL IN GREAT BRITAIN

Here are some excerpts from testimony recently given before the Select Committee of the House of Commons on proprietary medicines. It is Mr. E. J. Parry speaking. Mr. Parry, who is a lawyer and a consulting analyst, appeared before the committee in behalf of the "patent medicine" interests. Regarding the large pharmaceutical manufacturers and their detail men, pharmaceutical journals report his testimony thus:

"The education of a large number of practitioners in regard to the use of drugs depended on the firms which made the drugs, their travelers [detail men] and their literature. An enormous amount of money was spent on travelers doing nothing but call on doctors to induce them to prescribe the various remedies of particular firms, to keep them up to pitch, and to prevent their forgetting the remedies. What was advertised to the profession was not the ingredients and their virtues, but the particular excellence of the method of combining them. With great respect to medical men, he thought they were exceedingly credulous with regard to these articles. Doctors were quite susceptible to being talked over by the travelers. They persuaded the doctors that their substance was better than those of twenty other firms, although, as a matter of fact, it was identical."

Later in the examination, the chairman of the committee questioned Mr. Parry. Thus:

THE CHAIRMAN: What would be your own view of the ethics of the matter if you are suffering from some ailment or disease which has not yielded to ordinary treatment, and you go to a doctor, and he doses you with a drug given him by the traveler [detail man] to some firm, and of the nature of which he himself is ignorant?

MR. PARRY: The doctor may be ignorant to some extent, but I think he knows generally that when people spend money and time to bring these things before his notice there is a *prima facie* reason for believing that they will do some good.

THE CHAIRMAN: Are you ready to be dosed under these circumstances with something which was merely to be recommended to the doctor by a traveler?

MR. PARRY: I am only putting my standpoint. I have nothing to do with the ethics of the question.

And here is another gem:

THE CHAIRMAN: Do you really believe that doctors prescribe secret remedies of the composition of which they know nothing?

MR. PARRY: Yes; take the case of Antikamnia, which has been sold very largely and almost entirely on the prescription of medical men. Phenalgin is another case; yet if acetanilid is sold as Daisy Powder they condemn it.

THE CHAIRMAN: Then you really think that medical men do prescribe to their patients very largely medicines of the value of which they are ignorant?

MR. PARRY: Yes, to a considerable extent. There is the case of Aletris Cordial. Under that name an American firm brought out a remedy with only a general indication of what it was. Its reputation has been built up by British medical men prescribing it.

All of which makes interesting, if unedifying, reading.

## DIATUSSIN

Dr. I. Fleiss, New York, writes:

"Please state the value of Diatussin, of Bischoff & Co., in pertussis. Since pertussis is such an intractable disease, anything which promises improvement is apt to attract the physician's attention. Is the 1913 edition of the N. N. R. out?"

According to an advertising circular, issued by E. Bischoff & Co., purporting to be a "reprint from the *Munich Medical Weekly*," Diatussin is " . . . . a dialysate of Herbæ Thymi and Pingnieulae." The latter is said to be known in the Alps as "blue fatweed." The only further information as to the composition of this preparation is the statement that

"the dialysate of this blue fatweed is said by the manufaeturer to eontain a proteolytic ferment." The writer of the artiele reeounts how, after trying a host of remedies, he finally had sueh sueeess in the treatment of whooping-eough that " . . . a whole proeession of mothers with children affeeted by whooping-eough eame to me from a neighboring village, only because several children from this place had been quiekly eured by the dialysate." Nevertheless, while the "proeession of mothers" appears to have been impressed by the virtues of Diatussin, the writer of the artiele, rather modestly for eontributors of this sort, admits that "I am, of eourse, well aware, that the small number of eases under my observation allows of no deeisive eonclusion; it is only the object of these lines to interest a wider eirele in tests."

New and Nonoffieial Remedies, 1913, has been issued and will be sent postpaid on reeeipt of 25 eents for a paper-bound eopy and 50 eents for a eloth-bound eopy.

# Association News

## THE MINNEAPOLIS SESSION

### Exhibit Illustrating Medicinal Plant Cultivation

Among the interesting features of the seientifie exhibits to be given at the Minneapolis session of the Ameriean Medieal Assoeiation will be a medicinal plant garden and a pharmaeognosy plant laboratory presented by the staff of the College of Pharmaey of the University of Minnesota. These exhibits will be in eharge of experts during the entire session and will be arranged in the Laboratory of Pharmacology, Room 201, Millard Hall. In the same room, exhibits of experimental work in the department of pharmaeology and of instruments and apparatus devised in the department of physiology will also be placed.

Other details eoneerning the Minneapolis Session were given in the illustrated eonvention number of The Journal, May 10.

# Correspondence

### Advantage of Including the Indian Service in the Proposed Department of Health

*To the Editor:*—I have read the text of the Owen bill as published in The Journal (April 26, p. 1320) and am heartily in favor of its provisions. I think, however, that there is one important omission. By all means, it seems to me, the medieal department of the U. S. Indian Serviee should be taken over by the new Department of Health. There are many reasons why this should be done.

In the first plaee, the Indian Medieal Service, taken as a whole, is wofully inefficient and is not getting results commensurate with the money being spent or the work being done; and this does not mean that the Indian Serviee doetors are either overpaid or overworked. It simply means that even the small salaries paid and the small amount of work being done are largely wasted because the whole effort is misdirected. The medical serviee furnished to Indians should be mainly along the lines of sanitation and preventive medicine. The present plan of employing physieians of more or less medioere ability to do a general praetiee among eamp Indians, negleeting the larger questions of sanitation and hygiene, is a narrow poliey, to say the least, and nothing proves its futility more than the rapid spread among Indians of tuberculosis, traehoma and other serious though preventable diseases. The following quotation is from a report recently made on this subject by the Public Health Service:

"The relief of suffering and the eure of disease are necessary, and provisions made to this end are commendable, but under present eonditions their application is diseouraging and does not approaeh the problems of sanitation among Indians. The eurative effeets aimed at . . . are largely nullified by the eonditions under whieh the work is attempted and by the indifferenee of the primitive Indian and his ignoranee of the first prineiples of hygienic living.

"It was the common observation that many of the medical officers of the Office of Indian Affairs were working hard, but a great deal of their really hard work is wasted."

By the absorption of the Indian Medical Serviee into the Department of Health the work eould be organized and directed along more effeetual lines; and the questions of better and more uniform salaries and of promotion for efficient serviee eould be adjusted. These improvements would render the serviee more attraetive and better men would be brought into it.

That these very desirable ends will ever be aecomplished under the present system is improbable. Take the question of salaries for instanee. Usually a lump sum is apportioned to eaeh school or ageney; this the superintendent in turn apportions as he sees fit among his different employees. The less he pays the doetor the more he will be able to pay some other employee, or the greater the total number of employees he will be allowed. The result invariably is that he keeps the physieian's salary down as low as he dares. In faet, the Indian Offiee often not only eneourages him to do this, but actually compels him by refusing to ratify any increase he may be disposed to give the physieian. The low-salaried physieian, usually loeated in some out-of-the-way place and seeing the general futility of the work, soon beeomes dissatisfied and joins in the eontinual and interminable wrangle for transfer, eaeh man feeling that any ehange would be aeeeptable.

Last, but by no means least among the advantages to be gained by transferring the Indian Medieal Service to the Department of Health would be the removal of these physieians from under the jurisdiction of lay superintendents. These superintendents are more or less ignorant of medical matters and have no true conception of the relative importance of medical work, espeeially that of a sanitary nature; yet they have full authority over the doctors of the serviee, pass on their effieiency and merit and think nothing of interfering in their work. In my experienee this has been espeeially true with regard to questions of vaecination and quarantine. One of the present Indian Serviee supervisors even openly opposes vaccination against small-pox.

In eonclusion, another short quotation from the report eited above will be appropriate:

"The physieians conducting the work on many of the reservations see no eneouragement, their life is isolated, their pay small, their hope of promotion less and their authority to attaek real problems limited . . . but among the other governmental medieal corps the medical offieers, by reason of definite organization and hope of advaneement, are filled with enthusiasm and *esprit de corps* whieh is necessary to success in any great coordinated work."

George W. Wimberly, M.D., Physician, Yakima Agency, Fort Simcoe, Wash.

### Registration (!) in Mexico

*To the Editor:*—In view of Dr. W. G. Hathaway's request for information as to laws regulating the praetice of medieine in Mexico, in The Journal, April 19, 1913, p. 1247, my experience may be of interest. I graduated from Jefferson Medical College, Philadelphia, in 1898. I made an attempt to comply with the laws of the state of Coahuila regarding the praetiee of medieine. I began to obtain the desired information or certificates in the latter part of 1910, and quit in disgust in 1912 after spending between two and three hundred dollars and obtaining no results whatever. I employed a lawyer and sought advice from the American consul, who directed me to "Judge" ———, "who was very reliable and would give me all necessary information." Later on I diseovered that he was a judge, but a judge of bull fights.

This so-called judge directed me to a notary public, who stated that all that was necessary for me to do to comply fully with all laws was to have my certificates registered in his office, for which he charged me $64.40. This registration I discovered was not worth the paper it was written on—a pure skin game. Then I forwarded all my papers to the governor or secretary of the state of Coahuila, who held them quite a while without replying to my numerous letters regarding them. At last they were returned with the statement that a new law had been passed the day before which made all of my certificates void, and that it would be necessary for me to obtain new ones, notwithstanding the fact that all the necessary certificates had been in his hands two months or more before the new law was passed.

After I obtained new certificates complete from the medical college, Mexican consuls, Secretary of Foreign Relations, etc., three distinct times, going through all red tape and hot air, they informed me that this was not sufficient. This was all I could ever get out of them: "Not sufficient." They absolutely refused to state what was lacking, and no lawyer or any one else could enlighten me on the subject.

The truth of the matter is that on paper it is very easy to obtain registration in Mexico, but in practice almost an impossibility for an American, as the Mexicans do not want American physicians in that country and they will do anything to hinder and disgust them in trying. I was informed that as a last resort they would state that it was necessary to forward my diploma to the state capital, and that if I should be so foolish as to do so it would be reported as lost, that I would never have the pleasure of seeing it again.

I should be pleased to hear from other victims of this practice, with suggestions for practical relief.

C. R. BYARS, M.D., Bay City, Tex.

### "A New Operation for Hemorrhoids"

*To the Editor:*—In THE JOURNAL, April 12, 1913, p. 1154, Dr. R. A. Bachman describes his operation under this heading. For a number of years I have operated with the best results as follows:

The instruments used are one pair of "mousetooth" forceps, a pair of pocket scissors and a half-curved needle; the material, chromicized gut or silk. The sphincters being dilated and the pile-bearing ring rolled out, the forceps grasp the posterior portion of the mucous membrane on one side, the threaded needle is introduced into the intestine above the ring, carried at right angles under it, care being taken not to include the sphincter, and is brought out at the mucocutaneous junction. The scissors now cut through both layers of mucous membrane about 3/16 inch distally from the suture, at right angles to it, and it is immediately tied. This is repeated every ¼ inch until the "12 o'clock" (Dr. Bachman) is reached. This procedure is repeated on the opposite side. The dressing is done with orthoform powder, tube, etc.

This operation is simple and is attended by a minimum of hemorrhage; six sutures are usually sufficient; accurate apposition is obtained; it gives as little pain as any other, and the results are splendid.

S. IGLICK, M.D., Orland, Cal.

**The Waste of Inadequate Support of Health Departments.**—It costs the people of Kentucky about five millions of dollars every year to maintain their county organizations to look after the observance of statute laws. They pay willingly about the same amount to support their ministers, their churches, etc., to maintain the spiritual laws, and yet in most counties of the state there is less than seventy-five dollars spent each year to support county boards of health which, properly equipped at a cost not exceeding five thousand dollars for each county, would save them enough money, paid as tax to doctors, druggists, nurses, and undertakers and loss of time, to pay all the running expenses of their counties and the state, besides saving them from the mental and physical distress of unnecessary illness.—W. L. Heizer in *Kentucky Med. Jour.*

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### OZONE IN TREATMENT OF GLYCOSURIA

*To the Editor:*—In THE JOURNAL for April 26, 1913, p. 1332, is an abstract of an article in the *Presse médicale*, by Labbé and Péroehon, on the treatment of glycosuria by ozone. The statement is made that a woman of 66 "had 150 or 200 gm. of sugar to the liter of urine and this became materially reduced under the ozone treatment and her severe pruritus became very much improved."

Is there not some error of observation here? Is it possible for the kidney to excrete a urine containing 20 per cent. of sugar?

Is there any evidence to justify the belief that the inhalation of ozone can materially reduce such an enormous percentage of sugar? Would it be possible for a human being to inhale a sufficient amount of ozone to oxidize the amount of sugar contained in a liter of urine if the proportion of sugar were 20 per cent.?

S. B. R.

ANSWER.—Critical examination of the original article indicates that it was not worth abstracting and should not have been abstracted. It gives no account of technic or of dose, and so-called "results" are recorded in an extravagant and, at the same time, very indefinite way.

Our correspondent is quite right in calling attention to the improbability of an output of sugar equivalent to 20 per cent. of the diabetic urine. The content of glucose in the kidney secretion may, in rare cases, reach 10 per cent. which is, as far as we can learn, the limit set by actual clinical experience.

There is no occasion to discuss the probability of the ozone which can be inhaled from fifteen to thirty minutes per day—or even for decidedly longer periods—being able to destroy the amount of sugar reported to have disappeared, or even much smaller amounts within the range of physiologic experience. Investigators have ceased to attempt to enhance the oxidative capacity of the organism by such methods. The French authors assume that "nascent oxygen" attaches to the red corpuscles in some subtle way and is thus transported in greater abundance to the tissues, thereby increasing the utilization of carbohydrates. As a matter of fact the metabolic defect in diabetes is not a deficiency of circulating oxygen; this is rarely found wanting in any condition in which respiration is unimpaired. The entire description in the article inadvertently abstracted by THE JOURNAL from the *Presse médicale* is tinged with untenable and fanciful physiologic incongruities and therapeutic nonsense. In the absence of dietary details it is not even possible to entertain a serious critique.

The question of ozone was discussed in the editorial "Ozone Myths," THE JOURNAL, Feb. 10, 1912, p. 412.

### DRAINAGE OF ASCITES INTO SAPHENOUS VEIN

*To the Editor:*—With reference to the article on "Direct Drainage of Ascites into Saphenous Vein," by Dobbertin, abstracted in THE JOURNAL, April 26, 1913, p. 1333, I should like to ask: Are any measures taken to fix the vein in the peritoneum or to keep the end of the vein from collapsing and closing? How much curve is given the vein when it is pulled up into the tunnel made for it? Which saphenous is employed? What site is chosen for entering the peritoneum? M. L. HILLSMAN, M.D., Little Valley, N. Y.

ANSWER.—Under local anesthesia two incisions are made, one below Poupart's ligament which exposes the saphenous vein, and the other above the ligament in the region of the external inguinal canal, for the transplanting of the stump of the saphenous vein into an opening made in the peritoneum. After the saphenous vein has been exposed it is ligated and divided about two inches from where it empties into the femoral vein. The stump of the saphenous vein is then drawn upward through a tunnel made under Poupart's ligament and out through the second incision made just above Poupart's ligament. A small triangular peritoneal flap is raised and into the opening thus made, the stump of the saphenous vein is sutured, and the peritoneal flap is dropped over the vein and sutured to it. The abdominal muscles which have been separated but not divided in the exposure of the peritoneum at this point, are kept from constricting the opening of the vein by being drawn downward with a few catgut anchor stitches. In this way the fluid in the peritoneal cavity flows through the stump of the saphenous vein into the femoral vein and thence into the general circulation. The author advises performing the operation on one side first and then, if necessary, doing it on the other side later. The peritoneum is entered between the external abdominal ring and the edge of the right rectus muscle.

### THE LUETIN REACTION—TYPEWRITTEN PRESCRIPTIONS

*To the Editor:*—I would appreciate answers to the following: 1. What is the technic of the luetin reaction? 2. How is the antigen made? 3. Will it keep? 4. What is the reliability of the reaction? 5. Is it suitable for the use of a private practitioner? 6. Is it permissible to typewrite prescriptions? READER.

ANSWER.—1. The luetin reaction is made like the von Pirquet test with tuberculin—much like ordinary vaccination.

2. The antigen is an extract prepared from at least six strains from the *Spirochaeta pallida*, thus securing a polyvalent antigen. The material is placed in a porcelain jar and ground by means of marbles in a shaking-machine. The emulsion thus obtained is carefully transferred to a sterile bottle heated to 60 C. (140 F.) for thirty minutes, and 0.4 per cent. phenol (carbolic acid) is added. For further details regarding the luetin test see Hideyo Noguchi's article, "Experimental Research in Syphilis," THE JOURNAL, April 20, 1912, p. 1163.

3. We find no statement with regard to its keeping properties, but judge that the antiseptic used would preserve it for a considerable length of time.

4. The reaction appears to be positive in most cases of tertiary syphilis. It is not so reliable in primary and secondary syphilis. In these forms the Wassermann reaction, or the Noguchi modification of it, is to be preferred.

5. There are no contra-indications to its use by a private practitioner. Only in a few cases have any general symptoms been reported.

6. Yes. The use of the typewriter for writing the body of the prescription is not only entirely permissible, but highly laudable, for obvious reasons; every prescription should have autographic signature, however. There are typewriters which are fitted with the types for the necessary symbols.

---

### CARREL ARTICLES ON PRESERVATION OF LIVING TISSUES OUTSIDE THE ORGANISM

*To the Editor:*—Can you furnish me with references to the literature concerning the preservation of living tissues by Dr. Alexis Carrel? R. A. ROBERTS, M.D., Kansas City, Kan.

ANSWER.—The following literature can be consulted on this subject:

Carrel, A., and Ingebrigtsen, R.: Production of Antibodies by Tissues Living Outside of the Organism, THE JOURNAL, Feb. 17, 1912, p. 477.
Carrel, A.: Technic for Cultivating Large Quantity of Tissue, *Jour. Exper. Med.*, April, 1912.
Carrel, A.: Permanent Life of Tissues Outside of Organism, *Jour. Exper. Med.*, May, 1912
Carrel, A.: The Preservation of Tissues and Its Application in Surgery, THE JOURNAL, Aug. 17, 1912, p. 523.
Carrel, A.: Pure Cultures of Cells, *Jour. Exper. Med.*, August, 1912; abstr., THE JOURNAL, Aug. 17, 1912, p. 576.
Carrel, A.: Visceral Organisms, THE JOURNAL, Dec. 14, 1912, p. 2105.
Carrel, A.: Artificial Activation of Growth in Vitro of Connective Tissue, *Jour. Exper. Med.*, January, 1913.

---

### EARLY CORRECTION OF PROGNATHOUS MANDIBLE

*To the Editor:*—My little son, 3 years and 5 months old, has a deformity of the face—his lower teeth close in front of the upper teeth, instead of behind them as they should. My dentist says that some orthodontic work will have to be done, but that it must wait until the permanent teeth come. Why would it not be better to have it done at once? INQUIRER.

ANSWER.—Provided all the teeth are sound and the child's physical condition good, it is advisable to commence the correction of the deformity at the earliest age possible; that is, as soon as practicable after the eruption of the temporary set of teeth. The reason for early interference is that the bones are more pliant in childhood, and therefore the deformity is much more easily corrected. This work requires considerable skill for its performance, more than is possessed by a considerable number of general practitioners of dentistry.

---

### THE TERMS "LYMPH-NODE" AND "GLAND"

*To the Editor:*—In an article on diphtheria (Lind, S. C.: Atypical Pharyngeal Diphtheria, THE JOURNAL, May 10, 1913, p. 1412), I note that the author refers to the submaxillary swelling as submaxillary "lymph-nodes." Are these not usually known as submaxillary "glands"? How shall one know when to say "glands" and when to say "nodes"? S. L. B

ANSWER.—A gland is a secreting organ. A node is a circumscribed mass of differentiated tissue, but is not a secreting organ. A lymph-node (or knot) is an encapsulated nodular aggregation of lymph tissue interrupting the course of lymph vessels, without a secreting function, and therefore cannot be designated as a gland, although it is often called a lymph-gland. The term "node," on the other hand, is often used when nodosity is meant, the latter being distinctly a pathologic condition. "Lymphaden" has also been used to designate these masses of lymph tissue, and from it the pathologic term "lymphadenitis" takes its origin. The B. N. A. gives to these structures the name "lymphoglandulae." Structurally, the term "lymph-node" is the correct one, not "lymph-gland."

The submaxillary glands are the salivary glands, whereas the submaxillary lymph-nodes are lymph-tissue structures or nodes. There are two submaxillary glands and from six to twelve submaxillary lymph-nodes. The latter are found in the superficial layers of the sheath of the glands, but not inside the sheath.

---

### TYPHOID VACCINE AND A NURSING MOTHER

*To the Editor:*—1. Is there any contra-indication to using typhoid vaccine in a nursing mother?
2. What effect, if any, will it have on the nursing child?
3. Is this vaccine useful in the treatment of typhoid?
G. W. JOHNSON, M.D., MacAlpin, W. Va.

ANSWER.—1. The fact that the mother is nursing an infant is not a contra-indication to the use of this vaccine. If a febrile reaction ensues, however, it would be wise to stop the nursing temporarily.

2. Antibodies will pass into the milk, but it is doubtful if enough would be absorbed by the child to afford protection for any considerable length of time.

3. The use of typhoid vaccine for treatment of typhoid fever is still in the experimental stage. Favorable results have been reported in some cases, but this treatment has not been tried in a sufficiently large number of cases to warrant a definite answer as to its value.

---

### PHYSICIANS' STUDY TRAVEL TOUR ABROAD

An answer to a correspondent appeared in this department April 5 on this subject. A letter has been received from Dr. J. M. Anders, Philadelphia, chairman of the American Society for Physicians' Study Travels, informing us that he will not arrange a tour abroad this year. This organization is planning systematic work in the future, but for this year Dr. Anders is turning all correspondence over to Dr. Richard Kovács, 236 E. Sixty-Ninth Street, New York City, who is organizing a travel study tour. Dr. Anders says that he is doing this without assuming any responsibility for the character or success of this year's tour.

---

### CRACKLING IN THE TEMPOROMANDIBULAR JOINT

*To the Editor:*—I have three cases in which the lower jaw is involved—a subluxation. When the patients bite or chew their food one can hear and feel the crackling. I have tried the ordinary external remedies but to no avail. Will you please advise me what other methods or procedures to follow, either medicinal or otherwise? E. J. OXFORD, M.D., Chambers, Neb.

ANSWER.—In the temporomandibular joint the "crackling" which may be heard and felt when a person is chewing is not caused by a subluxation, but is probably the result of unusually severe masticatory efforts or a low-grade arthritis. It usually disappears or resolves itself without treatment. Chronic subluxation can be relieved only by surgical treatment—an open operation.

---

### THE CLINICAL THERMOMETER AS A VEHICLE OF INFECTION

*To the Editor:*—For years I have inserted a piece of cotton into my thermometer case and kept it saturated with pure phenol (carbolic acid), and I am quite sure that your layman correspondent (mentioned in Current Comment, May 10, 1913, p. 1467) would not care to look for his own thermometer if handed mine to make fit for use. This may not be ideal but it seems to satisfy my people and no harm has, as yet, come of its use.
W. H. WELLS, M.D., Monmouth, Ill.

---

### TUBERCULIN THERAPY IN TUBERCULOSIS

*To the Editor:*—Is any preparation of tuberculin an established form of treatment for tuberculosis of the lungs? Has this form of treatment received the recommendation of the leading clinicians, and is it used to any extent in the treatment of pulmonary tuberculosis? A. I. LAWBAUGH, M.D., Calumet, Mich

ANSWER.—Tuberculin is used by a number of clinicians as an adjunct to the ordinary sanatorium treatment.

# Miscellany

## The Phenolsulphonephthalein Test of Renal Function

"Rowntree and Geraghty" (*Jour. Pharm. and Exper. Therap.*, 1910, i), said Emerson in 1911 (*Clinical Diagnosis*, 1911, p. 341), "have proposed a test for the functional activity of the kidneys which promises to prove the best yet suggested." Briefly the method consists of the injection of 0.6 gm. of phenolsulphonephthalein and 0.84 c.c. of half-normal sodium hydroxid solution in 0.75 per cent. sodium chlorid solution to which a few drops more of the half-normal sodium hydroxid are added to prevent irritation. Half an hour before administering the test the patient is given a few hundred cubic centimeters of water to insure free urinary secretion. It is desired to determine the time of the first appearance of the phenolsulphonephthalein in the urine, and the patient is instructed to void the bladder frequently into a tube of 25 per cent. sodium hydroxid solution in order that the earliest development of a pinkish tinge may be noted. Specimens are collected at the end of the first hour and at the end of the second hour. Usually the drug appears in the urine from five to eleven minutes after its injection. Each sample of urine is measured and the specific gravity taken. It is then placed in a 1-liter (1-quart) flask, and sufficient 25 per cent. sodium hydroxid is added to make it decidedly alkaline, thus eliciting the maximum color. Sufficient water is added to make up a total of 1 liter. This is thoroughly mixed and a small portion filtered and is compared colorimetrically with a standard used for all estimations. The standard colorimetric solution consists of 3 mg. of phenolsulphonephthalein (0.5 c.c. of the solution used for injection) diluted up to 1 liter and made alkaline by the addition of 1 or 2 drops of 25 per cent. sodium hydroxid. This solution is stable and retains its color for weeks.

Rowntree and Geraghty found in a series of normal cases that from 40 to 60 per cent. of the phenolsulphonephthalein is excreted after one hour, and that from 20 to 25 per cent. more are excreted in the second hour, making a total of from 60 to 85 per cent. They found that in acute nephritis the activity of the kidneys may fluctuate greatly in from twenty-four to forty-eight hours. In parenchymatous nephritis there is a marked decrease in the amount of phenolsulphonephthalein excreted, and also in chronic interstitial nephritis a low output was found in all cases.

In a later report Rowntree and Geraghty (The Phenolsulphonephthalein Test for Estimating Renal Function, THE JOURNAL, Sept. 2, 1911, p. 811), confirm their previous results and show that the test is of value in that it not only establishes uremia, but also indicates impending uremia when other signs are lacking. They conclude that the intramuscular injection is preferable to the subcutaneous. This work was confirmed by Boyd (Phenolsulphonephthalein and Functional Tests of the Kidneys, THE JOURNAL, March 2, 1912, p. 620), who examined a large series of cases, the test proving of great value in cardiorenal diseases in showing to what extent renal function was affected.

Continuing still further, Rowntree and Geraghty (The Phthalein Test: an Experimental and Clinical Study of Phenolsulphonephthalein in Relation to Renal Function in Health and Disease, *Arch. Int. Med.*, March, 1912, p. 284, abstr., THE JOURNAL, April 6, 1912, p. 1038), find that diuretics which stimulate the renal cells also stimulate the excretion of the drug, whereas those acting mechanically have no effect. Finally Geraghty (A Study of the Accuracy of the Phenolsulphonephthalein test for Renal Function, THE JOURNAL, Jan. 18, 1913, p. 191), has indicated that for practical purposes catheterization is unnecessary, one sample being collected after one hour and ten minutes, and another one hour later. The drug is best given ordinarily by intramuscular injection. When intravenous injection is made, specimens should be taken at fifteen-minute intervals. For practical work no colorimeter is necessary. The specimen may be placed in a tube and compared with a tube containing a known quantity of the drug, dilution being made until the two specimens are similar, and the percentage of excretion determined by simple calculation. The tests have been made in more than a thousand cases. In over forty cases post-mortem examination confirmed the conditions suggested by the test.

More recently Erne (*München. med. Wchnschr.*, 1913, xl, 510), has made a large series of tests, and his results as well as those of other observers whom he quotes seem to bear out fully the prophecy made by Emerson. Moreover, he has introduced several modifications which make the test better available for general use. The intragluteal injection was found much better than that proposed by the original observers of injection into the arm. The material used was made up according to a special formula of Autenrieth and Funk (*München. med. Wchnschr.*, 1912), and which is available in ampules ready for injection. A special colorimeter which is simple in use, so simple that tests may be made rapidly with but little practice, has also been designed.

By the examination of normal persons, Erne found that from 47 to 68 per cent. was excreted after one hour, and from 74 to 85 per cent. after two hours. In pregnant women he found disturbances in functional activity quite constantly both before and after birth, and particularly when eclampsia threatened. Phenolsulphonephthalein tests in a large series of cases showed in all a lowered excretion when renal lesions or disturbances existed. The occurrence of albumin and excretion of phenolsulphonephthalein, however, do not run parallel. In asthmatic cases, the phenolsulphonephthalein excretion was lowered at the time of the attack, thus adding support to the view that there is a relationship between intoxication from retained products and asthma, further borne out by the relief in such cases from the administration of hexamethylenamin. A comparison of the excretion of phenolsulphonephthalein with the amount of acetone and diacetic acid showed that when the excretion of the latter substances is increased the former is always decreased. Likewise the severity of the objective and subjective symptoms was proportional to the amount of the drug excreted.

Erne's study of this test in pregnancy has confirmed the earlier work of Goldsborough and Ainley (The Renal Activity in Pregnant and Puerperal Women as Revealed by the Phenolsulphonephthalein Test, THE JOURNAL, Dec. 10, 1910, p. 2058), who noted that pregnant women eliminate phenolsulphonephthalein more slowly than normally, and that in the last month of pregnancy the power to eliminate this drug may fall far below the limits set for non-pregnant women.

Erne has demonstrated by careful observations that no harm is done to the kidneys by injection of the drug; the test is simple, easy and short; the results are regarded as dependable and as more accurate than other methods, and, they show disturbances of function when the tests for albumin are doubtful. It would seem then that we have here a valuable means for the clinical study of renal activity. It would appear to be of special value to the surgeon when, for instance, the question is the justifiability of removing a diseased kidney. Here the urine may be obtained from each kidney by ureteral catheters, and the exact functional ability of the two kidneys estimated. The tests make it possible to select a time for operation when the kidneys are in good functional condition. From the medical point of view the test should prove of special value in acute infectious diseases in which nephritis often arises during the latter stages; indications for the use of proper measures may be secured before albuminuria occurs and uremia becomes imminent. In complicated toxic cases with doubtful diagnosis because of the trace of albumin often present in the urine, and of observations pointing to a bacterial poisoning, the test may aid in clarifying the situation.

**Tobacco-Chewing and Snuff Habits Among Children.**—It is the popular understanding that tobacco-chewing and snuff-dipping are common among both men and women in certain districts of the South. Stiles (*Public Health Reports*) has observed that these habits are quite common among children in the rural districts and in the mill towns. Children from 4 years up, in certain districts, are commonly in the habit of using tobacco in these forms. Stiles made an inquiry in a cer-

tain county, having in mind the relation between the tobacco habit and the presence of sanitary conveniences in the homes. Of a total of 127 boys and girls 31, or 24 per cent., admitted the use of snuff or tobacco. Of the 13 smokers (11 boys and 2 girls) 8 came from homes provided with sanitary conveniences. Of 20 tobacco-chewers (12 boys and 8 girls) 4 came from more refined and 16 from less refined homes. Of 17 snuff-dippers, 3 came from more refined and 14 from less refined homes. These statistics, though small, Stiles says are in harmony with his observations extending over many years. In an attempt to find a specific cause for the wide prevalence of the tobacco habit among children, he found, very curiously, that in a number of instances the habit had been recommended by ignorant physicians as a preventive of anemia. Stiles says that among the illiterate classes there is a geographically wide-spread folk belief that snuff-dipping and tobacco-chewing are preventives against anemia and that there can be no question that it has received professional sanction from the more ignorant rural physicians.

**Genius and Errors of Refraction.**—We are familiar with the attempt to prove by analysis of the autobiographic notes of men of genius that their philosophy has been tinctured by physical and mental distress arising from uncorrected errors of refraction. Be this as it may, there can be no question that the person with a high degree of myopia is apt to be introspective and studious because his defective vision prevents him from obtaining his pleasure as do other children, and, as we have seen, internal squint, which in 90 per cent. of the cases results from an error of refraction, may greatly modify the disposition of the child. While we all admit that eye-strain may occasion headache, mental depression and insomnia, few of us could recall cases in which the symptoms have been so profound as to lead to melancholia and suicide. That the sufferings thus produced may terminate in this tragic way is the claim of Pronger, Gould and other writers.—W. Zentmayer in *Ann. Ophth.*

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

## STATE REGULATION OF MARRIAGE

"The law of eugenics is this: like the seed is the harvest." says Dr. David Starr Jordan.[1] He further intimates that perhaps "love and initiative backed by good sense in choosing a wife" might be more effective in obtaining certain desired ends in the field of eugenics than would legislation for the same purpose.

Dr. Henry H. Goddard[2] objects to taking hasty steps in legislation with regard to eugenics, and suggests that present legislation be limited to devising a means for classification with regard to the present health status of a given community. By this means, he feels that a more thorough investigation can be made as to the result of certain marriages on which further legislation may be based, if such be deemed expedient. It is said[3] that there is no normal standard by which a defective or unfit person can be judged or to which he can be compared, and the question is asked, Where is the condemnation process to begin and end, who is to judge who the defective is, and what constitutes a defect, warranting an operation or the forbidding of marriage?

Again, it has been submitted[4] that the problem to-day is one of environment and not of marriage regulation; that the healthiest of persons can deteriorate in improper surroundings. Another editor says[5] "Let the slums be broken up, the rookeries be pulled down, young boys taken out of 'gangs' and provided with clean sport and honest work, and Nature will do the rest . . . the moral life of the world to-day is richer and finer than it ever was."

And, further, it has been argued that the right to procreate and propagate the species is an inherent one, identical with life itself, and that to abrogate this right is to do violence to a God-given natural right, which no constitution, government or law may rightly and safely take away; and that while the law may provide for the taking of life for life in defense of community life, no law can rightfully be enacted to curtail the right of the individual to reproduce, except perhaps as a punishment for statutory rape.[3]

The constitutionality[6] as well as the futility of such legislation is brought into question by the assertion that "such measures to be valid must provide a right of appeal, and that a trial by jury must be accorded." The latter, it is asserted, would be almost impossible, "as the man in the street is not influenced to any extent by the higher-plane ideal, since, usually, he is swayed by the facts of life and is withal distrustful of disinterested fervor."

John Stuart Mill[7] has said that ". . . the sole end for which mankind are warranted individually or collectively in interfering with the liberty of action of any of their numbers is self-protection. The only purpose for which power can be rightfully exercised among members of a civilized community against his will is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so; because it will make him any happier; because in the opinions of others to do so would be wise or even right. . . . In the part which merely concerns the individual, his independence is of right absolute. Over himself, over his own body and mind, the individual is sovereign. . . . Secondly, the principle requires liberty of tastes and pursuits, of framing the plan of our life to suit our own character; of doing as we like subject to such consequences as may follow without impediment from our fellow creatures, so long as what we do does not harm them even though they should think our conduct foolish, perverse, or wrong. . . . The acts of an individual may be hurtful to others or wanting in due consideration of their welfare without going the length of violating any of their constituted rights. The offender may then be justly punished by opinion though not by law. . . . But there is no room for discussion when a person's conduct affects the interests of no person beside himself or need not affect them unless they like, all the persons concerned being of full age, and the ordinary amount of understanding. In all such cases there should be perfect freedom, legal and social, to do the act and stand the consequences."

On this point, Blackstone says:[8] "By the absolute rights of individuals, we mean those which are so in their strictest and primary sense; such as would belong to their persons merely in a state of nature and which every man is entitled to enjoy whether out of society or in it. But with regard to the absolute duties which man is bound to perform considered as a mere individual, it is not to be expected that any human municipal law should at all explain or enforce.

"In former times sumptuary laws were sometimes passed, and they were even deemed essential in republics to restrain the luxury so fatal to that species of government. But the ideas which suggested such laws are now exploded utterly, and no one would seriously attempt to justify them in the present age. The right of every man to do what he will with his own . . . is accepted among the fundamentals of our law."[9]

The maxim *Salus populi suprema lex*, according to Judge Barker[10] amounts to this: "Man in his natural state has a right to do whatever he chooses and has the power to do. When

1. Jordan, David Starr, Address before Leland Stanford Junior Medical School, Lane Hall, Feb. 7, 1913.
2. Director Department of Research, New Jersey Training School for the Feeble-Minded.
3. Vasectomy, Legislative Reference Bureau, Rhode Island State Library.
4. Editorial, Springfield, Mass., *Republican*, Sept. 28, 1912.
5. Editorial, Pottsville, Pa., *Chronicle*, Feb. 3, 1913.
6. Editorial, San Antonio, Tex., *Light*, Feb. 1, 1913.
7. Mill: John Stuart: Essay on Liberty, pp. 22 et seq.
8. Blackstone: Commentaries, Book I, 123.
9. Cooley: Constitutional Limitations, pp. 549-550.
10. Commonwealth v. Campbell, 133 Ky. 50; 117 S. W., 383; 24 L. R. A., 172, N. S.

he becomes a member of organized society, under governmental regulation, he surrenders, of necessity, all of his natural right, the exercise of which is, or may be, injurious to his fellow citizens. This is the price he pays for governmental protection; but it is not within the competency of a free government to invade the sanctity of the absolute rights of the citizen any further than the direct protection of society requires."

Thus the legislature of a state can regulate the matrimonial contracts of its own citizens, and may declare what persons may marry.[11] The qualifications in most general use are mental capacity, physical capacity, consanguinity or affinity, race or color and previous marriage; in a few states[12] health of a certain standard has recently been included.

While it is generally recognized that a state can prescribe conditions under which persons may marry, the cases,[13] nevertheless, seem without an exception to assert that such conditions must be "reasonable." The power of a state cannot be so exercised as to infringe arbitrarily or "unreasonably" on personal rights; the public good must be the objective in any such legislation; that is, the act must be for the prevention of some offense or manifest evil, or the preservation of the public health, safety, morals or general welfare. There must be a clear, real and substantial connection between the assumed purpose of the enactment and its actual provisions. The act must in some plain, appreciable and appropriate manner tend toward the accomplishment of the object for which the power is exercised. The sovereign power of a state cannot be used as a cloak for the invasion of personal rights.[14]

While the authorities carefully tell us that the conditions prescribed must be "reasonable," they are not so explicit in defining this term. Consequently we have some difficulty in determining as to the "reasonableness" of a statute requiring the filing of an affidavit certifying to a certain degree of fitness, as a prerequisite to the issuance of a license to marry.

Judge Marshall says[15] that what constitutes reasonableness "must necessarily be determined with reference to the exigencies of the particular situation. There is no certain test by which what is reasonable in any given case can be definitely measured. It is a matter resting in human judgment. It is said that an attempt to give a specific meaning to the word 'reasonable' is trying to count what is not number and measure what is not space. Reasonableness is not synonymous with expediency. Matters of that sort are wholly for legislative cognizance. As applied to means to a legitimate end, 'reasonable' suggests not necessarily the best or the only method, but one fairly appropriate at least under all the circumstances. In the ultimate, the scope of the term, as regards any situation, must be measured with regard to the fundamental principles of human liberty as they were understood at the time of the formation of the Constitution and were intended to be impregnably intrenched thereby, adapting the same course to our modern conditions. Those principles have not changed in the years that have elapsed since the Constitution was formed. They are unchangeable and are of no less, but rather of greater importance than they were when the framers of the Constitution attempted so carefully to guard them. 'Reasonable' as applied to a law is manifestly not what extremists on the one side or the other would deem, in the light of the principles referred to and the situation to be dealt with, fit or fair. It is what from 'the calm sea level,' so to speak, of common sense applied to the whole situation, is not illegitimate in view of the end to be attained. In determining that the court must look to the language of the statute and to all the facts bearing on the situation of which it may properly be said to know judicially because of their common nature, or otherwise. Common sense as to 'reasonable' requirements should prevail, not the extreme views of well-meaning persons as to what is best.

"Idealists will often find efforts to force their standard of living on people generally by legislation barred by constitutional limitations. An eminent author aptly said, 'There is a wide interval between the ideal and the practical.' If what is here said were not so, individual rights as to persons and property would be only such as sovereign power acting through the legislature might see fit to recognize. The inalienable rights commonly supposed to be sacred and inviolable would be changed into mere uncertain privileges, and regulation, so called, might easily become destructive of that which we have been wont to believe was essential to life, liberty and the pursuit of happiness.

"Again, we give to the individual the utmost possible amount of personal liberty; and with that guaranteed him, he is treated as a person of responsible judgment, not as a child in his nonage, and is left free to work out his own destiny. . . . The legislature should not indulge the temptation to infringe on the rights of citizens with experimental laws none the less dangerous because well meant."

But "liberty," says Justice Harlan[16] "the greatest of all rights, is not unrestricted license to act according to one's own will. It is only freedom from restraint under conditions essential to the equal enjoyment of the same right by others. Society based on the rule that each one is a law unto himself would soon be confronted with disorder and anarchy."

According to Justice Carter,[17] "the police power of a state is that inherent plenary power which permits it to prohibit all things hurtful to the comfort, welfare and safety of society." It is coextensive with self protection and is not inaptly termed the "law of overruling necessity."[18]

Attempts may be made to sustain such a clause on the same grounds that the courts have employed in upholding laws regulating intermarriage between the races.[19] It is submitted, as contradistinguished from this, that there is a distinct line of demarcation between forbidding miscegenation and a clause requiring all persons who desire to marry to submit themselves to a physical examination in order to preclude the evolution of hereditary defects, especially when it has not been proved "beyond a reasonable doubt" or even by a "clear preponderance of the evidence" that such a law would inhibit the natural instincts to such an extent as to abrogate the undesirables.

Again, supposing that the bills are so drafted that the clause in question is omitted, and that the statute ultimately enacted is based rather on the model of the Connecticut[20] and Washington[21] statutes, which go the length of forbidding the intermarriage of insane persons, epileptics and the like. It may then be argued that Gould *v.* Gould[22] conclusively decides the validity of such legislation. In reply it may be said that this opinion is "obiter dictum,"[23] since it was not necessary to pass on the constitutionality of the law in order to decide the case. Consequently, as Judge Hamersley[24] holds in his dissenting opinion, the question is still open, and the court might very well hold to the contrary, especially when the language of the statute is considered. This refers to "insane persons and feeble-minded persons, epileptics, etc.," which would seem rather uncertain wording to carry with it the extreme penalty which it does. Even in the opinion of the majority of the court there seems some little doubt, "to impose such a restriction on the right to contract marriage, if not intrinsically 'unreasonable,' is no invasion of the equality of all men before the law, if it applies equally to all, under the same circumstance, who belong to a certain class, etc." By this it can be seen that each statute will have to be considered alone, and it will stand or fall in just that extent with which it complies with the rule of 'reason.'"

11. 26 Cyc. 828, 842, and cases thereunder.
12. Ohio, Washington, and others.
13. Note, 2 L. R. A. 531, N. S. and cases.
14. 22 A. & E. Encyc. of L. 938 and cases; 8 Cyc. 864 and cases.
15 Bonnett v. Valulier, 136 Wis. 193; 116 N. W. 885; 17 L. R. A. 486, N. S.
16. Jacobson v. Massachusetts, 197 U. S. 11.
17. City of Belleville v. Turnpike Co., 234 Ill. 428; 84 N. E. 1049.
18. McLean v. Arkansas, 211 U. S. 539; Ex Parte Quarg. 149 Cal. 79; 84 Pac. 766; 5 L. R. A. 183, N. S.
19. Civil Rights, 7 cyc. 173; 34 Cent. Dig. Paragraph 26 Marriage; 8 cyc. 1074, Constit. L.; 10 Cent. Dig. Paragraph 716, Constit. L.
20. Com. Pub. Acts 1895, Ch. 325, p. 667.
21. Wash. Sess. L. 1909, Ch. 16.
22. 78 Conn. 242; 61 Atl. 604; 2 L. R. A. 531, U. S.
23. That is, the court in making the point has digressed from the true issue in the case. Therefore such a statement is to be given weight only in proportion to the legal acumen of the judge writing the opinion.
24. Gould v. Gould, 2 L. R. A. 544-545 U. S.

As regards the possibility of enforcing such a requirement as that of the physician's certificate, the Commissioner of Health for Washington has recently said that the legislature of that state inserted such a clause in the bill as it was first enacted. The immediate result was that all the couples desiring to be married went to British Columbia, Oregon and Idaho. Consequently, on a special session of the legislature being called, the clause was repealed. The Commissioner aptly expresses the situation by saying that "it was a good law, but it didn't work."

The defect in the Washington statute might to a certain extent be corrected by inserting a provision forbidding citizens of any particular state who fall within the classes named to marry either within the state or without; for if marriage be subject to regulation at all, such a clause would be entirely within the sovereign power of the state.[25] But even such a provision would not entirely obviate the evil, for with our ever-shifting population it is an easy matter to acquire a "residence" in another state so as to become a "citizen" thereof, and thus come within the exception of the proposed Idaho law, for example. Then again it is not necessary even to leave the state to escape the end of the certificate. It would be quite simple to induce a physician to certify to the possession of perfect health without fear of detection or at least conviction, for the "falsely certifying" would have to be done "knowingly." With the technicalities which exist to-day, to say nothing of the loopholes afforded by the expert witness and the like, what chance would there be for a conviction? The court in Gould *v.* Gould says that the case before them was the first in which the law was ever in question, which would seem to import that the statute had been practically lying dormant since the time of its passage, for the parties to the case had married despite the law, and the wife having learned of the existence of the statute was attempting to secure either an annulment of the contract or a decree of divorce. Could not this very well happen with any statute passed in any state?

The Washington statute designates certain classes who may not marry, forbids clergymen and other officers to knowingly perform a marriage ceremony, requires all persons desiring to marry to file an affidavit as to their health and the like with the county auditor, requires the consent of parents in the case of minors and provides a penalty for the violation of the law.

Connecticut and Minnesota have laws forbidding the intermarriage of persons who fall within certain classes, but the laws of neither state include persons afflicted with pulmonary tuberculosis and venereal diseases. Michigan, Delaware, New Jersey, North Dakota, Ohio and Kansas, among other states, have legislated along apparently similar lines. None of these laws has proved satisfactory or effective, and does not furnish the remedy for the evil.

During the present session of the legislatures and assemblies in the various states, numerous bills which in some way tend to the regulation of marriage have been either introduced or proposed for introduction.

The Idaho bill, consisting of thirty-six sections, repeals all previous legislation on the subject in that state. It defines marriage; states who may be parties thereto; designates certain conditions precedent which must be performed prior to the consummation thereof; names the grounds for divorce, and provides certain penalties for any violations of its mandates. For present purposes, however, only a portion of this well-considered measure is of immediate interest. This is the part which deals directly with the subject of eugenics.

Section 7 of the Idaho bill forbids the intermarriage of persons afflicted with insanity, feeble-mindedness, imbecility, epilepsy, syphilis, gonorrhea or with contagious venereal diseases; and also those who are common drunkards or addicted to habit-forming drugs, in Section 7 naming "opium, cocain or morphin," and in Section 12, Subdivisions 5 and 6, adding to this list "or other narcotic drug." The language as used in Section 7 is, "The following marriages are absolutely prohibited." Women over 45 are excepted under Section 7.

If, notwithstanding the above, a person should fraudulently conceal the facts and thereby induce another to enter into a contract of marriage, Section 9 then provides that the party so laboring under a disability shall be precluded from recovering any damages for failure on the part of the second party to complete the contract; and again, if the marriage be actually consummated, then, under Section 5, the party imposed on may avoid the contract in a suit for divorce.

Sections 11 and 17 to 25 prescribe the conditions to which all parties desiring to have the marriage status created must conform. By these sections the parties must be examined as to their physical and mental condition by a duly licensed practitioner, and a certificate as to their condition must be filed with the county recorder together with their application for a license. The parties must submit themselves to an examination on oath by the county recorder or the person who is solemnizing the marriage as to their names, age, health, etc., if such officials see fit. After a notice of the application has been published for fifteen days, and if the conditions are all fulfilled, the license will be issued and the marriage may be solemnized.

By Sections 15 and 30 to 34 certain penalties are provided for violations of the statute either by the parties themselves or by the ones who are to administer the various provisions of the act. A physician under Section 15 is denied the right to practice *ipso facto*, on a second conviction for certifying falsely to a person's health, but the "mens rea"[26] must be proved. The issuance of a license, the solemnization of a marriage and the making of false returns are constituted misdemeanors for which the accused on a conviction shall be fined in amounts varying from $50 to $200 and imprisonment of at least three months, in accordance with the offense. Finally, any person swearing falsely to any material fact shall be guilty of perjury, and on a conviction shall be punished in pursuance with the law.

California, in a proposed bill, has included a unique measure in permitting the intermarriage of persons within the usually prohibited classes, providing such persons will "submit to asexualization or are from any cause sterile."

Senate Bill 45 for the state of North Dakota proposes to change the law in that state by following more nearly that of the state of Washington.

Senate Bill 3 of Utah forbids indigent persons to intermarry, "unless it satisfactorily appears that the cause of such condition has been removed and that such male applicant is able to support a family and likely to so continue."

Among other states in which similar measures were introduced are Wisconsin, Colorado, Oklahoma, Indiana, Pennsylvania, Michigan, Ohio and Nebraska.

In conclusion, it may be said that any bill drafted with the intent of crystallizing the present theories of eugenics into law, must conform to the "rule of reason," as laid down by Judge Marshall in the Wisconsin decision quoted above. This is, that any restrictions on the acts of citizens must be "reasonable" restrictions. Unless this point is kept in mind in drafting bills on this subject, and if any extreme or unusual restrictions are incorporated in the bill, there is danger that the courts may declare the whole law unconstitutional on account of the "unreasonableness" of some provision, such as that requiring a physical examination as a prerequisite for a marriage license.

The idea of such a statute should be rather as a guide and for instructive purposes than to designate any definite method of procedure. Inculcating the principle of John Stuart Mill, it could be forbidden that certain classes intermarry and then leave it with each individual as to whether or not he dare tamper with the health and welfare of the coming generations, or himself sustain a possible injury through an unwise act. This would be tantamount to embodying the thought to which the women's clubs desire to give expression, and would meet the possible objections of those individualists who are ever fearful of a too extensive development of the paternalistic theory.

25. See Section 10 H. B. 44, Idaho.

26. "Guilty mind," or "intent" to commit the act charged.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

IOWA: Capitol Building, Des Moines, June 2-4; State University, Iowa City, June 5-7. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Armory, Louisville, June 3-5. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 5-7. Sec., Dr. A. B. Brown, 108 Baronne St., P. O. Box 1060.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MICHIGAN: Y. M. C. A. Bldg., Detroit, May 22-24. Sec., Dr. B. D. Harison, 504 Washington Arcade.

MINNESOTA: Pathological Laboratory State University, Minneapolis, June 3. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol Bldg., Jackson, June 3-4. Sec., Dr. E. H. Galloway.

NEBRASKA: Lincoln, May 28-29. Sec., Dr. C. P. Fall, Beatrice.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Austin, June 4-6. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

## An Attempt to Organize Inferior Medical Colleges

An effort is apparently being made to induce acceptable colleges to join an organization having a high-sounding name but having as its chief object the perpetuation of discredited medical colleges and avowedly to oppose the Council on Medical Education in its efforts to secure reasonably high standards of medical education. A brief statement showing the incidents leading up to this organization will be interesting.

In March, 1912, an inspection was made of the Maryland Medical College by representatives of the Council on Medical Education, the United States Bureau of Education, Washington, D. C., and the Maryland State Board of Medical Examiners. Among other bad conditions it was found that students had been admitted without adequate preliminary training, and that others had been given advanced standing who had failed miserably at other medical schools. As a result of this inspection the college was rated in Class C by the Council on Medical Education and action was taken by the Maryland State Board of Medical Examiners withdrawing recognition from the school.

In January, 1913, the following letter was sent to a large number of medical colleges, particularly to those of Class C:

Maryland Medical College
Fayette and Calhoun Sts.

Baltimore, Md., January 31, 1913.

Dear Doctor:—

The American Medical Association seems to have determined that all unendowed medical colleges must close, and failing that, the Association is attempting to have State Laws passed, or to effect changes in existing laws, so that the requirements of the various State Boards will be such that it will be impossible for us to meet them

We feel that something should be done for mutual protection, and are writing for an expression of opinion as to the advisability of effecting an organization for that purpose.

This matter requires immediate attention, and you will greatly facilitate matters by an early reply. Respectfully yours,

Committee { B. P. MUSE, M.D.
PEARCE KINTZING, M.D.

A meeting was later called to be held in Chicago, Feb. 24, 1913. The following is a copy of an anonymous circular letter dated Feb. 18, 1913:

Albany, New York, Feb. 18, 1913.

WAKE UP!

Your Medical School along with many others is slated for annihilation by the A. M. A.—Colwell—Bevan—Simmons. In the State of New York alone only five schools are to be left.

In Wisconsin a school of 250 students was recently totally destroyed in less than a week by the above conspirators. When done there are to be left but 50 Medical Schools to be controlled by those who have undertaken to destroy the others.

In less than a year the plans for the acomplishment of this will be completed. Do you not think it is time to organize for your own protection?

A call has been made for all A. M. A. class B & C Schools to assemble at the Congress Hotel in Chicago on February 24th and discuss ways and means for the exposure of the unjust methods employed by the few A. M. A. Medical autocrats.

Will you send a delegation to this meeting? The enemy is organized and so will we be after this convention.

Yours very truly, Committee of Ten.

Feb. 21, 1913, this was followed up by the following night letter:

Expect large and enthusiastic meeting of medical colleges at Congress Hotel (not Auditorium) Chicago February 24th twelve o'clock noon. Send delegation.

B. P. MUSE.
PEARCE KINTZING,

The meeting was announced in the lobby of the Congress Hotel, Feb. 24, 1913, as follows:

Muse Medical College Committee Meeting,
Club Room 6, 12 M. and 8 P. M.

The following correspondence carried on recently is interesting in connection with the preceding:

Bennett Medical College
1358-1362 Fulton Street
Chicago, April 13, 1913.

John Dill Robertson, M.D.
President Board of Trustees.
Dr. James R. Day, Chancellor, —
Syracuse University,
Syracuse, N. Y.

My Dear Chancellor:—

At the suggestion of Dr. ———, Dean of the ——— Medical College of ——— I am writing you to determine at what date Dr. ———, Dr. ———, and myself can visit you in Syracuse in regards to an association known as the American Association of Medical College Faculties which was determined upon at a recent meeting of about twenty five medical colleges in the United States. Representatives of these colleges met in Chicago in February and decided upon this organization, the object of which is to make a closer union between the teaching bodies of the various institutions, to study different methods of pedagogy in medical schools, and to *combat the unfair treatment given to many of the medical schools in the United States by the Council of the American Medical Association.* [Italics ours.—ED.]

This organization is made up of schools of classes A, B, C, of the A. M. A. classification. We desire to confer with you looking toward securing your active support in this organization, and if you think it will be worth while for us to call upon you in Syracuse along the lines above mentioned we would be pleased to make the trip. If, on the other hand, for any reason it will be impossible for you to join with us in this organization I would thank you for a candid statement to that effect.

Hoping to hear from you at the earliest possible moment, I beg to remain. Very truly yours.

JOHN DILL ROBERTSON.

The following "candid statement" was sent:

The College of Medicine of Syracuse University
307-311 Orange St.
Syracuse, New York, April 16, 1913.

Dr. John Dill Robertson
Bennett Medical College
Chicago, Ill.

My Dear Doctor:—

Chancellor Day has referred your letter concerning the proposed American Association of Medical College Faculties to me.

This school has been interested only in pushing forward to the utmost the science of medical education. The position which we have earned in the opinion of medical educators is entirely due to the unselfish devotion of the faculty to these ideals of medical education. We have felt that the education departments of the states and of the nation have lagged behind rather than advanced too rapidly. We have, therefore, no interest in the proposition "to combat the unfair treatment given to many of the medical schools in the United States by the Council of the American Medical Association." Very truly yours,

JOHN L. HEFFRON,
Dean.

It may be interesting at a later date to publish the membership in this association.

### District of Columbia January Report

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written and oral examination held at Washington, Jan. 14-16, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 16, of whom 15 passed and one withdrew. The following colleges were represented:

| PASSED College | Year Grad. | Per Cent. |
|---|---|---|
| George Washington University | (1912) 83.4, 86.9, | 89.7, 90.6, 90.6 |
| Georgetown University | (1911) 81.9; | (1912) 91.2 |
| Howard University | (1911) 86.8; | (1912) 82.4, 88.2 |
| Bennett Medical College | (1913) | 77.3 |
| Boston University | (1892) | 76.1 |
| Long Island College Hospital | (1912) | 93.1 |
| Medico-Chirurgical College of Philadelphia | (1908) | 86.2 |
| University of Virginia | (1908) | 75.3 |

### Idaho April Report

Dr. O. J. Allen, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, April 1-2, 1913. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 8, all of whom passed. The following colleges were represented:

| PASSED College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Baltimore | (1909) | 83 |
| St. Louis College of Physicians and Surgeons | (1906) | 81 |
| St. Louis University | (1913) | 79 |
| Washington University, St. Louis | (1907) | 82 |
| Central Medical College, St. Joseph | (1900) | 80 |
| Creighton Medical College | (1912) | 83, 85 |
| Medical College of Ohio | (1901) | 85 |

### Minnesota April Report

Dr. Thomas S. McDavitt, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, April 1-4, 1913. The number of subjects examined in was 18; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 8, of whom 5 passed and 3 failed. Nine candidates were licensed through reciprocity. The following colleges were represented:

| PASSED College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Chicago | (1912) | 86 |
| University of Minnesota, Medical School | (1912) | 84, 88 |
| Queens University, Kingston, Ontario | (1911) | 77 |
| Royal College of Surgeons, England | (1908) | 87 |
| **FAILED** | | |
| Marquette University | (1909) | 73 |
| Laval University, Quebec | (1912) | 70 |
| University of Paris, France | (1894) | 72 |

| LICENSED THROUGH RECIPROCITY College | Year Grad. | Reciprocity with |
|---|---|---|
| Northwestern University Medical School | (1908) (1911) | Illinois |
| College of Physicians and Surgeons, Chicago | (1912,2) | Illinois |
| Rush Medical College | (1911) (1912) | Illinois |
| Hamline University | (1908) | Wisconsin |
| Miami Medical College | (1906) | Ohio |
| Western University, London, Ontario | (1899) | Nebraska |

# Book Notices

Operative Obstetrics, Including the Surgery of the New-Born. By Edward P. Davis, A.M., M.D., Professor of Obstetrics, Jefferson Medical College, Philadelphia. Cloth. Price, $5.50 net. Pp. 483, with 264 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The author aims to give a concise statement of present methods of operating. The material has been arranged with respect to pregnancy, labor and the puerperium, the three physiologic divisions in obstetrics, with a final division comprising the surgery of the new-born.

Preliminary to this are a few chapters on general subjects. The anatomy of the parturient tract in pregnancy, in labor and in the puerperium, and the condition of the birth-canal with respect to asepsis are first discussed. The prevention of obstetric hemorrhage and a consideration of the pregnant woman as a surgical patient, are next taken up. In the chapter devoted to anesthesia a preference is shown for ether. A compilation of results for the use of anesthesia by lumbar puncture makes against, rather than for, this method. The author directs attention particularly to the danger of general anesthesia in highly toxic patients and in those in acute anemia. The technic of obstetric operations as conducted in the hospital and in the private home concludes this portion of the work.

The chapters devoted to the surgery of pregnancy discuss such conditions as uterine displacements, tumors of the uterus, and pathologic development in the appendages. Conservative treatment is advised in fibromyomas, though the author advises prompt removal of a definite ovarian growth, no matter what the period of pregnancy may be. Since such good results are now obtained by cesarean section and pubiotomy, the induction of premature labor is not thought of so highly, and it should never be advised as the safest operation for the infant. Methods of rapid and forcible dilatation of the uterus are described, but in the unaltered cervix, as in the primipara before labor, the uterus should be opened by incision and never by dilatation. Operations on the appendix, the gall-bladder and the kidneys are briefly referred to. Ectopic gestation is discussed almost entirely from the technical point of view.

The greater portion of the volume is occupied by a consideration of the various operative procedures made necessary by complications of labor itself. Indications for the use of the forceps in extraction are not set forth so clearly as desirable in a text-book. The axis-traction instrument is well described, and after mentioning Pajot's maneuver and the use of tapes with ordinary forceps as substitutes for an axis-traction instrument, the author is careful to state that such appliances are unsatisfactory and to be used only in the absence of something better. Repeated expression throughout the volume is given to sound common sense and logic, demonstrating that the author's opinions and teachings are based on close observation during an extensive experience. In general the volume represents an essential part of obstetric literature presented in a brief and practical form. Illustrations are profuse, and excellently perform their part in illuminating the text. One of the most valuable features is the extensive bibliography immediately following the discussion of each subject. A carefully prepared index completes the volume.

Affektstörungen. Studien über ihre Aetiologie und Therapie. Von Dr. Med. Ludwig Frank, Spezialarzt für Nerven- und Gemütskrankheiten in Zurich. Paper. Price, 16 marks. Pp. 399. Berlin: Julius Springer, 1913.

The author reports a series of fifty-six cases of the various neuroses and psychoneuroses under the all-embracing name "disturbances of the affects." Formerly a disciple of Freud, he has ceased to follow him, because the leader has adopted too swift a pace. In this work we see Freud half way: the mental catharsis under mild hypnosis is utilized to unearth and abreact the buried complexes, but nothing more is done. For the author there exist numerous unpleasant complexes—not necessarily of sexual origin—which have been repressed and dissociated from consciousness, but which he endeavors to synthesize with the conscious ego. He believes, as Freud formerly did, that the symptoms of the neuroses disappear after the parasitic complexes have been cast out from the subconscious. Satisfied with the results he obtains by the hypnotic method, he does not apply the so-called free associations of Freud, or Jung's word-association tests, except in rare instances. In addition he takes a decided stand against the great emphasis laid by the Freud school on the sexual element of everything pertaining to the psychoneuroses. In short, he is only mildly Freudian. The case histories are worth reading; also their interpretations. While the charm of sensationalism is absent in this monograph, it creates the more lasting impression of truth and conservatism.

CHLORID OF LIME IN SANITATION. By Albert H. Hooker, Technical Director, Hooker Electrochemical Company. Cloth. Price, $3. Pp. 231. New York: John Wiley & Sons, 1913.

The use of chlorinated lime (chlorid of lime) in the purification of water-supplies dates back hardly four years; yet the method has attained wide use for this purpose and for various other disinfecting purposes. This book has been prepared by the research department of the Hooker Electrochemical Company of Niagara Falls primarily, perhaps, for commercial reasons; but it represents an excellent summary of the knowledge concerning chlorinated lime and its use for the disinfecting of water-supplies, sewage and many other purposes. Among the valuable suggestions in the book for extending the use of chlorinated lime are those concerning street-sprinkling, the prevention of the breeding of flies in garbage, manure, etc., and various uses about the farm and in the dairy, as in the disinfecting of milk-cans and bottles. In addition, there are nearly 150 pages of abstracts and references to articles on water-pollution, sewage-disposal and a host of other allied subjects of public sanitation.

THE SOLDIER'S FOOT AND THE MILITARY SHOE. A Handbook for Officers and Non-Commissioned Officers of the Line. By Edward Lyman Munson, A.M., M.D., Major, Medical Corps, United States Army. Cloth. Price, $1.35. Pp. 147, with 54 illustrations. Fort Leavenworth, Kan.: United States Cavalry Association, 1912.

Major Munson, who has been president of the Army Shoe Board for four years, gives the results of the studies and investigations of the board, including the critical study of the feet of about two thousand soldiers, and the fittings of many thousands of pairs of shoes. In the chapter on foot injuries and marching capacity, it is demonstrated that a large portion of injuries common to marching troops in number, extent and gravity are unnecessary, and are preventable by simple measures. The chapter on the anatomy and use of the foot is well within the grasp of the layman, and forms an excellent introduction to the study of the fitting of military shoes. The adoption and thorough application of the principles laid down in this work will materially increase the efficiency of the soldier, as the endurance of a marching man is dependent on his feet.

THE DEATHS OF THE KINGS OF ENGLAND. By James Rae, M.A., M.D. Cloth. Price, 4 shillings 6 pence. Pp. 152. London: Sherratt & Hughes, 1913.

This little book contains a brief account of the deaths of the sovereigns of England. In each case the author has gone to the original source for his information and has tried to reach a conclusion as to the nature of the disease that seems warranted by the facts. It is well known that some of the facts concerning the earlier rulers were indefinitely stated and that vague notions as to disease prevailed. A diagnosis, therefore, expressed in modern terms, is little more than a shrewd guess. Some of the author's deductions are, as he himself realizes, rather fanciful. His suggestion that Henry IV. died of a gumma of the bundle of His does not seem to us so far-fetched as that one of the visions seen by Elizabeth, the vision of a man in a flame, is most probably explained by xanthopsia from jaundice due to her starvation.

HOUSEHOLD BACTERIOLOGY. For Students in Domestic Science. By Estelle D. Buchanan, M.S., and Robert Earle Buchanan, Ph.D., Professor of Bacteriology, Iowa State College. Cloth. Price, $2.25 net. Pp. 536, with 360 illustrations. New York: The Macmillan Company, 1913.

Bacteriology, in its relation to domestic science, should prove of interest to this class of students, especially in view of the fact that the yeasts and molds are discussed more fully than is customary in most texts. The book is divided into five sections: (1) "Morphology and Classification;" (2) "Cultivation and Observation of Micro-Organisms;" (3) "Physiology;" (4) "Fermentations;" (5) "Relationship of Micro-Organisms to Health." The last division, embracing nearly half the book, deals with the preparation and preservation of foods, household sanitation and personal hygiene, thus emphasizing rather forcibly that phase of bacteriology.

# *Medicolegal*

## Duties and Compensation of Health Officers—Substitutes Not Allowed

*(Hickman County vs. McMorris (Ky.), 147 S. W. R. 768)*

The Court of Appeals of Kentucky reverses a judgment sustaining an allowance of a claim presented by Dr. McMorris. The court says that the services were rendered during the latter part of the year 1910, and during the early part of the year 1911, when Dr. McMorris, acting by order of the county board of health, established a number of quarantines, and fumigated the premises of certain persons afflicted with scarlet fever and small-pox, which had become epidemic in the community. The circuit court found the facts substantially to be that the county board of health, regularly organized, had, up to February, 1911, elected a Dr. Scarborough secretary of the board at an annual salary of $50 per annum, and that Dr. Scarborough refused to perform the duties of that office for that salary. The board then directed Dr. McMorris to perform the services charged for, which he did, and his charges were reasonable and just. From this statement of fact the circuit court concluded that the law authorized the board of health to employ another than the county health officer to perform those duties in cases of emergency when the duly elected secretary failed to perform them. The Court of Appeals agrees with the circuit court that the evidence was sufficient to show that the particular services for which an allowance was claimed were authorized by the county board. It also concludes that services rendered in fumigating premises of those afflicted with contagious diseases and establishing necessary quarantines, even though the persons afflicted with the disease were solvent, were services for which the county was liable, as such measures are not taken for the individual benefit of the particular patient, but to prevent the spread of the disease, and are therefore for the benefit of the public generally.

May the county board of health, while there is a regularly appointed health officer in office, who refuses to perform the duties of the office, impose the performance of his duties on another physician, and make the county liable for the payment of the latter's services? Manifestly not. When Dr. Scarborough resigned as health officer on the ground that he was unwilling to perform the duties of that office for the compensation fixed by the fiscal court, the county board of health should have accepted his resignation. It had no right to let him continue in office and delegate his duties to another; nor did Dr. Scarborough have the right to hold the office, and at the same time refuse to perform the duties thereof. Even if he had not resigned, it was the duty of the county board of health to remove him and appoint another in his place, who would perform the duties of the office. The statute plainly provides that the fiscal court shall fix the salary of the health officer at the time of or immediately after his election, and that in no state of case shall such health officer claim or receive from the county any compensation for his services other than the salary fixed by the fiscal court. This provision of the statute cannot be evaded by letting the health officer remain in office without performing the duties of the office, and then delegating to another the performance of those duties and allowing him compensation therefor.

But it was claimed that, under this view of the law, the fiscal court may fix the salary of the health officer so low that no one will perfom the duties of the office, and thus defeat the very purpose for which the county boards of health are established. This court has held, however, that the salary fixed for the health officer must be reasonable, and that from an order of the fiscal court fixing the salary an appeal lies to the circuit court and thence to this court. Under these circumstances, the court thinks there will be no difficulty in securing the services of a competent health officer, even though the fiscal court should make the salary unreasonably low, for, on making this fact appear, the necessary relief will be afforded either in the circuit court or this court. If it be argued that, owing to the uncertainty as to the amount of

salary the health officer is to receive, no one will undertake the duties of the office, it is a sufficient answer to say that the members of the fiscal court are charged with the duty of fixing a reasonable compensation for the health officer, and no doubt the fact that for a failure in this respect, resulting in an epidemic in the community, they will be answerable to their constituents, who will not continue in office men who are so unmindful of the health and welfare of the people, will be a sufficient reason why they should act justly and properly, aside from the fact that their action will be reviewed by a higher court.

As $213 of the amount of Dr. McMorris' claim was for services rendered while Dr. Searborough was the health officer, it followed that he was not entitled to recover that sum. Nor was he entitled to recover the remainder of $69 for services performed after his appointment as health officer, as his claim for the latter sum will be included in whatever salary the fiscal court may have fixed for his services. If no salary has heretofore been fixed, the fiscal court will fix the salary at a reasonable sum.

### Pulmonary Consumption Not Ground for Divorce

*(Abramowitz vs. Abramowitz (N. Y.), 140 N. Y. Supp. 275)*

A special term of the Supreme Court of New York, King's County, denies, with costs, a motion for alimony and counsel fee in the plaintiff wife's action for separation on the ground of cruelty and conduct rendering it unsafe for her to cohabit with the defendant. The court says that the parties intermarried on May 5, 1912, and the wife returned to her parents after five days. She based her charge solely on the fact that the defendant's state of health was such that it was "impossible, unsafe, and unhealthy for her to cohabit with him." She said that he was troubled with a violent cough at night accompanied by expectoration of blood, and that the physician called in attendance stated that it "was caused by hemorrhages," but the affidavit of the physician who made so discriminating a diagnosis was not furnished for the enlightenment of the court. Unless the plaintiff produced on this motion sufficient evidence to afford a reasonable ground for the belief that she could eventually succeed in her action, she was not entitled to alimony pending litigation or for expenses. Would the facts stated in the complaint, therefore, if true, warrant the inference of legal cruelty, under subdivision 1, or unsafe conduct under subdivision 2 of section 1762 of the New York Code of Civil Procedure?

Whatever may be the rule in other jurisdictions, the court is unaware of any authority in New York state which holds that disease of the character mentioned is sufficient cause for separation from bed and board. Assuming for the sake of the argument that the facts so insufficiently and inartificially pleaded pointed to the existence in the defendant of the disease commonly known as pulmonary consumption, which is very generally held to be both communicable and dangerous to health, its existence prior to the time of the marriage was not claimed, nor that any false representations as to the defendant's state of health were made so as to induce the plaintiff to wed, though, of course, had there been, it would not be available in the present form of action. The plaintiff apparently had as ample opportunity for making inquiries as to the health of the defendant before marriage as she had as to his earning capacity. Perhaps the exercise of as great caution regarding the former as was paid to the latter consideration would have saved both parties trouble and unhappiness.

So far as the court has had time to investigate the law in New York state, there is only one form of disease which the courts have thus far recognized as sufficient for a decree of separation on the ground of legal cruelty, and this only when that particular disease is knowingly or wilfully communicated. Anonymous, 17 Abb. N. C. 231. And, if disease of other sorts be not regarded as ground for separation under subdivision 1 of section 1762, no more does it constitute "such conduct on the part of the defendant to the plaintiff as may render it unsafe and improper for the former to cohabit with the latter," under subdivision 2. Conduct as here employed refers to a course of dealing on the husband's part, a continued purpose evidenced by action, and it implies intentional and wilful acts, not merely those which are involuntary or unintentional, or from the effects of which he himself cannot escape. If during marriage disease attacks one of the spouses, it is not the one so afflicted who is guilty of legal cruelty. It is rather the other one who seeks on that ground a judicial separation.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13
American Proctologic Society, Minneapolis, June 16-17.
Arizona Medical Association, Globe, May 20.
Arkansas Medical Society, Little Rock, May 20-23.
Connecticut State Medical Society, Hartford, May 21-22.
Illinois State Medical Society, Peoria, May 20-22.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.
West Virginia State Medical Association, Charleston, May 21-23.

## CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

*Ninth Triennial Session, held at Washington, D. C., May 6-7, 1913*

The President, DR. WILLIAM C. GORGAS, Aneon, C. Z., in the Chair

### THE STUDY OF RENAL FUNCTION

#### Its Clinical Importance

DR. HENRY A. CHRISTIAN, Boston: Renal function is of interest to physician and surgeon alike, since organic and pathologic changes make it important to know how the kidneys are functioning concomitantly and singly in order that the proper remedial measures may be applied and to determine the advisability of surgical intervention. In the diagnosis of pathologic lesions of the kidney, functional tests may be expected to yield information on two points: 1. Are the kidneys diseased? 2. What type of pathologic lesion do they show? A review of the methods of testing renal function by measuring the excretion of salts, water, lactose, potassium iodid and phenolsulphonephthalein, by measuring the retention of non-protein nitrogen in the blood, by the determination of diastase in the urine, by determining indican in the blood or by estimating urinary acidity, shows that great aid has been given clinically in determining whether or not the kidneys are diseased, but that distinctly less help has come in answering the second question as to what type of lesion the kidney shows. As in all forms of clinical diagnosis, diagnosis must be based on the data not on a single test but of many. In this sense functional tests have yielded new data, and a discriminating evaluation of these new data, along with a consideration of data furnished by other methods of examining patients already long in use, justifies us in making an estimate of renal condition with increased certainty. We can expect fewer failures in such diagnosis than before we had these functional tests, but so long as increased study fails to yield a demonstrable anatomic change to correspond with all observed functional variations, so long shall we remain unable to make anatomic diagnoses which in most cases will prove to be correct when the pathologist examines the kidney.

#### Prognostic Value

DR. L. G. ROWNTREE, Baltimore: All the tests for determining renal function proved of value. Functional studies reveal only the excretory capacity of the kidney, but do not

make the diagnosis or settle the prognosis. They should be used as a matter of routine in conjunction with other procedures. When the phthalein test reveals decreased renal capacity, one of the blood tests, urea, rest, nitrogen or cryoscopy should be employed to determine the presence or absence of cumulative phenomena. Dye substances other than phthalein need not be employed prognostically since they yield less quantitative and less reliable results and add nothing to prognosis. The phthalein test is the one for general use under all conditions. Its findings can be verified and its indications strengthened by the employment of selected tests in different conditions. The iodid and salicylate tests are not of great prognostic value. Lactose is unreliable, since its total suppression occurs in moderate lesions of a given type, but suppression in chronic nephritis indicates a severe lesion. The urea is of value only in relation to unilateral renal disease. Phloridzin has a tendency to exaggerate the degree of functional injury, and hence it is not of great value. Salt in a marked tubular hyposthenuria carries much prognostic significance; otherwise the chlorids are of only slight prognostic value. If, with the water test, a very marked oliguria or anuria persists, it is of significance. Diastase may be depressed tremendously in moderate degrees of renal injury, while at other times it is not affected proportionately to the injury, and hence it is not reliable for total capacity. In unilateral cases the diseased kidney is correctly indicated. The value of total coagulable nitrogen and of urea in the blood has been enhanced by the introduction of newer and more accurate methods by Folin and Marshall. These tests can be used interchangeably and have about the same value. Increased concentration of these substances does not always occur in severe renal involvement, and therefore their normal concentration in the blood does not indicate normal kidneys. Their increase signifies renal injury, and the extent of the increase is of extreme value in determining the extent of the injury. They are not of value in determining the diseased kidney when only one is involved. Cryoscopy occupies a similar position with about the same significance. A study of the combinations of these tests is needed in order to determine the extent of parallelism in their findings. With cholesteremia we have had no experience.

### Its Bearing on Treatment

DR. THEODORE C. JANEWAY, New York: From a broad point of view, the phenolsulphonephthalein test, and the less satisfactory ones which it has replaced, has greatly contributed to the effectiveness of the treatment. The internal treatment of renal disease has made definite progress along two lines: 1. The study of experimental nephritis in animals has made clear the existence of isolated disturbances in the excretion of individual constituents of the urine, and the existence of definite types of abnormal reactions of the diseased kidney to stimuli. These have been found to have their counterparts in human nephritis. 2. The accurate study of the salt and water exchanges in human nephritis and their relation to edema has resulted in a precise and scientific method of treatment which is highly effective in certain types of renal disease. Vascular hyposthenuria must be sharply differentiated from the hyposthenuria due to primary disturbance in the ability to secrete sodium chlorid. This discrimination is of real importance in the management of clinical nephritis.

Closely allied to this state of irritability of the vessels is their susceptibility to fatigue. This factor, like the phenomenon of vascular overirritability, should never be overlooked in treatment. It justifies the custom of giving caffein diuretics intermittently and in comparatively small doses. When a diuretic of this type is needed I use theocin. The initial dose of these drugs should always be small because of the possibility of constriction resulting. The response of the kidney vessels to digitalis seems to follow somewhat the same laws. Inasmuch as such a drug as digitalis will produce dilatation of the kidney and constriction of the remaining splanchnic vessels, it seems not impossible that polyuria and hypertension are in their fundamental pathogenesis identical. In these vascular types of nephritis I urge the use of water and the common beverages. Water tests are most important guides to treatment, especially in the convalescent stage of acute nephritis. In tests for the excretion of water there should be absolute uniformity in the salt intakes. Therapeutic means of combating nitrogen retention are conspicuous by their absence, aside from enforcing a physiologic economy of protein on general principles. The observation of the uncoagulable nitrogen of the blood is of great importance prognostically, though it does not make the outlook any the less grave. In the same way the phenolsulphonephthalein test cannot serve in any way as a guide to treatment. In chronic passive congestion of the kidney it may frequently afford a most useful measure of the degree of improvement in kidney function during treatment.

The same considerations hold good for Wohlgemuth's tests for diastase. The treatment of edema is much more satisfactory. The salt-poor diet remains the most effective measure in the treatment of edematous types of subacute and chronic nephritis. With the restoration of kidney function and the absorption of edema, I have observed the return to normal of greatly delayed potassium iodid excretion. The potassium iodid test gives an interesting sidelight on kidney function and its restoration in these cases. What constitutes normal elimination depends on the test employed. I have been using the von Monakow test with starch paste and nitric acid, which makes forty-four hours the upper limit. The one essential guide to treatment, as Widal's studies have shown, is the absolute salt balance. It is immaterial practically, though highly important theoretically, whether the cause of the salt retention is in the tissues or in the kidneys. Salt and water are retained and the edema is largely dependent on this fact. The graphic record of daily salt intake and output, with the weight curve, permits of exact knowledge concerning the degree of salt retention.

The management of the salt intake in such cases of renal edema is altogether analogous to the management of the carbohydrate intake in mild diabetes. As long as edema persists, the salt of the diet should be kept at a minimum. After the absorption of the edema the ability to excrete added salt should be tested occasionally, and the increase in intake governed accordingly. By the exact estimation of sodium chlorid tolerance and the adjustment of intake at a point below the ability of the kidney to excrete salt, chronic cases may be kept free from edema over long periods of time, even when functional recovery is not complete. At the same time, the management of the water balance demands equal attention. This is of special importance in acute nephritis. Intelligent care is possible only with the use of graphic records of water and of salt intakes and outputs. The relation between intake and output in both substances is of more importance than absolute amounts. Not the least contribution which the study of renal function has made to the treatment of nephritis is its method of visualizing the actual response of the kidney to the therapeutic measures from day to day.

## President's Address: Sanitation at Panama in Its Relation to Sanitation in the Tropics Generally

DR. WILLIAM C. GORGAS, Ancon, C. Z.: Panama, in 1904, when the United States began the construction of the Panama Canal, was universally looked on as being one of the most unhealthful spots in the tropical world. That this reputation was not undeserved, but was warranted by the facts in the case; that the sanitary measures put into effect by the United States have enabled the constructors of the canal to proceed for the past nine years with no greater loss from death than would have occurred if the same work were being carried forward in most parts of the temperate zone; that this work has been accomplished at no very great expense; that, therefore, similar results can be obtained either by communities or individuals in any part of the world or tropics, is my argument. In November, 1905, the last case of yellow fever occurred in the City of Panama, and in May, 1906, the last case in Colon. During 1906 the Sanitary Department was raised to its maximum efficiency and in May, 1907, the sanitary work had been accomplished. The death-rate from disease among employees

has been as follows: 1906, 39.51; 1907, 24.50; 1908, 8.68; 1909, 7.55; 1910, 7.50; 1911, 7.65; 1912, 6.37. These figures demonstrate that by 1908 there was a force of 38,000 employees on the Isthmus who were working in the sun, rain and weather at the hardest kind of labor, with a death-rate from disease of 8.68, not any greater than among similar men doing the same work in the United States.

It is interesting to speculate on what would have taken place if the President and the Secretary of War had acted in accordance with the recommendations of the executive committee and decapitated the men in charge. The methods used were based on the belief that yellow fever is a disease due to filth. By December, 1906, we had 9,000 non-immune connected with the commission, of whom 6,000 were Americans. It is probable that half of these would have died of yellow fever had sanitation remained as it was in 1905. This would probably have involved a suspension of the work till conditions could be corrected, thereby causing a delay in the completion of the canal of at least two years; probably public opinion would not have supported a project that involved such loss of life, and the work would have been delayed indefinitely. The actual expense of the measures that have accomplished these results has not been large, about $365,000 per year, or about one cent per day per capita. The expense of sanitation in the Isthmus is frequently spoken of as being large. This comes about from the fact that official reports give the expense of the sanitary department as having averaged $1,600,000 a year. Naturally in reading this report one assumes that the expense of sanitation and the expense of the sanitary department are synonymous; but not more than one-fifth of the expense of the sanitary department is involved directly in the measures that have resulted in the eradication of yellow fever and the control of malaria. More than half the expense of the department is involved in the care of the 1,800 sick that we have had constantly on hand. It is quite evident that if people can be protected against tropical diseases or conditions in Panama, the same thing can be accomplished in any other part of the tropics. The results at Panama are so in the limelight that they are attracting attention from all parts of the tropics.

*(To be continued)*

---

## NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS

*Ninth Annual Meeting, held May 8-9, 1913, in Washington, D. C.*

The President, MR. HOMER FOLKS, New York, in the Chair

### The Tuberculosis Problem of the Country and Small Towns

DR. CHARLES S. PREST, Waterford, N. Y.: The prevention of tuberculosis in the country and small towns is a man's job in the fullest degree and requires just as much, if not more, thought, experience, judgment, persistence and money per capita as in any large city. The difficulties that are met arise from the less highly developed local government, less expert and effective health officials, less inclination to be governed, less voluntary organization for practical social work, greater opposition to even temporary increased taxation, and the deep-rooted ignorance and belief in the heredity and fatality of tuberculosis. The ignorance in the country districts concerning tuberculosis is appalling. The education of the rural population concerning ventilation, the dangers of overcrowding, cleanliness of person and surroundings, the extent of the disease, its means of prevention, etc., is one of the most important phases of the work that can be undertaken, as well as the most difficult. The problem presents two features of surpassing importance: early diagnosis and adequate supervision. The one hangs on the other whichever way you take it—early diagnosis that adequate supervision may be possible, and adequate supervision, in order to secure early diagnosis.

### The Tuberculosis Preventorium

DR. ALFRED F. HESS, New York: The preventorium may be called the latest development of the antituberculosis movement. The first to be founded is that at Farmingdale, N. J. Tuberculosis is implanted generally during childhood, and must be combated before adult life. The preventorium was designed to care for the most needy group of subnormal children, those who are not only poorly nourished, but also exposed to tuberculous infection in their homes. These children of the tuberculous poor are not only predisposed, but actually exposed to tuberculosis. The preventorium takes 600 of these children a year, gives them good food, a twenty-four-hour day in the open air, an intimate acquaintanceship with the fields and the woods, and practical lessons in hygiene. A two-hour school period is sufficient to keep the children up to grade. During the stay of from three to six months at the preventorium, the home condition of the children is investigated, the tuberculous father or mother is sent to a sanatorium, instruction is given as to cleanliness and hygiene, and relief is obtained when necessary from existing charitable societies. Every six months after discharge these children are visited, their condition is ascertained, and, if necessary, a second visit to the preventorium is advised. The children have so far conserved their gains in weight and strength remarkably well.

### Ultimate Results in Patients Discharged from the Mont Alto State Sanatorium in 1908 and 1909

DR. ALBERT P. FRANCINE, Philadelphia: In 1908 and 1909 there were discharged from the Pennsylvania State Sanatorium at Mont Alto 399 tuberculosis patients whose homes were in Philadelphia. A careful personal study of each of these patients made in January and February, 1913, developed the fact that the majority of them had been able, after an average stay of six months at the sanatorium, to return to their regular work on full time and full pay, and that they had been working since their return for over two years. In those cases in which there had been a relapse after the return of the patients to the city, the relapse was usually the result of entering the sanatorium with the disease too far advanced. Almost all of those who went to the sanatorium in time are alive and well.

### A Method of Finding Early Cases of Tuberculosis

DR. HARRY LEE BARNES, Wallum Lake, R. I.: About 50,000 persons with new cases of tuberculosis are constantly drifting over the country for long periods without even consulting physicians. Before they are found many of the patients become incurable and infect others. The significance of blood-spitting, pleurisy, chronic cough and night sweats should be well known to the public. A large percentage of the people have no definite idea about the various state and municipal sanatoriums or what consumptives may hope for by entering them. States and municipalities having sanatoriums ought to advertise them enough to let the people know what they can do. The ease with which consumptives can be influenced by advertising is well shown by the sale of consumption "cures." The sale of patent medicines advertised to benefit consumption has exceeded 17,000 bottles in Rhode Island in one year, an average of seventeen bottles for each death from tuberculosis. We should describe the early symptoms of tuberculosis in newspaper advertisements until they are stereotyped on the brain of everyone who can read.

### Treatment of Progressive Cases of Tuberculosis

DR. MARY E. LAPHAM, Highlands, N. C.: The future treatment of progressive cases of pulmonary tuberculosis must be surgical rather than medical. There are two well-defined, distinct classes of the tuberculous, those who recover, and those in whom from the very start an inability to arrest the disease is manifest. In these progressive cases improvement may occur, but the patients cannot hold what they gain. As soon as this is recognized, the futility and danger of depending alone on good nursing, fresh air and rest must be admitted and surgical aid must be employed. This surgical assistance to the more natural methods of treatment gives the lung more complete rest, drives the blood from the engorged blood-vessels, keeps the lung from expanding, and saves it from the pulling and tugging of respiration. It collapses or forces the lung up

together; expels its poisonous purulent contents; keeps the lung clean and dry, and makes the growth of tubercle bacilli in it difficult or impossible. In many cases the bacilli in the sputum disappear after surgical treatment and thus the danger of infecting others during the recovery is removed. When a case of pulmonary tuberculosis belongs to the progressive type, to persist with medical measures alone may cost the life of the patient. Surgery should be tried promptly, before it is too late.

### The Medical Side of the Tuberculosis Problem

DR. WILLIAM CHARLES WHITE, Pittsburgh: One of the burning questions of the day is whether tuberculosis is a sociologic or a medical problem. That such discussion goes on is probably a proof that it is both. We are seeking to discover if the sociologist should employ the doctor, or the doctor employ the social worker; or will the time come when all doctors and nurses will be social workers, and all social workers doctors or nurses? The reason for the social worker in tuberculosis will be found in the exclusion of tuberculosis from the general hospitals and other places of medical teaching, and the consequent ignorance of doctors and nurses on the whole question of this malady as a public health problem. The doctors who do know find more ready response to their teaching among the intelligent laity than among the profession. The majority of the problems in connection with the tuberculosis question, such as immunity, heredity, chemistry of lung and tubercle bacillus, cure, food values, etc., are medical in their nature, and must be solved by those of medical training. The social side of the question comes down to more and better food and better living conditions.

Whatever the future brings forth, the great feature is the universality of the malady; and it must be handled as are other universal conditions, such as, probably, childhood education. This would mean community units of tuberculosis control, probably one unit (composed of 100-bed hospital, dispensary, visiting nurses, educational bureau and babies' dispensary) for each fifty or a hundred thousand population for the intensive handling of such a district. All units should be correlated in municipal and state health and charity departments, and these in some ways connected with the federal Department of Health to control the interstate aspect of the disease.

### One Year's Results at the Home Hospital

DR. EDWARD C. BRENNER, New York: Heretofore families in which one or both parents had tuberculosis were broken up, the patients being sent away to hospitals or sanatoriums and the children cared for in various ways. Under the Home Hospital plan, the family unit is preserved, the afflicted family occupying its own apartment in the hospital, and living under the best hygienic conditions. The patients are isolated as far as possible from the well members of the family, and receive the equivalent of sanatorium treatment. No special drugs are employed. The cure consists of a superabundance of fresh air, good food, rest and entire freedom from worry. The patients spend the day in reclining chairs on the roof and sleep at night in bedrooms with windows wide open, or on the open-air balconies attached to each bed-room. With improvement, a gradual return to a life of normal activity is attained. The children spend the day in the open and never come in close contact with the patients. Those who are old enough attend open-air school on the roof. Diseased tonsils and adenoids are removed, bad teeth are repaired, defective vision corrected—in short, everything is done to bring the children up to a normal standard.

During the past year twenty-seven families have been treated, comprising 133 individuals, of whom seventy-nine (adults and children) have been tuberculous. We have found distinct evidence of tuberculosis in 24 per cent. of the children, and another 27 per cent. are excellent candidates for the disease. All of these children have shown marked improvement during the year, and most of the pale, puny types are now wholesome, rosy-cheeked youngsters. The results obtained with the adult consumptives compare favorably with the reports of the leading sanatoriums; 61 per cent. have become apparently cured, 22 per cent. have had their disease arrested, and 11 per cent. are much improved. These astonishing results have been obtained in the very heart of New York City. The Home Hospital treatment costs only 40 to 50 per cent. as much as the ordinary methods of treatment.

### Tuberculosis and Public Health

DR. H. R. M. LANDIS, Philadelphia: An analysis of the cases in 100 consecutive applications for assistance at the Henry Phipps Institute in Philadelphia illustrates how closely the tuberculosis campaign is connected with almost every other social and public health movement. For instance, among these 100 persons some were found to be immigrants and their tuberculous condition was closely allied to this fundamental fact. Others were victims of bad housing conditions, while still another group were tuberculous because of faulty personal and household hygiene. In a third group, the problems were essentially economic, and it was necessary here to study the income of the families and their relation to sanitation and public health in their particular homes.

### Reduction in the Tuberculosis Death-Rate, 1871 to 1912

MR. FREDERICK L. HOFFMAN, Newark, N. J.: A considerable amount of trustworthy statistical evidence is available to sustain the conclusion that the mortality from tuberculosis of the lungs has actually as well as relatively diminished in the United States during the last thirty years, and that on the basis of rates for the registration area, the saving of lives due to the campaign against this disease during the decade ending 1910 alone has amounted to nearly 200,000. The death-rate in this one decade has been diminished from 174.5 per hundred thousand of population to 139.7.

A study of the combined mortality from tuberculosis of the cities of New York, Philadelphia and Boston for 100 years, commencing with 1812, shows that the death-rate from this disease has persistently diminished, from 418.6 per hundred thousand population in the first decade of this period to 213.9 in the last decade. Furthermore this tabulation, which seems to be the first of its kind that has ever been made for any group of large cities in the world, shows that there has been a much more decided tendency toward a reduction of the death-rate since 1882. The death-rate from tuberculosis, which was 389.1 in 1881, had declined to 180.1 in 1912. These figures present the most conclusive evidence on record that the deliberate, thoroughly intelligent and nation-wide campaign against tuberculosis on the principle of its being an infectious disease and transmissible from man to man, has been successful beyond expectations.

Another study of fifty large American cities for the forty-year period beginning 1871 shows that the death-rate in this group of American cities has declined from 335 per hundred thousand in 1881 to 166 in 1911. The decline in Northern and Western cities was from 325 to 160 per hundred thousand, or 50.8 per cent. In the white population of Southern cities the rate declined from 301 to 150 or 50.2, while the colored population of southern cities showed a reduction from 668 to 423, or 36.7 per cent.

Another study of the mortality from tuberculosis of the lungs in the states of Massachusetts, Rhode Island and Connecticut gives further evidence that the decline in the death-rate from this disease has been a real one. The male death-rate from tuberculosis of the lungs in these three states has decreased from 276 per hundred thousand population in 1881 to 146 in 1911, or 47.1 per cent., and the female death-rate from 308 to 111, or 64 per cent. An important fact disclosed by this analysis is that the fall in the tuberculosis death-rate for women has been relatively greater than the corresponding decrease for men. Probably much of this relative difference is due to the fact that the sanitary conditions in workshops have not progressed with a rapidity equal to increased sanitation in the home. All the evidence obtainable from trustworthy sources confirms the conclusion that the reduction in the tuberculosis death-rate in the United States during the last forty years has not been less,

but in many cases more than in other civilized countries throughout the world.

### The Relation of Industries to Tuberculosis

DR. B. S. WARREN, U. S. P. H. S., Washington, D. C.: Good wages and short hours have a marked favorable effect on the death-rate from tuberculosis by producing a better standard of living among the workmen. The problem of the prevention of tuberculosis is an economic one, dependent on the adjustment of the industrial relations between the laborer and the employer. In those industries in which the condition of the employees is the least satisfactory, the death-rate is highest. Statistics appear to prove the statement that while some occupations are of themselves causes of high death-rates, tuberculosis is not in this sense an occupational disease, but rather one due to inadequate compensation, with all that that means in the standards of living. This is shown by a study of a large number of government workmen. While many government employees are working under insanitary conditions, at the same time the death-rate among these men is reported to be very low, as shown by official reports for the year during which the investigations were made. Overcrowding, poor ventilation, poor light, piece-work, speeding-up, etc., all the bad conditions, except long hours, were noted among 4,000 employees, with only four deaths from tuberculosis during the year. On the other hand, all wages in this group of government employees were $9 per week or more, and the general average was much above that. All legal holidays, certain half-holidays, the benefits of the employers' liability act, sick leave and thirty days' annual leave were allowed in most cases. If standards as high as those prevailing for government employees prevailed in the various private industries, the death-rate from tuberculosis among working men would be lower. Furthermore, when the government standards as to sanitation are improved, and the wage scale adjusted or equalized in all departments, the tuberculosis death-rate for government employees will be lowered still more.

### The Tuberculosis Problem from the Sociologic Point of View

PROF. JOHN R. COMMONS, Wisconsin Industrial Commission: The physician starts with the individual. The sociologist starts with his institutions. The physician looks on other individuals as sources of contagion or infection. The sociologist looks on them as owners of property. The one sees them as physiologic units; the other as possessors of power, or of that intangible property which we call "opportunity." Tuberculosis and occupational disease, safety and sanitation, infant mortality, hours of labor of women and children—these are some of the fields of scientific research and governmental administration in which the physician and the sociologist meet. Here the physician must go beyond physiology, contagion and infection and deal with the institutions of property, the family and the state, that make environment what it is. Here the sociologist must dip into physiology and pathology, if he would not go wrong in dealing with institutions.

### A Report of the Present Status of the Investigation by the Public Health Service of the Friedmann Treatment for Tuberculosis

SURGEON JOHN F. ANDERSON of the Public Health Service, after a review of the circumstances connected with the announcement of a new treatment for tuberculosis by F. F. Friedmann which led to the appointment of a board consisting of himself and Passed Assistant Surgeon Arthur M. Stimson to investigate the method, said: In correspondence Dr. Friedmann had expressed a willingness to place at the disposal of such investigators all the facts at his command and afford them every aid to prepare a "comprehensive and impartial report," but at its first interview with Dr. Friedmann the board ascertained he was not willing to reveal all the details of his methods. He imposed as a condition to furnishing detailed information regarding the methods of preparation of his remedy, a recognition by the board of favorable results from the use of the remedy on patients.

The board in effect found that it would have opportunity merely to study a culture of the bacteria, to test its pathogenicity on lower animals, and to observe the effect of treatment by him of tuberculous patients with his finished remedy.

It will be recognized that such an arrangement was not satisfactory from a scientific standpoint, but in view of the great importance of the matter the conditions imposed by Friedmann were accepted. Arrangements were made with various hospitals to treat patients, most of whom had been for some time under the care of their visiting staffs. The investigations have been undertaken and conducted in an impartial manner. After considerable delay, ninety-four patients had received their first injection up to April 15, when it became necessary to inform Dr. Friedmann that on account of the halting progress in the demonstration we would be forced to limit our studies to these patients. Up to the present time five of these patients have received a second injection.

Time is necessary in order to properly evaluate the effect of the possible therapeutic action of the remedy, but it is necessary to guard against too great optimism in respect to its merits.

Without presenting in detail the condition of patients under observation, we are in a position to state that the effects thus far observed do not justify the confidence in the remedy which has been inspired by widespread publicity. In our opinion harm may have been done by this undue publicity in so far as it has lessened the confidence of tuberculous persons in well-recognized methods of treatment or interrupted their use, and we are constrained to advise against any lessening of those well-known measures which not only have effected cures but which have reduced the incidence of the disease.

We are aware that Dr. Friedmann does not wish to be judged scientifically on newspaper statements and he would undoubtedly disclaim responsibility for certain of those which have appeared. Nevertheless, it is on those that the public bases its opinion until replaced by reliable and unbiased scientific pronouncements supported by convincing data.

While Dr. Friedmann advised the simultaneous or combined intravenous and intramuscular mode of injection he has in the series of patients observed almost exclusively made use of the intramuscular method alone in pulmonary cases and a very considerable proportion of them have either developed no considerable infiltrate at all or have suffered from abscess formation. It is evident, therefore, that a very considerable proportion of these patients may expect their treatment at the hands of Dr. Friedmann to extend over a prolonged period.

Concerning the culture submitted to us, we may state that a series of experiments is under way. The bacillus has been found to be an acid-fast organism having properties quite different from those of any tubercle bacillus with which we are acquainted. It appears to be identical with an organism cultivated from a few loopfuls of the material used for injection, which Dr. Friedmann permitted us to place on culture media in his presence. We requested Dr. Friedmann to furnish us with a larger amount of this material for examination, but this he has declined to do. We can state, however, that living acid-fast bacteria are being injected by the intramuscular and intravenous method, although we are ignorant of what medium they are suspended in or what additional substance or substances may be contained in the final mixture.

---

## MEDICAL SOCIETY OF THE STATE OF NEW YORK

*One Hundred and Seventh Annual Meeting, held at Rochester, April 28-30, 1913*

(*Continued from page 1484*)

### Association of Uterine Growths with Goiter; Typical and Atypical Exophthalmic Goiter

DR. HENRY L. ELSNER, Rochester: I have made an analysis of 5,370 cases of internal diseases; 186 cases of goiter are included. Of this number 89 were simple uncomplicated goiter; 97 were diagnosed as belonging to the class of exophthalmic goiter; of this number 55 proved to be atypic

exophthalmic goiter; 42 were typical; 15 per cent. of all the cases of goiter proved to be associated with uterine myoma or fibromyoma. Since 1881 my clinical experience has demonstrated the frequent association of thyroid perversion, often hyperthyreosis, including simple goiter and exophthalmic goiter, typical and atypical with uterine growths, fibroid and myomatous. The blood-pressure in cases of goiter associated with uterine growths is normal, slightly elevated, or in occasional cases only little reduced.

DISCUSSION

DR. ALEXANDER LAMBERT, New York: Cases of exophthalmic goiter showing intestinal disturbance in the early stages are best controlled by feeding the pancreatic extracts. Those showing lack of energy in their work will respond quicker if given adrenals alone. There is a distinct difference with the uterine type. It is very marked in young girls who have gone through unfortunate love affairs. They have not only been sexually disturbed and stimulated, but their break-down comes in the shape of exophthalmic goiter.

DR. JOHN A. WITHERSPOON, Nashville, Tenn.: I have noticed for many years the relation of uterine trouble to exophthalmic goiter. I believe that we have a great many of these cases; just what relation they bear to each other we do not know, as we know very little of these internal secretions and their action on the economy. The removal of tumors from the uterus or the removal of the uterus itself does not seem to affect these patients very much. Only recently a woman had a uterine fibroid removed, and the shock, anxiety and worry of the operation exaggerated the exophthalmos and growth of the gland. In those cases we have hyperthyroidism produced from the excitement brought about by the preparation for operation.

DR. ABRAHAM JACOBI, New York: I have seen a few cases that would confirm Dr. Elsner's conclusions.

## Certain Elementary Concepts in Education Applied to Medicine

DR. J. G. ADAMI, Montreal, Canada, recounted the aims and purposes of education, and dwelt at some length on the laws by which the New York State Board of Regents governs the preliminary education of doctors.

## SYMPOSIUM ON DUODENAL ULCER

### Etiology and Morbid Anatomy

DR. MARSHALL CLINTON, Buffalo: Duodenal and gastric ulcer are so closely allied anatomically and etiologically that in a discussion of the etiology of duodenal ulcer we must take some notice of the factors that produce gastric ulcer. A great amount of experimental work in the production of ulcer has been carried out by different workers. Ulcers produced by direct trauma of the stomach wall, by feeding filth to animals, and by using stomach scrapings injected into other animals to produce a cytolysis of the mucous membrane have been followed by acute ulcer. All this experimental work has failed to this extent: chronic ulcer of the stomach or duodenum has not been produced. Acute ulcers have been formed as a result of these various experiments, but they come under the head of acute ulcer, while by custom now when we speak of duodenal ulcer we mean a chronic indurated ulcer. Chronic ulcer is generally rounded or oval with the long axis of the ulcer at right angles to the axis of the stomach or duodenum. The gastric juice plays an undoubted rôle, for it is the usual clinical observation to find ulcer associated with an excessive quantity and a greater degree of acidity than normal.

As to the pathologic anatomy of ulcer, the ulcer has a typical punched-out appearance. Sections of the ulcer do not seem to bear out the old idea that thrombosis plays a part in its production. We believe ulcer on the mucous membrane and deeper structures to be the result of mechanical trauma, plus a chemical action of the gastric juice. To become chronic, this trauma must be repeated frequently. The disturbance of the action of the pylorus by reflex impulses from other structures or the increase in quantity and acidity are the essential causes of chronic duodenal ulcer.

### The Diagnosis and Prognosis

DR. JAMES T. PILCHER, Brooklyn: In analyzing the histories obtained from about 200 cases of duodenal ulcer personally observed I recognize in the great majority of them four pre-eminent factors: (1) the chronicity of the complaint; (2) the periodicity of the exacerbations of epigastric distress; (3) the occurrence of pain of a peculiar character with precise time of onset; (4) the control of this discomfort by the ingestion of food or alkalies. In the cases observed lately the marked period of chronicity has been reduced, owing probably to the growing familiarity with the condition. I consider the most corroborative subjective symptom to be the peculiar effect that the ingestion of food has on the epigastric distress, which act, as I have noticed almost without exception, gives relief at once, at least in the earlier stages of the condition before complications have arisen. Gastric analysis showing a marked hyperacidity is considered merely as suggestive, and probably the most important test-meal findings are to be obtained by the analysis during one of the intervals free from distress, at which time it has been noted that the acidity is usually normal or subnormal. One of the most essential elements to be recognized in cases of duodenal ulceration is the etiologic factor of the process. In referring to the condition it might be advantageous, whether the case be treated medically or surgically, to prefix the surname indicative of the underlying cause suggesting the terminology, jejunoduodenal ulcer, ileocecal duodenal ulcer, appendicoduodenal ulcer, colonoduodenal ulcer, membranous pericolitic duodenal ulcer, static duodenal ulcer or ptotic duodenal ulcer.

The prognosis is regarded as a relative question. In anterior ulceration, owing to the facts that these ulcers are the ones that perforate most frequently and that they are the most frequent in occurrence, the prognosis is rather unfavorable, if such ulcers be allowed to continue their course. Those situated posteriorly, although seldom perforating into the abdominal cavity, are prone to inaugurate complications such as pancreatitis, common-duct obstruction and duodenal stenosis, which may eventually prove quite as dangerous as the acute perforation.

### Complications

DR. JOHN B. HARVIE, Troy: The complications are cancer, hemorrhage and perforation, which will call for the most vigorous and energetic treatment. Obstruction due to contraction will permit of greater deliberation. Unfortunately, malignant disease has usually passed beyond all likelihood of successful surgical intervention when the diagnosis is made. I have met a number of cases of inoperable carcinoma occurring in the pylorus and upper part of the duodenum, starting at the base of an old ulcer, and while careful analysis of the symptom-complex might have led to an earlier diagnosis. I have not been fortunate enough to have these cases in time to be of material benefit to the patients. If there is one department of medicine in which diagnosis is called for more promptly than others, it is the right time to interpret the significance of serious abdominal lesions. The differential diagnosis between perforation of duodenal ulcer and perforation of any other hollow viscus will present difficulties, and interpretation of the site of the lesion when general peritonitis is established, and the abdomen distended with contents, make any attempt at localization largely speculative. Males suffer more frequently than females from duodenal ulcer.

### Non-Surgical Treatment

DR. CHARLES G. STOCKTON, Buffalo: Treatment is not directed toward curing the ulcer, but toward controlling the patient and in so managing the digestive tract that the ulcer may heal spontaneously. The indications for treatment are: (1) to require that the patient be kept in bed continuously for several weeks, for it is known that by assuming the upright position, bending the trunk or making movements which involve the action of the abdominal muscles, the relations of the duodenum to other parts are changed and undue tension may thereby strain the walls of the ulcer; (2) to manage the patient so that involuntary motion of the pylo-

rus and duodenum may be minimized, that the elements of overtonicity and spasticity of the parts may be avoided; (3) to lessen the amount of gastric secretion, with decreased acid and enzyme activity of the gastric juice before it passes the pylorus. Epinephrin in gastric and pyloric spasm in four out of six cases was given with favorable results. In the use of epinephrin we have a fresh means of relieving a proportion of patients of gastric and pyloric spasm. There is another method which acts in overcoming pyloric spasm, and that is duodenal alimentation as advocated by Einhorn. We have in this method a new and improved means for the treatment of gastric and duodenal ulcer. I believe the time is near when this plan of treatment will supersede operative interference in a number of cases in which the need of operation is now felt.

### Surgical Treatment

DR. JOHN B. MURPHY, Chicago: Acute cases yield very well to medical treatment. The best results are obtained by physiologic and physical rest. My personal observation of twenty-one years in work of this kind has shown that we secure better results in the chronic cases from surgical treatment; that we have greater freedom from recurrences. Surgical treatment is usually instituted at a time when it is not easy to save life; but we are making great strides. When one compares the mortality of duodenal perforation of fifty years ago with the mortality to-day, it is very much to the credit of the medical and surgical branches of the profession. Ninety-three per cent. of all lesions of the duodenum or duodenal ulcers occur on the anterior surface and in the first portion. When perforation occurs, stop the leak always. Do it quickly. It is unnecessary to do gastro-enterostomy at that time. Relieve the tension of the products of infection and of the material that has escaped into the free peritoneal cavity, using the Fowler position and lower abdominal drainage. Restore the patient's arterial tension immediately on the table, and while you are closing the abdomen have your assistant give intravenous transfusion if the patient is below par. On this plan a great reduction in mortality has been made. The best results at present are obtained by following simple means, namely, infolding of the ulcer area after the plan of Mitchell, who reports nineteen cases, with eighteen recoveries.

#### DISCUSSION

DR. ALLEN A. JONES, Buffalo: Hunger pain is an important symptom in the diagnosis of duodenal ulcer. Most of the patients with duodenal ulcer that come to us have this hunger pain very marked. It is not a symptom, however, on which we should diagnose positively duodenal ulcer. Roentgenoscopy is important in the chronic cases in which adhesions have formed, or in which there is partial stenosis of the pylorus and duodenum just beyond. Hematemesis is as common with duodenal as with gastric ulcer. We should advise against surgery in all cases in which there is a profuse hemorrhage. Acute abdominal pain, at all times, with other symptoms is of extreme importance.

DR. MAX EINHORN, New York: I have had several cases of ulcer of the stomach which have come to operation later that presented the characteristic symptoms of duodenal ulcer. That duodenal ulcer is no more frequent than gastric ulcer can be proved by experience. Hemorrhage is not an indication for operation. I think that in 99 per cent. of the cases of duodenal ulcer the patients recover under careful, judicious medical treatment.

DR. ROBERT T. MORRIS, New York: In regard to acute duodenal ulcer calling for immediate treatment. I have one new point to offer, namely, that our whole tendency is to conserve the strength of the individual in such a way that he may produce his own leukocytes, his own phagocytes and carry on the processes of elimination himself.

DR. CHARLES L. GIBSON, New York: One pitfall in the diagnosis is the question of free air in the peritoneal cavity masking or obliterating liver dulness. I am sorry that this sign was invented because it is one of the greatest pitfalls we have. Practitioners have refused to make a diagnosis because this sign was absent. Another pitfall is to lay undue stress on blood examinations in duodenal ulcer. One sign that occurs as a transitory one comes within the first half hour, namely, pain, quite marked, in the supraclavicular fossa, right or left, more often the left in my experience. The indications for gastro-enterostomy in these cases are extremely restricted. I have not done this operation, and have no occasion to regret it.

DR. ANTHONY BASSLER, New York: Cases of duodenal ulcer with perforation are surgical; cases in which there is recurrent hemorrhage are surgical, even if the hemorrhage is moderate in amount.

### Possible Errors in the Diagnosis of Abdominal Cancer: A Plea for Exploratory Laparotomy

DR. WILLIAM SEAMAN BAINBRIDGE, New York, illustrated his contentions with cases falling under the following categories: 1. Cases diagnosed as cancer, with no cancer present. 2. Cases of cancer, not recognized as such, but diagnosed and treated as something else. 3. Cases of small cancer, diagnosed as cancer, but having far more of something else present, the latter condition being mistaken for malignancy, or being considered too serious, in conjunction with the cancer to warrant operative interference. 4. Cases of advanced cancer, diagnosed as such, but made seemingly hopeless by an added condition which, in itself, is not of serious moment so far as the prognosis is concerned. 5. Cases in which the error in diagnosis concerns the type of malignant growth. Exploratory laparotomy is not advocated indiscriminately. Careful examination by all modern diagnostic methods applicable to the case, extending over a reasonable time, should be employed. Test meals, gastroscopic examinations, roentgenoscopy and the various other non-surgical diagnostic measures may be the means of plunging the patient into that slough of despond, the irremovable stage of cancer, when only palliative measures can be employed.

### Radium in Surgery

DR. HOWARD A. KELLY, Baltimore: Radium is destined to produce a change in surgical and medical work, not less marked than the introduction of the Roentgen ray, perhaps even more decided. Radium in surgery will definitely cure many forms of cancer, especially in the early stages; it will cure 96 per cent. of skin cancer, recurrent uterine cancers if taken early, and some cases of rectal cancers; it acts most favorably on parotid growths; it will cure some cancers of the lip, tongue and breast, and it acts also very positively on sarcomas. It also cures various other fibrous and epithelial growths especially on the surface of the body. One of its happiest effects is in curing angiomas, even the large vascular growths which cannot be treated at all surgically. In gynecology radium acts happily, outside of its value in cancer, in checking the growth of fibroid tumors, in stopping uterine hemorrhages and in relieving some forms of pelvic inflammatory trouble. One of its happiest uses is in the cure of obstinate pruritus of the vulva and anus. In exophthalmic goiter there is a promise for a definite field of utility. Its use in surgery, dermatology and medicine bids fair to bring about either a realignment or a readjustment of the work in these special branches.

### Tuberculin Treatment

DR. EDWARD R. BALDWIN, Saranac Lake: It is evident that tuberculin treatment is often given ignorantly. The object of the treatment is either to reduce the hypersensitiveness or to stimulate the tuberculous tissue to heal by intermittent reactions. Patients should be built up in health and nutrition and rested until acute symptoms subside. All bad complications, intestinal involvement, ulcerated larynx, fever of 100 F. or over and weakness are contra-indications. Scrofulous cases are often favorable. Reactions are to be avoided; they may be local, focal or general, with or without fever. The treatment is empiric and experimental in each patient. Rules about dosage are not hard and fast. Skin tests at

the start form some guide to dosage. Cures are not made by tuberculin alone, but may be assisted or retarded by it. It may produce much symptomatic good by lessening sensitiveness to itself or it may aggravate the disease.

### Benzol in the Treatment of Leukemia

DR. JEROME MEYERS and DR. THOMAS JENKINS, Albany: Benzol is a valuable addition to the therapy of leukemia of any kind. Its institution, however, is so recent, and clinical experience still so scanty, that definite conclusions as to its intrinsic value should be held in abeyance. It seems to have no uniform action; in all cases it reduces the white cells, but in some, apparently those with very high counts, it does not reduce the leukocytes to normal, while in cases of from 100,000 to 200,000 it may give brilliant results with normal white counts, greatly diminished or normal spleen, distinct gain in weight and strength and loss of fever. On the other hand we may have paradoxical reactions with falling white counts and gain of strength with no change in the spleen, or we may find a decrease of the spleen with persisting high leukocyte counts, or there may be low counts with many pathologic leukocytes, or there may occur sudden leaps in the number of white cells. The red corpuscles and the hemoglobin are usually influenced beneficially. When Roentgen rays can be used in combination favorable results may be obtained, the blood returning to normal with no persisting myelocytes. It is probable that the results of benzol therapy are variable for two reasons: 1. The cases in themselves vary in intensity, and in the fundamental pathologic conditions or etiologic factors in the bone-marrow, the spleen or the lymphoid system. 2. The results are in some way dependent on the size of the dose of benzol, which dose may be either stimulating or depressing to the tissues involved, and this dose may be peculiar in a marked degree to each case or individual. We would therefore suggest that the effect of benzol be carefully checked by daily blood examinations so as to gage the optimum dose and to forestall any symptoms of benzol poisoning.

### Prognosis in Infantile Paralysis

DR. WISNER R. TOWNSEND, New York: When a patient is first attacked the prognosis must be guarded. If it is of the pontine or bulbar type, or in an epidemic, with a high mortality, or in the very young or the very old, the prognosis is not so good as in other cases. The mortality may be put down as from 5 to 25 per cent. About 25 per cent. of the total affected may be of the abortive type. By the end of the second week electric examinations may enable one to make a rather positive prognosis as to which muscles will be affected, but no definite conclusion can be reached as to how far they will be affected and what the ultimate results will be before the end of six months. Definite conclusions can be given by the end of a year as to what the ultimate results will be. Deformities, both primary and secondary, can be predicted and thus prevented. Proper orthopedic treatment will give the best results.

### Examination of the Exposed as a Factor in the Prevention and Relief of Tuberculosis

DR. JOHN H. PRYOR, Buffalo: At the Buffalo Tuberculosis Dispensary where the examination of the exposed was begun in 1907, and where the practice has gradually become more thorough, the following results are reported in 248 families in which there was one living case: Pulmonary tuberculosis found in one or more members, 35 per cent.; glandular tuberculosis, 8 per cent.; tuberculosis in some form, 43 per cent. In 87 families 100 cases of pulmonary tuberculosis were discovered. In 19 additional families 48 persons had tuberculous lymph-nodes—that is, they were probably tubercuIous. In 113 families in which other members were examined and in which a death from tuberculosis had occurred other cases were reported in 40 per cent. of the members. In some families 3 or 4 other cases were discovered. Only those families are included in which examinations were made of most or all members.

During the last three years the necessity for more careful examination of the borders of the lungs along the spine and beneath the sternum has become apparent. These two regions are apt to be entirely overlooked. Auscultation of the sternum is particularly uncommon in practice. Yet the signs of a lesion occasionally are manifest there and absent elsewhere. This is especially true of children and young people. There may be evidence of disease of the bronchial lymph-nodes but the free borders of the lungs in the mediastinum should be searched also. In numerous instances when symptoms justified strong suspicion and all other regions betrayed no signs the focus was found beneath or at the edges of the sternum or close to the spine after repeated forcible inspirations and cough. In two instances the lesion was located at the edge of and under the sternum, and had followed sternal blows in football games. When children have made an apparent recovery the evidence of renewed activity or recurrence is occasionally elicited only along the edges of the spinal column.

---

## NEW YORK NEUROLOGICAL SOCIETY

*Meeting held April, 1913*

The President, DR. SMITH ELY JELLIFFE, in the Chair

### An Anomalous Case of Acromegaly

DR. M. NEUSTAEDTER: The patient is a Russian pedler, aged 30, with unimportant family history. Up to a year ago he was slightly alcoholic; eight years ago he had gonorrhea, but denied lues. Four years ago he began to have trouble with his sight, which constantly grew weaker. Three months ago he began to suffer from headache, which was constant up to a week ago. He had never vomited or suffered from nausea. About ten weeks ago his speech became affected, and at present he also complains of "drawing" pains in his limbs, especially in the left leg. He became depressed and began to lose his memory, especially as to recent events. He was always sleepy and rather irritable. His gait, which was formerly slightly ataxic, is now fairly good. He has gained 15 pounds in three months. There seems to be a beginning deposit of adipose tissue around the hips. His hair is becoming rather sparse and coarse; the skin is thick and moist. The lower jaw is becoming enlarged and the bones of the fingers are becoming thickened. The sella turcica is slightly enlarged. Speech is rough and deeper than formerly, and at times is rambling. His movements are rather clumsy, lacking energy, and he complains of sleepiness. His hearing is not affected. There is a marked impairment in his sense of taste on the left side of the posterior two-thirds of the tongue. Smell is much impaired on the right side. There is evident exophthalmos; the pupils are dilated, irregular in shape and unequal, the right being the larger. They fail to respond to light or accommodation. There is a left staphyloma and a double chorioiditis. The patient also presents a binasal hemianopsia, a myopia of 7 diopters, and a haziness of the vitreous and detached retinas on the temporal side of both eyes. There is a fine intention tremor of the hands and tongue. The superficial reflexes are present and lively; the knee-jerks are exaggerated; there is no Babinski or clonus. The motor power of the flexors of the left arm and leg is somewhat diminished. The Wassermann reaction is very strongly positive.

### Juvenile Paresis

DR. SMITH ELY JELLIFFE: A girl, now aged 15, began to have pains and stiffness in her legs about four years ago, and attacks which were called "fits," during which she would become rigid but did not lose consciousness. About this time there was an apparent retrogression in her mental development, and since then she has slowly deteriorated. She showed the Argyll Robertson pupil, a tremor of the tongue and face, an infantile mode of speech, with a degree of hesitation that almost amounted to stuttering, and a loss of knee-jerks. The girl's father died at the age of 42 after a maniacal attack, and was a paretic. The mother has Argyll Robertson pupils. The patient has Hutchinson teeth.

### Direct Treatment of Syphilis of the Central Nervous System

DR. HOMER SWIFT and DR. A. ELLIS: The technic which we have employed is to treat the patient intravenously with salvarsan or neosalvarsan, one hour later withdraw from 40 to 50 c.c. of blood into a sterile centrifuge tube, centrifugalize the blood and separate the serum from the clot. Then 12 c.c. of the serum are diluted with 18 c.c. of normal serum and heated to 56 C. (132.8 F.) for half an hour. A lumbar puncture is made and spinal fluid withdrawn until pressure is reduced to 30 mm. of cerebrospinal fluid. The 40 per cent. serum is injected by gravity through the lumbar puncture needle.

DISCUSSION

DR. JOHN A. FORDYCE: Although many of the nervous manifestations of syphilis occur several years after infection, in the great majority of cases, if not in all, involvement of the cerebrospinal system takes place during the secondary stage of the disease. It is at this time that there is a generalized dissemination of the spirochetes. It is reasonable to assume, therefore, that the infecting agent may remain latent in the cerebrospinal fluid for years, but under the influence of various contributing factors, it could cause during this stage, or later, meningitis, paresis or the complicated clinical picture of cerebrospinal syphilis. From the histories of patients who have come under my observation with tabes or other forms of cerebrospinal syphilis, I am impressed with the frequency with which they stated that they had had months or years before ocular paralysis or other manifestations of meningitis. During the early experiments with salvarsan as a therapeutic agent it was thought that one or two doses of the remedy would be sufficient to control the infection, and unfortunately this impression is still held by many practitioners, and it fostered the belief that salvarsan was not effective in the treatment of syphilitic conditions of the cerebrospinal system. As a matter of fact, many of these patients are aggravated by one or two doses, while, on the other hand, many of their symptoms are relived by the persistent use of the drug. The pains, crises, bladder symptoms and general nutrition of the patients are often greatly benefited. My plan of treatment in these cases is to give injections of salvarsan at weekly intervals, combining them with mercury at intervals of three or four days. In one case of paresis I gave twenty-one injections of salvarsan, about 10 gm. in all, with marked alleviation of the symptoms. The Wasserman reaction in this case had not been influenced by the treatment, and the cerebrospinal fluid at the last examination contained 90 cells, with a positive Wassermann and globulin reaction. I am becoming more and more convinced that salvarsan has no deleterious effect on the optic nerve. On the contrary, I have two cases under observation where it proved distinctly beneficial. In one of these cases the visual fields have enlarged, and whereas before the treatment the patient could not count fingers before one eye, she can now distinctly recognize features with the eye.

DR. B. SACHS: The theory on which this method of treatment is based is a plausible one. It appears to exert a direct effect on the syphilitic process in the central nervous system. Whether or not the change in the globulin content and cell count necessarily indicates an improvement in the patient's condition would have to be determined by a much longer experience with this method of treatment, and the results would be watched with great interest by clinicians. In the treatment of syphilis of the central nervous system with salvarsan, I have been struck by several points. One is that the persistence of the Wassermann reaction, in both the blood and spinal fluid, seemed to be out of relation to the intensity of the morbid process.

DR. E. D. FISHER: On the strength of recent reports, I have employed salvarsan in parasyphilitic conditions to a considerable extent, but in no instance could the results be regarded as marvelous. I have found it effective in those cases which were clinically designated as cerebrospinal syphilis, in which the pathologic changes differed from those of general paresis or tabes, although the differential diagnosis was often obscure.

DR. D. M. KAPLAN: The use of a large quantity of spinal fluid tends to make the positive Wassermann persistent, notwithstanding that the other serologic tests became negative.

# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Diseases of Children, Chicago

*May, V, No. 5, pp. 345-424*

1 *Gastric Motility in Infants Studied Roentgenographically. M. Ladd, Boston.
2 Case of Amyotonia Congenita with Autopsy. N. C. Foot, Chestnut Hill, Mass.
3 Case of Congenital Myxoma of Feet. M. Leitao, Rio De Janeiro, Brazil.
4 *Vaccine Treatment of Whooping-Cough. E. M. Sill, New York.
5 *Metabolism of Child with Complete Absence of Bile from Intestines. W. S. Parker, Boston.
6 Scientific Basis for Artificial Feeding of Infants. J. Howland, Baltimore.

**1. Gastric Motility in Infants.**—Ladd has based his observations on about fourteen cases, or twenty-four series, with about 124 plates. He says that one of the most striking things observed is the curious lack of peristalsis to be seen in infants' stomachs as compared with adults. Only twice has he been able to show the outline of the duodenum distinctly. The reason for this was not clear, unless it was that the food remains in the duodenum only a short time, and that the plates were taken at such long intervals, comparatively, that the duodenal stage was missed. In a case of normal digestion, if the negative is clear-cut, bismuth appears in the small intestines as soon as the feeding is completed, showing that a considerable amount of food passes into the duodenum without undergoing gastric digestion. The stomach appears to empty itself of the greater part of its contents in from one and one-half to two and one-half hours, the emptying process being more rapid in some cases than in others. After the greater part of the stomach contents has passed into the small intestines, a considerable residue remains, which is emptied very slowly, often remaining for four and one-half to five or even seven and one-half hours, in both breast-fed and bottle-fed babies. When a bismuth feeding is given and another feeding follows at the end of the regular two and one-half or three hour interval, the bismuth residue from the first feeding does not appear to mix intimately with the new feeding, but, as a rule, passes out into the small intestines much more quickly than it does when left to itself. The suggestion is strong that the distention of the stomach by a new feeding, if not excessive, stimulates peristalsis and favors the expulsion of the bismuth residue into the duodenum. On the other hand, if the distention is excessive, peristalsis may be inhibited and the emptying time of the stomach delayed.

In congenital pyloric stenosis the dilatation and peristalsis is marked; the pyloric end showing the same prow-like formation seen in adults. After a posterior gastro-enterostomy the stomach appears to expel its contents through the artificial opening quite as rapidly, if not more so, than the normal stomach. As the opening of the pylorus is dependent on the secretion of hydrochloric acid in the stomach, the early appearance of bismuth in the intestines and the expulsion of the major part of the contents within two hours would suggest that the bismuth does not of itself interfere with the normal motility of the organ. Moreover, the negatives show in one series that the bismuth had disappeared from the stomach, in one experiment in two and one-half hours, in another in seven and one-half hours—the difference in the emptying time being due presumably to the differences in the composition of the food, the amount of bismuth being the same in both cases.

**4. Vaccine Treatment of Whooping-Cough.**—Thirty-three patients with whooping-cough were treated by Sill with the pertussis vaccine, and in all the effect of the vaccine was to diminish markedly the number and severity of the paroxysms and the amount of vomiting. Absolutely no untoward effects from the use of the vaccine were noted. There were no complications in the cases in which the vaccine was used. No abscess formation, or even slight temporary inflammation or

swelling at the site of the injection, and no general constitutional symptoms occurred. The longest time any of the children coughed was twelve weeks and four days. The longest time any child coughed after it was put under vaccine treatment was nine weeks and one day, the average length of time being four and one-half weeks. The injections were given every two or three days in most of the severe cases, and in the very severe cases every day for a few days, until the symptoms were relieved; the milder cases did not receive the vaccine so often nor so much at a time.

In giving the vaccine Sill was guided more by the severity of the disease than by the age of the child. The youngest child treated was 1 month old and the oldest was 6 years. Most of the children were from 6 months to 3 years of age. The dose of the vaccine varied according to the number and severity of the paroxysms, from twenty million bacteria in the mild cases to sixty million in the severe cases. The cases that were seen early in the attack, before the paroxysms had attained their height, seemed to respond more quickly to treatment and their course was shorter. In all cases, however, after one to three injections, the number and severity of the paroxysms was markedly lessened. Some children seemed to respond better to treatment than others, and Sill attributes this to the fact that the dosage was given irrespective of the age; therefore, the younger children got a larger dose proportionately, and, as a rule, these latter were the ones that responded most quickly to the vaccine and had the shortest attacks after treatment was begun. Sill points out that this fact is important, since (heretofore) these young babies are so apt to have pneumonia complicating or accompanying pertussis, with fatal results.

It was found that the children did better when the vaccine was given in moderately large doses at frequent intervals of one or two days. The correct dosage for the mild cases, according to Sill, is fifty million bacteria given every other day, while in the severe cases this amount should be given every day, or one hundred million every other day. The vaccine is given under antiseptic precautions, subcutaneously, with the ordinary glass syringe, the injection being given in the abdomen or buttocks. Prophylactic treatment was instituted by giving immunizing doses of pertussis vaccine to children in a family in which one of the children was under treatment for whooping-cough. These children were watched over a period of two months, and although they had never had whooping-cough and were constantly exposed to the disease, did not contract it. It would seem, then, that the vaccine confers immunity to the child injected with small doses. One child of 5 years was given four injections of twenty million bacteria each, over a period of one month; another in the same family, 3 years of age, got nine injections of twenty million each, over a period of one month; neither child developed pertussis.

5. **Metabolism of Child with Absence of Bile from Intestines.**—From the study of a case of absence of bile from the intestinal tract Parker concludes that nitrogen metabolism is normal; fat metabolism is greatly reduced; the presence of bile is necessary to normal fat metabolism. A child not otherwise ill, but unable to digest fat on account of absence of bile from the intestine, can, if stomach and pancreatic functions are normal, digest sufficient protein and carbohydrate to maintain nitrogen equilibrium and to gain weight. The negative urobilinogen test is evidence of complete absence of bile from the intestine.

### Arkansas Medical Society Journal, Little Rock

*April, IX, No. 11, pp. 255-282*

7 Pathologic Uterine Hemorrhages. W. R. Brooksher, Fort Smith.
8 Indispensable Adjuncts in Diagnosis. E. D. Holland, Hot Springs.
9 Laryngeal Diphtheria. R. H. T. Mann, Texarkana.
10 Management of Chronic Cystitis in Female. T. J. Stout, Brinkley.
11 Cooperation Between Physician and Pharmacist Through Prescribing of Pharmacopeial and National Formulary Preparations. E. G. Eberle, Dallas, Tex.
12 *Physician, Pharmacist and Proprietary Medicine. A. E. Cox, Helena.

12. **Physician, Pharmacist and Proprietary Medicine.**—Many American pharmaceutical houses, according to Cox, are devoting their energies to the devising of pharmaceutical specialties, which are mixtures of well-known medicaments so fixed up that they are both palatable and of pleasing appearance, and having names that mean nothing and often are therapeutically suggestive. Manufacturing pharmacists would do well, in Cox's opinion, to devote more time to refining many of their products and leave to the doctor to prescribe and to the retail druggist to prepare his prescriptions. Speaking of "ready to take" preparations, he says:

> Are we not making a great error to prescribe such a combination? Because, first, from the standpoint of our patient, he gets no more by our prescribing this ready-made preparation, which might well be compared to the ready-made suit in contrast to the cut-to-fit, made-to-order garment; second, from the standpoint of a physician, we cultivate indolence in fitting such a combination of drugs to many cases when by working out a formula for each case and meeting the different indications in that particular case our familiarity with drugs is increased and we thereby become more expert as therapists, and in the end we are enabled to accomplish that which may be reasonably expected of our profession. Third, and last, we are not treating our druggist and pharmacist right. He has spent anywhere from two to four years at college fitting himself for this work, and he is certainly capable of compounding our prescriptions properly, if we will give him an opportunity and allow him to earn a legitimate profit in doing this and not make him an agent for the hundreds of ready-made preparations, hand-me-downs, which, unfortunately, are manufactured more for the interest of the house than for the interest of the consumer.

### Boston Medical and Surgical Journal

*May 1, CLXVIII, No. 18, pp. 637-672*

13 *Localized Osteomyelitis of Long Bones. C. C. Simmons, Boston.
14 *Infections of Upper Urinary Tract in Infancy and Childhood. R. M. Green, Boston.
15 Views of Plato and Freud on Etiology and Treatment of Hysteria. J. W. Courtney, Boston.

13. **Localized Osteomyelitis of Long Bones.**—Simmons believes that mild acute localized osteomyelitis is often overlooked in its early stages, but when recognized and treated promptly recovery usually occurs in a few weeks. It makes little difference, he says, what type of operation is performed in the subacute cases, cases of less than one year's duration, if it is thorough. The results are almost uniformly good. In the chronic, long standing cases of bone abscess operations such as are performed in the earlier cases with success often give unsatisfactory results, as the endosteum is not capable of filling in the defect. No definite rule as to the type of the operation can be laid down, but each case should be considered individually. When possible it would seem best to obliterate the cavity with living tissue flaps.

14. **Infections of Upper Urinary Tract in Infancy.**—Green is convinced that in infants and children infections of the upper urinary tract, though infrequent, are likely to occur without adequate apparent antecedent cause. Their onset is acute, their clinical picture definite, their recognition often missed on account of their simulation of other infectious conditions. Their two most usual forms are acute pyelitis and acute inflammatory nephritis. The latter is most usually hematogenous in origin, the former probably proceeds by lymphatic extension from the intestine. Predisposing causes are calculi, constipation, phimosis, anal fissures and foci of infection elsewhere. The classic signs of both are pyrexia, pyuria and tenderness in the costovertebral angle. Differential diagnosis depends on examination of the urine. The treatment consists in rest, milk diet, aqueous diuresis, moderate catharsis, urotropin, with sodium benzoate, potassium citrate, or vaccine, in obstinate cases; surgery, only as a final measure.

### Journal-Lancet, Minneapolis

*April 15, XXXIII, No. 8, pp. 223-247*

16 Strangulated Inguinal Hernia in Early Infancy: Report of Case in 18-Day-Old Infant. A. N. Collins, Duluth, Minn.
17 Some Very Acute Cases of Appendicitis in Childhood. N. L. Werner, Red Wing, Minn.
18 Analysis of 13,000 Cases for Errors of Refraction. G. B. Granger, Rochester, Minn.
19 Four Cases of Tubal Pregnancy. T. F. Riggs, Pierre, S. D.

### Journal of Experimental Medicine, New York

*May, XVII, No. 5, pp. 499-592*

20 *Comparative Studies on Cancer Cells and Normal Cells. R. A. Lambert, New York.
21 Bacteriology and Vaccine Therapy of Distemper in Horses. W. Lintz, Brooklyn.
22 *Experiments on Transmission of Scarlet Fever to Lower Monkeys. G. Draper and J. M. Hanford, New York.
23 Experimental Pulmonary Tuberculosis in Dog. P. A. Lewis and C. M. Montgomery, Philadelphia.
24 Antigenic Properties of Globin Caseinate. F. P. Gay and T. B. Robertson, Berkeley, Cal.
25 Renal Lesion of Experimental Cantharidin Poisoning. R. M. Pearce, Philadelphia.
26 *Value of Mallory's Connective Tissue Stain for Demonstration of Variation in Thyroid Colloid. A. P. Jones, Madison, Wis.
27 *Results of Serum Treatment in 1,300 Cases of Epidemic Meningitis. S. Flexner, New York.
28 Paralysis in Dog Simulating Poliomyelitis. S. Flexner and P. F. Clark, New York.
29 Immunization of Large Animals to Pathogenic Trypanosome (T. Hippicum-Darling) by Means of Avirulent Strain. S. T. Darling, Ancon, Canal Zone.
30 Action of Pneumococcus on Blood. E. E. Butterfield and F. W. Peabody, New York.

20. **Cancer Cells and Normal Cells.**—A series of comparative studies on cancer cells and normal cells was made by Lambert during the past year. The first report on this work dealt with the suseeptibility to heat of sareoma eells and connective tissue cells. The present report is limited to a consideration of the general character of growth *in vitro* of the same two tissues with special reference to cell division. Lambert claims that in primary cultures sarcoma eells exhibit a much greater activity than do normal connective tissue cells grown from the adult blood-vessel; there is a shorter latent period, ameboid phenomena are more marked, and eell multiplication proceeds more rapidly. In secondary cultures sarcoma cells are less active than in primary cultures; connective tissue cells, on the other hand, show a markedly accelerated growth. Connective tissue cells are more easily propagated over long periods *in vitro* than are sarcoma cells; they multiply actively in cultures more than three months old.

Lambert found the method of tissue cultivation is well adapted to the study of normal and pathologie eell division; the nuclear changes are easily discernible in the living cell as division proceeds, and staining methods may be applied to verify observations on the unstained structures. Atypical mitoses of several kinds are found in cultures of sarcoma cells but are not seen in growths of connective tissue. The time required for division in rat connective tissue cells kept at body temperature (38 C.) varies within relatively narrow limits (twenty to fifty minutes); sarcoma eells, on the contrary, exhibit marked variations and several hours may be required. In studies on living eells amitotic division has not been observed by Lambert in either normal or tumor tissue. Evidences of nuclear budding, however, with the formation of cells containing several nuclei of irregular size have been noted. The development of a cell with two nuclei from a mononuclear cell by mitotic division of the nucleus without division of the cytoplasm has also been observed.

22. **Transmission of Scarlet Fever to Monkeys.**—The experiments made by Draper and Hanford were varied as much as possible, both with respect to the character of material and the site and method of inoculation, on the one hand, and the conditions bearing on the susceptibility of the animals on the other. The routes of introduction were through the mucous membranes, skin, stomach, joint cavities, blood-stream, peritoneum and brain. It seemed possible that repeated inoculations at three-week intervals over a long period might bring about a state of hypersensitiveness and so lead to infection. Consequently several monkeys were treated in that manner. The animals stood the inoculation well and showed no reaction of any kind. In this series most of the inoculations were made by swabbing the scarified mucosa with infected material, and by submucous injections in the throat and nose with a hypodermic needle.

With the view of adapting a virus to an unusual host, two series of experiments were undertaken, in which infected material was easily accessible for removal. The groin was used in each series, but the inoculation material differed. Series A received subcutaneously the supernatant fluid from an emulsion of fresh tonsils from scarlet fever patients, whereas Series B was given an emulsion made from tongue scrapings. It is interesting to note that after the first passage the inguinal lymph-nodes were sterile, although in some cases enlarged. The first three animals of Series A were treated as described above and the inguinal nodes were removed and an emulsion made from them was reinjected into another monkey. The last three animals of this series were treated in a similar way, except the final one, which received the emulsion of inguinal nodes partly in the brain and partly in the peritoneum. Series B was a repetition of Bernhardt's method. Both series were negative.

The main point made by Draper and Hanford is the fact that monkeys are highly resistant to infection with microörganisms from human beings. Therefore, they believe that the reported successful transfer of scarlet fever to both higher and lower monkeys is not definitely established. In the course of their experiments the infectious agent was carried over to the monkeys and the failure to cause infection probably proceeded from the insusceptibility of the monkeys employed, or to the manner of introducing the agent. The temperature curve and leukocyte count of monkeys they regard as unsatisfactory criteria for the diagnosis of disease in those animals. So far as scarlet fever is concerned monkeys frequently have transient blotchy, erythematous eruptions on the face and neck, and almost always a bran-like desquamation.

26. **Mallory's Connective Tissue Stain.**—Jones found that Mallory's connective tissue stain used in connection with fixation of tissue by Zenker's fluid or bichlorid of mercury demonstrates the presence or absence of iodin in the thyroid colloid, as is evidenced by parallel chemical determinations, iodin feeding and test-tube experiments. Greatly increased activity of the heart is accompanied by a loss of thyro-iodin from the colloid of the thyroid. This method, while apparently not adaptable to clinical use, Jones believes, may prove of value in further experimental work on the thyroid.

27. **Serum Treatment in Epidemic Meningitis.**—The data brought together in this report have been gathered by Flexner from a wide territory and for a period extending over several years. The antimeningitis serum was first employed in 1906 and the latest figures relating to its use included in this report were furnished in 1912. He says that there is no longer doubt that the serum has come to be applied under conditions fairly representing all known manifestations of epidemic meningitis. Hence the test of the serum treatment may be regarded as having been a rigorous one. The initial difficulties surrounding the administration by direct subdural injection have been largely overcome and doubtless will be still further mastered. Already the serum is being successfully applied in private as well as in hospital practice. This gain will probably be reflected in a still further diminution of the mortality since early injection plays such a large part in determining the results achieved. The 1,300 cases studied in this report are a part only of a far greater number of cases actually treated with the serum supplied by the Rockefeller Institute. It was not found possible to secure histories of all the patients treated; but Flexner does not believe that the results of the analysis would have been essentially different if reports of a still larger number of cases had been returned. The decision arrived at is not based on statistical computations alone, but on objective data as well that are not readily misinterpreted.

The number of serum-treated patients subjected to analysis is 1,294. They have not been selected and a single exclusion has been practiced. The results were: Recovered, 894; died, 400—30.9 per cent.

The histories of 830 cases permitted of a judgment as to the manner of termination, and it was ascertained that in 30 per cent. the cessation was abrupt, or by crisis. Of the 1,294 patients fifty-six showed relapses after greater or less intervals of time. Prompt resumption of the serum injections often but not invariably sufficed to control and suppress the reinfections. Of the fifty-six patients forty recovered and sixteen died. Among them the mortality was 28.6 per cent.,

Mortality according to the period of injection of the serum:

| Period of Injection | No. of Cases | Recovered | Died | Per Cent. Recovered | Per Cent. Died |
|---|---|---|---|---|---|
| 1st to 3d day..... | 199 | 163 | 36 | 81.9 | 18.1 |
| 4th to 7th day ..... | 346 | 252 | 94 | 72.8 | 27.2 |
| Later than 7th day .. | 666 | 423 | 243 | 63.5 | 36.5 |
| Totals ..... | 1,211 | 838 | 373 | 69.2 | 30.8 |

Mortality according to age:

| Age | No. of Cases | Recovered | Died | Per Cent. Recovered | Per Cent. Died |
|---|---|---|---|---|---|
| Under 1 year..... | 129 | 65 | 64 | 50.4 | 49.6 |
| 1 to 2 years..... | 87 | 60 | 27 | 69.0 | 31.0 |
| 2 to 5 years..... | 194 | 139 | 55 | 71.6 | 28.4 |
| 5 to 10 years..... | 218 | 185 | 33 | 84.9 | 15.1 |
| 10 to 20 years..... | 360 | 254 | 106 | 70.6 | 29.4 |
| Over 20 years ..... | 288 | 180 | 108 | 62.5 | 37.5 |
| Age not given..... | 18 | 11 | 7 | 61.1 | 38.9 |
| Totals ..... | 1,294 | 894 | 400 | 69.1 | 30.9 |

Mortality according to age and period of injection:

| Age | Injected 1st to 3d Day | | | | Injected 4th to 7th day | | | | Injected Later than 7th Day | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | No. of Cases | Recovered | Died | Per Cent. Died | No. of Cases | Recovered | Died | Per Cent. Died | No. of Cases | Recovered | Died | Per Cent. Died |
| Under 2 years.. | 13 | 12 | 1 | 7.7 | 37 | 28 | 9 | 24.3 | 159 | 81 | 78 | 49.1 |
| 2 to 5 years.. | 30 | 24 | 6 | 20.0 | 66 | 49 | 17 | 25.8 | 93 | 63 | 30 | 37.3 |
| 5 to 10 years.. | 55 | 49 | 6 | 10.9 | 69 | 61 | 8 | 11.6 | 77 | 61 | 16 | 20.8 |
| 10 to 20 years.. | 67 | 58 | 9 | 13.4 | 106 | 73 | 33 | 31.1 | 171 | 115 | 56 | 32.7 |
| Over 20 years.. | 34 | 20 | 14 | 41.2 | 65 | 39 | 26 | 40.0 | 164 | 101 | 63 | 38.4 |
| Totals ..... | 199 | 163 | 36 | 18.1 | 343 | 250 | 93 | 27.1 | 664 | 421 | 243 | 36.6 |

indicating that the relapses respond somewhat less well to the serum than the primary infections. The complications and sequels are reduced in number. In fact, the number of permanently injured among the serum-treated has become very small. Of all the severe sequels deafness has remained least influenced. Unhappily, injury to the internal ear takes place very early and sometimes before the diagnosis of meningitis has been made. In view of the great reduction in other severe effects, Flexner hopes that even this one may be diminished by a more uniformly early application of the serum. The arthropathies have not only been reduced in frequency but they have been shown to be amenable to direct injections of the serum. Undoubtedly the tendency to hydrocephalus in the young has been diminished, and the intraventricular injection of the serum has operated in several instances to abolish infection and inflammation of the cerebral ventricles and to reestablish communication between the ventricles and the subdural space of the spinal cord. Recovery, therefore, has been rendered complete.

## Kansas Medical Society Journal, Kansas City

*April, XIII, No. 4, pp. 139-182*

31 Conservation of Ethmoid. J. E. Sawtell, Kansas City.
32 Inertia Uteri. E. W. Reed, Holton.
33 Hemorrhages—Antepartum and Postpartum. E. A. Reeves, Kansas City.
34 Sinusitis. C. Zugg, Kansas City.
35 Foreign Bodies in Air Passages and Esophagus. R. H. T Mann, Texarkana.

## Maine Medical Association Journal, Portland

*April, III, No. 9, pp. 1263-1310*

36 Preliminary and Postoperative Treatment of Abdominal Operations. W. L. Cousins, Portland.
37 Certain Aspects of Arteriosclerosis. T. J. Burrage, Portland.
38 Evils Caused by Poor Development of Upper Jaw. S. J. Beach, Augusta.
39 Cancer. D. Cragin, Waterville.

## Medical Record, New York

*May 3, LXXXIII, No. 18, pp. 783-828*

40 Pathogenesis of Gastric Crises of Tabes. W. Castelll, New York, and T. Pinel, Paris.
41 *Newer Ideas on Cancer Etiology. L. D. Bristol, Syracuse, N. Y.
42 Results of Operation for Gastric Ulcer. A. F. R. Andresen, Brooklyn.
43 Passing of Parasyphilis. S. Pollitzer, New York.
44 Significance and Management of Hypertension. H. F. Stoll, Hartford, Conn.
45 Post-Mortem Ophthalmoscopy. M. H. Kahn, New York.

41. **Cancer Etiology.**—After a brief review and criticism of the older theories, and a consideration of recent facts brought out in relation to the subject, Bristol suggests some new ideas as to the cause or causes of cancer, and treats the subject from the broad standpoint of a combination of biology, chemistry, physics, physiology, bacteriology and pathology rather than to consider it from the standpoint of any one of these alone. As a basis for the development of cancer, primary and secondary "precancerous" stages are discussed; the primary stage being local cell and tissue degeneration or necrosis due to all the known causes of such changes—a pathologic problem involving mechanical, chemical, physical, parasitic and physiologic factors; the secondary "precancerous" stage being a local disturbance of chemical equilibrium, a chemical rearrangement, including an affinity of these degenerated areas for, and an attraction to them of, certain inorganic salts of the blood—a problem of local disordered metabolism involving physical and chemical conditions in cell and tissue. It is then suggested that such a change in local chemical environment may influence the growth of neighboring cells by causing them to take on increased permeability, absorptive powers and oxidations, and lead to accelerated activity and growth, even to malignancy. Attempt is finally made to adapt these ideas to the important phenomena of cancer. Bristol says, for instance, that the common sites for the development of cancer, namely, the uterus, the stomach, the breast, the bowel, the skin, etc., are, in about the same ratio of occurrence, correspondingly liable to one or more of the primary causes of tissue degeneration, leading eventually to an attraction for the organic salts of the blood and an upset in local chemical equilibrium. The degenerated or dead cells of uterine glands, following chronic inflammation, disuse or overactivity; the dead or dying cells in a chronic gastric ulcer; the local necrosis in a breast following an abscess; the scar tissue resulting from a past typhoid or tuberculous ulcer in the bowel or from an old Roentgen ray burn of the skin, are all areas which have an affinity for inorganic salts of the circulation, and in each instance the dead cells show changed chemical reactions. Bristol believes that metastases are formed by the transportation of cells from the original growth, and that conditions are fairly well maintained in the medium through which they are carried (either the lymph or the blood) which encourage their continued division and growth, and that such growth is aided by a lessened general or local tissue resistance on the part of the diseased person. Loss in weight and strength, and anemia are rather common in all progressing cases of cancer, and these are not necessarily associated with obstruction to food or failure in appetite. These symptoms may be brought about by a disorder and disproportion in metabolism in which the tumor cells are rapidly absorbing food and salts from the blood and lymph, to the detriment of the other tissues of the body which are not only becoming starved, but at the same time are unable to give off those waste products which they contain, thereby resulting in more or less auto-intoxication. A disorder in general metabolism caused by even a small tumor may be as great in degree as the disorder in metabolism set up by such comparatively small bodies as the thyroid, parathyroid, ovary or pituitary body when their physiologic activities are disturbed.

### Missouri State Medical Association Journal, St. Louis

*April, IX, No. 10, pp. 323-356*

46 Roentgenotherapy in Carcinoma About Eye. E. H. Skinner, Kansas City.
47 Treatment of Anterior Poliomyelitis. A. O'Reilly, St. Louis.
48 *Dyspepsias, with Special Reference to Diagnosis. G. B. Eusterman, Rochester, Minn.
49 Immunity. J. R. Hall, Napton.
50 *Self-Invaginating Hemostatic Stitch for Appendix Stump. J. H. Outland, Kansas City.
51 Plea in Behalf of Unborn. T. F. Lockwood, Butler.

48. **Dyspepsia.**—Eusterman points out that a functional dyspepsia may complicate a surgical lesion. Cases with early, mild, indefinite gastric disturbances dependent on gall-bladder or appendiceal disease are often included in this group until subsequent, localizing symptoms explain the probable etiology. Cases of functional hyperacidity may simulate ulcer. Test-meal analyses of hyperacid cases and chronic catarrh are similar to those found in gastric or duodenal ulcer and cancer, respectively. A mixed neurosis affecting both sensation and mobility, and accompanied by symptoms of general neurasthenia, constitutes the obscure and complex disorder known as neurasthenia gastrica or nervous dyspepsia. Alterations in the position of the stomach, whether congenital or acquired, oppose a mechanical obstacle to the propulsion of food into the duodenum and by causing secondary perversions of the other gastric functions may give rise to a form of dyspepsia which can only be distinguished from gastric neurasthenia by careful examination. The essential factors in the proper diagnosis of gastric and allied conditions which cause dyspepsia, according to the author, are: careful history taking; routine, thorough physical examination; a routine test-meal examination; if necessary, a skiagraph series or fluoroscopic study of the gastroduodenal area; a correct interpretation of all the data at hand; the general attitude of the patient, his general appearance, etc., should be observed. The careful physician should inquire into the daily habits, social environment, manner of eating, nature of food, condition of teeth, etc. He should correct the diet, urge proper mastication and institute natural, therapeutic or surgical measure as the case may be.

50. **Appendix Stump Treatment.**—The steps of the method which Outland has used successfully in 539 cases are as follows: The meso-appendix is ligated as usual. The junction of the appendix and caput coli is caught in a curved clamp, the convexity being toward the bowel; another curved clamp is fastened just above, and the appendix is cut close against the lower clamp. (This step does not differ from the same step in any appendectomy, except that the stump is cut as close as possible to the cecum.) A Lembert suture of linen thread is carried across the clamp and a stitch is taken parallel with the clamp. It is again carried across the clamp and a corresponding suture taken on the opposite side. The last stitch is passed beneath the clamp again. The end of the suture with the needle attached is taken in the left hand, the handle of the clamp is taken in the right hand, the assistant pulls on the other end of the suture, as the clamp is gently released and the jaws withdrawn from under the loops. Invagination is accomplished more perfectly by pulling on the meso-appendix end of the thread. The curved clamp is used because there is no difficulty in keeping the loops of the thread over the clamp until it is ready to be taken off. By using a rather heavy clamp the tissues between the jaws are so crushed together that no accident has been experienced by having the bowel contents escape before the ligature is drawn taut. The two ends of the thread are brought over and tied. After tying and before cutting, a loop is made under the appendicular artery and again tied. It is seldom necessary to reinforce the stump by other superimposed stitches. This suture properly placed is hemostatic.

### New Mexico Medical Journal, Las Cruces

*April, X, No. 1, pp. 1-28*

52 Advantages of Combined Abdominal and Transpleural Operative Technic for Liver Abscess. W. L. Brown, El Paso, Tex.
53 Treatment of Compound Fractures. W. W. Spargo, Albuquerque.
54 Pellagra in Pecos Valley. C. F. Beeson, Roswell.

### New Orleans Medical and Surgical Journal

*April, LXV, No. 10, pp. 697-784*

55 Control of Diphtheria. W. H. Seemann, New Orleans.
56 Nasal Diphtheria in Public Schools. E. Moss, New Orleans.
57 Heart in Diphtheria. J. B. Elliott, New Orleans.
58 Anaphylaxis: Report of Case. M. J. Magruder, New Orleans.
59 Diphtheria of Ear and Nasopharynx. W. Seheppegrell, New Orleans.
60 Corrective Plaster Jackets in Treatment of Scoliosis. E. S. Hatch, New Orleans.
61 Intravenous Ether Anesthesia: Report of Cases. E. L. Sanderson, Shreveport, La.
62 Cleft Palate. J. F. Oechsner, New Orleans.
63 Pancreatitis. W. T. Richards, New Orleans.
64 Vesical-Calculi. L. Sexton, New Orleans.
65 Intestinal Obstruction. G. L. Stirling, Baton Rouge.

### New York Medical Journal

*May 3, XCVII, No. 18, pp. 905-956*

66 Hematuria. V. C. Pedersen, New York.
67 Shoulder and Arm Paralysis of Poliomyelitis. B. Bartow, Buffalo.
68 Anomalies in Cardiac Rhythm. T. Howard, New York.
69 *Travels of a Nail. G. Rosenbaum, Philadelphia.
70 Paraurethrae. J. L. Herman, Philadelphia.
71 Fibromyoma Uteri. W. P. Healy, New York.
72 Carcinoma of Stomach: Its Early Diagnosis. J. V. O'Connor, Woonsocket, R. I.
73 Internal Treatment of Nephritic Diseases. H. Strauss, Berlin.
74 Chronic Nephritis. G. Parker, Burin North, Newfoundland.
75 *Edema of Glottis. G. K. Collier, Sonyea, N. Y.

69. **Travels of a Nail.**—A small and poorly nourished child, 2½ years of age, swallowed a long wire nail on December 16, 1912. Shortly after this he vomited and the vomitus was tinged with blood. The mother gave the baby purgatives and tried home remedies, but with no result. Two days later, after a dose of castor oil, the child suffered severe abdominal pain and became cyanotic for a short time. December 20 the child was referred to Rosenbaum. The temperature was 99 F., pulse 116 and respirations 28. No tenderness or rigidity of abdomen on palpation. Six skiagrams were taken, the first on December 20 and the last on December 29, the day the nail was passed from the rectum. All told, the nail was in the alimentary tract fourteen days. Four days it lodged in the stomach and six days were required to complete the journey through the small intestine, and the remaining four days for its passage through the large intestine. The child had daily evacuations during this period, and, while it was quite restless during its stay in the ward, it was in no sense ill. The temperature never rose above normal.

75. **Edema of Glottis.**—The unusual features of Collier's case are glottic edema occurring with epilepsy, and the rapidity of its course, two years.

### Oklahoma State Medical Association Journal, Muskogee

*April, V, No. 11, pp. 485-524*

76 Unusual Cerebral Symptoms in Child of Ten Years. W. G. Little, Okmulgee.
77 Caisson Disease. B. H. Brown, Muskogee.
78 Associated Nervous Diseases of Women. D. M. Montgomery, Marlow.
79 Loss of Hearing in One Ear from Injury. J. H. Barnes, Enid.
80 Obstetric Surgery. T. B. Coulter, Chickasha.
81 The Throat and Its Value to General Practitioner. A. B. Leeds, Chickasha.

### Ophthalmic Record, Chicago

*April, XXII, No. 4, pp. 175-232*

82 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
83 Method of Dealing with Capsule after Cataract Operations. D. F. Reeder, Ancon, C. Z.

### Ophthalmology, Seattle, Wash.

*April, IX, No. 3, pp. 321-478*

84 Simplification of Operation of Krönlein. A. Magitot and M. Landrieu, Paris.
85 Wolfe Graft Used to Correct Total Eetropion of Upper Eyelid. N. H. Goodenow, Everett, Wash.
86 Altitudinal Hemianopsia, Unilateral and Bilateral. L. C. Peter, Philadelphia.
87 Large Incision in Cataract Extraction E. F. Snydacker, Chicago.
88 Lacrimation. A. A. Bradburne, Manchester, Eng.

89 Case of Mumps with Interesting Ocular Complications. H. Worthington, Chicago.
90 Pseudoglioma in Children. F. Krauss, Philadelphia.
91 Accidental Tatooing of Cornea by Piece of Lead from Copying Pencil. S. H. Brown, Philadelphia.

### Pennsylvania Medical Journal, Athens

*April, XVI, No. 7, pp. 513-594*

92 Dr. Benjamin Rush, Pioneer Investigator of Effects of Alcohol and Tobacco on Man. H. O. Marey, Boston.
93 High Intestinal Obstruction, Postoperative Ileus and Acute Pancreatitis. J. E. Sweet, Philadelphia.
94 *Medical Aspects of Pulmonary Surgery. H. R. M. Landis, Philadelphia.
95 Surgical Aspects of those Diseases of Thorax which are Amenable to Surgical Intervention. S. Robinson, Boston.
96 Technic of Thoracic Operations. W. W. Babcock, Philadelphia.
97 *Intrathoracic Tumors. J. Sailer and R. G. Torrey, Philadelphia.
98 Diagnostic and Therapeutic Value of Needle Puncture of Maxillary Sinus. H. M. Goddard, Philadelphia.
99 Bilateral Pansinusitis; Operation; Thrombosis; Meningitis; Recovery. M. D. Ritchie, Pittsburgh.
100 Drainage of Accessory Sinuses in Atrophic Rhinitis. J. F. Culp, Harrisburg.
101 Treatment of Suppuration of Antrum of Highmore. E. B. Gleason, Philadelphia.
102 Exploratory Opening of Sphenoid Sinus. C. P. Grayson, Philadelphia.
103 Case of Injury to Eye. G. R. S. Corson, Pottsville.

94 and 97.—Abstracted in THE JOURNAL, Nov. 16, 1912, p. 1815.

### Philippine Journal of Science, Manila

*October, VII, No. 5, pp. 423-473*

104 *Study of Polyneuritis Gallinarum. Degeneration of Nerve Fibers. E. B. Vedder and E. Clark.
105 Report of Pathologic Examinations for One Year from Surgical Clinic of Philippine General Hospital. P. K. Gilman and B. C. Crowell.

104. **Polyneuritis Gallinarum.**—In every one of the fifty-six fowls which had been fed by Vedder and Clark for thirty-five days or more on polished rice, changes indicative of degeneration (Marchi method) were seen in the fibers of the sciatic nerve, regardless of whether symptoms of neuritis had or had not manifested themselves before death. Advanced degeneration in the peripheral nerve fibers manifests itself by a change in both myelin sheath and in the axis cylinder. The myelin sheath breaks up into globules and droplets, which stain black in the Marchi solution—indicative of fatty degeneration. The axis cylinder breaks up into segments or disintegrates in all those fibers showing advanced degeneration in the medullary sheath. The degree of degeneration in the sciatic nerve corresponds closely with the extent of the paralysis of the legs. Advanced degeneration was observed in only 10 to 15 per cent. of the fibers of the sciatic nerve of fowls showing pronounced symptoms of leg paralysis. In the remaining fibers the change was not advanced. They could detect no difference in the degeneration in the sciatic and its peripheral branches either as regards extent or time of onset. Degeneration was observed in both dorsal and ventral nerve roots, being most pronounced in the latter. Degenerative changes in both axis cylinder and medullary sheath were seen in fibers of all columns of the thoracic spinal cord.

Changes were observed (Nissl method) in certain large cells of both ventral and dorsal horns of the gray substance of the lumbosacral cord. In the cells of both horns, the tigroid bodies were not visible, and the stainable material was collected at one side of the cell around the base of one of the processes. Cells were occasionally seen whose nuclei stained very poorly. Mitochondria were observed in the nerve cells of the lumbosacral cord, even though there was a pronounced alteration of the tigroid bodies. The mitochondria here were of similar appearance and almost or quite as numerous as in corresponding cells of the normal cord. In the medullary sheath of fibers of the sciatic nerve of normal fowls numerous small, bacilli-like rods, arranged radially around the axis cylinder, were made apparent by the various mitochondria methods. These structures are probably mitochondria. Fowls show alteration in the medullary sheath of the sciatic fibers after only seven days on a polished rice diet. In the sciatic fibers of fowls fed for seven days on polished rice alone, the rods are scarcely to be observed. Instead, the stainable material shows remarkable alterations and occurs in the form of irregular, branched and anastomosing masses. In fowls fed for a longer period, these masses show, in a certain percentage of the fibers, progressive changes which manifest themselves in the form of more definite skeins and segmentations and larger masses and globules of stainable material. In fibers showing marked degeneration by the Marchi method these occur as larger or smaller vesicular, oval globules and correspond to the black globules shown by the Marchi preparations.

When fowls are fed on polished rice and in addition given some protective substance, such as is contained in extract of rice polishings or in various foods, but in insufficient quantity to confer complete protection, the disease appears in its characteristic form and with all the evidences of nerve degeneration, but after a prolonged incubation period—forty-five to ninety days, or even after one year of such feeding (Eijkman). When fowls are fed on polished rice and in addition receive daily 10 grams of white bread or 5 c.c. of canned milk, they receive little or no protection from polyneuritis gallinarum. When fowls are fed on polished rice and in addition receive daily 10 grams of meat cooked or uncooked, 10 grams of potatoes cooked or uncooked, or 5 c.c. of fresh cow's milk, they receive partial protection as indicated by the prolongation of the incubation period. When fowls are fed on polished rice and in addition receive daily 10 grams of dried peas or 10 grams of peanuts, they receive complete protection for at least sixty days.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### Brain, London

*February, XXXV, No. 3, pp. 195-257*

1 *Pedigree Showing Both Insanity and Complicated Eye Disease: Anticipation of Mental Disease in Successive Generations. E. J. Lidbetter and E. Nettleship.
2 *Case of Progressive Lenticular Degeneration. J. E. H. Sawyer.
3 *Case of Periodic Paralysis. H. W. Gardner.

1. **Pedigree Showing Insanity and Complicated Eye Disease.**—The pedigree which forms the basis of this paper shows an association between mental deficiency and ocular defects, partly developmental and partly morbid. Among the members of this family, who are not known to have had any defined mental or bodily disease, a large proportion have been recipients of poor law relief, showing that they were not well enough endowed mentally and physically to compete successfully in life. The mental deficiency in this family tends to appear at an earlier age in each succeeding generation (anticipation); but anticipation cannot be proved for the ocular defects. The pathologic changes are chiefly detachment of the retina, based on disease of the chorioid, but with iritis and secondary cataract in some cases. Both the mental and the ocular conditions are hereditary.

2. **Progressive Lenticular Degeneration.**—The particular points of interest in Sawyer's case are: The age of the patient (19) at the commencement of the symptoms. The disease has now been manifest for seventeen years, whereas in all the others there was a fatal termination within seven years. The tremors are always present, but vary in intensity from day to day, whereas in the recorded cases when they had developed they never seemed to diminish. The muscular rigidity does not appear to have been less on one day than another in any of the recorded cases. In this patient the rigidity never disappears, but it varies in intensity from day to day, and also while under examination the rigidity changes distinctly in different parts of the body. A limb which is at one time extremely rigid may at another become comparatively flaccid. There are no true contractures in this case. In all

the other cases these were such a marked symptom when the disease had been present even for a short time. There is no dysphagia in this patient, only a difficulty in mastication. There is no emaciation or weakness. The patient is not fat, but he is quite strong. The nervous symptoms present in this patient, according to Sawyer, leave no doubt that the lesion is situated bilaterally in the lentieular nucleus. He describes all the findings in detail.

3. **Periodic Paralysis.**—The patient, a boy, aged 17, told Gardner in the spring of 1907 that for the last two years he had been subjeet to attacks of eomplete loss of power in his arms and legs. The first attack oeeurred in August, 1905. It came without any warning. He woke up one morning and found that he was unable to move his head, arms and legs. His head ached and so did his baek, arms and legs, and he felt weak and ill. The attaek lasted all day. During it he was unable to pass water, and his club doetor was sent for, who drew it off with a eatheter. Next morning he woke up feeling as well as ever and returned to work. The second attaek was precisely similar, and occurred nine months later (May, 1906). The third attack occurred six months after the seeond. The fourth attack after an interval of another three months. The fifth attack after an interval of another two months. The sixth attack after an interval of one month only. An interval of two weeks only had intervened between the sixth attaek and the present one—the seventh. Not only had the attacks come more and more frequently, but they were also more prolonged; the sixth attack began on a Sunday morning and lasted three whole days.

On Wednesday morning when he woke up he found himself quite well once again. He had never had any illness, had not suffered from infantile convulsions; he had been a strong healthy boy, fairly intelligent, leaving school in the fifth standard, never nervous or delicate in any way. He had, however, been subject to "siek headaehes" for as long as he could remember, generally at intervals of two or three months. His head used to feel heavy; he used to see "zigzag lines and round eireles," and the attacks would end in vomiting, relieving the headache. Then he would sleep for two or three hours, and wake up feeling quite well. Since the attaeks of paralysis began these siek headaches had ceased.

Patient belongs to a strong, healthy family by no means neurotic. His father, mother, five brothers and three sisters are alive and well and strong. One brother died in infancy. His mother and one brother suffer from occasional "bilious headaches." There is no history of any similar attaeks of paralysis having occurred in his family, either on the father's side or the mother's, nor is there any history of epilepsy or any other nervous disease. Gardner came to the conclusion that the attaeks of periodic paralysis were due to auto-intoxication, the presenee of the toxins being due to some congenital defect in metabolism.

The treatment was: 1. The patient was to give up drinking beer altogether, and to avoid all rich food; and he was to drink large quantities of water. 2. To take magnesium sulphate, 3i in half a pint of hot water on rising every morning. 3. To take 2-grain pills of calomel, onec a fortnight at bed time, followed by Epsom salts in the morning. 4. To take tincturae digitalis ♏ iv; potassii acetatis, gr. xx; syrupi ʒss; aquae menthae piperitae ʒi, ter die, 5. To take eaffeinae eitratis, gr. viiss; potassii bromidi, gr. x; acidi hydrobromi. dil., ♏ xv; syrupi ʒss; aquae chloratae ʒss., in a tumblerful of water whenever any warning symptoms of an attaek make their appearanee.

The success of treatment was very great. The attaeks which had been getting more and more frequent, and threatened to ineapaeitate the patient, at once eeased. It was two years before he had another attaek; once or twice warning symptoms oeeurred, but a dose of the caffein mixture proved sufficient to avert it. Then came the attack after a hard game of football. The patient was told to take his ealomel pills and a dose of his eaffein mixture, and to eat a light supper and drink no beer and much water after a football match in the future. As long as he did this he played football matches with impunity. Then the patient discontinued all treatment and drank beer again. The attacks recurred, and threatened to become more frequent.

### British Medical Journal, London

*April 19, I, No. 2729, pp. 805-864*

4 Malingering, Valetudinarianism and Their Prevention. B. Bramwell.
5 Malingering. C. J. Bond.
6 Plea for Medical Referees Versus Inspectors. J. Collie.
7 Studies on Beriberi. C. Funk.
8 Alimentary Toxemia: Cutaneous Indications of Alimentary Toxemia. J. Galloway.
9 Chronic Intestinal Stasis. A. F. Hertz.
10 Bacteriologic Evidence of Intestinal Intoxication. J. C. G. Ledingham.

### Dublin Journal of Medical Science

*April, III, No. 496, pp. 241-320*

11 *Celiac Affection. H. C. Drury.
12 *Tuberculin Treatment of Pulmonary Tuberculosis. G. B. Dixon.
13 Three Cases of Tuberculous Disease of Lower End of Femur, Illustrating Points in Pathology and Treatment. W. I. de C. Wheeler.

11. **Celiac Affection.**—Drury cites a case of what Gee has described as an intestinal disorder, most commonly met with in children between the ages of 1 and 5, characterized by the occurrence of pale, loose stools, not unlike gruel or oatmeal porridge. They are bulky, not watery, yeasty, frothy and extremely offensive. The affection has received various names, such as diarrhea alba or diarrhea chylosa. It is not associated with tuberculosis or other hereditary disease. It begins insidiously, and there are progressive wasting, weakness and pallor. The belly becomes doughy and inelastic. There is often flatulency. Fever is usually absent. The disease is lingering, and a fatal termination is common. So far nothing is known of the pathology of the disease. Ulceration of the intestine has been met with, but it is not constant. The treatment is—stop all milk and carbohydrate food, and feed entirely on raw meat and meat extracts. Within two or three days of the adoption of this line of treatment the stools begin to assume the ordinary color; they are smaller in quantity and number, but even more offensive than before. This, however, gradually subsides. The abdomen, too, becomes less and less distended, and finally quite normal in appearance. The chief difficulty seems to be to get the patient gradually on to ordinary diet and to know when to begin to try to do this. In Drury's case the patient seemed to remain *in statu quo* as long as she was on the purely meat diet, but when Drury began to slowly increase her carbohydrate food she gradually began to enliven up and very slowly to put on weight. She became quite well.

12. **Tuberculin in Lung Tuberculosis.**—Dixon's discussion of this subject emphasizes the fact that to obtain the best results from tuberculin injections every attempt should be made to reach the maximal dose of the preparation which is being used, and if this is done it will usually be shown that the patient's immunity has been raised and that he is in a much better position than he previously was to withstand fresh infection, as evidenced by the absence of relapses; for how long this high level of immunity can be maintained is a point which it is very difficult to determine. After a full course of tuberculin injections, any recurrence of symptoms or any increase in or reappearance of physical signs should be an immediate indication for the continuance of injections. Dixon points out that if this course were more universally adopted many patients would be saved from those acute phases which so frequently occur in the course of pulmonary tuberculosis, and one of which so frequently terminates fatally. Small doses of tuberculin administered for a short period of time are usually worse than useless unless such a course of treatment is secondary to a previous full course, or unless it is to be repeated. Inasmuch as tuberculin is powerless to alter gross lesions in the lungs, so in marked cases of the disease one should not judge results by the change produced in the physical signs.

### Lancet, London

*April 5, I, No. 4675, pp. 937-1006*

14 Genital Functions of Ductless Glands in Female. W B Bell.
15 Intrathoracic Aneurysm. F. de H. Hall.
16 Non-Parasitic Cysts of Liver. S. Boyd.

17 Pathology of Tuberculosis in Infancy and Childhood. C. P. Lapage and W. Mair.
18 Acute Tuberculous Pneumonia: Recovery. S. N. Galbraith.
19 Technic of Excision of Cervical Ribs. A. S. B. Bankart.
20 Epithelioma of Auricle and Cervical Glands; Removal of Auricle and Glands. N. Patterson.

*April 19, No. 4677, pp. 1075-1146*

21 *Operative Treatment of Malignant Disease of Mouth and Pharynx. W. Trotter.
22 Morbid Anatomy of Periodontal Disease. J. F. Colyer.
23 *Abdominal Pain in Infants. E. Prichard.
24 Extradural Abscess at Apex of Petrous Bone. H. F. Tod.
25 Pneumococcal Abscess of Lung in Children. L. E. Barrington-Ward.
26 Periosteal Sarcoma of Fibula with Unusually Rapid Though Typical Complications. F. J. Wadham and E. L. Horsburgh.
27 *Use of Sugar in Heart Disease. S. E. Denyer.

21. **Malignant Disease of Mouth and Pharynx.**—Trotter holds that more mistakes are made in the direction of pronouncing tumors inoperable than in attempting operations which cannot be completed. The reason for this, he believes, is that in advanced gland cases of malignant disease of mouth and pharynx the principal mass is usually under the upper end of the sternomastoid and fixed to it near its insertion. This gives the erroneous impression that the growth is fixed to the spine. Glands beneath the muscle are also likely to appear ill-defined and diffuse when they are in fact not so. When glands not under the muscle are indefinite and accompanied by brawniness of the skin and edema it is generally quite useless to operate. Trotter regards it as being very remarkable how the common and internal carotids and the vagus escape involvement in gland masses until very late. Such masses tend to spread backward and involve the muscles on the floor of the posterior triangle long before they attack the common carotid. When the common carotid and vagus are involved it is doubtful whether the operation should be carried out, and much would depend on the kind of primary growth and the condition of the patient. Removal of these two structures is a serious addition to the danger of the operation in itself, but it implies such extensive disease that cure is practically impossible. The limits of operability, then, lie less in technical difficulties than in the uselessness of the operation.

23. **Abdominal Pain in Infants.**—In quite young infants, Pritchard says, there is little to distinguish the pain due to abdominal disturbance from pain due to other causes. In this, as in other painful conditions, the legs will be drawn up, the arms flexed, and the hands probably clenched; the *recti abdominales* will be tense and the abdomen hard. There may be areas of hyperesthesia, but they are difficult to locate, as the infant may be more or less tender all over. With abdominal pain, however, the baby usually appears to be comforted by gently rubbing the abdomen or when laid face downwards on a pillow. Heat applied to the abdomen usually gives relief. The causes of abdominal pain in their approximate order of frequency are given as follows: 1. Dysperistalsis of the intestines, including enterospasm caused by irritation, obstruction, or nervous incoordination. 2. Disturbances of the motor functions of the stomach, including pyloric spasm, hour-glass contraction, spasm of the cardiac sphincter from wind, food or other causes. 3. Incoordination of the motor functions of the bladder, spasm of the sphincter, vesicae, etc. 4. Referred pain from the thoracic cavity, pneumonia, pleurisy, empyema, etc. 5. Renal colic. 6. Spinal caries and osteomyelitis. 7. Peritonitis, appendicitis, etc. The only way, Trotter concludes, to appreciate the illusive symptoms of the impressionist baby is to live with it, or even to sleep with it, but pain must not be regarded as an unmixed evil; it is often a most valuable educational medium.

27. **Sugar in Heart Disease.**—Denyer's patient, aged 77 years, had an irregularity of the pulse for some years. On Nov. 8, 1912, she had a bad heart attack, with rapid, irregular, feeble pulse, cyanosis, and attacks of paroxysmal breathing, which occurred about 5 or 6 a. m. There was no edema at this time, or at any time during the illness. On November 14 the patient seemed to be dying. Denyer ordered some lumps of ordinary white suger to be given in milk, and added some syrup to her medicine, telling them to give 4 ounces of sugar during the night. In the morning the patient was very weak, but less cyanosed and with a stronger, slower pulse. Digitalis had been omitted as well as digitalin, as these had no effect on the heart or pulse. Four ounces of sugar were ordered during the ensuing twelve hours, and after that it was continued in smaller quantities for some weeks. The patient made a slow but steady improvement, the breathing attacks getting less frequent and the pulse stronger and more regular. Her general weakness was very great and she gained strength very slowly. By the end of February she was able to go out into the garden for a few minutes, and to walk up and down stairs.

## Bulletin de l'Académie de Médecine, Paris

*April 1, LXXVII, No. 12, pp. 229-266*

28 Spirochetes Found in General Paralysis. (Présence du treponema pallidum dans un cas de méningite syphilitique associée à la paralysie générale et dans la paralysie générale.) G. Marinesco and J. Minea.
29 From the Seat of War. (Des enseignements de la guerre des Balkans. 1912.) M. Delorme. See Paris Letter, p. 1311.
30 Tobacco Angina Pectoris. (L'angine de poitrine tabagique.) C. Flessinger. See Paris Letter, p. 1473.

## Presse Médicale, Paris

*April 9, XXI, No. 29, pp. 285-292*

31 Fracture of the Ulna with Dislocation of the Head of the Radius. E. Kirmisson.
32 Technic for Cauterization with Carbon Dioxid Snow. (La cautérisation par le froid.) R. Burnier.

## Revue de Chirurgie, Paris

*April, XXXIII, No. 4, pp. 429-632*

33 *Recent Fracture of the Heel Bone. (Fractures du calcanéum.) P. Soubeyran and A. Rives.
34 *Bleeding Polyps in the Rectum. (Les hémorragies des polypes du rectum.) P. Mocquot.
35 *Injury of Stomach from Swallowed Corrosives. (Les brulures de l'estomac consécutives à l'ingestion d'acides.) X. Delore and L. Arnaud.
36 Modern Technic for Goiter Operations. H. Alamartinc.
37 Reflex Pain in the Epigastrium with Appendicitis. S. Solieri.
38 *Primary Melanoma in the Rectum. (Les tumeurs mélaniques primitives du rectum.) A. Chalicr and P. Bonnet. Commenced in preceding volume.

33. **Fracture of the Calcaneum.**—Soubeyran and Rives review the various types of fracture of the heel bone, the special symptoms of each and the special technic to apply in treatment of each form. The anterior and middle segments were involved in sixty-nine of the 137 cases they have compiled. In ninety-two cases in which the sex was mentioned seventy-nine of the patients were males. In only three cases were the patients under 20 years of age. Fracture of the heel bone may be regarded as an occupational accident in masons, roofers and carpenters. The diagnosis is seldom correctly made without roentgenoscopy. Ehret states that the fracture was diagnosed in only three of the forty-seven cases he had collected. Failure to diagnose the fracture may lead to serious trouble, persisting pain and functional incapacity. The main thing is not to treat the fracture as a sprain or contusion; in the mild cases the symptoms may be very misleading, but treatment as for a sprain although apparently curing all trouble is yet only transient in its effects, and the removal of the cause will have to be undertaken later. Even with correct treatment, consolidation does not occur under sixty days. They warn expressly against use of the foot before this as too early use may cause serious and permanent functional disturbance. The fracture generally occurs from a fall landing on the feet. Sometimes there is not much pain or impotence at first but both increase in the following two or three hours until the patient can no longer keep up and about.

34. **Bleeding Polyps in the Rectum.**—Mocquot compares a personal case observed with the literature on the subject, all data tending to show that hemorrhage with a pedunculated adenoma in the rectum comes from the tumor itself and not from the mucosa around. The hemorrhage occurs when the polyp becomes twisted on its pedicle by the passing masses of stools, and the polyp bleeds on the surface and in its interior. His patient was a child of 12 and the large polyp grew from the wall of the rectum just above the anus.

35. **Injury of Stomach from Corrosive Acids.**—Delore and Arnaud describe three cases of corrosive lesions in the stomach without much injury of the esophagus. The patients were from 24 to 52 years old and the cases show the different types of lesions that may follow drinking a corrosive substance. One woman had swallowed half a glass of hydrochloric acid; she did not vomit and it was impossible to introduce the stomach pump. The stomach was opened thirty-six hours later and the patient died the same night. The walls of the stomach were black, as if charred by fire, down to the pylorus, the duodenum beyond being absolutely intact. The pancreas showed intense congestion in the body and tail. The patient had not taken any fluids after the acid so that it had not been diluted. In the second case a man drank half a glass of sulphuric acid by mistake. He followed it immediately with two glasses of lemonade, vomited freely fifteen minutes later, and by the end of the hour drank some Vichy water and milk. During the next few days he vomited occasionally and there was some ulceration in the pharynx. After two weeks he began to vomit more frequently and lost flesh. Gastro-enterostomy was then done; a patch of cicatricial tissue was found in the antrum and all disturbances disappeared after the gastro-enterostomy. The third patient drank a glass of nitric acid which scorched the esophagus and stomach as she drank it and also when she vomited some of it up ten minutes later. Ipecac was given and copious vomiting followed, with blood in the vomit. Later she was given 40 gm. of calcined magnesia dissolved in a liter of water which she sipped from time to time. No attempt was made to rinse out the stomach on account of the tendency to hematemesis and the extreme depression. The vomiting gradually grew less frequent and the patient felt better but every attempt to eat or drink brought on the vomiting anew. She could keep down nothing except a suspension of bismuth; this suppressed the pains but the intolerance of the stomach increased as the diffuse cicatricial lesions developed. Gastro-enterostomy gave great relief but the result was less favorable than in the second patient as the lesions were more diffuse. It is possible that jejunostomy, leaving the stomach absolutely at rest, might have given better results.

The lesions in these cases of corrosion are always most intense in the lowest part of the stomach, where the fluid accumulates. An immediate operation permits the organ to be emptied and rinsed out and when this is impossible by the natural route, the operation might be considered. Jejunostomy done early is to the stomach in these conditions what gastrostomy is when the esophagus is the seat of the lesion; it checks the development of cicatricial changes. In case of diffuse cicatricial gastritis, like that presented by the third patient, operative treatment is indispensable. Stenosis of the esophagus or pylorus may develop long afterward. This suggests the importance of inquiring as to a history of possible injury of this kind from a caustic fluid when a patient applies for treatment for stenosis of the pylorus. On account of the possibility of stricture developing in the esophagus, it may be wise to fasten the stomach to the wall in concluding a gastro-enterostomy. This would permit feeding the patient through a gastrostomy with very little trouble in case this became necessary. Although severe necrosis of the gastric tissues developing at once is still almost inevitably fatal, yet the cases in which the destructive process is less acute and entails merely cicatricial lesions have benefited by the progress of gastro-intestinal surgery.

38. **Primary Melanoma in the Rectum.**—Chalier and Bonnet here conclude their long study of this subject based on sixty-four cases with operative treatment in forty-four. Of the thirty-nine patients who survived the operation the later history is known in twenty-nine cases. Recurrence with or without metastasis followed in 58.62 per cent.; the intervals ranged from a few weeks or months to fifteen, eighteen or twenty-seven months. The recurrence is generally local or in the inguinal glands. Tuffier operated on a recurrence in both rectum and inguinal glands nineteen months after the first operation and the patient survived eight months. Drenkhahn has reported a survival of two and a half years after the operation for recurrence.

## Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

*March, VIII, No. 3, pp. 149-220*

39 Incomplete Forms of Syphilis in Pregnant Women. (Quelques cas de syphilis fruste observés chez des femmes enceintes.) G. Calderini.
40 Vulvovaginal Thrombi and Hematomas. A. Van Couwenberghe.
41 Salvarsan in Puerperal Fever; Four Cases. G. Bleynie.

## Beiträge zur Klinik der Tuberkulose, Würzburg

*XXVI, No. 3, pp. 245-333. Last indexed April 19, p. 1267*

42 *Poncet's Inflammatory Tuberculosis. F. v. Gebhardt.
43 A Refractory Phase in the Tuberculin Reaction. K. Vorpahl.
44 Diaphragm Hernia, Probably Traumatic, in an Adult Consumptive. L. Melchior.
45 *Importance of Albumin in Sputum for Early Diagnosis of Tuberculosis. (Ueber den Nachweis von gerinnbarem Eiweiss im Sputum und seine Bedeutung.) J. Kauffmann.
46 Technic for Artificial Pneumothorax. S. Bang.
47 *Necropsy after Artificial Pneumothorax; Three Cases. (Drei Todesfälle mit Obduktion nach Behandlung von Lungentuberkulose mit künstlichem Pneumothorax.) C. Sundberg.

42. **Inflammatory Tuberculosis.**—Gebhardt reports three cases which seem to sustain Poncet's views in regard to the participation of tuberculous infection in a certain proportion of cases of joint trouble. In one case there was at first merely arthralgia, in the second a subacute process, both passing into a chronic stage entailing ankylosis; in the third case, the tuberculous rheumatism led to polysynovitis. The patients were men from 27 to 39 years old and the joint affections were followed by pulmonary tuberculosis in the first two cases while a pulmonary process had preexisted in the third case. The joint trouble developed in the course of tuberculin treatment in this latter patient; an old tuberculous process in the back of the left hand became mobilized under the influence of the tuberculin treatment, and spread in the form of tuberculous rheumatism, followed by chronic polysynovitis. A guinea-pig inoculated with fluid from a synovial process died the fifth week of chronic tuberculosis as also another, the third week, inoculated with pus from the hand process.

45. **Diagnostic Import of Albumin in the Sputum.**—Kauffmann states that tests for albumin in the sputum gave constantly positive findings in his 108 tuberculous patients examined. The test is extremely simple and can be applied in a few minutes at the bedside. Albumin does not appear in the sputum in chronic bronchitis, but it occurs in pneumonia, congestion catarrh and fetid bronchitis. The finding of albumin in the sputum instructively confirms the positive evidence of the skin and subcutaneous tuberculin reactions; it indicates an active tuberculous focus and locates it in the lung. As the tuberculous focus heals, the albumin disappears from the sputum. In pneumonia, it disappears from the sputum after the crisis. If it is found later, this indicates the development of new foci or empyema or that there is existing pulmonary tuberculosis. The technic has been repeatedly described in THE JOURNAL. The sputum is shaken up with a little acetic acid which precipitates out the mucin and nucleo-albumin. The filtrate is then tested for albumin by boiling or with potassium cyanid. Kauffmann applied both tests, adding a few drops of a concentrated salt solution to the filtrate and boiling, or a few drops of the cyanid were added to the filtrate. In dubious cases the cyanid solution can be poured on the filtrate; a whitish gray ring forms at the zone of contact.

The sputum must come from the lower air passages and not from the throat. The importance of this test is most marked in the incipient stages of pulmonary tuberculosis. The findings may be negative until a subcutaneous injection of tuberculin induces a focal reaction. In one case the findings were negative until the dose of tuberculin was doubled, when the temperature rose but there was no apparent focal reaction and yet albumin appeared in the sputum and the later course of the case confirmed the positive findings. In thirty-seven of his cases the tuberculosis was in the earliest phase and no tubercle bacilli were found on daily examination but the albumin reaction was constantly positive. Gerard declares that a negative skin tuberculin reaction and positive albumin reac-

tion are signs of a non-tuberculous pulmonary affection; while a positive skin reaction and negative albumin reaction signify latent tuberculosis. When both reactions are positive, an active tubereulous process in the lung may be assumed. The albumin occurs in the sputum in a number of other affections, in heart and kidney disease and in pulmonary edema. Its great value is that it enables pulmonary tuberculosis to be differentiated from bronchitis. In two of the cases of ehronic bronchitis reported the albumin test had been constantly negative, and neeropsy failed to reveal any trace of a tuberculous focus.

47. **Artificial Pneumothorax.**—Sundberg gives the necropsy findings in three fatal mishaps after pneumothorax had been induced with the usual technic. He states that B. Hansen collected last May from the literature thirty-one cases of serious symptoms, with a fatal termination in eight cases. In Sundberg's first case a woman of 28 developed immediately hemiplegia and uneonsciousness, and died thirty-six hours after the eighth injection by the usual technic. The collapse occurred before the needle had been introduced into the cannula and before the faucet had been turned to admit the gas. The seeond patient was a man of 49 who died from dyspnea three hours after the twenty-second injection. The symptoms of shock developed in two or three minutes and although the pulse kept good yet the dyspnea progressed, the mind constantly clear to the end. The third patient was a young woman who died a few minutes after the sixth insufflation. The necropsy findings confirmed in the first case the assumption of spasmodic contracture of vessels with multiple thrombosis and multiple softening of the cerebral cortex—all evidently reflex phenomena. The second case was an example of reflex spasm of the larynx. The third patient presented findings indicating vasomotor disturbances. Nothing was found in any of the three cases to suggest gas embolism as the cause of the disturbanees.

## Berliner klinische Wochenschrift

*April 7, L, No. 14, pp. 621-668*

48 *Treatment of Gastro-Intestinal Hemorrhage. (Magen- und Darmblutungen.) I. Boas.
49 Bile Peritonitis. (Gibt es eine gallige Peritonitis ohne Perforation der Gallenwege?) C. Nauwerck and Lübke.
50 Treatment of Vincent's Angina. J. Citron.
51 Bolus Alba for Sterilization of the Hands. (Ueber die Händedesinfektion mit Bolusseife und paste nach Liermann.) K. Kutscher.
52 *Serodiagnosis of Cancer. (Erfahrungen mit der Abderhalden-'schen Fermentreaktion beim Carcinom.) E. Frank and F. Heimann.
53 Etiology of Rabies. (Tollwut.) F. Proescher (Pittsburgh).
54 *Preservation of Anatomic Specimens in Sugar Solutions. (Konservierung von Dauerpräparaten in konzentrierter Zuckerlösung.) G. Magnus.
55 *Variations in Chicken Sarcoma Caused by Filtrable Agent. (Beobachtungen an einem Hühnersarkom und seiner filtrierbaren Ursache.) P. Rous and J. B. Murphy.
56 Cisterns and Malaria at Jerusalem. (Das Cisternenproblem bei der Bekämpfung der Malaria in Jerusalem. W. Brunn and Goldberg.

48. **Hemorrhage in Gastro-Intestinal Tract.**—Boas remarks that hemorrhage in the alimentary canal is one of the few fields still entirely in the hands of the internists and that the last two decades have brought decided progress in the line of warding off serious hemorrhages in the stomach or intestines by prophylactie measures based on the discovery of invisible blood in the stomaeh content or stools. Experience has demonstrated that no serious gastro-intestinal hemorrhage occurs without a preceding warning of occult bleeding through weeks, months or even years. This prophylaxis should be instituted for all forms of a local hemorrhagie tendency, from the esophagus to the rectum, stasis hemorrhages and hemorrhagic infarcts as well as the bleeding from ulcerating processes. The premonitory stage of occult bleeding may escape recognition, but Boas has found it in 94.5 per cent. of his gastric cancer cases and Zöppritz in the same proportion. Occult bleeding from a gastric or duodenal ulcer should receive the same treatment as if it were a severe hemorrhage. The patient must be kept in bed and on a milk diet (3 or 4 liters) with Carlsbad Mühlbrunnen water, with or without salt, until three or four days elapse without positive findings under the most carefnl tests for occult bleeding. The invisible hemorrhage may last for only a few days or may be evident for several weeks, but he never permits a patient out of bed or allows anything beyond milk until the last traces of blood have entirely vanished and for a period of three or four days. Visible hemorrhage occurs with gastric cancer in from 12 (Lebert) to 50 (Rosenheim) per cent. of all eases. Boas found it in 36 per cent. of his 100 patients with gastric carcinoma. With cancer, the hemorrhage is only exceptionally of an acute, threatening charaeter, but it is liable to persist indefinitely, and consequently the diet should eonsist mainly of fluid food and eggs, when operative treatment is impossible.

When a gastric ulcer heals the predisposition still remains, and the patient must be kept under eonstant medical supervision. Recurrence should be suspected at once if pain returns and the stools show much change in color. In case of manifest hemorrhage in the gastro-intestinal tract, the liver and spleen should not be overlooked in examining the patient. He has had cases of gastro-intestinal hemorrhage in young people which seemed to eome unmistakably from a gastric ulcer and yet the enlargement of the liver or spleen suggested a possible syphilitic origin for the trouble, the Wassermann test elicited a positive reaetion, and speeifie treatment promptly restored conditions to clinically normal. In treatment of severe hemorrhage the danger from doing without food is not to be considered in comparison with the danger of bleeding to death. No food should be allowed except minute regular amounts of cold tea, ice-cold milk or egg-white jelly. Boas agrees with those who say that nutrient enemas feed the imagination more than they feed the body, but proctoclysis is of extreme importance. One liter thns given, a drop at a time, in the course of twenty-four hours is generally enough. The addition of fifteen drops of 1 per thousand epinephrin solution enhances the tonic effect of the proctoclysis. An ice-bag on the abdomen aids in arresting the hemorrhage, and is also useful to keep the patient still. Gelatin has not fulfilled its promise as a hemostatic but still it should never be omitted in severe cases of internal hemorrhage; the same applies also to rectal injections of calcium chlorid. He has never witnessed appreciable benefit from epinephrin taken internally, and neither has Ewald. As a last resort, rinse out the stomach with ice water; Kehr has recently added his endorsement of this measure. It is worth a trial when palpation shows that the stomach is full of clots and these keep up an irritation.

The behavior of the pulse teaches whether the danger of hemorrhage is still impending; a weak pulse and defective filling of the arteries shows that we are far from having conquered the tendency to hemorrhage. The finding of blood in the stools does not indicate whether it is of old or recent origin. In case of doubt it is better to exercise the greatest caution for the following week, especially in regard to diet and repose. The lower the abdominal hemorrhage the more amenable it is to our measures; the lower the site the less chance of serious acute bleeding. In regard to hemorrhoidal hemorrhage, great progress has been realized in the systematie use of local injections of calcium chlorid. This does not cure the hemorrhoids themselves, but there is nothing to hinder resuming this local treatment for a few weeks if the hemorrhoids begin to bleed again. He warns that it is not always easy to get a good quality of calcium chlorid. It should always be prescribed as calcium chloratum, cristallisatum, adding the chemical formula $CaCl_2$. These injections, done properly and systematically, generally have sneh a prompt action that for years he has not recommended operative or non-operative treatment of hemorrhoids for bleeding alone. Only when, besides the recurring hemorrhages, the size and prolapse of the hemorrhoids are very annoying, does he advise their removal. The treatment of gastro-intestinal hemorrhage, he remarks in conclusion, is extremely important and even a life saving measure, but this is only the first step. To remove the cause is the main thing, and often this is far more difficult.

52. **Abderhalden's Biologic Test for Cancer.**—Frank and Heimann obtained a positive reaetion in fifty-three of fifty-four cancer patients, that is, in 98.2 per cent., while in twenty normal persons, 95 per cent. were negative. The next ques-

tion is to determine the behavior of the reaction in other diseases, syphilis, acute infections, exophthalmic goiter, etc.; also whether the test can be advantageously modified and whether it occurs with incipient cancer.

54. **Preservation of Anatomic Preparations in Strong Sugar Solutions.**—Magnus has been preserving specimens in a thick solution of sugar, such as fruit is preserved in, and he extols the advantages of this simple, inexpensive and convenient method. The results were extremely satisfactory even in regard to retention of colors when the jar had been exposed to the sunlight for six weeks. The tissues do not become stiff and brittle but cut with exceptional ease for microscopic examination. He first kept the specimens for from six to twelve hours in the usual formaldehyd solution and then twelve to twenty-four hours in 50 per cent. alcohol, before transferring to the oversaturated sugar solution. Only enough water was added to ordinary beet sugar to dissolve most of it, leaving still a little sugar at the bottom of the jar.

55. Compare with articles in the *Journal Exper. Med.* in January and April issues, 1913.

## Correspondenz-Blatt für Schweizer Aerzte, Basel

*March 29, XLIII, No. 13, pp. 385-416*

57 Traumatic Enophthalmus. A. Dutoit.

*April 12, No. 15, pp. 449-480*

58 Special Advantages of Therapeutic Cataphoresis for Infectious Corneal Processes. (Erfahrungen mit Iontophorese.) F. Stocker. Commenced in No. 14.

59 Instantaneous Roentgenography from the Medical Standpoint. (Medizinische Bedeutung der Röntgen-Momentaufnahme.) J. Schwenter.

## Medizinische Klinik, Berlin

*April 6, IX, No. 14, pp. 523-566*

60 *Diagnosis of Duodenal Ulcer. E. Allard.
61 Salvarsan and the Nervous System. E. Mattauschek.
62 Bile Hernia. (Cholocele—Gallenbruch.) E. Levin.
63 *Acute Addison's Disease. A. Lippmann.
64 Artificial Pneumothorax. (Ueber Lungenkollapstherapie mit bes. Berücksichtigung des künstlichen Pneumothorax.) A. Scherer.
65 Benzol in Treatment of Myeloid Leukemia. H. Reibmayr.
66 Rupture of Spleen from Slight Trauma in Typhoid. (Fall von Milzruptur durch leichtes Trauma bei Typhus als Unfallfolge.) S. Ishioka.
67 Localization of Acute Gout in the Larynx. W. Buss.
68 Acute Lead Poisoning. (Zur Klinik und Toxikologie der akuten Bleivergiftung.) A. v. Decastello and A. Oszacki.

60. **Diagnosis of Duodenal Ulcer.**—Allard does not approve of the "American plan of doing an exploratory laparotomy on suspicion of duodenal ulcer," and yet he admits that the characteristic symptoms of duodenal ulcer may be encountered with a gastric ulcer alone and that a duodenal ulcer may run its course without any chronic symptoms. He has found the test for occult blood an important aid, especially when preceded by an oil test breakfast. This induces a reflux of duodenum contents into the stomach and in case of a duodenal ulcer blood may then be found in the stomach content when otherwise it is constantly free from blood. He cites three cases to show the instructive findings under these conditions. In one case the admixture of blood in the stomach content after the oil test breakfast was the only sign of the duodenal ulcer.

63. **Acute Addison's Disease.**—The previously healthy young sailor suddenly developed typical Addison's disease, terminating fatally the eighteenth day. First the blood-pressure began to fall, then came intense weakness, then signs of intoxication, and finally the pigmentation. Epinephrin was given in large doses subcutaneously and this tided the patient along, evidently temporarily prolonging life. Both adrenals were found in total cheesy degeneration but the solar ganglion was intact; one accessory adrenal showed considerable hypertrophy.

## Münchener medizinische Wochenschrift

*April 1, LX. No. 13, pp. 681-736*

69 *Serodiagnosis of Pregnancy. (Erfahrungen mit der Abderhaldenschen Schwangerschaftsreaktion—Dialysierverfahren u. Ninhydrinreaktion.) H. Schlimper and J. Hendry. (Die Schwangerschaftsdiagnose mittelst der optischen Methode und des Dialysierverfahrens.) R. Freund and C. Brahm.
70 Dependence of Disturbances in Experimental Diabetes on the Concentration of the Laving Fluid. (Ueber die Abhängigkeit experimentell-diabetischer Störungen von der Kationenmischung.) Wesclko and O. Loewi.
71 Arthrodesis of Hip Joint. (Ueber die Arthrodese des Hüftgelenkes.) O. Vulpius.
72 Technic for Roentgenography. (Versuche über die harten Röntgenstrahlen—mit Berücksichtigung der Tiefenbestrahlung.) F. Dessauer.
73 Rubidium in Adelholz Waters. M. Emmerich.
74 The History of Serodiagnosis of Pregnancy. (Zur Geschichte der Serodiagnostik der Schwangerschaft.) R. Freund, E. Abderhalden and P. Lindig.

*April 8, No. 14, pp. 737-792*

75 *Spirochetes in Central Nervous System in Progressive Paralysis and Tabes. H. Noguchi (New York).
76 Peruvian Verruga. M. Mayer, H. Rocha-Lima and H. Werner.
77 Polariscope Findings in Cataracts. (Ueber doppeltbrechende Myeline in Katarakten.) M. Hoffmann.
78 *Congenital Tuberculosis. (Ueber angeborene Tuberkulose.) F. Harbitz.
79 Roentgenoscopy of the Appendix. (Die röntgenologische Darstellung des Processus vermiformis.) F. M. Groedel.
80 *Mongoloid Idiocy. H. J. W. Kellner.
81 *Cell Inclusions in Scarlet Fever. (Diagnostische Bedeutung der Döhleschen Leukozyteneinschlüsse bei Scharlach.) J. Schwenke.
82 Acromegaly Developing after Hysterectomy at 38. (Fall von Akromegalie nach Kastration bei einer erwachsenen Frau.) K. Goldstein.
83 *Pylorospasm and Gastric Ulcer. A. Neudörfer.
84 *Consanguineous Marriages. (Hat die Blutsverwandtschaft der Eheleute einen schädlichen Einfluss auf die Gesundheit der Nachkommen?) F. Kanngiesser.
85 Orthostatic Albuminuria in the Tuberculous. J. Sturm.
86 Serodiagnosis of Pregnancy and Cancer. (Ueber Serumfermentwirkungen bei Schwangeren und Tumorkranken.) E. Abderhalden and R. Freund.

69. **Serodiagnosis of Pregnancy.**—Schlimpert and Hendry applied Abderhalden's biologic test for pregnancy soon after its publication, and here report the findings in 316 cases. At first they obtained contradictory findings, even when instructed by Abderhalden himself in the technic. At last they discovered that the hydrant water used (Freiburg) was the source of the error, and since they have eliminated this, their findings have confirmed Abderhalden's statements in every particular, as they followed his minute directions recently published in the *München. med. Wchnschr.*, 1912, LIX., 1939. Their last series of seventy-nine cases are thus the ones on which they base their conclusions. Not a single failure was encountered in the seventy-nine cases. The reaction is strictly specific and they proclaim it as the greatest progress yet made in the investigation of the metabolic processes which accompany pregnancy. The importance is obvious of a test which will reveal tubal pregnancy, differentiate between myoma and pregnancy, and disclose a pregnancy in its incipiency.

Freund and Brahm report their findings on application of both the optic method and the dialysis method. The findings were sustained by the clinical aspect of the case in 72.4 per cent. of the 134 cases in which the optic method was applied, and in 66.7 per cent. of the ninety-nine cases with the dialysis test. The fresher the serum, the better the chances for accuracy in the test. In the ninety-two cases in which both methods were applied, the findings harmonized in sixty-one instances, including forty-three positive and eighteen negative cases. In thirty-one cases the findings were contradictory. They remark that neither method is able to determine beyond possibility of a doubt the existence of a pregnancy, yet the scientific importance of the principles of the reaction involved is still very great. (For the technic of Abderhalden's reaction see editorial in THE JOURNAL, Dec. 7, 1912, p. 2073.)

75. See editorial in THE JOURNAL March 29, 1913, p. 1002.

78. **Congenital Tuberculosis.**—Harbitz adds one more to the scanty list of cases of unmistakably congenital tuberculosis. He knows of only 120 such cases on record, and only twenty of them all are free from possibility of the infection having been acquired after birth. In his case the mother had a tuberculous process in the interior of the uterus at the point where the placenta was implanted, so that there was every chance for transmission of the tubercle bacilli directly into the blood of the child. The uterus had probably become infected from

an older tuberculous process in the tubes. The mother died from miliary tuberculosis, twenty-eight days after delivery. The child was removed from contact with the mother at once after birth and fed with milk from another woman. It died the twenty-fifth day after birth and extensive tuberculous changes were found in the lungs and lymph-nodes which had every appearance of having been congenital. He has made a special study of the possibility of congenital tuberculosis, but found no evidence of its occurrence in six infants less than five weeks old born of tuberculous mothers. Inoculation of animals gave constantly negative findings. In examining 484 child cadavers, 1898-1911, he found 59 per cent. free from signs of tuberculosis. Of the 41 per cent. with evidences of the disease, in 10.7 per cent. it had been latent or had entirely healed, and in 5.6 per cent. there had been nothing to indicate the disease, but guinea-pigs inoculated with tissue developed tuberculosis. Of the eighty-two infants less than three months old, there was no trace of tuberculosis in seventy-six; of the fifty-five between 3 and 6 months old, forty-six were free from the disease; of the thirty-six between 6 and 9 months old, only twenty were free from it, and of the twenty-eight between 9 and 12 months, only nineteen. Thus up to the age of 6 months only 11 per cent. of the 137 infants were tuberculous, but the disease was evident in 39 per cent. of the sixty-four from 6 to 12 months old. Infants rapidly succumb to tuberculosis when infection is once installed. He has previously reported a number of instances in which the child died in from one to three months after being exposed to tuberculosis directly after birth. All his data speak in favor of the view that infection before birth is extremely rare.

80. **Mongoloid Idiocy.**—Kellner remarks that more children with this form of degeneracy are being brought to his service than formerly but he does not know whether this is due to increasing numbers or to a greater tendency to place such children in institutional care. The aim of his present article is to call attention to the external signs of mongoloid idiocy so as to enable it to be recognized earlier, although, as he adds, there is no treatment for it which promises any benefit. He has never witnessed any improvement under thyroid treatment or under iodid, even when the condition of the heart permitted the use of the latter.

81. **The Cell Inclusions in Scarlet Fever.**—Döhle called attention last year to the cell inclusions in scarlet fever and others have controlled his statements so that 500 cases have already been reported on. Schwenke has examined a number of scarlet-fever patients for the cell inclusions, fourteen with pneumonia and a number of patients with other affections, including eleven with anemia and five with measles. The inclusions were found constantly in every case of recent febrile scarlet fever, less numerous in the milder cases and declining as the disease progressed. After the seventh day scarcely any were to be found. They are no aid in diagnosis, therefore, after the first few days, and they are not pathognomonic for scarlet fever as they occur with the same constancy and as abundantly in croupous pneumonia in children. They are also found more or less numerous or more or less constantly in various other acute and chronic affections. Positive findings are therefore not very conclusive, but negative findings are very important as a negative result in a child with high fever testifies most decidedly against the possibility of scarlet fever. (See editorial in THE JOURNAL, March 8, 1913, p. 750.)

83. **Gastric Ulcer and Spasm of the Pylorus.**—Neudörfer has encountered 120 cases of gastric ulcer requiring operative measures during the last five years. In thirty-nine cases the ulcer was at a distance from the pylorus. In eighteen in this group the stomach was always found empty after six hours, although the ulcer was beyond question and was discovered at the operation. On the other hand he has found cases in which there was retention after six hours and yet the stomach was free from ulceration and nothing else was found to explain the retention. In three cases long continued rebellious stomach disturbances and retention after six hours led him to open the stomach, but nothing pathologic was found and later study of the case showed evidences of spastic constipation. Possibly the tendency to an ulcer may have been cured by the medication with atropin. Ulcers in the lesser curvature induce spasm of the pylorus, even when they are very small, more readily than ulcers elsewhere. He reports in detail an instructive case in which pains in the stomach occurring after eating, radiating to the back and lasting for over an hour, had tormented the patient for three months but there had been no vomiting nor hemorrhage, no splashing sound, no tumor, but nearly all of the bismuth was seen in the stomach after six hours. An exploratory operation revealed a large callous ulcer in the lesser curvature with much perigastritis, the pylorus rigid, the neighboring lymph-nodes enlarged. As there was strong suspicion of cancer and as the ulcer seemed harmless, the pylorus was resected as a hard bunch was found in the rear pylorus wall. The relief from pain was immediate. Nothing was found in the resected portion to suggest cancer and the patient recovered his health completely. On reexamination, five months later, the callous ulcer was found entirely healed. The relief of the spasm of the pylorus had evidently put an end to the condition inducing the ulceration so that this large ulcer spontaneously retrogressed. The case also throws light on the mode of action of gastro-enterostomy with ulcer. It has previously been assumed that the modified chemistry led to the healing, but this case shows that putting an end to the spasm of the pylorus was sufficient alone. His experience has been that resection of the pylorus according to Kocher is neither more difficult nor a longer operation than gastro-enterostomy. He has had no fatality in fifteen and Kocher none in seventeen cases.

84. **Consanguineous Marriages.** — Kanngiesser has been investigating conditions in regard to the offspring in large numbers of marriages between blood relations, comparing them with equal numbers of marriages between persons without ties of kinship. He tabulates the findings which show that mental weakness was found in 4 per cent., impaired vision in 0.5 per cent. and deafmutism in 0.01 per cent. of the offspring of persons where there was no blood relationship between the parents. In the consanguineous marriages the proportions were respectively 9.4 per cent. mentally weak; 3.1 per cent. with impaired vision or blind and 1.9 per cent. deaf mutes.

### Petersburger medizinische Zeitschrift

*March 28, XXXVIII, No. 6, pp. 67-78*

87 History of Serous Meningitis. T. Schwartz.
88 Chronic Bronchitis and Emphysema. V. Zöpffel.

### Therapeutische Monatshefte, Berlin

*April, XXVII, No. 4, pp. 257-336*

89 *Psychotherapy. H. Vogt.
90 Serotherapy of Erysipelas. Welz.
91 The Ear Complications in Scarlet Fever. (Therapie des Scharlachs.) W. Uffenorde.
92 Inadvisability of Permitting Mushrooms in Nephritis. A. Kakowski.

89. **Psychotherapy.**—Vogt discusses this from a general standpoint and then from the relations between the physical and the psychic and the nature of and treatment of psychoneurotic disturbances in general.

He reviews the methods in vogue and their aims, devoting much space to Freud's psychanalysis. This consists essentially of two features, he repeats, "psychocatharsis and sexual analysis." The latter feature, he remarks, has become so morbidly hypertrophied that it has thrown discredit on the whole system, although many still regard Freud as the Copernicus of psychiatry. Binswanger says, "Freud kneels on the conscience of his patient." It is beyond question, however, Vogt continues, that psychic trauma may occur as the result of fright, worry, a sense of shame and distress. He dwells in particular on the importance of psychotherapy in the training of children inclined to be extra nervous, especially the children of parents with a tendency to degeneracy. Calmness and firmness are necessary in their training, and the first days of life are none too early to commence the psychotherapy. The child should be trained to bear pain

and should never be kept away from the sports and games of children of his own age. The "hard school of the street" is particularly needed for such children, as also training in simplicity, self-control and self-confidence, truth and an innate or cultivated abhorrence of the unbeautiful and the vulgar, and avoidance of luxury. Everything should be done to cultivate a healthy cheerful outlook on life and to divert the child's attention from books and theories to practical things, while cultivating a habit of observation and enjoyment of the every-day things of life. In all these things, he emphasizes, the physician can be of infinite guidance and help. It often happens that he will have to counsel the parents and educators, for the first and greatest need is naturally a sound and true example. Parents who cannot control themselves, of course cannot train their children in self-control. [The term "psychoeatharsis" applied to Freud's method of psychanalysis is from the Greek *katharos*, "pure," meaning a cleansing process for the soul and mind. "Catharsis" is too good a word to be kept for the intestines alone.]

### Therapie der Gegenwart, Berlin

*April, LIV, No. 4, pp. 145-192*

93 *Tonsillectomy. R. Schreiber.
94 Pancreas Disease. (Die Erkrankungen des Pankreas und ihre Behandlung.) P. Cohnheim.
95 Rabies. (Die Tollwut—Lyssa.) P. A. Hoefer.

93. **Tonsillectomy.**—Schreiber gives an illustrated description of R. Klapp's instrument with which the tonsil is removed with such ease that he declares that the little operation can be done by any general practitioner at his office. In the sixty cases in which it has been used there has never been any after-hemorrhage. The instrument is a modified Luer gouge-forceps. The deep spoons take up the tonsil without crushing it; the only cutting surface is where the blades sever the root of the tonsil. The forceps is held with the open blades above and below the tonsil. It is then pressed against the side wall of the throat, on which the entire tonsil glides into the cup formed by the upper and lower spoons. He gives an illustration of seventeen tonsils thus removed, calling attention to the absence of any crushing or loss of substance; they show merely at the rear the small cut surface. He thinks the pathogenic importance of the tonsil renders it necessary for a technic which can be applied in any physician's office, and which the public will thus learn not to dread. The communication issues from Bier's clinic at Berlin.

### Wiener klinische Wochenschrift, Vienna

*April 3, XXVI, No. 14, pp. 521-560*

96 *Predisposition of the Central Nervous System to Disease. (Pathologische Veranlagung am Zentralnervensystem.) H. Obersteiner.
97 Serodiagnosis of Cancer. (Zur Serodiagnostik der malignen Geschwülste.) F. Schenk.
98 The Biologic Action of Radium. L. Arzt and W. Kerl.
99 Experimental Research on Idiosynerasies. A. Glück.
100 The Oxydase Reaction. (Die klinische Bedeutung der Winkler-Schulze-Oxydase-Reaktion.) J. Hatiegan.
101 Technic for Treatment with Emanations. (Vorrichtung zur portionenweisen Entnahme emanationshaltiger Flüssigkeiten und Gase.) F. Dautwitz.
102 Roentgenoscopy of Colon Functioning. (Ueber direkte Irrigo-Radioskopie des Kolons.) G. F. Haeniseh.

96. **Predisposition of Central Nervous System to Disease.**—Obersteiner comments on a number of affections of the central nervous system which can be explained only by assuming some defect in the development of the parts involved. This organic Anlage can sometimes be determined by clinical tests, but usually it can only be surmised. In the pathogenesis of all nervous diseases there is in all probability, therefore, an endogenous as well as an exogenous factor to be taken into account and the importance of the former must not be overlooked.

### Zentralblatt für Chirurgie, Leipsic

*April 5, XL, No. 14, pp. 505-544*

103 Improved Technic for Extraction of Bullet, etc., under Roentgenoscopy. (Zur Vereinfachung der Fremdkörperextraktion.) A. Schlesinger.
104 Subserous Appendicectomy. N. Kaefer.
105 *Diagnosis and Treatment of Gangrene of the Foot. L. Moszkowicz and R. Frank.

*April 12, No. 15, pp. 545-592*

106 Restoration of Esophagus. (Ueber plastischen Ersatz der Speiseröhre.) F. v. Fink.
107 To Reenforce the Suture After Operation for Renal Calculi. (Zur Nahtsicherung bei der Pyelolithotomie.) E. Payr.
108 Operative Treatment of Flat-Foot with much Deformity. (Ueber modellierende Osteotomie bei Plattfüssen mit schwerer Knochendeformität.) Perthes.

105. **Diagnosis and Treatment of Gangrene of the Foot.**—Moszkowicz states that it is not necessary to apply a constricting band in diagnosing insufficiency of the arteries of the leg. It is generally possible to learn the true condition by merely raising the leg for a minute or two, when in case of obstruction of the artery it becomes of a corpse-like pallor. Merely raising the leg will not induce complete anemia in this way when the arteries are normal. As the leg is lowered it gradually grows pink again but much more slowly than with normal arteries. Even if the leg is allowed to hang down, one or more of the toes may still look pale after some time. By repeatedly letting the leg hang down and then placing it horizontal, we fill and empty the vessels, thus exercising them as Borchardt accomplishes with his alternating hot and cold baths. The alternating hyperemia and anemia answers the purpose of gymnastics of the vessels and relieves the pain. It is possible that Wieting's arteriovenous anastomosis owes any good results it may have to the stasis induced by ligation of the vein rather than to any actual diversion of the blood-stream. However the hyperemia may be obtained, it can always serve as an index of the functional capacity of the arteries. He warns in conclusion that tissues with insufficient blood-supply are more susceptible to injury than normal tissue; he knows of a case in which the application of superheated air for incipient gangrene of the foot caused a severe burn on the foot.

Frank reports a case in which the alternating baths of hot and cold water for three minutes each, three times in succession, kept up daily for six weeks were able to save the feet of a soldier after they had been frozen and gangrene was apparently installed. One foot is now entirely sound and the other required merely exarticulation of one toe and part of the sole; all the rest recuperated. Without the alternating baths the feet would certainly both have had to be amputated. (See abstr. 148 in THE JOURNAL, April 5, p. 1117.)

### Zentralblatt für Gynäkologie, Leipsic

*April 5, XXXVII, No. 14, pp. 481-528*

109 *Non-Toxicity of Puerperal Urine. (Ueber die Toxizität des menschlichen Harnes im puerperalen Zustand und bei Eklampsie.) A. Zinsser.
110 Action of Roentgen Rays on Fetal Membranes. (Einwirkung der Röntgenstrahlen auf die Eihäute.) M. Kawasoye.
111 Hematoma in Abdominal Wall Developing during Labor. (Ein unter der Geburt entstandenes Bauchdeckenhämatom.) E. Vogt.
112 *Danger of Scopolamin in General Anesthesia. (Zur Skopolamin-frage.) H. Sieber.

*April 12, No. 15, pp. 529-560*

113 *Pregnancy Carried to Term Five Years After Piccoli Operation for Puerperal Inversion of the Uterus. F. v. Neugebauer.
114 Intraperitoneal Hemorrhage during Delivery from Rupture of Uterus Vein. E. Langes.

109. **Non-toxicity of Puerperal Urine.**—Zinsser was unable to detect any special toxic action in extensive experimental research with urine from normal pregnant women and in nine cases of eclampsia.

112. **Unreliability of Scopolamin.**—Sieber has always protested against the assumption that scopolamin is a harmless addition to the mixed-anesthesia methods. He calls attention to recent publications from the Tübingen clinic which show that the clinic from its former ardent advocacy of the method has now changed to denounce it as unreliable.

113. **Childbirth after Operative Reduction of Inversion of the Uterus.**—Neugebauer adds another to the ten cases he has found on record in which women passed through a normal pregnancy after the inverted uterus had been replaced. The Piccoli method for this aims to correct the stasis edema of the body of the uterus and the relative narrowness of the cervical canal by incising the fundus from the rear. In this case

the placenta was of the bilobar type and he thinks that the implantation on the scar tissue was responsible for this anomaly. He urges study of conditions in regard to the implantation of the placenta on the old cicatrix in every case of repeated cesarean section or similar operation. He cites Mansfeld's recent communication of a fatality following expression of a large clot from the uterus two hours after spontaneous delivery. The uterus became inverted after the maneuver and although it was easily reduced yet the young woman died eight and a half hours after spontaneous delivery. The necropsy revealed extreme hypoplasia of the adrenals and lymphatic system. In both adrenals together there was only one-quarter of the normal content of epinephrin. He thinks this case is very important as it shows that the atony of the uterus in such cases is probably the result of the abnormally low proportion of epinephrin in the blood. We know that epinephrin has a special action on the tonus of the uterus, and when there is atony of the organ, not to be explained by degeneration of the muscle, the trouble is due to abnormally low tonicity of the sympathetic system. Uterine hemorrhages independent of changes in the uterus and ovaries and rebellious to all measures are generally encountered only in young lymphatic girls or women of the thymicolymphatic status. The practical conclusion follows that uterine hemorrhage in these cases should be combated with epinephrin.

### Zentralblatt für innere Medizin, Leipsic

*April 12, XXXIV, No. 15, pp. 369-392*

115 Cell Inclusions in Scarlet Fever, Diagnostic Importance of Negative Findings. (Zur Frage nach der Bedeutung der Doehle'schen Leukocyteneinschlüsse beom Scharlach.) A. Lippmann and A. Hufschmidt. See abstr. 81 above.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*March 30, XXXIV, No. 38, pp. 393-408*

116 Diuretic Action of Hypophysis Extracts. L. Lucatello.

*April 1, No. 39, pp. 409-414*

117 Dislocation of the Carpus. R. Mosti.

*April 6. No. 41, pp. 423-438*

118 *Influence of Food on the Incubation of Rabies. (Influenza della alimentazione su la incubazione della rabbia.) M. Marcialis.

*April 8, No. 42, pp. 439-446*

119 Mumps and Sterility. (Orecchioni e sterilita nell'uomo.) G. Giovanni.

*April 10, No. 43, pp. 447-454*

120 *Helminths from Surgical Standpoint. (Importanza patogenetica dell' elmintiasi da ascaridi specialmente in rapporto ad affezioni chirurgiche.) R. Cinaglia.

118. **The Food and the Incubation of Rabies.**—Marcialis reports attempts to determine whether feeding or inanition had an influence on the development of rabies in dogs after infection. No influence was apparent when the rabies had been inoculated directly into the nervous system or had already reached the nerve centers. But when the virus was inoculated at remote points, it reached the nerve centers the more rapidly the better fed the animals. That is, the more active the metabolism the earlier the virus is conveyed to the nerve centers.

120. **Helminthiasis and Surgical Affections.**—Cinaglia comments on the prevalence of helminths in children. In Italy some have reported 60, 96 and 39 per cent. affected with ascarides among large numbers of children examined. Pagliari found ascarides in 90 per cent. of the country children but only in 10 per cent. of the children living at Rome. Cinaglia recently operated in a case of supposed appendicitic ileus which proved to be obstruction of the small intestine by ascarides. and he discusses the ways in which helminths enhance the dangers of abdominal operations in general.

### Policlinico, Rome

*April 6, XX, No. 14, pp. 474-508*

121 Myoma Plus Tuberculosis of Female Genitals. (Adenomioma dell' utero e tuberculosi utero-annessiale complicata.) P. Costantini.

### Riforma Medica, Naples

*April 5, XXIX, No. 14, pp. 366-392*

122 Traumatic Hemiplegia. (Sull'attuale Indirizzo della traumatologia e della ortopedia.) R. Dallavedova.

### Brazil-Medico, Rio de Janeiro

*March 1, XXVII, No. 9, pp. 81-90*

123 Simultaneous Disease of Thyroid, Testicles and Hypophysis. (A syndroma thyreo-testiculo-hypophysaria.) A. de Castro.

*March 8, No. 10, pp. 91-100*

124 Palm Buds as Food. (Pesquiza bromatologica sobre o palmito.) A. Carini and C. Chiaves.

*March 15, No. 11, pp. 101-110*

125 *The Urochromogen Urine Test. (A reacção do urochromogeno de Moriz Weisz.) U. Paranhos and V. Giolito.

126 Primary Congestion of the Lungs. (Congestões primitivas do pulmão.) C. Fraga. Commenced in No. 8.

127 Tuberculosis of the Bladder. B. P. Leme.

125. **The Urochromogen Reaction in Urine.**—Paranhos and Giolito applied the Weiss potassium permanganate test to the urine from fifty healthy persons, obtaining constantly negative results. In fifty tuberculous patients the test was positive in all but five cases; in three of the latter the disease was very far advanced. The test was thus positive in 90 per cent. of the tuberculous cases, but it did not seem to be dependent on the severity of the disease. They also applied it in fifty other cases in various diseases, including nine with syphilis (positive in six), and eleven with nephritis (positive in one); a positive reaction was obtained in twenty-four of these fifty nontuberculous cases. (For the technic, see abstract 112 in THE JOURNAL, Sept. 21, 1912, p. 976.)

### Hospitalstidende, Copenhagen

*March 26, LVI, No. 13, pp. 329-360*

128 Successful Resection of Cystic Kidney. (Et tilfælde af opercret Nyrecyste.) F. Thorborg.

*April 9, No. 15, pp. 385-416*

129 Technic for Gall-Stone Incision. (Om Bugvægssnittet ved Operationer paa Galdevejene.) N. P. Ernst.

130 Suppurating Chondritis Following an Operation for Encapsulated, Perforated Gastric Ulcer. S. and J. Nordentoft. Commenced in No. 14.

131 *Gall-Stone Ileus. P. Møller. Commenced in No. 12.

132 **Obstruction of Intestines by Gall-Stones.**—Møller analyzes the twenty-two cases of gall-stone ileus in which he has operated and comments on the peculiar mingling of symptoms from the cholelithiasis and from the obstruction of the bowel by the concrement; the phenomena are of both an acute and a chronic character. There had been no previous symptoms of cholelithiasis in quite a number of the cases. Typical colics had occurred in six cases and vague suspicious symptoms in five others—thus only in 50 per cent. of the total. In three cases and in one reported by Lund, the ileus was the first sign of trouble. In a few cases blood in vomit or stools with vague symptoms in the stomach region were ascribed to ulcer or cancer but in reality they were the signs of a fistula developing between a bile duct and the bowel. The ileus developed in one case immediately after a sudden physical strain and in another after a course of oil. It is characteristic of gall-stone ileus that the general condition seems to suffer comparatively little although the bowel may be totally obstructed for three or four weeks.

As a rule the pulse keeps strong and regular although in exceptional cases the ileus may prove rapidly fatal. The vomit may contain little or no bile but there may be blood from the fistula edges. When the stone is in the duodenum below the papilla or in the upper part of the jejunum, the vomit may contain large amounts of bile. There is little tenderness on pressure; tenderness in the biliary passages region may occasionally be noted but scarcely more with localized peritonitis than without. In only four cases could the stone be felt through the abdominal wall. There was no jaundice in his cases and no fever until peritonitis developed, and not always then. The patients generally die or recover in from six to ten days, the stone breaking loose and passing on and out. In one case in the literature the stone thus was expelled after eleven weeks.

Even when the abdomen is opened, the diagnosis is difficult; in a number of instances the conditions first found were assumed to be sufficient to explain the ileus and no further search for a gall-stone was made, and it thus escaped detection. In only three cases was the ileus traced to its true cause before the operation. Only four of the twenty-two patients survived; the mortality was thus 82 per cent., but

six patients were quite elderly and two died from pneumonia. All had suffered two weeks or more from their ileus and were growing constantly worse under medical measures, so that probably all would have died without the operation.

It is evident that operative treatment should be applied before the patient has been too seriously injured by the effects of the bowel obstruction. In two of the three cases with a favorable outcome the operation had been done early. Purgatives are liable to aggravate the spastic factor in the ileus although otherwise indicated. Morphin masks the alarming symptoms without removing their cause. Atropin and olive oil have occasionally been found useful, but the main reliance is on copious enemas, systematically flushing the bowel. The rectum should be examined for stones not only at first but as they may find their way into it later.

In one of the cases described, the stone felt in the rectum was supposed to be a cancer. The stone can sometimes be worked loose from outside and sent on its way. As the intestinal walls have generally suffered from the impaction, he tries to push the stone back into the bowel a little way, until it reaches sound tissue, before manipulating to launch it. One patient had one stone in the colon and one in the gall-bladder and two others had several additional stones in the gall-bladder. Møller's communication emphasizes anew the grave prognosis of obstruction of the bowel from a gall-stone although conditions on the whole are much more favorable in this than in ileus from any other cause.

## Hygiea, Stockholm

*March, LXXV, No. 3, pp. 193-320*

132 Trauma in Connection with Tumor Growth. (Svulstbildning och olycksfall.) J. Akerman.
133 *Purulent Arthritis in Infants. (Om purulenta spädbarns artriter och deras betydelse för framtida deformiteter.) E. Edberg.
134 Tumor in Pineal Gland. I. Hedenius and F. Henschen.
135 Metastatic Sarcoma in the Heart. I. Hedenius and F. Henschen.
136 Spinal Cord Tumor with Intermittent Symptoms. (Fall af ryggmärgstumör med öfvergående remissioner.) I. Hedenius and F. Henschen.

133. **Suppurative Arthritis in Young Infants and Crippling Later.**—Edberg gives the details with skiagrams taken at the time and later of seven cases of purulent arthritis in infants from ten days to eighteen months old, at the children's asylum in charge of Floderus. The average frequency, judging from the statistics in the literature, seems to be about 1 to 1,000. Septic coxitis was evident in one case. Pneumococci were found in one; in this and in one other case the arthritis had been preceded by a febrile enteritis, the swelling of the joints following close on this. The other children had all been previously healthy and only two were bottle-babies. Staphylococci were found in three cases, diplococci in one. No bacteriologic examination was made in two cases. The skin and accessible mucous membranes were normal in all and the skin tuberculin test was constantly negative. The first case was in an infant of 18 months who developed an abscess in the left hip joint. It was evacuated and after ten weeks the child was discharged wearing a plaster cast which was soon discarded. At the age of 7 there was complete dislocation of the hip joint, treated by operative reduction. The limb is still—a year later—2.5 cm. shorter than its mate but otherwise the deformity has been clinically corrected. In the second case an abscess developed in the right hip of an infant of three weeks. After it had been drained and had healed, conditions developed similar to those of ordinary congenital dislocation. Edberg is trying to correct this with a plaster cast at present; the child is now 2 years old. In the third case the abscess developed likewise in the right hip joint, in a five-months infant and staphylococci were found in the pus when the joint was opened two weeks after the first symptoms. Two years later the limb was found 2 cm. shorter than its mate and conditions were corrected by an operation. The same findings as of congenital dislocation of the hip joint were found at the age of 2 in another child who had had an abscess in the left hip joint at the age of 3 weeks. In the fifth case the ten-day-old infant of a woman who had had pregnancy nephritis developed an abscess in the right shoulder. It apparently healed after evacuation but recurred eight months later and staphylococci were found in the pus from the bone focus; the latter had not been discovered at the first operation or possibly had not existed, the abscess apparently merely encircling the joint. In the sixth case an infant 5 weeks old had a similar acute process in the shoulder. As this healed the knee became involved, but healed likewise after evacuation; staphylococci were found in the pus from both processes, but reexamination three years later showed no trace of anything abnormal. The seventh infant had been healthy until at two months gastro-intestinal disturbance caused much debility and both knees developed a purulent process with diplococci; the incision released 100 and 150 c.c. of a purulent fluid resembling in every respect that from an empyema in the lung and containing diplococci and streptococci but the functioning of the joints did not seem much impaired. To prevent a tendency to contracture the child is now wearing a cast; it is not quite a year old yet. Edberg remarks that, judging from the literature, arthritis of gonorrheal origin in young infants seems to have a comparatively favorable prognosis, not entailing ankylosis. The injury from an early arthritis seems to be mainly in the interior of the joint. He admits that it is possible that in some of the youngest infants there may have been a congenital dislocation. A purulent affection of the knee does not seem to impair functioning later if treated correctly in time, according to his experience with three knees in two of the above cases. The joint is spacious and conditions favor healing better than in the other large joints. In the shoulder case there is atrophy of the head but no tendency to habitual dislocation.

## Ugeskrift for Læger, Copenhagen

*March 27, LXXV, No. 13, pp. 531-552*

137 Minor Operations on Ear, Nose and Throat. (Om Chirurgia minor i Øre-, Næse- og Svælgsygdomme.) K. Nørregaard.

*April 3, No. 14, pp. 553-598*

138 *Importance of Esophagoscopy for Detection and Removal of Swallowed Foreign Bodies. (Bemærkninger om Diagnosen og Behandlingen af Fremmedlegemer i Spiserøret.) Schousboe.
139 Technic for Gastroscopy. E. Madsen.

138. **Esophagoscopy for Foreign Body.**—Schousboe reports a few typical cases to reaffirm once more the great value of direct visual inspection in case of a foreign body in the esophagus. He regards the blind application of the sound in treatment as actual malpractice. The ease with which under esophagoscopy the foreign body can be seized and worked loose and cautiously extracted is emphasized anew by these experiences. In one case a woman of 42 had had a fragment of a set of teeth in her esophagus for three months without her knowledge, slight difficulty in swallowing being the only trouble and nothing suspicious of a foreign body being known. Investigation with a sound gave no information and radioscopy would probably have given negative findings, but the esophagoscope revealed the foreign body at once and made possible its removal although it had already caused a fistula requiring tedious treatment. In another case a man had swallowed a piece of a chicken bone and the physician tried to push it down into the stomach but it lodged low down. As there was not much pain and esophagoscopy proved impossible on account of the restlessness and retching, further measures were deferred, but the next day the temperature ran up to 104 F. and the esophagoscope was then introduced under local anesthesia. It passed to the cardia without meeting resistance but as it was withdrawn the bone was discovered lodged across the lumen, 32 cm. from the teeth. This case illustrates the danger from trying to push the foreign body farther down as it was thus forced to such a depth that esophagoscopy became very difficult. The sudden high temperature showed that mediastinitis had set in, and the esophagoscopy came just in time. Schousboe declares that in future he would never defer the measure in such a case even if it required general anesthesia, as there is no doubt that this patient had been in very grave danger.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, No. 21 CHICAGO, ILLINOIS MAY 24, 1913


## AN ATTEMPT TO INTERPRET PRESENT-DAY USES OF VACCINES*


THEOBALD SMITH, M.D.

George Fabyan Professor of Comparative Pathology, Harvard Medical School

BOSTON


The artificial production of immunity toward infectious diseases by the use of modified viruses has been one of the major problems of medical science for a generation. The antecedents which have led up to such an intensive cultivation of this subject are relatively few and simple. Persons who successfully passed through an attack of such a characteristic disease as small-pox were thereafter able to mingle with the diseased, nurse them, and remain well. Persons who had been inoculated with the products of this affection developed a relatively mild type of small-pox, and were thereby protected from the more severe spontaneous attack. Owners of domestic animals had also, at times, resorted to such inoculations to hurry along an animal plague, by inducing a somewhat less severe attack. These facts are said to have been known to the Chinese thousands of years ago. In the last years of the eighteenth century Jenner made known his discovery that cowpox inoculated into man protected him against small-pox.

The scientific imagination of Pasteur, carrying these simple data into the domain of experimental biology, evolved new methods for inducing immunity, not only before but also after natural infection had taken place, by subjecting the respective viruses to various modifying processes. Since Pasteur's time the attempts at modifying viruses to make them as harmless as possible, while retaining their efficacy as immunizing agencies, has been steadily going on. Moreover, their use is no longer limited to the prevention of infection, but it has been boldly carried to the heart of disease itself. There is scarcely an infection, however active in its manifestation, which is not at present attacked with vaccines. Properly to evaluate this present-day movement in medicine in the time at my disposal, even in its gross outlines, is impossible. I can only indicate a few fundamental, well-established facts in experimental medicine and suggest a few hypotheses which we may use as lanterns to penetrate here and there the dense gloom which still hovers over immunity in some of its manifestations.

Perhaps the most important aid we can get is from a study of the natural history of infectious diseases; in other words, from an inquiry into what Nature herself accomplishes with one attack of a given disease. In this study we shall find it convenient to group together infections among the members of which a certain degree of similarity exists, and within which the production of immunity requires approximately the same expenditure of energy. Thus, the eruptive diseases are in a class by themselves. They run their course with relative rapidity and the system rids itself of the infecting agent completely. They appear to be of all diseases the most readily amenable to vaccination. There is a great gap between these affections and such diseases as leprosy on the one hand, and malaria on the other. In the former the disease may last a lifetime, and it would be difficult to determine just what degree of immunity is gained by the leper. Malaria may eventually subside, but the infecting agent may persist indefinitely. Until recently it was quite generally denied that any immunity could be acquired toward the malarial parasite. The same doubts have been maintained toward the acquisition of immunity in tuberculosis.

Recently, P. H. Römer[1] has shown that guinea-pigs made tuberculous by minute doses of virus become immune to subsequent infection with minute doses, applied to the skin, which cause a progressive disease in control animals. The tuberculous guinea-pig, according to his further researches, becomes immune to the feeding and the inhalation of tubercle bacilli, and to contact infection in cages with guinea-pigs having tuberculous ulcers. The study of protozoan parasites causing the various forms of piroplasmosis and malaria has shown that immunity which is pronouncedly geographic is due not to any climatic or telluric factors influencing the general resistance, but simply to the fact that the human beings and animals had been under the influence of the virus for unknown periods. Tropical races may or may not be immune to malaria, according as they have or have not lived where the disease is endemic.

These illustrations must suffice to show not only that the body responds somewhat differently toward each group of infectious diseases and, in fact, toward each disease, but also that its second response to the same parasite is different from the first, and that in this response it manifests an increased opposition to the parasite. The researches of the past twenty-five years have shown definitely that all parasites, from the ultramicroscopic forms to the higher entozoa, induce in the body of the host a degree of antagonism higher than that existing before invasion. This antagonism may not be sufficient to eliminate the parasites; it may not even be strong enough to check the march of the invasion and the progressive disease resulting therefrom; it may even in some of its stages, be injurious to the host as when it leads to hypersensitiveness or anaphylaxis. This increased antagonism exists, however insignificant it may seem to us. The view formerly prevailing that in some

* Address at the Annual Conversational Meeting of the Philadelphia Pathological Society, 1913.

1. Römer, P. H.: Beitr. z. Klin. d. Tuberk., 1912, xxii, 265.

infections one invasion predisposes to others, must be abandoned. Clinically, acquired predisposition may be simulated when an organ is injured and its physiologic working impaired by the former attack, so that these injuries overbalance the normal resistance plus any acquired specific immunity. This changed attitude of the body following invasion has been denominated allergy by von Pirquet. The nature of the allergic attitude probably depends on a combination of factors which are not precisely the same for any two diseases.

The reserve forces which the body mobilizes and uses in establishing this higher level of resistance during an attack of an infectious disease, have been made the subject in recent years of most intensive laboratory study and analysis. As a result, a new field of work, immunology, has been mapped out as worthy of independent cultivation. It has resolved acquired immunity into a number of component substances and activities. They are familiar to us under the names of antitoxins, agglutinins, precipitins, opsonins, tropins, complement-fixing bodies and phagocytosis.

This analysis, though of the greatest value to diagnosis, has not yet been followed by a synthesis which is to explain to us the relative importance of these various antibodies, and to range them in proper order into a complete whole. No simple infectious disease has been completely analyzed and its underlying machinery laid bare. Whether such an analysis is even attainable, considering the minuteness of the parasitic invaders and the host cells and the complex processes going on between them, must remain questionable. To estimate the degree of immunity attained through disease, we cannot rely solely on any quantitative determination of any one or more immune bodies which have appeared, since we do not know their relative importance. We must judge the efficiency of the immunity by determining to what degree the individual as a whole is being protected.

## METHODS OF CONFERRING IMMUNITY

Taking it for granted, then, that it is possible to raise the level of resistance toward an infectious disease artificially, no matter what kind of micro-organism is the specific agent, let us glance for a moment at the methods which have been used for this purpose. Beginning with the fundamental work of Pasteur we find him committed to the method of using the actual living virus of a disease as a vaccine, but modified as much as possible so as to produce the least harm compatible with an effective immunity. Pasteur used physical agents as well as passages through series of animals of an experimentally selected species. This method of using a living virus has maintained itself in the practice of immunizing domestic animals against various plagues; but in the immunization of the human subject, viruses exposed to the lowest temperatures that will destroy life have been used almost or quite exclusively. In experiment and practice, the living viruses have proved themselves superior to heated ones in calling forth immunity. But there is an element of danger associated with them which may assert itself at any moment. The living vaccine may prove too virulent and cause actual disease. The vaccinated may become carriers and dangerous, if not to their own kind, to other species. The micro-organisms of these carriers may regain their former virulence.

Illustrations of these possibilities may be drawn from animal vaccinations, and probably every one who has dealt with them can cite cases. In a series of about one hundred calves inoculated with the weakest human tubercle culture on hand, one contracted tuberculosis of the eyes. This accident is of no moment among calves, but it might cause great commotion if occurring in a human subject. Cattle vaccinated with human tubercle bacilli may excrete the bacilli for months in the milk. Griffiths[2] has reported the case of a cow vaccinated as a young calf, shedding such bacilli in the milk. The recrudescence of virulence depends on the nature of the virus and the degree of change induced artificially. Among tubercle bacilli, changes go on very slowly. A bovine type with which a calf had been infected showed on glycerin agar, when recovered from the calf about eighteen months later, the same ease of growth which it possessed before inoculation. There was no indication of a return to the parasitic habit, in which condition it fails to multiply on the medium referred to. Few species of bacteria, however, possess the inertia of this bacillus. In a body already infected with some other virus, living vaccines may cooperate with this virus and become pathogenic for that individual.

Among the reasons urged why living attenuated viruses should be so much superior to dead viruses, none has yet proved adequate to explain satisfactorily the difference in effectiveness. With some bacteria, heat-labile substances may have important antigenic properties. There may be important immunizing substances produced only by bacteria in the presence of the antiforeign activities of the host tissues. Some years ago I called attention to the continuity of action exerted by living micro-organisms as contrasted with the discontinuous action of dead cultures. Living cultures, even when multiplying but feebly, produce an infinite number of minute blows as compared with the single blow of dead cultures followed by speedy elimination. Living microbes may penetrate into different territories where antibodies are most easily produced; dead microbes often remain where deposited. Barring accidents, the use of living virus is the most certain and most economical way of calling forth a maximum output of antibodies.

The use of so-called sensitized viruses is one which should receive more attention. I may recall here the influence of diphtheria toxin mixed with antitoxin on the production of active immunity.[3] A mixture of toxin and antitoxin which still produces a large local lesion in the guinea-pig induces a high degree of active immunity. Following the gradual addition of more antitoxin, the active immunity sinks, but it is still quite marked when neutral mixtures are used. If we continue to add immune serum the active immunity goes on sinking and reaches zero when a considerable surplus of antitoxin has been added to the toxin. Why does a single injection of a neutral mixture surpass in effectiveness many doses of pure toxin? I have answered this question as follows: The toxin mixed with the antitoxin penetrates quite generally through the body, whereas the pure toxin is chiefly held at or near the place of injection. This diffusion tends to cause maximum antibody formation over a wide territory, by a relatively very small amount of free or perhaps dissociable toxin in the toxin-antitoxin mixture. The proof that the toxin is diffused under the influence of the antitoxin is suggested by the fact that paralysis is almost never induced by the injection of pure toxin subcutaneously, but it frequently occurs when the toxin is injected into the circulation. The toxin-antitoxin mixture frequently produces paralysis, even though injected subcutaneously. The bearing of these observations on living or dead bacilli sensitized with immune serum should be studied, for I am inclined

2. Griffiths: Jour. Path. and Bacteriol., xvii, 323.
3. Smith, Theobald: Jour. Exper. Med., 1909, xi, 241.

to think that a similar phenomenon of diffusion may occur. Some years ago Sobernheim[4] applied this method for anthrax vaccination in domestic animals by mixing anthrax cultures of a certain degree of attenuation with an anthrax-immune serum. More recently Metchnikoff[5] and Besredka have applied it in immunization against typhoid fever. This method, it should be stated, has failed with such filterable viruses as those of foot-and-mouth disease, rinderpest and hog cholera. The mixture either produces an unmitigated attack or else neither disease nor immunity.

The advantages of living over heated vaccines must, however, diminish with the attenuation of the living virus. There must be some point in this attenuation when multiplication in the tissues of the host is no longer possible. In such a case the virus can be of no more use than killed virus, unless some very labile substance in the virus, already referred to, which is easily destroyed by heat, acts as an important antigen. The question of the superiority of heated over living virus, or the reverse, resolves itself into finding that stage of attenuation in the latter which is still superior to the former as a vaccine, and is yet relatively harmless. The future exigencies of the race may be such that the possible dangers inherent in living vaccines will have to be ignored by those who seek a stable protection.

The search for effective vaccines has not halted with heated bacteria, but has gone on toward certain products of mechanical and chemical disintegration. These attempts have all been more or less empirically conceived. Beginning with Koch's old tuberculin, which is a spontaneous secretion or disintegration product of the tubercle bacillus, we have had a variety of other products of this bacillus including the lipoid substances and the miscellaneous substances contained in filtrates from fluid cultures used as vaccines. Bacteria have been subjected to various mechanical processes such as grinding and prolonged shaking, resulting in Koch's tuberculin T. R., MacFadyean's typhoid endotoxin, and von Wassermann's shake extracts. When we attempt to discover any underlying guiding principles prompting these special methods of disintegration, we find few propounded. Koch ground his tubercle bacilli and extracted them in order to get them into solution for prompt absorption, and this idea may have governed others.

### RELATION OF IMMUNIZING AND TOXIC ELEMENTS OF VACCINES

From time to time there have been advocates of the hypothesis that the immunizing and the toxic principles of micro-organisms are distinct, and that if they could be successfully isolated, the use of the immunizing substance alone as a vaccine might not only evade the injury accompanying the use of entire organisms, but even improve on living vaccines. Such a view, though perhaps not expressed, may be read between the lines of the publications dealing with actual experimental work in this direction. It may not be out of place here to present some theoretical considerations bearing on the question of the identity or non-identity of toxic and immunizing substances of micro-organisms.

All parasites in their attempt to make use of the living body as a source of food and a nidus for multiplication must be prepared to meet the general antiforeign forces of the host's tissues. The body is so constituted as to assimilate or attempt to assimilate all foreign substances. The usual enteral route makes ample provision for this in the normal processes of digestion. The parenteral route, however, is not so well adapted to make over foreign substances entering its tissues. Abderhalden and others[6] have shown that even in this respect the body is remarkably well adapted to assimilate proteins, carbohydrates and fats by rapidly producing or mobilizing ferments after the first injection which take care of these substances. Abderhalden distinguishes substances as cell-foreign, blood-foreign and body-foreign. Substances out of place may do harm unless promptly assimilated to their environment. All invading parasites must meet these antiforeign agencies by protecting themselves with various devices, among which I should range a special modification or adaptation of the cell membrane of the parasite, including the formation of capsules. There may also be secretions of the bacteria which successfully paralyze the antiforeign forces (aggressins of Bail). These various protective devices may be called defensive in contradistinction to those which, like the soluble toxins, are offensive in so far as they directly attack and injure living tissues. The normal antiforeign forces of the body, though manifestly defensive against invasion, are also offensive in that they tend to disintegrate and assimilate as already stated. The antibodies formed during the course of an infectious disease are more properly styled defensive, since they appear only under severe provocation.

It will be noted that, as in war, I distinguish between offensive and defensive operations, the defensive of one side fitting into or being adapted to the offensive of the other. There may exist only offensive or only defensive functions, or a mixture of the two, according to the parasite. Thus the diphtheria bacillus is chiefly offensive. By injuring the mucosa with its toxin, it obtains at once a rich food-supply and a shelter in the inflamed and necrotic membrane, where it multiplies at a rapid rate. The tubercle bacillus, on the other hand, may act with the aid of a preponderance of defensive mechanisms. To explain why only a small number of species of bacteria have become parasites, we must assume that they were endowed at the start, while free-living, with structural or functional peculiarities enabling them at once to take the offensive or the defensive. The anthrax bacillus, for instance, is a free-living species, very much like a number of similarly free-living but harmless species. Through some peculiar endowment it can multiply in the blood of many hosts. Some refer this power to the capacity of producing protective capsules in the body.

After the parasites have fastened themselves on their host, adaptive processes continue to mold and augment the necessary defensive functions, and the special capacity for such adaptation and its final result determine the character of the parasitism and the accompanying specific infectious disease. During this period of adaptation many parasites probably lose their original offensive weapons in whole or in part, and exaggerate their defensive ones, for very few of the truly invasive bacteria produce early soluble toxins like those of the diphtheria bacillus, which has remained a surface parasite. The so-called endotoxins of R. Pfeiffer, which belong to the bodies of the bacteria, play only a secondary, belated part in the established parasitism. They cannot be regarded as enabling a bacterium to establish itself in the tissues of the host, and they become active only with the dissolution of the bacterium.

4. Sobernheim: Berl. klin. Wchnschr., 1902, p. 516.
5. Metchnikoff: Ann. de l'Inst., Pasteur, xxv, 193.
6. Abderhalden: Die Schutzfermente des tierischen Organismus, 1912.

In what we call natural immunity, normal antiforeign functions are sufficient to destroy and assimilate the bacteria, for naturally immune animals do not carry an appreciable quantity of immune antibodies. In acquired immunity it is probable that the latter predominate. Animals may also be naturally immune because bacteria cannot find in them a suitable medium for multiplication.

In the attempt to immunize artificially with vaccines, it becomes necessary to determine what enables bacteria to establish and maintain themselves in the tissues. If it is through toxin production as in diphtheria, the vaccines must contain the toxin rather than the bodies of the bacilli. If it is through the building up of a resistant membrane or of capsules it is obvious that we must have them in our vaccines to stimulate properly directed immune reactions. It is highly probable that we might dispense with most of the body substance of the bacteria since this comes into play only secondarily, and later in the course of the infection, and yet may be sufficiently injurious in vaccines to interfere with the immunization in part or wholly.

There is another type of parasite which may dispense largely with both offensive and defensive processes. We can conceive of this type as exerting a metabolic activity approximating so closely to that of the host that the latter reacts but slightly, and then only after a long period of stimulation. This type of parasite would have very little that is body-foreign or blood-foreign.[7] In this latter class I would place such organisms as the spirochete of syphilis. If the exquisite, prolonged parasitism of this micro-organism, the relatively slight lesions and their curability, be borne in mind, it will be understood why I place it in this category.

Medical science has shown that it is relatively easy to immunize against the soluble toxins of diphtheria, tetanus and botulism, but that it grows more and more difficult as the defensive elements increase and the toxic elements tend to disappear. To immunize against parasites whose metabolism produces little reaction on the part of the host should be most difficult of all.

When we glance over the literature dealing with fundamental problems of immunity, we soon come to notice that our theories have been built up somewhat narrowly on studies of special diseases. The behavior of the cholera spirillum and, to some extent, of the typhoid bacillus in the guinea-pig, has been drawn on by R. Pfeiffer and his pupils very largely in constructing his theories. It is admirable work, but it can scarcely tell us much about immunity in pneumonia or tuberculosis. The structure and functions of these organisms are so different from that of the cholera spirillum, and their behavior in the body so divergent, that each must be studied by itself. This has been done on a large scale in recent years, and the place of the opsonins and tropins with reference to phagocytosis placed in proper relief.

Bessau[8] has recently presented again the views of Pfeiffer and his school with reference to immunity against the typhoid bacillus. He also takes up the question of the immunizing and the toxic characters of vaccines, and comes to the conclusion that a successful vaccine cannot eliminate toxic effects. He compared several methods of preparing vaccines. An intensive extraction in salt solution at 58 C (136.4 F.) yielded a vaccine ten times as strong in immunizing power as the extract prepared by using Brieger's method of shaking the culture. The residue of the salt solution extract was practically devoid of immunizing substances. These results would indicate that toxic and immunizing substances in the typhoid bacillus cannot be wholly separated. The last word has not yet been said, however, for we do not know enough about the means of separating the constituents of the bacterial cells and we cannot quite accept in its entirety the result of experiments on an animal practically immune to the invasion of the typhoid bacillus.

In presenting in this very hurried way a hypothesis of the reciprocal relation between pathogenic micro-organisms and their specific host, I simply wished to emphasize the importance of studying every infectious disease by itself, and not accepting any one theory in regard to the toxic and immunizing properties of bacteria, since they exist in a different ratio in every specific disease germ, and their relation to the process of immunization may not be the same for any two infections. Before medical science shall have solved the problem of vaccination by the use of purely immunizing substances, provided the theory on which their existence is based be true and the technical difficulties not too great, we shall have to content ourselves with the bacteria themselves. Some added difficulties in their use need still to be discussed.

### DIFFICULTIES ATTENDING THE USE OF VACCINES

Cultures of bacteria to be used as living vaccines must of necessity be so reduced in virulence as to induce a type of disease which is only a feeble reflection of its original. The ideal would be a culture so modified as to multiply without causing temporary or permanent injury. When vaccines from dead bacteria are to be used, the latter should have been endowed, before they are killed, with all the potencies with which they maintain themselves in the body. These potencies do not remain unchanged during artificial cultivation. The deterioration they undergo is more conspicuous with some bacteria than with others. The tubercle bacilli, notably of the bovine type, may become very materially altered when they are cultivated, so as to produce a large crop convenient for commercial purposes. The capsule bacteria lose their capsules promptly. All cultures which can be accurately tested—and this is possible only with those from animal diseases—undergo a decided loss in virulence. Some pass through a sudden transformation in the first culture. Our ordinary culture mediums carry on a more or less selective activity, weeding out those which fail to multiply promptly. All these changes are evidently significant, but our unstandardized methods and the impossibility of testing the viruses on the original host, in the case of man, prevent us from gaging this significance accurately. In the absence of more definite knowledge, our theory demands that our vaccines be composed of bacteria as little changed as possible. Yet in preparing vaccines on a large scale, this demand cannot be fulfilled. Only in the use of autogenous vaccines is this condition fairly well met. Some writers go so far as to assert that highly attenuated typhoid bacilli make the most efficient vaccine.

There is yet another difficulty encountered in preparing vaccines on a large scale, which is due to the existence of variants among cultures of the same species. The variations found are chiefly serologic in character. Their agglutinins, for instance, may be different. The immune serums produced by the injection of one strain

7. It would then approach, in character, such cells as the polymorphonuclear leukocytes, which go to any part of the body. Yet even they possess injurious properties, for if they collect in large numbers as pus, Opie has shown that their specific ferment, leukoprotease, will liquefy tissues, because unrestrained by an antibody contained in the blood plasma.

8. Bessau: Berl. klin. Wchnschr., 1912, p. 2210.

may not protect against another strain, as shown by Neufeld for the pneumococcus. It is possible that in the future inclusive strains may be found to overcome this very real obstacle.

The foregoing conditions refer to the parasite. There are a number of conditions affecting the host which influence the success and stability of vaccinal immunity. These must not be lost sight of, if the best devised vaccination is not to be condemned.

From many experiments on animals we know that immunity is relative and not absolute in its protection. In testing the degree of resistance acquired, we find that a large dose of virus may break down an immunity which will resist a smaller dose. A more virulent strain of the same microbe may easily overcome a resistance successful toward weaker strains. The mode of inoculating the test virus is of great importance. Immunity toward a subcutaneous dose may fail completely to protect against a much smaller intraperitoneal dose. Römer, and following him Tomarkin, were able to show a sustained resistance of moderately tubereulous guinea-pigs, toward a fresh cutaneous inoculation. A similar immunity toward a subcutaneous dose, so far as I know, has not yet been demonstrated.

It is evident that human beings, supposedly protected by vaccination, may at any time encounter highly virulent races, or take in unusually large doses of ordinary virulence. The portal of entry may also be different and less secured than the usual route. Such accidents tend to bring discredit on vaccination, and they show that we cannot dispense with the usual preventive measures even in a thoroughly vaccinated community.

It is now well known that vaccination protects only for a limited period. The body forced to produce a variety of antibodies under pressure is not likely to continue such manufacture indefinitely after the stimulus is removed. Nature is not lavish in producing unused commodities. Animals naturally immune do not carry an appreciable quantity of immune bodies about. Their protection is guaranteed by more economical processes of life of which we know as yet very little. The length of time elapsing between vaccination and exposure, therefore, is of great significance in the success or failure of protection.

There is still another series of factors which may be called environmental which play a prominent part in immunity. Thus, seasons govern the incidence of many infections. Pneumonia and its allies are largely subject to seasonal influences. Restricted and special kinds of food, which are gradually being exposed as a cause of many constitutional diseases may greatly favor, through these diseases, the lodging and multiplication of infection. The strain due to bodily exertion and exposure to cold may start infection already present somewhere in the system. These and other environmental influences become so important in endemic diseases that they take first rank, the micro-organism falling to second. The normal immunity of the body is so high that the mere presence of the infecting organism is not enough. The immunity must first be broken down by exposure, exertion, hunger, fatigue and so on. What can we expect of vaccines against such diseases? Can they counteract the depressing influences of environment? These questions are still to be answered. If pneumonia is amenable to preventive vaccination, why is this not accomplished by the virus in the upper air-passages, where it vegetates in the majority of persons?

In addition to these many variables of host and parasite which may influence either the success of the immunizing process as such, or the conditions under which it is most efficiently put to the test, there is the principle of active immunization itself which must be carefully kept before us. When we discuss vaccination as a preventive, we mostly fail to take into account that we are asking something of the individual to be vaccinated, rather than giving him something. We are asking his tissues to go through the preliminary process of training to meet some future emergency. Vaccination is a process of education, for being better prepared to meet an invasion at once, before it has grown to any dimensions. We have no reason to suppose that the characteristics of the body will be materially and permanently altered by such a training. If the body is below par in the supplying of immune bodies, it is likely to remain so, despite the vaccination. Of two individuals treated preventively alike, one may be able to cope successfully with a larger or more virulent dose than the other. The plane of immunity of both is raised by vaccination, but unequally so, and in proportion to their natural endowments. Experimentally, we find this difference among all our animals. It is strikingly illustrated by the widely different capacities of horses under the same treatment for the production of antitoxins.

### TIME RELATIONS OF VACCINATION AND DISEASE

Having now discussed some of the facts and theories pertaining to artificial immunization and some of the practical difficulties, I have still to consider the time relations of vaccination to the disease process. Vaccination before infection or preventive vaccination is the simplest and oldest application. It is now used quite universally as a general prophylactic against small-pox. Vaccination against typhoid is gaining ground. Vaccination against other infections such as diphtheria may come if other means of prevention fail to control the infection properly. Of small-pox vaccination little need be said. Although the public is growing somewhat restive under compulsory vaccination the method in use still stands unique, and if properly administered and duly supported by the public its benefits cannot fail to be great. If hampered, however, by legislative restrictions and by public indifference, it cannot assert its efficacy.

The vaccination against typhoid fever is just now receiving much attention. It appears to be harmless and should have the widest application if only to give it a thorough test under varying conditions. We should not, however, be so optimistic as to lead the public into thinking that the usual precautions may be neglected with impunity. The recent Army statistics are encouraging but they cannot be compared with those of the Spanish War camps, for example, in which the opportunities for the dissemination of infection were very favorable. Such conditions will probably not be reproduced again, and wherever vaccination goes there will also go a better insight into the disease on the part of the public and better means for suppressing the infection. The possible dose of infection will thereby be greatly reduced, and even a slight vaccinal immunity may prove effective against the natural infection. Therefore vaccination against typhoid should not take the place of and make unnecessary all those precautions which have hitherto been held as essential in combating it. There will continue to be still enough unrecognized infection about which will increase with density of population. For similar reasons it seems unwise to remove quarantine against small-pox even in a vaccinated community, which has been done by some states.

In tuberculosis the frequency of childhood infection has been regarded by Römer and others as a kind of protective vaccination. The modern theory of phthisiogenesis regards this early infection as a Janus looking either toward immunity in later life or toward an open progressive malady. If childhood is absolutely protected, infection will come later. If it is exposed too much, disease is sure to come. In this dilemma perhaps the safest position to take is that even with great care in preventing infection there will still be enough infection at large to keep the young immunized.

### VACCINATION DURING THE COURSE OF INFECTION

If the procedure of injecting vaccines when the body is manifestly under the influence of the injecting agent had been presented fifteen or twenty years ago, it would have been met with skepticism and failure. It was assumed that the body is already fully occupied trying to rid itself of intruders, and that any further addition of micro-organisms would do harm rather than good. Pasteur had introduced a method for immunizing against rabies after infection and before any open manifestations of disease. It was reserved for Koch in 1890 to introduce the method of vaccinating during disease by the use of tuberculin.

In 1902 Sir Almroth Wright began his work in treating chronic bacterial infections with vaccines consisting of suspensions of bacteria killed by heat. In introducing this mode of treatment Wright associated with it the rise and fall of particular normal substances in the blood, the opsonins. These, by acting on bacteria, made them a more ready prey of phagocytes. Wright at first limited his treatment to localized bacterial infections. Only later did he attempt to influence infections associated with bacteriemia and other indications of an active, generalized process.

This invasion of the precincts of active disease by clinicians with their vaccines has been viewed with much interest and trepidation by bacteriologists. It seems like adding fuel to the flames. But there may be unknown factors in the path leading toward immunity which the bacteriologist has not yet sensed. The clinical conditions attacked by vaccines are not easily studied by experimental methods. In the laboratory, investigations on immunity have been largely and of necessity restricted to virulent organisms. The end-point of the experiment has usually been death or recovery. The animal in order to be saved had to be hyperimmunized, and the final result is a condition to be realized only by experimenting on highly fatal human infections.

Localized bacterial infections are processes toward which the human body in general possesses a high degree of natural resistance. This group of infections forms theoretically but a small local side-issue of the problem of immunity—that end of it tending toward recovery. It is but a step removed from the carrier problem. The great service of vaccines in this group of diseases lies in the fact that localized bacterial infections are exceedingly common and represent in most cases an annoyance and an infirmity rather than a danger to life. It is well to bear in mind this difference between laboratory studies in immunity and Wright's studies. His work begins where that of the laboratory ends. Local lesions in animals under decent conditions usually heal quite promptly and do not engage the attention of the experimenter to any extent unless they are induced in a healthy animal for special purpose and represent the starting-point of a general invasion to be checked by appropriate experimental devices. Therefore experimental medicine is not in a good position to study immunity toward localized infections. Spontaneous cases in animals would be difficult to obtain in any numbers, and the production of artificial local infections would have to be associated with induced wounds.

How different Wright conceives his problem from the ones usually studied in the laboratory is gathered from the following quotation.[9] In discussing the concentration of bacteriotropic substances and phagocytes in the blood he says:

> It is, in view of these considerations, immediately intelligible that the animal organism should, as it does, successfully resist microbes administered through the channel of the blood, when it fails to offer resistance to the self-same microbes, administered by the way of the tissues.

The bacteria usually employed in laboratories are of such a character that infection by way of the blood is the most serious, by way of the subcutis less dangerous, and by way of the cutis least dangerous. If we attempt to immunize a rabbit toward a highly fatal strain of the rabbit-septicemia group we may eventually succeed in protecting it against a dose of virus rubbed into the shaven skin to which the control succumbs. A subcutaneous injection, however, may not be borne, and least of all an intravenous dose. The artificial immunity produced tends to restrict the virus to as limited a locality as possible. Its very end seems to be to keep it out of the blood. The rabbit stands in the place of a human being with local plague infection which has been held in check by a high degree of artificial immunization effected before the disease appeared. Would any one risk the injection of vaccines in a case of this kind to hurry along the healing of the local focus? When, on the other hand, we have a local infection with a staphylococcus against which the human race has been successfully fighting for ages and toward which a high degree of immunity already exists, the injection of vaccines in small doses has little if any bearing on the restriction or dissemination of the virus in the body. In the case of the plague lesion the acquired resistance may be broken down at any time by one of many accidents including vaccination. In the staphylococcus infection this is very unlikely.

Wright has fully appreciated the significance of localized bacterial infections as they usually present themselves in the human subject. According to him they are some miscarriage of the processes tending toward the complete elimination of bacteria. He proposes to help the affected locality by various measures such as increasing the flow of blood and lymph, free incisions and, by vaccination, to call forth and bring to the spot an increased supply of immune bodies, that is, opsonins and leukocytes. Without wishing to question the general accuracy of Wright's brilliant observations on localized infections, we might venture to enquire whether many such infections are due to lack of immunity at all. May not these miscarriages as he calls them be due to a slight disarrangement of the immune forces in their attack? If, for example, as he states, "a wound may be pouring out day by day an ineffective pus," would not a local vaccination tend to withdraw some of this "ineffective" pus to itself and restore the balance? In those cases of "brawny swelling" in which there are too few leukocytes and too much serum, may not the free incision give the pent-up bacteria a better chance to multiply in the open wound and thereby stimulate leukocytes to the spot to

9. Wright: Studies in Immunization, 1909, p. 453.

form pus and thus restore the balance in the opposite direction?

These questions indicate that at least some localized infections may be due to disturbances of a delicate equilibrium rather than to a deficiency of immunity as we usually understand the term. It is of interest to note here that in such cases vaccination is after all merely a safer and surer way of doing something which the setons of former centuries did in an unsafe and less certain way. If the seton wound became infected with the right organism, which might happen through the blood or by accidental infection from the wound, the vaccination became a continuous process, and an outlet for "superfluous" leukocytes was made while the immunity was being raised.[10] The non-specific fixation abscesses of the French may perform a similar service.

The treatment of bacteria-carriers with vaccines requires no special comment. The carrier is as a rule immune, and with the application of reasonable doses of vaccine harm can hardly be done. Whether or not such treatment is going to be effective must be determined on the patient himself. If the attempt to create experimental material by making animals artificially carriers should succeed it would serve as valuable material for chemotherapeutic studies. But it is doubtful if such animals treated with vaccines would give us any final knowledge concerning the application of vaccines to human carriers. The attempt to make rabbits typhoid carriers for purposes of experimentation with vaccines is at best producing a greatly distorted image of human conditions. The relation between the rabbit and the typhoid bacillus is purely artificial. It would be better to try a paratyphoid toward which some spontaneous susceptibility is known to exist.

Vaccines are now employed in affections in which the specific agents can be frequently detected in the blood and in which symptoms indicate that the infection is no longer strictly localized. They have been applied in the course of typhoid fever, pneumonia, puerperal sepsis, general streptococcus infections, gonorrheal metastases and the like. Is there anything in the armamentarium of bacteriology and immunology that can be used to defend and encourage this form of vaccine therapy? Is there anything to forbid it?

Medical science is here again at a disadvantage because the types of disease mentioned are not exactly reproducible in the laboratory. The feature in them which attracts attention is the presence of bacteria in the blood, either constantly or spasmodically. This condition of bacteriemia has perhaps been regarded as of more serious import than it really is. In the laboratory the bacteriologic conception of septicemia implies certain death for the reason already stated, that bacteriologists are in the habit of using only highly virulent organisms which produce speedy blood infection. Such types of disease must not be identified with infections which last many weeks and months and are associated with, let us say, streptococci in the blood. In the latter case the streptococci may be mere passersby, ready, it is true, to do damage wherever a favorable nidus offers, but probably not multiplying to any extent in the blood-stream or outside of protected foci within organs. To make my statement clear let us take an extreme illustration, the presence of myriads of microfilaria in the blood, in filariasis. This condition is also a septicemia, but the metabolism of the nematode larvae is of so little offense to the host that no appreciable reaction is produced and the patient remains well. With trypanosomes the situation is more serious. The other extreme is the plague rat or similarly susceptible animal in which the blood is apparently the favorable tissue for multiplication. Between these extremes various intermediate degrees of blood-infection occur depending on the rate of multiplication of the parasites in the blood. Again bacteria may even remain latent for many months in organs associated intimately with the blood such as the spleen, or at any rate multiply so slightly that the inoculated animal remains well. Marshal Fabyan,[11] working in my laboratory, has shown that the bacilli of cattle abortion may be cultivated in considerable numbers from the spleen of various laboratory animals many months after inoculation, without causing in the meantime any appreciable symptoms or lesions. These illustrations must suffice to show that the presence of parasites in the blood or blood-forming organs may have various meanings.

Returning to the cases of bacteriemia which have been found to persist many weeks in association with some local focus of infection, can we safely superpose on this condition dead bacteria of the same kind and, if the procedure is safe, is it beneficial? We have Wright's statement followed by that of many others, that in such cases great benefit from the use of vaccines has been observed occasionally. It is not within the scope of this discussion, however, to do more than suggest some theory which may harmonize to a certain degree opposing views of immunologist and clinical vaccinator. The point of view I wish to present is that the bacteria in chronic localized infections which spread into the blood may be immune or fast (to use Ehrlich's term), so that they are neither destroyed nor capable of much increase. Their defensive mechanism is highly developed, either because they are special, highly parasitic varieties or else because a long-drawn-out habituation to a particular host has made them so. With this goes also very slight multiplication. Hence little bacterial substance is set free to cause serious injury or to stimulate immunity. The injection of cultivated bacteria which are of a much lower grade of resistance, in the form of vaccines, may perhaps supply the needed stimulus and raise the immunity to that level from which the parasitic forms may be successfully attacked.

There is an apparent contradiction between this explanation or theory and the one I have presented earlier in this article. I stated there that to produce a maximum immunizing effect bacteria should be as near their original parasitic state as possible, so as to be endowed with all the antigenic properties which they possess in the host. Here on the contrary I assume that in combating long-drawn-out bacterial infections we need vaccines not so resistant as their originals in the blood. But it will be remembered that the first demand referred to prophylactic vaccines. The body has then ample time to work over the vaccines and by prolonging the assimilation, a higher degree of immunity is to be expected. In vaccine therapy, however, the vaccine must be utilized by the body at once.

It is obvious that from what has been said vaccination in the course of disease is not a matter to be taken lightly. Each case presents its own peculiar problems which must be studied not only that vaccines may achieve a possible success but that they may do no harm. The one who administers vaccines or advises their use should

10. It should be added that the seton vaccination was a vaccination with living bacteria and therefore more effective provided the "autogenous" organism gained access to the wound, maintained by the seton.

11. Fabyan, Marshal: Jour. Med. Research, 1913, xxiii, No. 1.

have thorough training in experimental and comparative immunology. Not only should he be on terms of intimate personal acquaintance with the facts and theories of infection and immunity, but he should also be a practical bacteriologist and know how to prepare and evaluate the vaccines to be used. I therefore agree with Wright that we need vaccinators who should be specially trained and work in cooperation with the clinician. We can hardly expect a physician to be both a vaccinator as defined and a skilled all-round clinician, but we can have cooperation of two men sharing the responsibilities involved in these lines of work.

### THE COMMERCIALIZATION OF VACCINES

In view of the difficulty of deciding when a vaccine may be used, and the necessity for estimating in each case the probable immunity already possessed by the patient from data obtained from the history of the case, from bacteriologic and clinical observations, the widespread commercialization and indiscriminate use of vaccines are to be viewed with considerable misgiving. From one of the most delicate problems the injection of vaccines is being brought to the level of a crude patent-medicine cure-all. Even with the greatest care in administration, there is still plenty of empiricism bound up with the use of vaccines as long as our knowledge of immunizing and toxic factors remains incomplete. The overburdened physician is ready to substitute some other responsibility and authority for his own, and commercial interests are but too ready to assume it.

The recent introduction of mixed vaccines is a case in point. The practitioner takes this vaccine and feels confident that it will hit something in his patient's condition. In addition to the unscientific use of mixtures in which the ingredients, if they act at all, not only may act alone, but also may combine to produce unanticipated results, the injection of mere filtrates cannot be supported from a scientific point of view. Filtrates may contain the toxic, or offensive, rather than the immunizing properties of cultures. They are known to contain endotoxins. We know from laboratory tests that fluid cultures increase in toxicity with age, that each species has its peculiar toxin curve, that toxicity depends on slight differences in culture mediums arising from the kind and quality of meat used, the amount of sugar present, the initial reaction, the relative exposure of the fluid to the air during multiplication, and the age of the filtrate. All these would require, in any case, most careful standardization. There is no evidence to show that even if such mixed vaccines were of maximum immunizing power, a single or even a series of injections would prevent secondary or mixed infections. The incidence of secondary or mixed infections during the course of a primary infection is probably beyond the reach of any dose of vaccine we can safely give. It means the breaking down of natural barriers of immunity of which we have as yet no very clear understanding.

The wide-spread use of bacterial products in therapy, more particularly in our own country to-day, signalizes that the empiric has far outstripped the experimental movement. This has always been so and will probably continue. The great pressure brought to bear on the medical profession to find something that will cure disease, even if the cure seems like making water flow up hill, has tended to develop the haphazard, adventurous and empiric at the expense of rational, scientific methods of investigation.

But we cannot eliminate empiricism wholly. We owe valuable suggestions and discoveries to it. These are like clearings in the forest unconnected with other clearings but destined to become the nucleus of a healthy scientific growth. There are so many complex factors in biology with which we must deal and which at present defy further analysis, that a scientific empiricism is needed to deal with them. We should not have antitoxins to-day if we had waited for the orderly development of our knowledge from the normal proteins of the blood to the immune antibodies.

There is a wide margin, however, between conservative empiricism based on and starting from all available scientific data, and a radical program which throws them to the winds and proceeds in defiance of well-established doctrines. Our position toward this radicalism should be governed only by humane considerations. The medical profession should see to it that vaccine therapy does not degenerate into inconsiderate and reckless experiments on human beings, that it does not create false hopes in hosts of patients, and that it does not originate and end in commercialism and the desire to exploit the weak and unfortunate. To prevent these calamities, several lines of action are open. We should begin by influencing the student. Courses should be modernized so that through experiment and personal observation he may gain a more thorough grasp of the scientific method and a critical attitude toward old as well as new doctrines governing prevention and treatment. Your president, Dr. Richard M. Pearce, has made a splendid beginning in raising the teaching of pathology from the old, descriptive and static to a new dynamic level. His example should inspire others to do likewise.

In laboratory research we should not follow new and untried leads to the detriment of old work undone. We are too much interested in sudden and unexpected turns of the road we are traveling and loth to walk the long, straight, uninteresting road which usually follows some important discovery. In immunology we are neglecting quantitative studies to hunt for new and somewhat spectacular events. We must approximate our laboratory work more closely to human problems, rather than stop where they begin. To do this we must study genuine animal infections, more in detail, and attempt the production of such diseases experimentally as will illustrate not only the beginning, but various other portions of the immunity curve. We shall then be able to estimate more wisely and promptly the true value of innovations. We have the solemn responsibility of avoiding such doings as may encourage the future quack. The charlatan of to-day simply flourishes on the harvest sown unknowingly by the profession of a former generation.

### SUMMARY AND CONCLUSIONS

In conclusion, let me briefly summarize the points to be emphasized. All parasites tend to increase the resistance of the host in which they live and multiply. Out of this universal fact a number of practical problems arise. In any given disease is it worth while to try to raise this immunity, and how much energy will it cost the patient? If worth while, what is the best and most sparing way of raising such immunity artificially? In any localized infection we must ask: Is this a beginning process without attendant immunity, or is it a residual process associated with general immunity? If the latter, vaccines may be considered safe. In processes associated with fever and bacteriemia, science says Hands off until we know whether we have a progressive disease with gradual undermining of the resistance or a more localized affection in which the excursions into the blood are secondary. In any case, the use of vaccines in these

cases must be regarded as experimental, and should not be undertaken save in conjunction with one trained in immunologic problems.

Judged from this point of view, as well as from the work of the laboratory as a whole, we should say that vaccines applied during disease will be rarely, if ever, life-saving, but they may hurry a stationary or languid process which tends toward recovery, by bringing into play the unused reserves of various tissues.

240 Longwood Avenue.

---

## A PLEA FOR AN INSTITUTE OF HUMAN EMBRYOLOGY

FRANKLIN P. MALL, M.D.
Professor of Anatomy, Johns Hopkins University
BALTIMORE

A superficial glance at the facilities for the study of anatomy suggests that the great number of specialists and students of this subject should suffice to insure an effective organization of the forces to promote the science in a satisfactory way. In fact, the forces are well organized through well-equipped laboratories, national and international societies, well established journals and the very best year-books. All this is due to the popularity and usefulness of the science during many ages, but it is easy to discern that much is still needed before the newer science of anatomy can be cultivated more effectively.

The parallel science of astronomy has in many respects a similar history to that of anatomy; it is also practical, popular and ancient; it has had its Hippocrates (Hipparchus), its Galen (Ptolemy) and its Vesalius (Copernicus); but its organization for research differs distinctly from that of anatomy. There are fewer astronomic observatories than anatomic laboratories, and fewer astronomers and students of astronomy, but unlike the work of anatomists, that of a large percentage of the astronomers is of a very high order. Should we not pause for a moment and ask ourselves whether the science of anatomy would not be furthered better and quicker if the example set by astronomy were imitated? In his "Advancement of Learning" (Book 2), Bacon says:

> I take it those things are to be held possible which may be done by some person, though not by every one; and which may be done by many, though not by any one; and which may be done in a succession of ages, though not within the hourglass of one man's life; and which may be done by public designation, though not by private endeavor.

It is the last portion of Bacon's statement which points out the way. We should have anatomic institutes for research, not in a vague way, as in the universities, but for specific investigations which are beyond the reach of a single individual or university department. In universities most of the time and energy of the teachers of anatomy must necessarily be devoted to education, and this effort is beneficial to the individual investigator, as it compels a broad stand to teach successfully the elements of any science. Under these conditions the professor can not make a sinecure of his position. But the devoted teacher has left only the minor portion of his time for study, and the progress of science necessarily stagnates. If the real anatomists devoted all of their time to science, and cooperated in their work, would they not make greater progress than is now possible?

The second half of the last century witnessed the building of a very large number of laboratories in various universities and this naturally called for more investigators and teachers in each science. A greater demand for scientific achievement naturally followed, and a larger percentage of teachers who were also investigators made their appearance. While it will always be the case that many problems will be solved by unaided individuals with practically no equipment, organization for more elaborate problems will favor and extend their efforts and not antagonize them. There is an ever-growing tendency for the able investigators to call for more eyes and hands to help, and above all these will find the atmosphere in research institutes congenial. So in recent years investigators, governments and benefactors have seen more clearly than ever that men of ability should be endowed in order that science may profit most by their efforts. As a simple statement this is self-evident—to carry it out is by no means easy—but the opportunity it describes has called forth a new type of high-minded, far-sighted administrators whose success so far guarantees much greater success in the future.

An abundance of experience has shown that an institute for research must be in charge of an investigator of a high type, and that the function of the institute should be sharply defined in order that the effort may be of value instead of a hindrance to science. For if a research institute is misdirected, as regards scientific achievement, a bad example is set which has a tendency to prevent other worthy efforts. So when the Reichsanstalt was founded, an enlightened administration placed Helmholtz at its head; the International Association of Academies chose His as first leader of the Brain Commission; the Rockefeller Institute found Flexner; and Hale was secured for the solar observatory. Selections like these inspire confidence in research institutes, for by their acceptance great leaders declare that the efforts are worthy.

The Naples Zoological Station served as a great stimulus to biologic and embryologic research, for it gave a new outlook to cloistered investigators by bringing them together at the seaside. The leading anatomist of his day, His, was greatly impressed by a sojourn at this station and later, when the opportunity arose, he made a plea for a research institute of human embryology as well as for one of neurology. The great man asked too much of the International Association of Academies, but it sanctioned a commission on brain research. His was made president of this commission, but death prevented him from contributing more than the outline for its organization. Since then the commission, now known as the Brain Commission, under Waldeyer's leadership, has been instrumental in bringing into existence, or into the commission, nine well organized laboratories in different countries. The Brain Commission is a society of neurologists under control of the Associated Academies; its chief function has been to found neurologic institutes; it meets triennially and its report is submitted a year later to the academies.

The second project of His, namely, that an institute of human embryology be founded, was referred by the Associated Academies to the anatomic societies. At the meeting of the German Anatomic Society, held in Bonn in 1901, a committee was appointed, composed of His, Waldeyer, Keibel and Rabl, to arrange for cooperation in embryologic research, but it developed no activity. Nor was this question considered by the first Congress of Anatomists in Geneva in 1905. At the second session of this congress, held in Brussels in

1910, however, a committee was appointed to revise embryologic nomenclature. It may readily be seen that this committee, if it secured the endorsement of the Association of Academies, could easily accomplish for human embryology what the Brain Commission has done for neurology. Shortly after the appointment of the Brussels committee a self-appointed committee of three called a meeting at Utrecht to organize an International Institute of Comparative Embryology, which is composed of forty members, including all of the Brussels committee. This continued agitation shows that it has become a recognized fact that embryologic investigation needs international organization to further the science. The object of the Brussels committee is to revise embryologic terminology, and the Utrecht conference plans to make extensive collections of embryos of all classes of vertebrates; neither is to confine its field especially to human development. In the study of human embryology there are specific problems of great scientific and practical value which, on account of the nature of the question, cannot possibly be studied to the best advantage without more concentration of energies (including carefully outlined cooperation) than is planned by either the Brussels or the Utrecht committees. In a measure this has been done without financial aid in producing the "Manual of Human Embryology," generously published in German by Hirzel of Leipsic and in English by Lippincott of Philadelphia.

We must thank His for the first attempt to study carefully the anatomy of human embryos, but his work was planned on so large a scale that he never completed it. Gradually he lost courage to go ahead singlehanded, as may be observed in his numerous publications in favor of cooperation in embryologic research. Thus we may trace back to him the incentive for Keibel's *Normentafeln,* Minot's great collection of vertebrate embryos and mine of human embryos. Although I have stated that the Bonn Committee was inactive, plans were made by His and Keibel to cooperate in the production of a work on human embryology as a continuation of "Die Anatomie menschlicher Embryonen." Unfortunately this did not materialize, but in its place we have the manual mentioned above. To produce these two large volumes nine American and six European embryologists have collaborated to bring together what is known about the developing human embryo. In the preparation of this work the human embryos, which have been prepared for investigation in various laboratories, have been studied wtih considerable care. But there are not many embryos in the total of all the collections; many of them are poorly preserved or prepared; their histories are usually inadequate; and most of the embryos are difficult of access. In spite of all of the disadvantages this manual gives, aside from the very early stages, a more complete account of the topographic and systemic development of man than we possess of any other animal. At present it seems impossible for the investigator-teachers to make greater progress than is here shown without better organization, and it is for this reason that I renew the plea of His for an institute of human embryology. Only in this way can we hope to secure a complete embryologic and scientific basis for human anatomy, which, it is being recognized, is in a chaotic state. In human anatomy, whenever an organ has been studied embryologically, many obscure and involved conditions have become clear, and in many instances this has aided the study of comparative embryology and comparative anatomy. Although this should not be the case, it is true, because the detailed anatomy of man is better understood than of any other animal, and the study of the human embryo therefore has the greatest value. I need only to cite His' studies of the heart and brain to support this statement.

The science of anatomy, which in great measure has been a mother of the biologic sciences, needs a thorough revision and a new basis, and this is to be obtained through the study of embryology. There should be an institute of human embryology just as there is one for human paleontology recently founded in Paris by the Prince of Monaco. To do this the following is required:

1. Much larger collections must be made.
2. Much better histories of the various specimens must be obtained.
3. The necessary material must be placed at the disposal of the most competent investigators.

The collection in Baltimore includes five hundred specimens which have been accumulated during a period of twenty years. It contains about one hundred normal embryos cut into serial sections, of which about one-fifth are really good specimens ranging from 2 to 30 mm. in length. Although great care has been taken to collect good histories of these specimens, they are still fragmentary, and by no means as reliable and extensive as they should be. Since, however, the quality of the specimens and histories is gradually improving, there is every assurance that a much better collection could be obtained under more favorable conditions. This collection is the result of the efforts of one individual, largely unaided. The Leipsic collection was also made by a single individual during a period of thirty-five years. In scientific value it is probably inferior to the Baltimore collection, for it antedates it. Since the death of His the collection has fallen out of use; in fact, most investigators do not know what has become of it. The other collections, which are smaller and scattered, have been drawn on freely by Keibel for his *Normentafeln* and by Keibel and Mall for the "Manual of Human Embryology." This is our present state.

In a measure gynecologists and obstetricians have been educated to preserve embryologic specimens properly and it now remains for embryologists to collect them for study. This process is taking place all over the world, but the material is scattered and of insufficient quantity. A vigorous institute, properly related to the investigators of the world and to the medical profession of a number of larger cities, should bring together as many embryologic specimens in a year as under present conditions an occasional investigator does in a lifetime. Were this the case there would certainly not be a dearth of both normal and pathologic embryos for study. The histories of the specimens should be as complete as possible, for, besides their age, we should also attempt to determine the cause of abortion.

An unusually large collection in an institute of human embryology would necessitate the best scientific equipment—assistants, specially trained technicians, artists and modelers to work up the good specimens at once, and to record and carefully to care for all material. Competent investigators should be invited to the institute, rare specimens should be borrowed, neeessary material should be loaned and small grants should be made to distant investigators for special studies. The institute should be an independent center of sufficient magnitude to play an important rôle in the study of human embryology.

At present a single investigator easily makes a collection of embryos which is far beyond his power to study systematically during a lifetime, and still such a collection is too incomplete to show in a satisfactory way the continuous development of any organ. Cooperation is required and the best technical aid is needed to apply to advantage the methods we now possess. The tens of thousands of sections must be reconstructed to show the form of the various organs and structures on an enlarged scale in order that we may make progress in routine work as is the case in astronomy and geology.

With a very large collection, a competent staff and the very best material equipment the institute would naturally take up problems which bear on anatomy, physical anthropology, comparative embryology, physiology of gestation, pathology and teratology. The following larger questions at once present themselves:

1. Curve of growth.
2. Anatomy of various stages.
3. Morphology of the brain.
4. Histogenesis.
5. Cause of abortion.
6. Study of monsters.
7. Study of moles.
8. Comparative and experimental embryology to elucidate human.

Some of the subdivisions of these larger questions are as follows:

1. The norm should be established; embryos should be arranged in stages.

2. Are all portions of the embryo equally developed in like stages?

3. The corpus luteum should be standardized in relation to stages of the embryo.

4. An attempt should be made to determine with precision the age of embryos.

5. To what extent do the stages of the embryo, their age and degree of development of the corpus luteum correspond? (These questions having a bearing on the time of fertilization, duration of pregnancy, and in rare cases on illegitimacy.)

6. All kinds of measurements of a physico-anthropologic nature should be made on the embryo and fetus, to ascertain if possible an explanation for marked anatomic variations. In certain portions of the body variations are more pronounced and more frequent than in others. This condition may be due to unequal development in early stages when there is much shifting of great masses of tissue.

7. Careful comparison of the degree of development in twins. Is the rapidity of development the same in the two sexes?

8. Does the health and nutrition of the mother influence development? Is there a critical point in early development which subsequently influences the physical and even the mental well-being of the individual?

9. A norm is to be established not only for the embryo but also for each organ, structure and tissue. Ultimately, it is to be hoped that such a study will give a norm for adult human anatomy, which at present is based on opinion. It goes without saying that such study would in the course of a generation or more give us a new and improved science of anatomy and a rational terminology.

10. Normal embryos are to be separated from the abnormal and the pathologic.
   - A. A careful study is to be made of embryos obtained through hysterectomies.
   - B. Through tubal pregnancies.
   - C. Through artificial abortions.
   - D. Through "natural" abortions.
   - E. These various groups are to be compared with corresponding stages from other mammals.

11. In "natural" abortions the cause is to be investigated. To what extent is it due to syphilis, gonorrhea, or infection by the physician or the midwife?

12. The social evil probably plays a great rôle here. To what extent this is the case may possibly be determined by making collections in country districts as well as in cities. The frequency of abortion in two such districts would have to be ascertained.

13. The norm of the chorion must be determined anew.

14. Sterility in both the male and female.
   - A. Tendency toward sterility.
   - B. One-child marriages.
   - C. Sterility after a number of births.

15. Abnormal embryos.
   - A. Slight degree.
   - B. Polysomatous monsters.
   - C. Merosomatous monsters.
   - D. Pathologic embryos.
   - E. Moles.

16. In tubal pregnancies only the very early pathologic embryos are found or the very late kind. This deserves investigation.
   - A. Nos. 11 and 12 above bear on this question.
   - B. Monsters are caused by a diseased uterus. To what extent is this due to gonorrhea?
   - C. Study monsters in other mammals; for example, in the pig.
   - D. Imperfect implantation to be investigated.

17. The relation of human embryology to pathology.
   - A. Tumors.
   - B. Excessive and deficient development of organs and tissues.
   - C. Embryonic remnants.
   - D. Chromaffinic organs, etc.
   - E. Pathology of the syncytium.

It may appear that the above outline emphasizes unduly the making of a collection, but this is not the intention, for in my opinion the chief function of an institute of human embryology should be the formation and solution of problems. To make the effort of great value it would be necessary to plan the work on a larger scale than is possible with the means now available. The laboratory space required and its equipment would be insignificant, but the funds should be sufficiently large to support properly a small staff with the very best technical and clerical assistants. The correspondence required would be extensive, a certain amount of traveling would be necessary, and grants should be made to insure the cooperation of several of the foreign embryologists.

1514 Bolton Street.

---

## SPEECH WITHOUT A LARYNX

EDWARD W. SCRIPTURE, Ph.D., M.D.
Associate in Psychiatry, Columbia University
NEW YORK

Normal speech requires breath from the lungs acting on the larynx and the organs of enunciation in the throat and mouth. When the larynx has been removed without cutting off the supply of breath from the lungs to the mouth, the speech is like that of a very faint whisper. When the air-passage is entirely closed between the lungs and mouth, speech ceases entirely. Although the person can make all the movements of enunciation, he has no means of producing any sound. Strangely enough, however, he can be taught to speak quite audibly in a new way.

Several such cases have been reported, but I have recently had the opportunity to push the speech development much farther than anywhere reported by employing some of the finer principles of phonetics.

The patient came to me three months after his larynx had been removed for carcinoma. The passage from the mouth to the trachea was entirely closed. He breathed through a tracheal cannula.

To produce the explosive "p" he was taught to close his lips and compress the air in his mouth and pharynx by tension on the cheeks and in the back of the throat. On opening the lips there was a puff or explosion of the air that produced a quite unusually audible "p".

For "t" he placed the point of the tongue against the palate and compressed the air in the mouth and pharynx. The moment the closure of the tongue was released he produced a "t" that was more distinct than one produced normally. Just this same "t" is taught in one system of elocution; the speaker shuts his glottis tightly and compresses the air in the mouth and pharynx; this form of enunciation can be heard very far away in a large hall where the ordinary "t" would be inaudible. For "k" the back of the tongue is raised; otherwise the mechanism is the same.

For the fricatives "f," "s," "sh" (as in "shoe") and "th" (as in "thin") a narrow passage is formed between lips and teeth, tongue and palate, etc. For these sounds the air is furnished by mouth- and throat-compression just as for the explosives. All these sounds are made normally by pressure of air from the chest but without any action of the larynx; they are called "surds."

For the normally made explosives, "b," "d," "g" (as in "go"), and the fricatives "v," "z," "sh" (like "s" in "pleasure") and "th" (as in "thine"), the larynx is required to vibrate. They are called "sonants." The positions of the lips, tongue and palate are approximately the same as for the surds described above; consequently, without the laryngeal vibrations there is no difference between "p" and "b," "t" and "d," "k" and "g," "f" and "v," etc., and it follows that "bed" sounds the same as "pet," "bag" the same as "pack," etc.

To make a difference that would replace the laryngeal tone I hit on the use of the air from the tracheal cannula. Any expiration produced a rushing sound. The patient was taught to produce a faint rushing sound during the production of all the sonants; this made a marked difference between the surds and sonants.

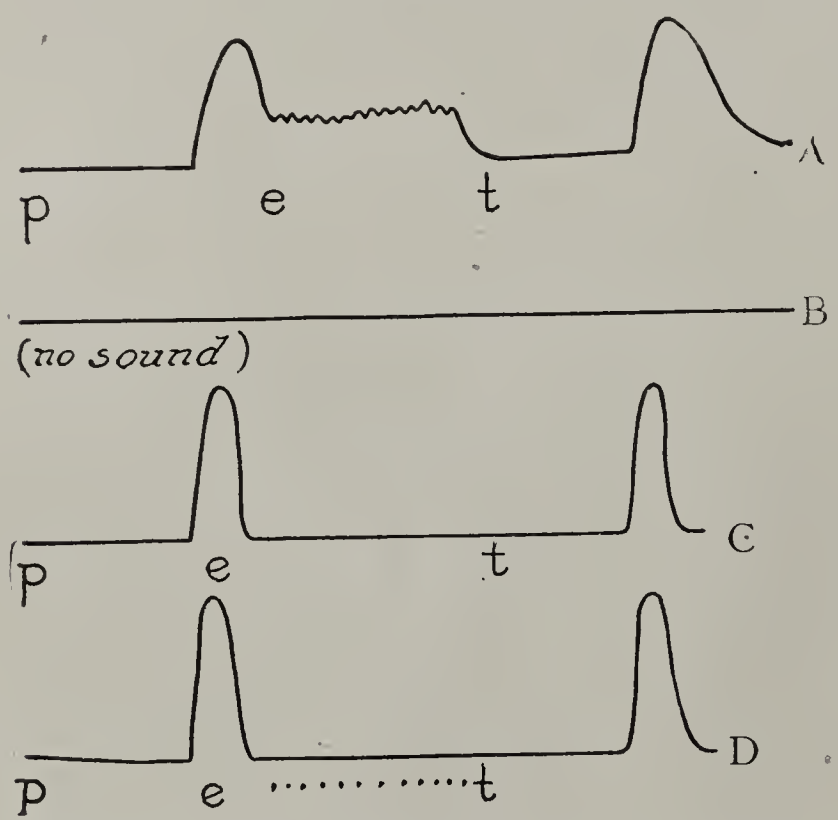



Fig. 1.—*A*, normal speech, showing occlusion and explosion of "p," vibrations of "e" and occlusion and explosion of "t." *B*, patient's speech before training; no sound although tongue movements were correct. *C*, patient's speech with pharyngeal compression; "p" and "t" distinct but only a faint brief vowel. *D*, patient's speech with pharyngeal compression and cannula hiss; interval of vowel is distinguished from silence.

The vowels are formed by placing the lips, tongue and velum in certain positions. The vibrations from the larynx arouse resonance vibrations in the cavities of the pharynx and mouth. With no vibrations from the larynx, no spoken vowels can be formed. Whispered vowels are produced by a rush of air through the larynx. The rush of air through the pharynx and mouth when an explosive was ended by the patient gave an indication of the following vowel, but the sound was weak and brief and the vowels were not sufficiently distinguished from silence. To remedy this to some degree, the patient was taught to expire through the cannula for each vowel. The vowels were thus more clearly distinguished from pauses.

With the graphic method of recording speech, the person speaks into a tube ending in a rubber membrane. The movements of this membrane are recorded on a moving surface by a light lever. The record gives the vibration and puffs of air in the voice.

A record of "pet" spoken normally is given in the top line of Figure 1. The straight line at the beginning gives the time during which the lips were closed in making "p." As the lips were opened a puff of air was emitted; this blew the lever upward and made the sudden jump in the line. The vibrations of the vowel "e" were registered as fine waves. The closure of the tongue against the palate for "t" and the puff of air at its release made a record like that of "p." With no pharyngeal compression the patient produced no sound at all; the record is a straight line. (See *B*, Fig. 1.) With compression he made a record for "pet" like the normal one except that the vowel was a brief, faint whisper. (See *C*, Fig. 1.) By breathing through his cannula, the breathy voice replaced the silence. (See *D*, Fig. 1.)

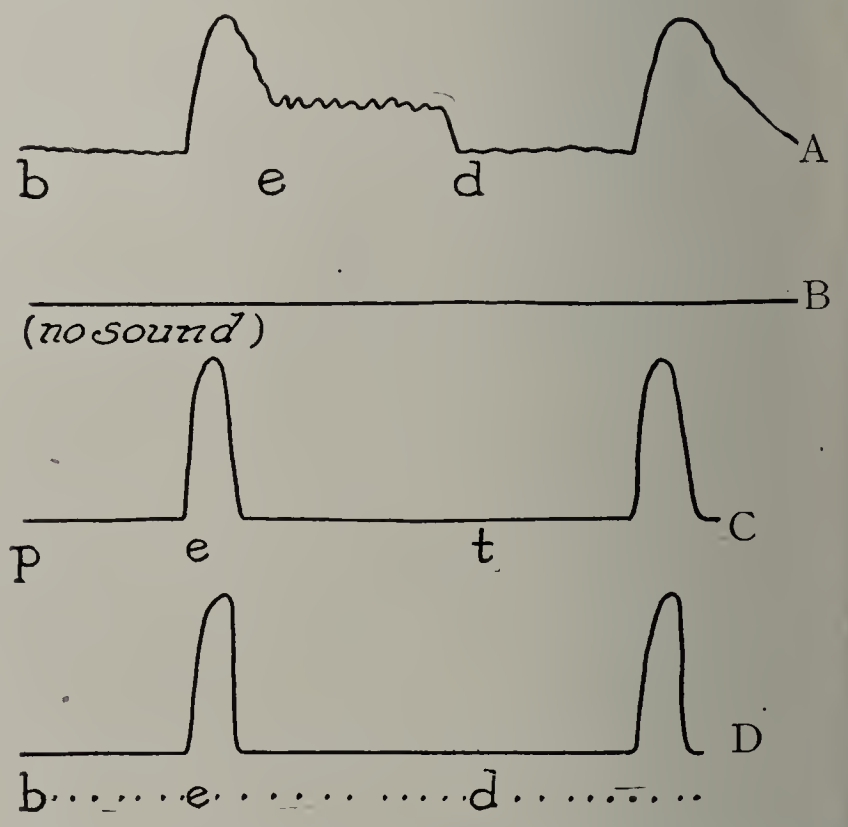



Fig. 2.—*A*, normal speech showing vibrations during "b" and "d." *B*, patient's speech before training. *C*, patient's speech with pharyngeal compression only; no difference between "bed" and "pet." *D*, patient's speech with pharyngeal compression and cannula hiss; the sounds are differentiated from the preceding case.

The top line of Figure 2 shows the normal record for "bed." The voiceless condition of the patient is indicated in the second line *B*. The enunciation with pharyngeal compression without the cannula-noise did not differ from that of "pet." (See *C*, Fig. 2.) The distinctness was much improved by using the breath from the cannula. (See *D*, Fig. 2).

The mechanism for each sound was explained to the patient. He found the work interesting and carried it out so very successfully that speech could be heard distinctly through two large rooms.

236 West Seventy-Fourth Street.

# THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF HYDROGEN PEROXID

P. G. HEINEMANN, PH.D.
Instructor in Bacteriology, University of Chicago
CHICAGO

Hydrogen peroxid has been recommended for germicidal purposes for many years. Its application has been advocated for rendering water and milk safe, for disinfection of sewage; it has been applied in medicine, surgery, dentistry, hair-dressing, etc. The chief advantage claimed for hydrogen peroxid over many other germicides is the fact that the decomposition products are harmless. It has also been claimed that toxins, such as diphtheria and tetanus toxins, are destroyed by it.[1] Its use for treating water and milk is, therefore, of considerable interest.

There are some objections, however, to the use of this chemical. It decomposes rapidly. The presence of small amounts of acid prevents decomposition to some extent. Some commercial preparations contain acids, acetanilid, or arsenic, barium salts, etc. The amount of acid, corresponding to about 0.2 per cent. hydrochloric acid, is perhaps harmless, and according to Croner[2] increases the germicidal effect. In neutral and alkaline solutions decomposition is rapid and keeping qualities are poor. According to Lukin,[3] alkaline solutions have higher germicidal power than acid solution.

Temperature is of importance in relation to the keeping quality and the germicidal efficiency of hydrogen peroxid. At 0 C. (32 F.) decomposition is slight and germicidal efficiency feeble. As the temperature rises decomposition proceeds more rapidly and germicidal effect increases. This fact involves a difficulty in application, since water and milk have to be treated at relatively high temperatures and then cooled to render them palatable. It is obvious that for sewage purification hydrogen peroxid is not likely to be successful, since the usual temperature of sewage is too low for its efficient germicidal activity.

Possibly more attention has been given to sterilizing milk with hydrogen peroxid than to any other phase of the subject. It may be added to milk either in solution or by using peroxids, which liberate $H_2O_2$. Solutions of the preparation are placed on the market by various manufacturers, the claimed percentage of actual $H_2O_2$ being 3, 4.5 or 30 per cent. Of metallic peroxids, sodium peroxid, calcium peroxid or magnesium peroxid has been used. Sodium peroxid produces an alkaline solution, so that the germicidal effect is feeble and deterioration rapid. Calcium peroxid has the disadvantage of liberating calcium oxid, and magnesium peroxid is not soluble.

There is no definite agreement among workers as to the exact minimum amount of hydrogen peroxid which will infallibly sterilize. Several factors have to be observed, and possibly failure to observe some one of these has caused the discrepancy in results. The reaction of the solution, the temperature at which the experiments are carried on, the presence of oxidizable substances, including enzymes, and the variability of hydrogen peroxid content in the solution have to be taken into account. The quantity of fat in milk is also a disturbing factor. Chick[4] has stated that skimmed milk requires but one-half the amount of this substance needed for sterilizing whole milk. Chick explains this by stating that catalases, which are present in milk and which rapidly decompose $H_2O_2$, adhere to the fat globules and are present in relatively small amounts in skim-milk.

Different germicides generally possess various degrees of destructive power toward different species of microorganisms. Hydrogen peroxid is no exception to this rule. Vegetative forms of bacteria seem to have less resistance than molds.

In 1903 Budde[5] proposed preserving milk by the use of hydrogen peroxid, a process that has since been called "Buddeising." Small amounts of hydrogen peroxid (12 c.c. of a 3 per cent. solution) are added to one quart milk at a temperature of 52 C. (125.6 F.). The milk is supposed to be sterilized in a few hours. Buddeising of milk, however, has not become popular for several reasons. The certainty that the majority of bacteria are destroyed by the process may encourage careless production. Another reason is that even in such small quantities as 0.1 per cent., according to Gordan,[6] hydrogen peroxid imparts a disagreeable taste to milk. Undecomposed remnants of hydrogen peroxid can hardly be avoided. Much and Römer[7] have attempted to overcome this objection by adding a catalase to the milk after sterilization by hydrogen peroxid has been completed. The remaining $H_2O_2$ is then decomposed by the catalase. A third drawback of Buddeising is the rapid and almost complete separation of cream. Finally, the uncertainty of commercial preparations renders results doubtful. If the milk were treated with a reliable solution of $H_2O_2$ on a large scale before bottling, good results might be obtained.

Benefits to be derived from Buddeising have been reported by some investigators. Thus Baumann[8] thinks that the process might be successful if the milk is produced under sanitary conditions, and Hewlett[9] asserts that Buddeising destroys 99.9 per cent. of all bacteria in milk. Böhme[10] considers Buddeising at least equal, if not superior, to boiling milk. According to this author the chemical and physical changes produced by boiling milk are not produced by Buddeising. It has not been shown, however, that hydrogen peroxid treatment leaves the milk constituents unaltered.

Solutions of hydrogen peroxid have gained considerable popularity. It is commonly used for a variety of purposes. The object of the investigation reported in this paper was to determine how far claims of manufacturers could be relied on for practical purposes. The exact amount of $H_2O_2$ contained in the preparations tested was determined, but not taken into account since it did not seem necessary to ascertain the exact amount of $H_2O_2$ which is required for complete sterilization. A bactericidal efficiency equal to the efficiency of pasteurization of milk requires much smaller amounts of germicide than are necessary for complete destruction of microorganisms.

The plan of the investigation was as follows: Commercial preparations were used in equivalent quantities according to the amount of $H_2O_2$ claimed by the manufacturers, with no regard to the actual amount present. Definite quantities were added to milk, water and suspensions of several species of bacteria. Bacteria were

1. Sieber: Ztschr. f. Physiol. Chem., 1901, xxxii, 373.
2. Croner: Ztschr. f. Hyg., 1909, lxiii, 319.
3. Lukin: Centralbl. f. Bakteriol., 1905-1906, xv, 20 and 165.
4. Chick: Centralbl. f. Bakteriol., 1901, No. 2, vii, 705.
5. Budde: Milchzeitung, 1903, xliv, 690.
6. Gordan: Centralbl. f. Bakteriol., 1904, No. 2, xiii, 716.
7. Much and Römer: Berl. klin. Wchnschr., 1906, xliii; 1004.
8. Baumann: München. med. Wchnschr., 1905, lii, 1083.
9. Hewlett: Lancet, London, 1906, i, 209.
10. Böhme: Deutsch. med Wchnschr., 1906, xxxii, 1729.

taken from forty-eight-hour-old agar-slant cultures, and suspended in sterile water and sterile milk. Several suspensions of each organism were tested and by using from one to three tubes the density of the suspensions was varied.

Milk was tested in 1-liter (1-quart) flasks, each containing 250 c.c. Plates were made in beef-extract agar. The composition of the agar was as follows: 0.3 per cent. extract of beef, 1 per cent. peptone, 1.5 per cent. agar, and 1 per cent. dextrose. The reaction was 1 per cent. acid to phenolphthalein. The original number of bacteria in the milk was determined previous to the addition of the hydrogen peroxid solution. To one flask containing 250 c.c. milk, $H_2O_2$ was added in the proportion of 0.36 parts per thousand, to a second flask 0.72 parts per thousand, and to a third flask 1.44 parts per thousand. These quantities may be expressed in teaspoonfuls: For the 3 per cent. $H_2O_2$ solution there would be 3, 6 and 12 teaspoonfuls to each quart of milk, respectively. For the 4.5 per cent. solution of $H_2O_2$ there would be 2, 4 and 8 teaspoonfuls per quart. One part of the 30 per cent. solution was diluted with 9 parts of sterile distilled water so as to make a 3 per cent. solution. The tablets of magnesium peroxid showed on analysis to correspond to 2.2 c.c. of the official 3 per cent. solution. One tablet in 183.5 c.c. of milk therefore corresponded to 0.36 parts $H_2O_2$ per thousand. The tablets were crushed before addition to the milk.

For water the amounts taken were one-eighth of the amount used for milk. That is to say, 0.045 parts $H_2O_2$ per thousand were added to one flask, 0.9 parts per thousand to the second, and 0.18 parts per thousand to the third. Expressed in teaspoonfuls: For the 3 per cent. solution, 1.5, 3 and 6 teaspoonfuls per gallon of water, for the 4.5 per cent. solution 1, 2 and 4 teaspoonfuls per gallon. Corresponding to these figures one tablet of magnesium peroxid in 1,467 c.c. water represents 0.045 parts $H_2O_2$ per thousand.

The amounts of $H_2O_2$ solution used were in accordance with the statements of manufacturers without regard to the accuracy of these statements.

The hydrogen peroxid solutions were allowed to act for six hours at room temperature, which averaged about 22 C. (71.6 F.). Plates were prepared from suitable dilutions and incubated for two days at 37 C. (98.6 F.). After twenty-four hours' action of the hydrogen peroxid another set of plates was prepared. Counts were always made after forty-eight hours.

The preparation, designated as Preparation 1 in the tables, was bought from various dealers. The other three preparations were obtained from the chemical laboratory of the American Medical Association. Preparation 1, therefore, had been subject to possible deterioration in the hands of dealers, while the other three preparations were obtained by the laboratory of the American Medical Association direct from the manufacturers.

The accompanying tables show the results of the investigation in condensed form. Preparations 1, 2 and 3 are solutions of $H_2O_2$ of various manufacture. Tablets of magnesium peroxid were designated Preparation 4. The number of flasks represent the various amounts of $H_2O_2$, supposed to be contained in the four preparations. Thus: For tap-water and bacterial suspensions in sterile water, Flask 1 received 0.045 parts $H_2O_2$ per thousand; Flask 2, 0.09 parts $H_2O_2$ per thousand, and Flask 3, 0.18 parts $H_2O_2$ per thousand. For milk and bacterial suspensions in sterile milk, Flask 1 received 0.36 parts $H_2O_2$ per thousand; Flask 2 received 0.72 parts $H_2O_2$ per thousand, and Flask 3 received 1.44 parts $H_2O_2$ per thousand.

Table 1 shows that if 99 per cent. or over of reduction is taken as sufficient efficiency, Flask 1 showed efficiency only in Experiment 3, Preparation 3; if the period of action is limited to six hours. Flask 2 showed effieiency in Experiments 1, 2 and 3 with Preparation 3. Flask 3 showed efficiency in Experiments 1 and 2 with Preparation 2 and in Experiments 1, 2 and 3 with Preparation 3. The magnesium peroxid tablets (Preparation 4) were not efficient in any case. After twenty-four hours the efficiency is somewhat greater. In Experiments 1 and 3, Preparation 3 was efficient in Flask 1; in Experiment 1, Preparation 2 was efficient in Flask 2, and in Experiments 1, 2 and 3, Preparation 3 was efficient in Flask 3. On the whole, this series shows that $H_2O_2$ solutions are efficient, after six hours, in amounts of 0.09 of actual $H_2O_2$. Preparation 4 is insufficient even after twenty-four hours in the quantities tested.

TABLE 1.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF $H_2O_2$ ON TAP-WATER

| Sample No. | Preparation | Flask | Efficiency: After 6 Hrs. Per Cent. | Efficiency: After 24 Hrs. Per Cent. |
|---|---|---|---|---|
| 1 | 1 | 1 | 92.45 | 92.45 |
| | | 2 | 93.66 | 94.56 |
| | | 3 | 95.47 | 98.29 |
| | 2 | 1 | 97.73 | 98.34 |
| | | 2 | 98.47 | 99.24 |
| | | 3 | 99.39 | 99.55 |
| | 3 | 1 | 99.51 | 99.73 |
| | | 2 | 99.51 | 99.76 |
| | | 3 | 99.76 | 99.76 |
| | 4 | 1 | 81.11 | 86.24 |
| | | 2 | 88.92 | 92.41 |
| | | 3 | 98.71 | 90.08 |
| 2 | 1 | 1 | 96.21 | 96.60 |
| | | 2 | 97.65 | 98.43 |
| | | 3 | 98.17 | 99.48 |
| | 2 | 1 | 97.24 | 97.70 |
| | | 2 | 98.39 | 98.62 |
| | | 3 | 99.54 | 99.54 |
| | 3 | 1 | 98.69 | 97.94 |
| | | 2 | 99.13 | 99.13 |
| | | 3 | 100.00 | 100.00 |
| | 4 | 1 | 29.27 | 74.69 |
| | | 2 | 97.99 | 77.25 |
| | | 3 | 98.86 | 76.87 |
| 3 | 1 | 1 | 90.28 | 92.13 |
| | | 2 | 94.45 | 98.61 |
| | | 3 | 99.08 | 99.08 |
| | 2 | 1 | 95.47 | 97.22 |
| | | 2 | 97.22 | 98.99 |
| | | 3 | 98.74 | 99.50 |
| | 3 | 1 | 99.43 | 99.62 |
| | | 2 | 99.81 | 99.81 |
| | | 3 | 100.00 | 100.00 |
| | 4 | 1 | 40.18 | 81.47 |
| | | 2 | 94.73 | 82.23 |
| | | 3 | 98.71 | 85.63 |

Table 2 shows similar results, except that different organisms are sensitive to a different degree to the action of $H_2O_2$. Thus *Bacillus typhosus* seems somewhat more sensitive than *B. prodigiosus*, and *B. prodigiosus* somewhat more than *B. coli*. The differences, however, are slight and may come within the range of experimental error. In this series again 0.09 parts of $H_2O_2$ are sufficient, after six hours, if the preparation is fresh. After twenty-four hours 0.045 parts are sufficient. Preparation 4 shows more efficiency on bacterial suspensions than on tap-water.

Table 4 shows the effect of $H_2O_2$ on market-milk. Since milk contains a large amount of oxidizable material it is necessary to use larger amounts of $H_2O_2$. Probably the enzymes contained in market-milk are important

factors in decomposing $H_2O_2$. We find here that after six hours only Flask 3 showed sufficient bactericidal efficieney, although not uniformly so. After twenty-four hours the efficieney is greater. In Sample 2, Experiments 1 and 2, the numbers of bacteria in the milk examined were exceedingly small, so that the pereentage of efficieney would naturally be somewhat lower than in milks with high bacterial counts. It is of particular interest in this and the following series, that the magnesium peroxid tablets showed no germicidal efficiency whatever. Magnesium peroxid is insoluble, and the evolution of $H_2O_2$ is probably so slow that enzymes and organic substances absorb the $H_2O_2$ before germicidal effect on bacteria can take place.

In Table 4 the results of action of $H_2O_2$ on bacterial suspensions in milk are shown. On the whole, the germicidal efficieney is somewhat greater than in raw milk; 0.36 parts $H_2O_2$ per thousand seem to be sufficient after six hours.

The tables show that Preparations 2 and 3 were slightly more efficient than Preparation 1. This may be accounted for by the fact, stated before, that Preparations 2 and 3 were obtained direct from the manufacturers, while Preparation 1 was purchased from dealers. This supposition is borne out by a series of experiments made with Preparation 1 after having been kept in the ice-chest. After six, seven and eleven days the germicidal efficiency was but slightly impaired, but after fourteen days there was considerable deterioration, after twenty-one days still more deterioration, and after thirty-five days the efficiency of 0.36 parts $H_2O_2$ per thousand after six hours was 29 per cent.; of 0.72 parts $H_2O_2$ 67 per cent., and of 1.44 parts $H_2O_2$ 81.5 per cent. After twenty-four hours' activity there was an increase of bacteria, showing that all $H_2O_2$ had been decomposed before the elapse of twenty-four hours.

There is, on the whole, more variation in the efficiency of Preparation 1 than in the efficiency of Preparations 2 and 3. This may, of course, also be due to the conditions under which Preparation 1 had been kept by dealers, so that partial deterioration had taken place previous to purchase for these experiments.

TABLE 2.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF $H_2O_2$ ON SUSPENSIONS OF BACTERIA IN STERILE WATER (AVERAGE OF TWO EXPERIMENTS)

| Organism | Preparation | Flask | Efficiency: After 6 Hrs. Per Cent. | Efficiency: After 24 Hrs. Per Cent. |
|---|---|---|---|---|
| *B. typhosus* | 1 | 1 | 66.50 | 99.99 |
| | | 2 | 86.52 | 100.00 |
| | | 3 | 97.75 | 100.00 |
| | 2 | 1 | 99.67 | 99.78 |
| | | 2 | 99.96 | 99.97 |
| | | 3 | 99.97 | 100.00 |
| | 3 | 1 | 95.45 | 99.99 |
| | | 2 | 99.94 | 99.98 |
| | | 3 | 99.99 | 100.00 |
| | 4 | 1 | 99.32 | 99.98 |
| | | 2 | 99.83 | 99.99 |
| | | 3 | 99.99 | 100.00 |
| *B. coli* | 1 | 1 | 97.33 | 99.35 |
| | | 2 | 97.80 | 99.47 |
| | | 3 | 99.25 | 99.58 |
| | 2 | 1 | 99.91 | 99.88 |
| | | 2 | 99.95 | 99.94 |
| | | 3 | 99.97 | 99.96 |
| | 3 | 1 | 76.14 | 99.58 |
| | | 2 | 97.35 | 100.00 |
| | | 3 | 99.88 | 100.00 |
| | 4 | 1 | 96.21 | 99.99 |
| | | 2 | 96.29 | 99.99 |
| | | 3 | 95.95 | 99.99 |
| *B. prodigiosus* | 1 | 1 | 98.90 | 99.96 |
| | | 2 | 99.43 | 99.97 |
| | | 3 | 99.79 | 99.99 |
| | 2 | 1 | 99.45 | 99.94 |
| | | 2 | 99.85 | 99.96 |
| | | 3 | 99.86 | 100.00 |
| | 3 | 1 | 78.83 | 99.83 |
| | | 2 | 98.03 | 99.99 |
| | | 3 | 99.84 | 100.00 |
| | 4 | 1 | 99.28 | 99.69 |
| | | 2 | 99.59 | 99.85 |
| | | 3 | 99.78 | 99.99 |

TABLE 3.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF $H_2O_2$ ON MARKET-MILK

| Sample No. | Preparation | Flask | Efficiency: After 6 Hrs. Per Cent. | Efficiency: After 24 Hrs. Per Cent. |
|---|---|---|---|---|
| 1 | 1 | 1 | 96.69 | 99.95 |
| | | 2 | 99.84 | 99.97 |
| | | 3 | 99.99 | 99.99 |
| | 2 | 1 | 96.98 | 99.95 |
| | | 2 | 97.67 | 99.96 |
| | | 3 | 99.58 | 99.99 |
| | 3 | 1 | 91.33 | 98.40 |
| | | 2 | 96.63 | 99.78 |
| | | 3 | 99.93 | 100.00 |
| | 4 | 1 | 6 fold inc. | Too many to count |
| | | 2 | 6 fold inc. | |
| | | 3 | 5.5 fold inc. | |
| 2 | 1 | 1 | 73.42 | 44.62 |
| | | 2 | 97.28 | 98.25 |
| | | 3 | 97.48 | 98.82 |
| | 2 | 1 | 86.27 | 96.71 |
| | | 2 | 88.24 | 98.03 |
| | | 3 | 96.08 | 98.73 |
| | 3 | 1 | 97.04 | 99.92 |
| | | 2 | 99.70 | 99.96 |
| | | 3 | 99.92 | 99.96 |
| | 4 | 1 | 3.9 fold inc | Too many to count |
| | | 2 | 4 fold inc. | |
| | | 3 | 4 fold inc. | |
| 3 | 1 | 1 | 99.92 | 41.64 |
| | | 2 | 99.99 | 96.64 |
| | | 3 | 100.00 | 100.00 |
| | 2 | 1 | 96.84 | 99.69 |
| | | 2 | 97.81 | 99.73 |
| | | 3 | 99.36 | 99.79 |
| | 3 | 1 | 89.30 | 96.76 |
| | | 2 | 97.61 | 99.31 |
| | | 3 | 99.97 | 99.99 |
| | 4 | 1 | 5.2 fold inc. | Too many to count |
| | | 2 | 5 fold inc. | |
| | | 3 | 5.4 fold inc. | |

## SUMMARY

Hydrogen peroxid has considerable value as a germicide for two reasons: First, the enormous reduction of numbers of bacteria, and second, the harmlessness of the decomposition products. Suspensions of *B. typhosus*, *B. coli* and *B. prodigiosus* are very sensitive to the action of $H_2O_2$ in quantities corresponding to 3, 6 and 12 teaspoonfuls of a 3 per cent. solution of $H_2O_2$, and to 2, 4 and 8 teaspoonfuls of a 4.5 per cent. solution of $H_2O_2$ per quart of milk. Suspensions of the same bacteria in sterile water are sensitive to the action of $H_2O_2$ solutions in quantities corresponding to 3 and 6 teaspoonfuls of a 3 per cent. solution of $H_2O_2$, and to 2 and 4 teaspoonfuls of a 4.5 per cent. solution of $H_2O_2$ per gallon of water; these results are accomplished in six hours. Complete destruction is accomplished rarely, however, and cannot be depended on.

In drinking-water an amount of $H_2O_2$ corresponding to 3 teaspoonfuls of a 3 per cent. solution and to 2 teaspoonfuls of a 4.5 per cent. solution per gallon are

sufficient to destroy 99 per cent. or more of all bacteria in six hours. In market-milk an amount of $H_2O_2$ corresponding to 6 teaspoonfuls of a 3 per cent. solution and to 4 teaspoonfuls of a 4.5 per cent solution per quart are sufficient to destroy 99 per cent. or more bacteria. The preparations must be fresh, however, in order to accomplish these results. In milk as in water, complete sterility is rarely accomplished by the quantities mentioned, and would require relatively large amounts.

Commercial preparations of hydrogen peroxid are often not uniform in composition. This depends on the age of the preparation, the temperature at which the preparation has been kept, and on the presence of foreign substances, such as acids, acetanilid, barium salts, etc. It is not safe, therefore, to depend on the germicidal activity of commercial solutions, unless the composition

TABLE 4.—THE GERMICIDAL EFFICIENCY OF COMMERCIAL PREPARATIONS OF $H_2O_2$ ON SUSPENSIONS OF BACTERIA IN STERILE MILK (AVERAGE OF TWO EXPERIMENTS)

| Organism | Preparation | Flask | Efficiency: After 6 Hrs. Per Cent. | Efficiency: After 24 Hrs. Per Cent. |
|---|---|---|---|---|
| *B. typhosus* | 1 | 1 | 99.88 | 99.97 |
| | | 2 | 99.93 | 99.98 |
| | | 3 | 99.99 | 99.99 |
| | 2 | 1 | 99.95 | 99.98 |
| | | 2 | 99.97 | 100.00 |
| | | 3 | 99.99 | 100.00 |
| | 3 | 1 | 99.95 | 99.98 |
| | | 2 | 99.98 | 99.99 |
| | | 3 | 100.00 | 100.00 |
| | 4 | 1 | 1.7 fold inc. | 1.1 fold inc. |
| | | 2 | 1.6 fold inc. | 3.8 effic. |
| | | 3 | 1.4 fold inc. | 15 effic. |
| *B. coli* | 1 | 1 | 99.18 | 99.39 |
| | | 2 | 99.89 | 99.78 |
| | | 3 | 99.95 | 99.90 |
| | 2 | 1 | 99.88 | 99.86 |
| | | 2 | 99.96 | 99.96 |
| | | 3 | 99.98 | 99.98 |
| | 3 | 1 | 99.77 | 99.81 |
| | | 2 | 99.93 | 99.99 |
| | | 3 | 99.99 | 100.00 |
| | 4 | 1 | 4.4 fold inc. | Too many to count |
| | | 2 | 4.5 fold inc. | |
| | | 3 | 4.2 fold inc. | |
| *B. prodigiosus* | 1 | 1 | 99.16 | 99.26 |
| | | 2 | 99.25 | 99.49 |
| | | 3 | 99.33 | 99.77 |
| | 2 | 1 | 95.97 | 99.68 |
| | | 2 | 99.42 | 99.93 |
| | | 3 | 99.81 | 100.00 |
| | 3 | 1 | 99.94 | 99.99 |
| | | 2 | 99.99 | 99.99 |
| | | 3 | 100.00 | 100.00 |
| | 4 | 1 | 3.2 fold inc. | Too many to count |
| | | 2 | 2.8 fold inc. | |
| | | 3 | 3.1 fold inc. | |

at the time of use is known. Magnesium peroxid tablets, although probably more stable than solutions of $H_2O_2$, are not soluble and must be pulverized before adding to the substance to be treated. Even then, the evolution of $H_2O_2$ seems to be gradual and irregular, so that germicidal activity cannot be depended on. The temperature at which action is to take place must be high enough to insure germicidal activity. Ordinary room temperature is favorable, higher temperature up to 52 C. (125.6 F.) is to be preferred, but milk and water must be cooled after the close of the period of action in order to render them palatable and to prevent multiplication of the bacteria remaining.

For practical application in rendering water and milk safe, hydrogen peroxid solutions can at best be considered only emergency measures. Expense, uncertainty of composition and its possible influence on organic constituents and enzymes are complicating factors. The use of hydrogen peroxid solutions can be recommended only if pure solutions are available, but this procedure can never take the place of efficient water filtration or efficient pasteurization of milk.

---

# A METHOD OF PERFORMING EXTERNAL URETHROTOMY IN IMPASSABLE STRICTURE*

A. B. CECIL, M.D.
BALTIMORE

The difficulties which have surrounded external urethrotomy have been only partially overcome by the later day operations. Young's method is by far the most practical procedure yet devised. In this operation the urethra is opened in the prostatic portion posterior to the stricture. At this point the urethra is easily located, as it is here dilated. Young's own description is quoted:

> The vertex of the prostate was then exposed as in the operation for perineal prostatectomy, after carefully dividing the central tendon and recto-urethralis muscle. By means of blunt dissection the membranous urethra and the anterior third of the prostate were exposed, the wound being held open by posterior and lateral retractors. A median incision was then made into the membranous urethra and the anterior portion of the prostatic urethra. It was found best to carry the incision back into the posterior urethra, because without a guide in the membranous urethra it was found somewhat difficult to find the lumen. In the prostatic urethra, the walls being more rigid, it is much less difficult to find the urethral lumen. The edges of the urethral mucous membrane were then picked up with artery forceps and a fairly large sound passed forward through the membranous urethra, and free communication between the two portions of the urethra, anterior and posterior to the stricture, was established. After the excision of the cicatricial tissue, the incision in the prostatic and membranous urethra was completely closed with three interrupted sutures of fine catgut on a large retained catheter, which emerged from the bulbous urethrotomy wound.

While external urethrotomy with a guide is a comparatively simple procedure, all surgeons of experience are agreed that external urethrotomy without a guide may in some cases be an extremely formidable operation. Few surgeons who have dealt extensively with this type of case have not been forced, after fruitlessly searching for the urethral canal, to resort to a suprapubic retrograde catheterization. While Young's procedure would obviate the necessity of a suprapubic operation, it may not always be possible to follow exactly the thread-like, tortuous urethral canal through its bed of scar tissue. It was on account of this difficulty that the following method was devised and recently used in a small series of cases in the Genito-Urinary Clinic of the Johns Hopkins Hospital.

## METHOD

It has been demonstrated that a solution of methylene blue when injected into the urethra will permeate and stain the canal in such a manner that it can be followed throughout its entire course. A solution of 1 gm. medicinal methylene blue to 200 c.c. of distilled water is in general the proper dilution. Stronger solutions tend

*From the Genito-Urinary Clinic of Johns Hopkins Hospital.

to cloud the field of operation when the urethra is incised, and weaker solutions do not sufficiently stain the urethral mucous membrane. The stain is injected with an ordinary urethral syringe previous to operation. The method of injection requires some attention, on account of certain anatomic peculiarities found in strictures. Not only is there a pouch or dilatation behind, but occasionally there is one also in front; this is due to the shoving forward of the strictured portion of the urethra by the pressure of urine from behind. Aside from this, the urethra is often distorted, so that there may be a pouch on one side of the anterior opening of the strictured urethra. In other words, the opening of the stricture is often anterior to a pouch, or placed higher up in the canal.

The injection should at first be made with little force, for should the fluid suddenly be forced in under pressure, it might dilate a pouch sufficiently to obstruct the canal and thus prevent the passage of the staining solution through the strictured urethra. After the injection has been made with moderate pressure, more force should be used. In all cases the penis should be elevated to facilitate the injection.

The urethra having been injected and the stain allowed to remain in for about five minutes, it should be washed out with sterile water. A sound is then passed through the anterior meatus as far as possible and an incision made directly down on it in the midline of the perineum. The urethra is then laid open and retracted by means of silk sutures. The further course of the canal is easily seen as a dark-blue passage. A grooved director may then be passed along the course of the canal as indicated by the blue stain, and the incision continued along it, but it is often easier simply to follow the canal with a pair of scissors. The staining makes it easy to see false passages branching out from the true canal. On account of the subsequent dilatation which must be carried out after the operation in any form of stricture, it is believed that it is well to close the false passages by removing the mucous membrane and uniting the tissues about them. Having laid out the course of the urethra, the scar tissue on each side is excised and the urethra thus rendered mobile. In a good many cases it will be found that the tortuous urethra, when freed and brought into the midline, will easily cover a large sound. This is due to the true shortening of the canal. A catheter is then passed into the bladder through the penis and the mucous membrane sutured about it. A small drain is next passed down to the urethra and the external wound closed with a few sutures.

In dealing with cases of obliteration of the urethral canal, where one or more fistulas are present, it has been my custom to inject the anterior urethra and the fistulas. A sound is then passed and incised on, the stain rendering it easy to trace the anterior urethra as far as the point of obliteration. Similarly by following the fistulous tract (stained blue by the injection), the urethra posterior to the stricture can be found and followed anteriorly to the point of obliteration. The intervening scar tissue may be excised with the assurance that there is no intervening canal, and the two ends of the urethra be then connected.

### REPORTS OF CASES

The following cases are briefly reported to illustrate the above method:

CASE 1.—R. M. (Surgical No. 30,155), was admitted June 27, 1912, complaining of stricture. He contracted gonorrhea in 1880. A few years later he noticed difficulty in urinating. In 1896 he was operated on for stricture with complete relief until 1907, when he again commenced to have difficulty in voiding urine. In 1910, he had complete retention, which was relieved by the passage of sounds. Since then difficulty in urinating and marked frequency have been evident. One week before admission a swelling appeared in the perineum. This became tender, extremely painful and in a few days ruptured. Since then, urine has been passed through the perineum.

*Examination.*—Well-nourished man. Perineal fistula with marked induration about it. One stricture (which allowed a filiform to pass), about 3 cm. from the meatus, another impassable one at about the bulbomembranous junction.

*Operation.*—External urethrotomy was performed by Dr. Geraghty, July 10, 1912. Repeated attempts to pass a filiform under anesthetic were unsuccessful. A solution of methylene blue was injected into the perineal fistula and the urethra was injected by way of the meatus. A grooved director was then passed through the fistulous opening and the tissues excised about it down to the urethra. At first sight it was impossible to make out any extension of the urethra posteriorly, but on opening it anteriorly, a small, darkly stained passage was seen, leading backward and to the left. This was laid open and followed, only to end blindly. Closer inspection along the exposed mucous membrane showed another stained passage, leading externally to the one which had been followed. This was laid open and found to be the true urethra. Instruments were then passed anteriorly in the pendulous urethra from behind, until the stricture there was dilated. A catheter was inserted in the whole length of the canal and the urethra sutured about it. A small perineal drain was then inserted. The patient made an uneventful recovery.

This case is of interest in showing the great benefit to be derived from staining the strictured urethra. In the first place, it was impossible to pass any sort of a guide. Further, it is believed that without the stain one of the false passages would almost surely have been made to connect with the bladder.

CASE 2.—M. C. (Surgical No. 31,039), was admitted Dec. 5, 1912, complaining of stricture. He had contracted gonorrhea thirty-nine and again thirty-two years previously. His present illness which began with difficulty in voiding urine was of about twenty years' duration. About eighteen years ago he had complete retention and was catheterized with great difficulty. Since then, at varying intervals, he had passed sounds on himself. He had marked frequency of urination.

*Examination.*—Well-nourished man, with impassable stricture in the bulbomembranous portion of the urethra.

*Operation.*—External urethrotomy was performed by Dr. Young, Dec. 5, 1912. Under an anesthetic, attempts to pass any kind of an instrument were unsuccessful. The urethra was injected with an aqueous solution of methylene blue, the patient put in the lithotomy position and a sound passed to the membranous urethra. An incision was then made in the midline of the perineum to the tip of the sound. On examination of the exposed urethra, a minute opening was seen, leading posteriorly through a dense bed of scar tissue. The urethra was stained deep blue, so that it could be easily followed with a knife and the bladder entered. A catheter was then passed through the meatus, and the urethra closed about it with chromic-gut sutures. The perineal wound was closed with chromic gut and a small drain inserted.

This case is of interest in showing how easily the very minute urethral opening could be followed without the aid of a guide.

CASE 3.—A. S. (Surgical No. 31,186), was admitted Dec. 25, 1912, complaining of stricture. He had contracted gonorrhea twenty-six years previously. Five years later he noticed difficulty in urinating. Three years before admission he had complete retention and had to be catheterized. During the past year, he had not had complete retention, although urination had been extremely difficult. For twelve years urine had been cloudy. On admission the patient constantly dribbled and

every ten or fifteen minutes after severe straining, would pass a few cubic centimeters of cloudy urine.

*Examination.*—This showed a poorly-nourished man. Rectal examination evidenced no outspoken enlargement of the prostate. Attempts to pass a catheter were unsuccessful. The catheter first met obstruction about 4 cm. from the meatus, but this could be passed and complete obstruction was encountered at the bulbomembranous portion of the urethra. Attempts were made to pass a filiform, but unsuccessfully. Following instrumentation, the temperature rose to 104, and patient had a severe chill. On the following day, another attempt was made to pass a filiform, but with no better result.

*Operation.*—External urethrotomy, Dec. 27, 1912. Under an anesthetic an unsuccessful attempt was made to pass a filiform. The urethra was then injected with a solution of methylene blue, the patient placed in the lithotomy position, and a sound passed to the bulbomembranous portion of the urethra. A midline incision was then made in the perineum just back of the bulb and the tip of the sound incised on. The urethra was found to be stained but when the attempt was made to trace it, it was found that the sound was in a false passage, to the right of the true passage, which was easily located, leading off from the urethra about 1 cm. above the tip of the sound. The minute blue-stained urethra then led through a dense mass of scar tissue, which was laid open and a gush of blue-stained urine showed that the stricture had been incised. The stricture in the pendulous portion of the urethra was then dilated with a sound, the scar tissue about the urethra excised and a catheter passed through the meatus. The urethra was sutured about this and a small drain inserted. This patient made an uneventful recovery.

This case is instructive. One might easily be misled in incising in the midline of the perineum directly from the tip of a sound; in this case the small strictured urethra would certainly have been missed.

The advantages of staining the urethra in impassable stricture may be summed up as follows: It allows one to follow the canal into the bladder. It utilizes the mucosa of the urethral canal. It allows the recognition of false passages, and renders, in many instances, what may be a most difficult operation a comparatively simple one.

---

## ACUTE RHEUMATIC ORCHITIS

### REPORT OF A CASE ASSOCIATED WITH ERYTHEMA NODOSUM AND ACUTE TORTICOLLIS IN A CHILD AGED TWO AND ONE-HALF YEARS

MURRAY H. BASS, M.D.

Attending Pediatrist to Mount Sinai Hospital Dispensary; Adjunct Attending Physician to the Sanatorium for Hebrew Children at Rockaway Park

NEW YORK

Acute so-called metastatic orchitis is more or less uncommon at any age, but in infancy or early childhood is of extreme rarity. The case described below in which such an inflammation of the testis occurred in a child aged 2½ years is therefore sufficiently unusual to warrant a detailed report.

*Patient.*—Harry G., 2½ years old, of Russian parentage, was brought to Mount Sinai Hospital dispensary on Jan. 4, 1913. He is the older of two children. Parents are healthy; there is no history of tuberculosis in the family.

*Past History.*—Breast-fed eleven months. At 20 months, measles complicated by pneumonia. Good recovery. At age of 2 years, acute swelling below the left ear, accompanied by malaise and fever; diagnosticated by a physician as mumps. Good recovery and no sequelae. Three weeks ago acute pustular eczema on the buttocks; lesions rapidly healing.

*Present Illness.*—This began one week before admission with malaise and fever. The child was cross and fretful and refused to eat; vomited twice. Bowels were regular; there was no cough. The day before admission the mother noticed that the child's neck was stiff and that he cried whenever she picked him up.

*Physical Examination.*—Well-developed child. Face flushed and eyelids somewhat puffy. Very irritable; screams when an attempt is made to hold him. Head held rigidly with the face turned toward the left shoulder; attempts at rotation evidently attended with much pain. Cervical lymph-nodes palpable as pea-sized nodules on both sides of the neck. Other superficial lymph-nodes not enlarged.

Skin: Over the buttocks and the upper part of the thighs there is an eruption of papular eczema, most of the lesions of which are in the process of healing. On the left leg over the shin there is an eruption consisting of several indurated nodules each about the size of a dime. The skin over these is bluish-red in color and distinctly hot.

Throat: Deeply congested, but shows no enlargement of the tonsils nor any exudate.

Teeth and gums: Negative.

Heart, lungs and abdominal viscera: Apparently normal.

Temperature: 102.5 F.

Urine: Except for a very faint trace of albumin, negative.

*Diagnosis.*—Acute pharyngitis, left-sided rheumatic torticollis, erythema nodosum. Old pustular eczema.

*Treatment.*—Two grains of aspirin four times a day was ordered and methyl salicylate was applied over the left leg.

January 7: Child appears improved. Temperature 100. Torticollis has disappeared. Pharynx less congested. A new crop of erythema nodosum has appeared over the right shin. Treatment to be continued.

January 9: The mother states that a day ago the child began to complain of pain about the genitals and that since twelve hours the scrotum has become swollen. No history of trauma. Examination shows the scrotum enlarged to twice its normal size. Marked local heat. Skin of scrotum edematous and dusky in color. Left testicle is felt enlarged to about the size of a hickory-nut; exquisitely tender. Right testis normal. Apparently no hydrocele is present. No urethral discharge. Temperature 100. Child looks sick. No evidence of torticollis. Parotid glands apparently perfectly normal. A few new efflorescences of erythema nodosum are present on both thighs. Salicylate treatment to be continued, and ice-bag to be applied to the scrotum.

January 10: General condition of child improved. Appetite returning. Temperature 99.4. The skin of the scrotum is less edematous and the testis can be distinctly felt. The body of the testis is especially involved; the epididymis to a less degree. A blood examination on this day gave the following result: Hemoglobin 85 per cent. Red blood-cells 4,568,000. White cells 11,000. Differential count; polynuclear neutrophils 57.5 per cent.; large lymphocytes 8.5 per cent.; small lymphocytes 33.5 per cent.; eosinophils 0.5 per cent. Urine: clear, acid, specific gravity 1.010. Very faint trace of albumin. Microscope shows an occasional pus cell; no casts.

January 11: Condition improving.

January 14 to 25: Child's condition good. The testicle gradually returning to normal size, the epididymis being the last portion to be involved. Temperature has remained normal.

January 25: Discharged cured.

February 18: Child well. No atrophy of testis. Von Pirquet test positive.

To sum up, then, we have here a child who in the course of an attack of erythema nodosum and a torticollis, develops a unilateral acute orchitis, which after two weeks goes on to complete recovery.

### LITERATURE OF THE SUBJECT

Acute metastatic orchitis has been described as occurring in a number of diseases, among which may be mentioned mumps, variola, angina, influenza, pneumonia, typhoid, paratyphoid, malaria, scarlet fever, pyemia and rheumatism.

The orchitis of mumps is probably the variety most often seen, though in young children it is unusual. It

is most frequent in young adults and when it occurs in childhood is usually found in individuals approaching the age of puberty. The statistics given by Hutinel and Darré[1] are of interest in this connection: Barthez and Sanné noted in 230 cases of mumps ten cases of orchitis of which seven were in boys between the ages of 15 and 17. Rilliet, Henoch and Comby never observed a patient under 14 years of age. Steiner has seen a case in a nurseling whose parents were suffering from mumps; and two other patients, aged 4 and 9 years respectively, are reported by French physicians. The testicle may be the first and at times the only seat of the disease, the parotid not being involved, as in a case reported by Beardsley[2] in which the brother of a child ill with parotitis developed an acute orchitis. The orchitis of mumps usually lasts from eight to ten days and may be followed by atrophy of the testicle.

The connection between rheumatism and acute orchitis has long been noted, though reports of cases are very infrequently found. On this subject Roderick Macleod,[3] writing in 1842, says:

> I think I have several times seen rheumatism of the tunica albuginea testis. Persons subject to rheumatism have complained of acute pain coming on suddenly accompanied by increased heat and by great tenderness to the touch, but without tumefaction; the symptoms shifting from one testis to the other and at last disappearing as suddenly as they had come on—just in the manner we see rheumatism change from one joint to another.

Cheadle[4] fails to mention orchitis, and numerous text-books on genito-urinary diseases, both in English and in German, devote but little space to the subject. It is chiefly to French clinicians that we are indebted for drawing attention to this form of orchitis. Besnier[5] describes the condition in detail and numerous French theses have been written on the subject.[6] Testicular inflammation may precede or accompany an attack of acute articular rheumatism and the characteristics of the orchitis are the same as of that occurring in mumps. Usually it is a simple inflammation, bilateral or involving first one side then the other; its duration is usually not beyond that of the arthritic symptoms, but in rare cases it may go on to atrophy. Several of the cases described were complicated by hydrocele.

Closely related to this variety of orchitis is that seen as a complication of tonsillitis, of which cases are occasionally reported.[7] Teysseyre[8] has described a case in a man 26 years old, and has collected reports of nine other cases from the literature, all of them occurring in adults. Clinically this variety resembles rheumatic orchitis, being usually unilateral, coming on suddenly, lasting five to fourteen days and rarely going on to atrophy or suppuration. Hutinel and Nobécourt[1] comment on the rarity of this complication of sore throat in children, pointing out that here, as in the other types mentioned above, the testis seems much more vulnerable after it has taken on full functional activity.

Finally may be mentioned that a few cases of acute orchitis in children have been reported as a complication of influenza.[9]

The most logical diagnosis of the case above reported appears to be that the whole syndrome is a manifestation of rheumatism. The symptoms can certainly all be explained as the result of some acute infectious agent entering most probably by way of the pharyngeal mucosa or the tonsil, affecting the neck muscles and thus causing a torticollis, giving rise to toxic manifestations in the skin in the form of a nodular erythema and finally localizing in the testis and there producing a sudden acute orchitis. Since each of these four conditions—pharyngitis, torticollis, erythema nodosum and orchitis—has been described as a manifestation of acute rheumatism, it appears the correct diagnosis in this case in spite of the fact that the patient was but 2½ years of age. Rheumatism in early childhood is a very uncommon condition, but undoubted cases have been recorded even in infants under one year of age. It is well known that in children of any age the articular symptoms are the least prominent of the various rheumatic manifestations and this is particularly true of young children and infants. Two cases of torticollis, however, which lasted but a few days and cleared up on the administration of salicylates, have been reported by Wachenheim[10] in babies aged, respectively, 14 and 16 months, and arthritis, though acknowledged to be very rare, has been described as occurring even in early infancy. Thus Miller,[11] in 1899, collected reports of nineteen cases of acute articular rheumatism in infants under one year, while Schlossman,[12] in 1903, reported several others in very young children.

The classification of erythema nodosum as a rheumatic affection may be questioned by some, since many clinicians now believe that erythema nodosum should be looked upon as a separate clinical entity akin to the eruptive fevers, Abt.[13] But as the eruption has been described as occurring in the course of various infectious diseases as diphtheria, typhoid, streptococcemia, scarlet fever, rheumatic fever and tuberculosis, there is still considerable support for the theory that the eruption is merely a local manifestation of some general intoxication.

The fact that the child showed a positive reaction to the von Pirquet test is also of interest in view of the fact that a very close relation is supposed by some to exist between erythema nodosum and tuberculosis.[14] From the clinical course of this illness and the complete recovery, however, there does not seem to be any reason to suppose that tuberculosis infection was a factor in its etiology.

Testicular mumps may be excluded by the following: the patient's parotid glands were normal throughout the illness; the child was constantly with a brother, who at no time showed any symptoms of mumps, and finally there is a clear history of an attack of mumps in the patient seven months previous to the beginning of this illness.

54 West Ninety-First Street.

1. Hutinel: Les Maladies des Enfants, Paris, 1909.
2. Beardsley, J. G.: New York Med. Jour., Jan. 25, 1908.
3. Macleod, Roderick: Rheumatism and its Various Manifestations, London, 1842, p. 20.
4. Cheadle: Article on rheumatism in Albutt's System of Medicine, ii, Part 1, p. 645.
5. Besnier: Dictionaire et Encyclopédie des Sciences Médicales, 1877, iv, Series 3, p. 606.
6. Reulos, A.: Contribution à l'étude de l'orchite rhumatismal, Paris thesis, 1904. Bach, J.: Essai sur l'orchite parotidienne et rhumatismal, Paris thesis, 1871. Delefosse: Ann. d. mal. des organes génito-urinaires, 1894, xii, 306.
7. Prouty, I. H.: Orchitis Secondary to Tonsillitis Treatment with Hexamethylenamin, THE JOURNAL A. M. A., April 20, 1912, p. 1192.
8. Teysseyre, A.: Manifestations testiculaires dans les amygdalites aiguës, Paris thesis, 1900.
9. Barnes, E. C.: Brit. Med. Jour., March 15, 1890. Fiessinger De l'orchite grippale, Gaz. méd. de Paris, Feb. 4, 1893.
10. Wachenheim, F. L.: Rheumatic Affections in Children, Arch. of Pediat., September, 1908.
11. Miller, D. J. Milton: Acute Articular Rheumatism in Infants under One Year, Arch. of Pediat., September, 1899.
12. Schlossman: Ueber Akuten Gelenkrheumatismus und symptomatisch ähnliche Erkrankungen im frühen Kindesalter Monatschr. f. Kinderh., February, 1902.
13. Abt, Isaac A.: Erythema Nodosum, THE JOURNAL A. M. A., Nov. 12, 1904, p. 1454.
14. Meara and Goodridge: The Relationship Between Erythema Nodosum and Tuberculosis, Am. Jour. Med. Sci., March, 1912.

# VENEREAL PROPHYLAXIS: WHY IT SOMETIMES FAILS

R. A. BACHMANN, M.D.
Surgeon, U. S. Navy; U. S. S. "Delaware"
NEW YORK

Major F. F. Russell and Captain J. H. Nichols, Medical Corps, U. S. Army, recently undertook[1] to demonstrate the value of calomel ointment, alone and in combination with other antiseptics, as a prophylactic against gonorrhea. Their procedure consisted of injecting the ointment to be tested into the urethras of men suffering from acute gonorrhea after the discharges had been diagnosed as positive by stained smears and growths on ascites agar.

The ointment was allowed to remain in the urethra, after injection, about fifteen minutes, then the mucous membrane was washed clean by urination and a drop of the residue expressed into the meatus. This drop was streaked over ascites agar, incubated and suspicious-looking colonies examined with Gram's stain.

Their first experiments were with the tube used in the army containing:

| | |
|---|---|
| Calomel | 25 parts |
| Phenol | 3 parts |
| Camphor | 3 parts |
| Lanolin | 25 parts |
| Lard enough to make | 100 parts |

It proved effective in seven out of eight instances.

They next tried a 30 per cent. calomel in lanolin ointment, a 3 per cent. phenol in lanolin ointment and some more of the Army tubes, the latter being designated as the "new" Army tube. These various ointments proved to be failures in eight out of eight cases.

Prior to these experiments I had obtained nine exposures from different men to an infected woman. They all used a tube since then placed by the Navy Department in the canteens of the battleships of the Atlantic fleet. I also secured two accidental controls who did not use any protection. All of the former were negative, both of the latter were infected.

With these Navy tubes then I repeated Russell and Nichols' work, changing their technic, in the first sixteen cases, by using a platinum loop scraping after the urination, instead of expressing a drop of the urethral residue into the meatus. The sterilization was done at noon and the men saved their morning urine so that the urethra was thoroughly flushed out.

As it was desired that the total germicidal power of the ointment should be determined, not only gonococcus, but all colonies were considered and counted as failures for the tubes. The ointment in the Navy tube is practically 33⅓ per cent. calomel and 1 per cent. tricresol in benzoinated lard.[2] The results shown in Table 1 were obtained.

Then another series was tried, milking a drop of fluid into the meatus after urination as in the Army experiments. At first glance it appears that using the platinum loop would obtain material perhaps deeper from the folds of the urethra, etc., but when it is considered that all the contents of the glands of Littré and the lacunae contribute toward the drop of fluid that presents at the meatus when the penis is milked, this becomes doubtful. It must be borne in mind, too, that disinfecting an acute purulent gonorrheal urethra and preventing the growth of gonococcus in a normal urethra are two widely different propositions, and the results from the former must be judged only relatively in considering their value in the latter.

After these two series six Army tubes were purchased in the open market. I could not find out if they were old or new, but a descriptive leaflet enclosed referred to the experiments of Russell and Nichols and it was concluded they were the same formula as the old. Their complete failure, however, left considerable doubt about this.

Table 3 shows the result in each case.

The experiments point out the great variability that may be encountered in preparations of almost the same ingredients and proportions intended for the same purpose. Now add to this the difference in the mechanical application of these ointments and it becomes apparent that not only must the results in actual use be diverse but also failures are bound to occur.

So far gonorrhea alone has been under consideration. On this side of the Atlantic Metchnikoff's discovery was accepted without question and calomel salve became the undisputed protection against syphilis. No matter whether the single or the double system was employed, Army or Navy, calomel salve was beyond the range of doubt. And perhaps justly so, although both Neisser and Gaucher attacked its claim and produced evidence to the contrary. But the curious phase of the calomel salve question is that though Metchnikoff's results were accepted and one would expect that his formula should

TABLE 1.—RESULTS WITH NAVY TUBES. CULTURE MADE BY CURETTING URETHRA

| Before Treatment Name | Culture* | Remarks |
|---|---|---|
| 1. S——e | — | |
| 2. H——n | + | About same growth |
| 3. C——e | — | |
| 4. W——s | + | About same growth |
| 5. M——r | + | More growth after treatment |
| 6. H——n | — | |
| 7. C——e | — | |
| 8. R——n | + | Some decrease |
| 9. S——t | — | |
| 10. F——e | — | |
| 11. M——r | — | |
| 12. D——r | — | |
| 13. H——n | + | |
| 14. L——r | — | |
| 15. B——n | + | Greatly reduced |
| 16. O——n | + | More after treatment |

* After treatment. In this and the following tables, all cases gave postive results before treatment.

TABLE 2.—RESULTS FROM NAVY TUBES. CULTURES MADE FROM FLUID EXPRESSED INTO MEATUS

| Name | Culture | Remarks |
|---|---|---|
| 1. H——n | — | |
| 2. C——e | + | Less growth after treatment |
| 3. C——e | + | Less growth after treatment |
| 4. D——r | + | Less growth after treatment |
| 5. H——n | + | Less growth after treatment |
| 6. H——n | + | More growth after treatment |
| 7. S——h | — | |
| 8. H——n | — | |
| 9. C——e | — | |
| 10. H——n | + | One colony after treatment |
| 11. C——e | — | |
| 12. S——h | — | |
| 13. S——e | + | Slight growth after treatment |
| 14. C——e | + | Growth same |
| 15. S——e | + | Less growth after treatment |
| 16. E——e | — | |

TABLE 3.—RESULTS WITH ARMY TUBE

| Name | Culture | Remarks |
|---|---|---|
| 1. H——n | + | No change |
| 2. C——e | + | Less after treatment |
| 3. S——e | + | No change |
| 4. H——n | + | No change |
| 5. C——e | + | No change |
| 6. J——y | + | Greater growth after treatment |

1. Russell, F. F., and Nichols, J. H.: Mil. Surg., August, 1912.
2. Since then the percentage of tricresol has been raised to 2%, to allow wider margin of safety, all experiments, however, were made with the preceding formula.

be used, scarcely anybody paid the slightest attention to it; the Army and Navy is full of calomel salves but of Metchnikoff's salve there exists hardly a report.

Even Neisser, in his series of four failures, employed a 10 per cent. ointment though Metchnikoff has always insisted on 33⅓ per cent. A slight change of 1 or 2 per cent. may not have series consequences, but the larger variations certainly appear indefensible. Moreover, he lays great stress on the exact fatty composition of his ointment base. As far as I know the exact formula for this has never been published and therefore some excuse exists for finding a 100 per cent. lanolin base used in one ship or barracks and a 100 per cent. petrolatum base in another, which has been my experience.

A safe effective limit of one hour was fixed at the Pasteur Institute and there is not much to say for the advisability of applying calomel ointment after a period longer than that. There is certainly no evidence at hand to show that it is valuable after six hours. The method used in the Army and Navy whereby a man is anointed on returning, from eight to twenty-fours hours or even later, to his barracks or post, has never diminished the admission rate of syphilis in either service since its adoption and should be classed as a failure.

It is hoped that the foregoing will not be considered as a condemnation of venereal prophylaxis. On the contrary, it is simply meant to put the subject on a sounder basis and thus shield an infant work from undeserved criticism that might otherwise stop its growth and development.

A study of the tables shows the danger of trusting, without question, any preparation that professes prophylactic properties without giving proper assurance that its composition conforms to the few facts which so far have been ascertained about the subject.

But it is also shown in the experiments adduced that venereal prophylaxis, as far as the bacteriochemical end of it is concerned, is possible. The practical end of it, that is, the educational, psychological, moral and legal, has progressed also, but not quite at the same rate of speed.

---

## TRANSMISSION EXPERIMENTS WITH THE VIRUS OF POLIOMYELITIS

### FINDING THE VIRUS IN THE NASAL SECRETION OF A HUMAN CARRIER FOUR MONTHS AFTER THE ACUTE STAGE OF A SECOND ATTACK OF POLIOMYELITIS*

WILLIAM P. LUCAS, M.D.
AND
ROBERT B. OSGOOD, M.D.
BOSTON

Since our note on the finding of the virus of anterior poliomyelitis in the tonsils of recovered monkeys,[1] we have been carrying on similar experimentations with human tonsillar and nasopharyngeal tissues as we have been able to obtain them from time to time. Our results in this we presented to the Boston Society of Medical Sciences late in 1911. Our conclusions were that the results of these experimental studies with the filtrates of human nasopharyngeal tissues, removed at varying periods after the acute attack, may be said to be suggestive but not conclusive for the following reasons:

In three monkeys injected with three different tonsillar extracts no clinical signs of poliomyelitis followed the inoculations. In two monkeys the clinical signs were typical, but we were unable to pass the infection on to a second series of monkeys in a perfectly conclusive manner; nor were the pathologic findings absolutely typical, though suggestive, although they were much the same findings as those described by Klung, Pettersson and Wernstedt[2] in their investigations as to the duration of the virus in the human body.

We felt convinced that the nasopharyngeal tissue of recovered human patients was able to retain the virus for at least six months; but owing to the far-reaching importance of such a fact, we withheld the data from print. Since then, however, these facts have been proved conclusively by Klung, Pettersson and Wernstedt, and by Flexner. Further, not only have these investigations proved the presence of the virus in the washings from the nasopharynx of patients in the acute stage of the disease; but also, which is still more significant, the virus has been found in washings from the nasopharynx of parents, attendants and friends; and, further, Klung, Pettersson and Wernstedt have found the virus present in nasopharyngeal swabbings and washings as late as 204 days (seven months) after the infection.

The case we wish to report falls into this latter class of carriers, but the probable duration of the carrier was two years and three months.

R. H. (patient of H. G. Rockwell, Amherst, Mass.), aged 5, had his attack of paralysis in February, 1910. He was first seen by one of us (R. B. O.) Feb. 19, 1912. At that time he showed a residual paralysis of the dorsal flexors of both feet and of the peroneal group on the right. He improved till September, 1912; when, after an attack of apparent bronchitis and coryza, he became suddenly weak in the right arm, with increased weakness of the affected legs as well. This was associated with fever, and the mother considered it to be a second attack of paralysis. The boy gradually recovered. Within two weeks after this apparent exacerbation, his little sister had high fever, and one of her arms became completely paralyzed, with weakness of the legs. When the boy was seen on Nov. 8, 1912, six weeks after his recovery from the second attack, he was almost back in muscular strength to where he had been before, without any remaining paralysis of his arm. He still had a certain excess of nasal secretion. Through the efforts of his parents we were able to obtain 10 c.c. of clear mucoid nasal secretion on November 11. With this material passed through a Berkefeld filter, we inoculated two monkeys on November 15, with negative results. Again on Jan. 3, 1913, we received some nasal secretion and inoculated two monkeys with negative results.

We repeated this again, on January 22, injecting 10 c.c. of the filtrate intracerebrally into Monkey 157. This monkey became paralyzed February 2 and died February 5. He developed complete paralysis of all four extremities. The pathologic picture of his cord (Dr. H. C. Low) was not typical but very suggestive.

January 31 we again repeated the injection of filtrate from a fresh specimen of nasal secretion, inoculating two monkeys, Nos. 159 and 160. Monkey 159 received 5 c.c. of the filtrate intracerebrally and 10 c.c. intraperitoneally. He became paralyzed February 5 and died, completely paralyzed, February 8.

Cord and medulla pathologically (Dr. H. C. Low) were typical of anterior poliomyelitis (see appended report); and April 9 we injected two monkeys, one with the cord emulsion of Monkey 157, and the second with the cord of Monkey 159. This last monkey, No. 161, received 8 c.c. of a cord emulsion from Monkey 159. He became paralyzed April 26, and died

---

* From the Laboratory of Surgical Research, Harvard Medical School. Experiments carried out by means of a grant from the Massachusetts State Board of Health.

1. Osgood and Lucas: Transmission Experiments with the Virus of Poliomyelitis, THE JOURNAL A. M. A., Feb. 18, 1911, p. 495.

2. Klung, Pettersson and Wernstedt: Investigations on Infantile Paralysis, Report from the State Medical Institute of Sweden to the Fifteenth International Congress on Hygiene and Demography, Washington, 1912.

April 27, with typical complete paralysis. The pathologic findings (see appended report, Dr. H. C. Low) were typical of anterior poliomyelitis. This case seems to us of special interest; first, as demonstrating the long period during which the virus was undoubtedly harbored in the nasopharynx; secondly, a human infection (his sister) occurring two years after his primary attack during what seemed like an exacerbation of his former attack; and, thirdly, the recovery of the virus from his nasal secretions four months after his second attack and two years and three months after his first attack; fourthly, the fact that the successful inoculations were done with filtrates from straight nasal secretions, not from washings.

PATHOLOGIC REPORT BY DR. H. C. LOW

*Monkey 159.*—Sections of the cord in the lumbar and cervical regions show moderate injection of the blood-vessels and some small round-cell infiltration about them. Changes are not marked but are consistent with the diagnosis of poliomyelitis.

*Monkey 161.*—Sections of the lumbar, dorsal and cervical regions show marked round-cell infiltration about the blood-vessels and in the perivascular spaces, more evident near the central canal and the anterior horns. Changes are typical of poliomyelitis.

374 Marlborough Street—372 Marlborough Street.

---

# THE MODE OF TRANSMISSION OF POLIOMYELITIS

M. J. ROSENAU, M.D.

Department of Preventive Medicine and Hygiene, Harvard University Medical School

BOSTON

From a practical point of view the mode of transmission is the most useful single factor in combating a disease. The health officer would prefer to know the precise mode or modes of transmission of any disease rather than its cause, or pathologic anatomy, or even its treatment. Hence a large amount of work has been done to determine how the virus of poliomyelitis leaves the body, how it enters its victim, and the route it takes from one person to the next. Despite all the thought and work that has been focused on this problem, the mode of transmission of poliomyelitis remains an open chapter, and although much light has been thrown on the subject, the present state of our knowledge does not permit of dogmatic, much less final statements.

There are two avenues of approach to a problem of this sort; one, through epidemiologic field studies, and the other through laboratory research work. Both these trails have been blazed. Much of the epidemiologic work has given conflicting results, and much of the laboratory work has likewise been confusing. The evidence obtained from the field and that from the laboratory, however, do not have an equal standing before the court. The fallibility of epidemiologic evidence has long been recognized. Sanitarians who have had a long experience know full well that it has always been necessary to revise the chapter on the epidemiology of a disease as soon as its mode of transference is discovered. All those who have collected field data are fully aware of the pitfalls. Errors are unavoidable from the very nature of the circumstances; the personal equation and also the limitations of the investigator often warp or dwarf the important facts. In any event, the enormous mass of data collected by careful investigators in the field is perplexing and difficult to analyze. Even if the epidemiologist has the detective instinct of a Sherlock Holmes, and the statistical genius of a Karl Pearson, he may be wholly carried off the track by the missed cases, and by the carriers, or by an incomplete knowledge of unusual forms of the disease, or by unknown factors in its etiology. On the other hand, the exact observations from the laboratory often throw a flood of light on our field work, and when the two are correlated we have real and useful additions to our knowledge.

There are many theories to account for the spread of poliomyelitis. The chief ones may be summarized under four headings: (1) that it is a "contagious" disease, communicated directly from person to person through the secretions from the mouth and nose; (2) that it is an insect-borne disease; (3) that it is conveyed through dust; (4) that it is an alimentary infection, the virus being taken in with food and drink and absorbed from the digestive tube. There is evidence from the field and from the laboratory to support each one of these theories. These four theories, however, do not include all the views brought forward to explain the mode of transmission of infantile paralysis. For example, the hypothesis has been expressed that the disease is transmitted to man from lower animals, particularly domesticated animals, but there has been no convincing demonstration that the infection occurs naturally in any other animal than man.

In view of the uncertainty concerning the mode of transmission of poliomyelitis it is worth while to take stock of our knowledge of this subject. I have therefore briefly summarized the evidence pro and con.

That anterior poliomyelitis may be a contagious disease was first announced by Wickman of Sweden, whose epidemiologic investigations upon the subject are now classic. Wickman formulated a new symptomatology; his greatest contribution to the subject was perhaps the discovery that abortive cases of the disease occur. These mild, and hitherto unrecognized clinical forms, shed an entirely different light on the epidemiology. Wickman brought forward strong evidence in support of the view that the disease was transmitted directly from person to person, especially through the abortive or missed cases, as well as through suspected carriers.

The theory that infantile paralysis is a "contagious" disease was the first, and is the most natural explanation to account for its spread. In many respects infantile paralysis resembles epidemic cerebrospinal meningitis, with which disease it is, in fact, sometimes confused. Flexner has emphasized the resemblance between the two infections, and has been an able and valiant champion of the view that the virus in both these diseases leaves the body in the secretions from the mouth and nose and enters the victim through the same channel. Corroboration of this view has come especially through the work of the Swedish investigators, Kling, Pettersson and Wernstedt, who claim to have demonstrated the virus in the secretions from the nose and throat, not only in cases during the acute stage, but also during various stages of convalescence, and even in healthy carriers. Furthermore, Osgood and Lucas demonstrated the virus in the mucous membrane of a monkey five and a half months after recovery from the experimental disease and recently they recovered it from a chronic carrier in man. Kling claims to have found the virus in the nasopharynx up to seven months in a few human cases. Finally, it is possible to infect monkeys simply by placing the virus on the uninjured mucous membrane of the nose and throat. The evidence, therefore, that we are dealing with an infection that leaves the body in the secretions from the nose and throat, and enters by the same channel, is strong, both from

epidemiologic studies and from laboratory investigations. That this evidence, however, is not conclusive, may be gleaned by a little closer consideration of the facts.

It is important, first of all, to remember that we have no clear-cut criterion by which to judge what is and what is not anterior poliomyelitis. When the symptoms are characteristic and the lesions typical we are justified in making a definite diagnosis. In any critical case, however, further corroboration must be had by transferring the virus from monkey to monkey in order to demonstrate that we are, in fact, dealing with a communicable infection capable of reproducing itself. When we apply this criterion to some of the work that has been reported, to support the view that infantile paralysis is a "contagious" disease, we find the evidence not as strong as the conclusions of the experimenters would lead us to suspect. The mere fact that an animal has an acute paralytic affection, associated with perivascular infiltrations, degeneration of the neurons, and occasional hemorrhages into the cord, is not enough, in the present state of our knowledge, to justify us in labeling it poliomyelitis. The criterion in critical cases must be the power of the virus to reproduce itself and repeat the symptoms and lesions of the infection through succeeding generations.

There has been a long series of negative results in attempts to demonstrate the presence of the virus in the secretions from the mouth and nose. Strauss, Rosenau, Sheppard and Amoss, Flexner, and also Anderson and others, have all reported failures in this regard. These negative results have a certain degree of positive significance, for if the usual means of transmission of the disease is through the secretions from the mouth and nose we should not have such great difficulty in demonstrating its presence in these secretions. Only Kling,[1] Pettersson and Wernstedt have found it comparatively easy to make this demonstration. These investigators believe that they have established the important fact that carriers occur, and are several times more numerous than the frank and abortive cases of poliomyelitis combined. Yet Flexner, Clark and Frazer report only one positive result out of numerous trials. They succeeded in demonstrating the virus of poliomyelitis in the washings from the nasopharynges of the parents of a child suffering with poliomyelitis. The parents, however, showed no symptoms of illness.

The virus of anterior poliomyelitis is widely diffused throughout the body. It has been found in greatest virulence and concentration in the spinal cord of infected persons and animals. The virus is also quite constantly present in the brain and other organs and tissues as, for instance, the mucous membrane of the nose and pharynx, the mesenteric glands, the axillary and inguinal lymph-nodes, and even in the blood and the cerebrospinal fluid. Recently the virus has been demonstrated in the mucosa of the intestinal tract, and finally in the feces. It is therefore no surprise that a virus with such a wide distribution and so generally diffused throughout the body may occasionally be found in the secretions from the nose and throat. These facts make us hesitate to conclude that infantile paralysis must be a contagious disease, simply because it has been demonstrated experimentally that the virus may be found occasionally in the secretions from the nose and throat; it would be just as logical to conclude that the disease in its spread resembles typhoid fever because the virus has been demonstrated in the mucous membrane of the digestive tube and has also been found in discharges from the intestines.

There are other difficulties which must be met before we can accept as a proved fact that infantile paralysis is a contagious disease. Careful and masterly epidemiologic investigations of poliomyelitis have been conducted by the Massachusetts State Board of Health extending over a period of five years. The results of these studies were summarized by Dr. Mark W. Richardson, who plainly brought out the fact that the disease, as observed in Massachusetts, does not have the earmarks of a contagious disease. The disease prevails in rural rather than under urban conditions. In fact it shows little tendency to invade cities, and when it does enter the city, it does not strike the crowded, congested portions of the city. In all other contagious diseases spread through the secretions from the mouth and nose, epidemic outbreaks have been observed in crowded sections of cities, in asylums, hospitals, jails, on shipboard, and similar places where the spread of infection by contact is favored. This is the case with scarlet fever, diphtheria, measles, mumps, whooping-cough, influenza, common colds, pneumonia, and finally cerebrospinal meningitis. Cases of infantile paralysis in all stages of the disease have been taken into the hospitals, orphan asylums, children's homes, reformatory schools, and other institutions in the Commonwealth, but in no instance during the five years in which the disease has been studied has it ever spread under these circumstances.

The seasonal prevalence, furthermore, of infantile paralysis does not suggest the seasonal prevalence of the diseases spread by contact through secretions from the mouth and nose. Almost all such diseases, including cerebrospinal meningitis, occur more particularly during the cold months of the year, whereas the prevalence of infantile paralysis is more marked during the summer months.

The curve of seasonal prevalence of infantile paralysis corresponds more closely with that of typhoid and the diarrheal diseases than it does with the group of infections spread through the secretions from the mouth and nose. Typhoid has its season of maximum prevalence during the warm weather. Water-borne epidemics are apt to occur in the colder months of the year, and milk outbreaks may take place at any time. "Normal," or residual typhoid is a warm weather disease and corresponds in this regard with cholera, dysentery, and the infantile diarrheas, and other intestinal infections. The only other group of diseases which prevail especially during the warm weather are those which are insect-borne. Yellow fever stops with the first frost. The most pernicious form of malaria (estivo-autumnal) extends into the autumn, but the autumn of tropical regions is warm, rainy and favorable to mosquito life. The season of maximum prevalence of the insect-borne diseases corresponds, of course, to the season of maximum prevalence of insect life, namely, the summer.

It has long been evident to the student of epidemiology that the group of "contagious" diseases spread through the secretions from the mouth and nose occur throughout the entire year, but prevail especially during the

1. Kling found it comparatively easy to demonstrate the presence of the virus in the washings from the mucous membranes. Thus he found that 78 per cent. of the monkeys contracted the disease after inoculation with water in which the mucous membranes of poliomyelitis cadavers had been rinsed. The virus was also found almost constantly in the secretions from the nose and throat of acute poliomyelitis patients. These results are so much at variance with the results obtained by American investigators that the question has arisen whether we are dealing with the same virus in America as that found in Sweden, or whether the virus has marked differences in virulence, or whether there is some experimental error or more likely an incorrect interpretation of results.

colder months. On the other hand, there are two groups of disease having their maximum seasonal prevalence during the warm weather, namely, the intestinal infections and the insect-borne diseases. Of these two groups of summer diseases the insect-borne group disappears almost to the vanishing point in temperate latitudes with wintry climates, whereas the intestinal diseases continue to smolder all winter long, with occasional exacerbations, and sometimes even with outbreaks of epidemic proportions. These are generalizations that may not be applicable to a specific case. When we study the seasonal prevalence of infantile paralysis in all parts of the world, however, we find a summer prevalence, sometimes extending into the fall, but dying down almost out of sight during the winter and spring. So far as we may judge, then, from the seasonal prevalence of this infection, it corresponds more closely with that of the insect-borne type than any other group of diseases.

If poliomyelitis is a contagious disease, then we must construct secondary theories to fit certain known facts in its distribution, seasonal prevalence and age predilection—facts which are at variance with this theory. The bulk of the cases of poliomyelitis may be very mild, and only those cases perhaps are recognized that reach the threshold of clinical observation. A similar situation would be presented if we knew diphtheria only by the cases of postdiphtheritic paralysis. Each case of poliomyelitis, in accordance with the assumption that it is spread by contacts, would be surrounded by a number of healthy carriers, but serious epidemics do not occur because the infected persons are not very susceptible. Why epidemic outbreaks should occur in rural conditions and not in the congested parts of cities is, however, not explained by this assumption. The assumed barrier of resisting individuals apparently isolates the case, but, in fact, favors the spread of the infection. It seems to be a general rule that a region where the disease has been epidemic is spared further outbreaks later. This phenomenon may be explained by assuming that a large part of the population has become immunized by having had the disease in an attenuated and unrecognized form. It is further assumed that in rural districts there is not the same opportunity perhaps to acquire immunity, and when an epidemic occurs it is liable to run an exceptionally severe course. The loopholes in these conceptions are evident to students of the disease, but it is an interesting speculation that deserves careful consideration and further study.

That infantile paralysis may be an intestinal infection has not been given the consideration that it deserves. In addition to a suggestive seasonal prevalence, there is the age incidence and gastro-intestinal symptoms which often usher in an attack; furthermore, we have the fact that monkeys may be infected by feeding, and the further important fact that the virus has been demonstrated in the intestinal mucosa, and even in the discharges from the bowels. No convincing outbreak of infantile paralysis has ever been associated with water, milk, meat, or other article of diet. Furthermore, we would expect a somewhat different epidemiology if food were a medium in transmitting the virus. The inherent unreliability of epidemiologic data, especially of a disease such as infantile paralysis, has already been noted, and the possibility of the virus entering by the digestive tube should be borne in mind by investigators. It took a long time to learn that milk may convey scarlet fever and other infections, and that pork may be responsible for trichinosis.

There has long been a suspicion that man contracts infantile paralysis from the lower animals. Hill incriminates horses. Thus, colts in Minnesota have suffered with a disease clinically like poliomyelitis, and the hypothesis has been proposed that the virus is spread through the intestinal discharges of horses, which, drying, fly about as dust. A number of other students have associated it in one way or another with horses. Joest has described in detail the lesions of a disease of horses known as *Bornasche's Krankheit,* which has a similarity to poliomyelitis. Langhorst considers a possible relationship with the dog and cites two cases, in one of which the patient was bitten by a dog; the other patient was licked by a dog, and at the same time had a few scratches on his hand. In both cases the diagnosis of rabies was not excluded. In fact, there are many striking resemblances between rabies and polimyelitis. All laboratory investigators who have worked with these two diseases have been struck with this resemblance. Both diseases are acute paralytic affections. The virus in both diseases is found in its greatest concentration and virulence in the central nervous system, but is also widely diffused throughout the body. The virus of both infections is filtrable, and in both affections the brunt of the lesions fall on the neurons of the central nervous system. There are other similarities between the two diseases which should be borne in mind, especially when studying the possible relationship between poliomyelitis and dogs.

Many observations have been made in Massachusetts and elsewhere of paralytic diseases of domestic animals occurring about the same time as poliomyelitis in man. Such paralytic diseases are common among pigs and also chickens, as well as horses, dogs, cats, etc. P. Roemer reported a paralytic disease in guinea-pigs which occurred among animals in his laboratory. The guinea-pigs died of a paralysis which has some resemblance to infantile paralysis. The infection is transmissible from guinea-pig to guinea-pig by inoculation; the virus is found to be non-bacterial, and filterable; the incubation period is from nine to twelve days; the symptoms are flaccid paralysis, usually of the hind legs, with involvement of the bladder. Microscopically there is also a resemblance in the lesions of these guinea-pigs and those of poliomyelitis in man and monkeys. Roemer, however, does not claim, and there is nothing to indicate, that this paralytic disease of guinea-pigs is identical with poliomyelitis. Neustaedter has recently noted a paralytic affection of guinea-pigs that were kept in a cage under some monkeys with experimental poliomyelitis. The evidence that any of these paralytic diseases were genuine instances of true infantile paralysis is far from convincing.

Animals suffer with many paralytic diseases, the etiology of a few of which are known, but most of which are pathologic puzzles. The mere fact that an animal has an acute paralytic infection, with perhaps suggestive lesions in the cord, is not sufficient basis for concluding that we are dealing with poliomyelitis. All attempts to transmit the virus of infantile paralysis to lower animals except the monkey, have failed. Theobald Smith, Flexner and others have made numerous attempts to carry on the paralytic diseases of pigs, chickens and other animals without success. Therefore, while it is fairly possible that some of the lower animals may suffer with poliomyelitis, perhaps in a clinically unrecognized form, and while it is possible that man may contract the infection from lower animals, the possibility is only an assumption and lacks evidence.

Another theory to account for the spread of infantile paralysis is that it is dust-borne. Hill's observations of dust and its relation to the disease in Minnesota have already been referred to. The Massachusetts State Board of Health, during the five years of its epidemiologic studies, also considered the possibility of dust as a medium of conveying the virus, without, however, discovering any particular relationship between dust and the disease. The most suggestive evidence comes from Neustaedter and Thro, who claim to have induced the disease in monkeys by inoculating them with the dust found in sick-rooms. If the virus leaves the body in any considerable amount in the secretions from the mouth and nose, it is quite conceivable that the dust of the sick-room may contain the virus, for we know that, under certain circumstances, it retains its viability for months. Poliomyelitis does not have the characteristics of a dust-borne disease, or even of an air-borne infection, and this hypothesis has therefore been given scant credence.

The possibility that poliomyelitis may be a wound infection has been kept in mind in the investigations made by the Massachusetts State Board of Health. No particular relationship between wounds and the disease has been made out. The resemblance between infantile paralysis and rabies has already been discussed, and the fact is plain that monkeys may be inoculated through wounds; in fact, it is possible to cause the disease in the monkeys in the greatest possible varieties of ways.

Some of the reasons for considering poliomyelitis an insect-borne disease have been published in some detail in another publication, and need not now be recounted. The epidemiologic evidence collected by Brues and Sheppard, and summarized by Richardson, pointed toward the stable-fly, *Stomoxys calcitrans*. The successful experiments of Rosenau and Brues, soon corroborated by Anderson and Frost, incriminate the stable-fly as a factor in the transfer of the virus. The seasonal prevalence, the rural distribution and other facts concerning the disease are explained on this theory. On the other hand, the experimental facts lack further corroboration, and, moreover, these facts have not been translated from monkey to man, and we are not justified in doing so until further studies, which are now being made, are available. Schuberg and Kuhn have recently demonstrated that a number and variety of infections may be transmitted by means of the stable-fly. In their experimental work they obtained positive results with relapsing fever, anthrax, South-west African horse sickness *(Pferdesterbe)* and epithelioma of fowls *(Hühnepocken)*.

Howard and Clark conducted a series of experiments on insect transmission with the virus of poliomyelitis, at the Rockefeller Institute, with very interesting results. It was found that the domestic fly *Musca domestica*, can carry the virus of poliomyelitis in an active state for several days on the surface of the body, and for several hours within the gastro-intestinal tract. These experiments were made by permitting the flies to feed on the virus, then killing the insects, grinding up their bodies, filtering, and injecting the filtrate into monkeys. Howard and Clark found that mosquitoes *(Culex pipiens, C. sollicitans* and *C. cantator)* did not take up and maintain in a living state the virus from the spinal cords of monkeys. Negative results were also obtained with lice *(Pediculus capitis* and *P. vestimenti)*. The experiments with lice were designed to simulate natural conditions, but it was found that these insects did not take the virus of the blood of monkeys or maintain it in a living state. The bedbug *(Cimex lectularius)*, however, gave positive results in that it was found in one experiment to have taken the virus with the blood from infected monkeys and maintained it in a living state within the body for a period of seven days. When we consider that the virus exists in the blood of monkeys in a very dilute state, for it requires a number of cubic centimeters of blood to infect another monkey, we are almost driven to the conclusion that the virus must have become concentrated (grown?) in the body of the bedbug. The results of Howard and Clark may therefore assume an enlarged significance.

If infantile paralysis is transmitted in nature largely or mainly through the agency of the stable-fly, this fact would render the suppression of the disease comparatively easy, whereas if the infection is spread largely from person to person through the intervention of carriers and missed cases, the difficulties of the problem will be multiplied manyfold. In the case of cerebrospinal fever it has been shown that carriers are ten times as numerous as the cases; if the conditions are analogous in infantile paralysis, the suppression of the disease will probably have to wait on specific therapy, of either preventive or curative nature.

The health officer impatiently asks: "Is poliomyelitis a contagious disease?" "Is it an insect-borne disease?" "Is it dust-borne?" "Is it contracted from lower animals?" "Is it an alimentary infection?" or "Is it possibly, like typhoid fever, spread by several or all of these various methods of conveyance?" In the present state of our knowledge a definite answer cannot be made to these important queries, and we must await further work before the health officer can direct his measures to combat infantile paralysis with any assurance of success. Meanwhile the public must be given the benefit of the doubt, and the infection fought along all probable lines.

65 Naples Road, Brookline.

---

## A METHOD FOR STANDARDIZING BACTERIAL VACCINES*

J. GARDNER HOPKINS, M.D.
NEW YORK

The following method is presented as a convenient means for determining approximately the amount of bacterial substance in suspensions used as vaccines. It consists in measuring the volume of the moist bacteria after centrifugalization in a tube with a graduated capillary tip.

Experiments with various forms of tubes show that bacteria pack closely in any tip which is 1.5 mm. or more in diameter. If the capillary portion of the tube is long, the height of the column of bacteria may vary sufficiently to affect the density of the sediment, but if this portion is under 2.5 cm. in length, there is little variation in the packing. In such a tube staphylococci and typhoid bacilli pack to within 20 per cent. of the maximum density obtainable, if centrifugalized for half an hour at 2,800 revolutions per minute. I have obtained from the International Instrument Company of Cambridge, Mass., very satisfactory tubes with tips 2 to 2.5 cm. long, having a capacity of 0.05 c.c. and graduated in hundredths of a cubic centimeter. These tips are stout enough to support the pres-

* From the Pathological Department, St. Luke's Hospital, New York, Dr. F. C. Wood, Director.

sure of the tube when placed in cylindrical metal holders with rubber cushions. For preparing large amounts of vaccines I have used tubes with tips of the same length, but with a capacity of 0.1 c.c. For some time I used tubes of similar pattern made by drawing out test-tubes in the blowpipe flame, breaking off the capillary portion and scaling the tip. These were graduated by measuring various amounts of mercury into them with a pipet, and marking the corresponding levels with a diamond pencil. They are less convenient to use, however, as in order to prevent breakage it is necessary to float them in holders filled with glycerin. These tubes are the only special apparatus required, but it is convenient to use as filters small funnels made by drawing out test-tubes and placing a small plug of absorbent cotton in the broken-off tip. The open end of this improvised funnel is also plugged with cotton to prevent contamination of the interior. One requires also some capillary pipets of the usual type and an electric or water-power centrifuge of good speed. The tubes, filters and pipets are sterilized by dry heat before use.

The procedure is as follows: The sterile cotton filter is moistened with salt solution, and the funnel is placed in the mouth of the centrifuge tube. The bacterial growth is washed from the surface of an agar culture with salt solution and transferred with a pipet to the funnel. The filtration serves to remove any particles of agar or cotton that may be taken up and also the larger clumps of bacteria. The tube is then covered with a rubber cap, and, after another tube has been filled to the same point so as to balance, is centrifugalized for half an hour. The salt solution and bacteria above the 0.05 mark are then removed, and 5 c.c. of saline solution are measured into the tube. If the sediment does not reach the 0.05 mark, its volume is read on the scale and enough saline solution is introduced to make a 1 per cent. suspension. The sediment is then resuspended by forcing the salt solution into the tip with a capillary pipet and drawing the mixture in and out of the pipet repeatedly. The suspension is next transferred to a test tube to be killed in the usual manner. The tubes are washed, first in phenol (carbolic acid) and then in distilled water, the fluids being drawn into the tip with a pipet.



Special centrifuge tube with graduated tip.

It is customary to express the dosage of vaccines in terms of the number of organisms injected. Estimations made by centrifugalizing carefully counted suspensions give the following average values for a 1 per cent. suspension of the organisms commonly used when centrifugalized for one-half hour on a head 18 cm. in diameter, at 2,800 revolutions per minute. Similar values could readily be determined for centrifuges with lower speed:

| | Per Cent. | Billion Per c.c. |
|---|---|---|
| *Staphylococcus aureus* and *albus* | 1 | = 10 |
| *Streptococcus hemolyticus* | 1 | = 8 |
| Gonococcus | 1 | = 8 |
| Pneumococcus | 1 | = 2.5 |
| *Bacillus typhosus* | 1 | = 8 |
| *Bacillus coli* | 1 | = 4 |

The pneumococci used were grown on moist serum agar and had well developed capsules.

With staphylococci the method gives very constant results as compared with a direct count, as the organisms are uniform in size and pack evenly. With colon bacilli and streptococci the count of a 1 per cent. suspension varies considerably, partly because of the great difference in the size of individual organisms of different strains and partly because of inequality in the packing of the sediment. The weight of the sediment dried to constant weight in vacuo gives the best index to the accuracy of the method. On a number of determinations the weight of 0.1 c.c. of staphylococci varied from 28.6 to 34.8 mg., with an average of 31.1 mg.; 0.1 c.c. of typhoid bacilli from 22.5 to 27.0 mg., with an average of 24.7 mg., and 0.1 c.c. of colon bacilli from 10.0 to 17.5 mg., with an average of 13.2 mg.

Of the other methods of standardization probably the most widely used is the well-known one of Wright. This consists in determining the ratio of bacteria to red cells in stained smears made from a mixture of definite proportions of vaccine and normal blood. This procedure is somewhat tedious and is open to serious errors. For example, if the entire drop used in making the film is not evenly spread on the slide, the red cells accumulate in the thicker portions. Moreover, it is necessary to obtain very even suspensions, as the presence of clumps of forty or fifty organisms in some fields introduces very large errors when a total of two to five hundred is counted. Long shaking is often required to separate the bacteria satisfactorily, and in some streptococcus growths it is practically impossible to break up the clumps.

A simpler and more accurate method was suggested by Glynn and Cox.[1] The vaccine, diluted if necessary, is placed in a Helber-Zeiss counting-chamber, and the number of bacteria in a unit volume is counted directly, and the amount multiplied by the dilution. This chamber, which was designed for counting blood platelets, has a depth of 0.02 mm. (one-fifth that of the Thoma cell). This permits the use of a high-power dry objective of 3.2 mm. focal length and a No. 4 eyepiece. With intense illumination through a small diaphragm the bacteria are readily distinguished.

Callison[2] recommends diluting the vaccine 1:100 in a red cell pipet with a staining fluid of the following composition:

Hydrochloric acid ..... 2 c.c.
Bichlorid of mercury, 1 to 500 ..... 100 c.c.
Acid fuchsin, 1 per cent. aqueous solution, enough to give deep cherry-red color.

He counts in an ordinary Thoma cell. The staining does not aid greatly in making the count, and the fluid occasionally causes clumping. The use of a leukocyte or red cell pipet in diluting is, however, a great convenience. The method presents some of the same difficulties as that of Wright as the presence of clumps in the suspension makes an accurate count impossible. If an even suspension of the bacteria is obtained the direct count gives results which, when compared with the weight of the dried organisms, is somewhat more accurate than the centrifuge method. The method is, however, more time-consuming, and in making many preparations involves considerable eyestrain.

The toxicity of different strains of the same organism varies so greatly that the most exact determination of the amount of bacterial substance in a vaccine gives but an approximate idea of its strength. In standardizing stock vaccines from strains which have been used repeatedly and the toxicity of which is known, a careful

1. Glynn and Cox.: Jour. Path. and Bacteriol., 1911, xv, 360.
2. Callison: Jour. Med. Research, 1912, xxvii, 225.

direct count is of value. In making autogenous vaccines from organisms of unknown activity all that is to be desired is an approximate determination of the amount of bacterial substance in the preparation. The method of standardizing by means of the centrifuge offers the advantage of simplicity combined with an accuracy sufficient for clinical purposes.

---

## REPORT OF A GROUP OF INFANTS INFECTED BY A TUBERCULOUS ATTENDANT*

ALFRED F. HESS, M.D.
NEW YORK

Ten children, varying in age from about 2 to 3 years, and occupying one ward in a large infant asylum, were placed in charge of a new attendant May 15 last year. We did not know at the time that this attendant recently had been ill with tuberculosis and that she had been a patient for some months at a sanatorium. Shortly afterward, toward the end of June, our attention was called to the fact that this nurse was not in good health, that she coughed, and was losing weight. Further inquiry then disclosed that she had suffered from tuberculosis of the lungs. An examination of the sputum was carried out and showed the presence of numerous tubercle bacilli.

It was now July 1, 1912. The nurse was immediately removed from the ward, but not until she had been in charge of the children for six weeks. We were naturally greatly concerned as to whether any of the children had become infected and, although they seemed perfectly healthy, resolved to observe these children with particular attention. An exceptional opportunity was afforded in this instance for studying various phases of tuberculous infection, as for some time all children on entering the institution had been subjected to a routine von Pirquet test. This test, repeated for a second time if negative, had been carried out in all wards about every six months, so that we had at hand complete data as to the previous reactions of these children to tuberculin. They had, in fact, all been tested in April. Three of the ten had been found to give a positive reaction. This was readily accounted for in one instance by the fact that the mother of the child had tuberculosis. About the middle of July, soon after the nurse left, the children were all retested, and all were found to react in the same way as three months previously (Table 1). No further tests were carried out during the summer, but in October the entire group was once more retested. The reactions had entirely changed; instead of merely three being positive, all the children in the ward now gave a positive reaction. When the test was repeated in January of this year, the same result was obtained. Such were the results of the tuberculin test.

From a clinical point of view, the condition of the children has changed very little in these months from April to the present time. None of them coughs; none shows any definite signs of tuberculosis, and although they have not all gained in weight satisfactorily, they are fairly well nourished. Possibly one exeeption may be made to this statement, for one child had lost in weight and attracted attention on account of his poor color. This child, however, revealed no physical signs of tuberculosis, nor did a test of the sputum from the larynx show tubercle bacilli; indeed, in the course of the past six weeks, he has improved markedly and gained considerably in weight. So that we may safely state that we have a group of young children who were exposed for six weeks to infection through a tuberculous attendant with the result that, although their health has not suffered, they all have acquired a positive reaction to tuberculin.

A report of this infection seemed particularly worthy of regard because the various factors connected with it were subject to unusually full control. In the first place, all the children had been tested with tuberculin in a routine way by the house physician before they were exposed to infection. Furthermore, we are considering a group of children who never leave the precincts of the institution, and therefore who are not exposed to infection from without. It is hardly necessary to add that, following the discovery of this tuberculous attendant, there was a thorough inquiry as to the health

TABLE 1.—TUBERCULOUS INFECTION OF WARD*

| Name. | Age, Yrs. | Von Pirquet Tests — April, 1912. | July, 1912. | Oct., 1912. | Jan., 1913 |
|---|---|---|---|---|---|
| E. L. | 2½ | ? | — | .. | — |
| A. V. | 3¼ | — | — | + | ± |
| S. S. | 3 | ++ | +++ | + | +±+† |
| S. O. | 3 | — | — | + | ± |
| R. S. | 2½ | + | +++ | +++ | +±+ |
| A. S. | 2⅝ | — | — | + | — |
| M. G. | 3 | — | — | + | ++ |
| L. S. | 2½ | — | — | + | +— |
| S. B. | 3 | + | + | ++ | ++ |
| R. F. | 2 | — | ? | + | ++ |

* Nurse with open tuberculosis in charge of children from May 15 to July 1.
† Mother tuberculous.

TABLE 2.—ROUTINE TESTS OF SOME CHILDREN IN OTHER WARDS (1912 AND 1913)

| Name. | Age, Yrs. | Von Pirquet Reaction 1912. | 1913 |
|---|---|---|---|
| L. A. | 5 | — | ? |
| V. A. | 3 | — | — |
| A. A. | 4½ | +++ | +++ |
| H. A. | 4 | — | — |
| E. A. | 4½ | +++ | +±+ |
| B. A. | 3 | — | — |
| S. A. | 4½ | — | ? |
| S. A. | 5½ | ++ | ++ |
| A. B. | 4 | — | — |
| M. B. | ¼ | — | — |
| C. B. | 4 | — | — |
| B. B. | 3 | ++ | ++ |
| B. B. | ¼ | — | — |
| G. B. | 2 | — | — |
| C. B. | 1½ | + | — |
| S. B. | 3 | + | ++ |

of other attendants throughout the institution. No other tuberculous attendant was found, nor indeed has tuberculosis developed during the past year in the case of anyone connected with the institution; so that infection from within as well as from without may be excluded.[1] We have had no other group of children in the institution develop positive tuberculin reactions. The reactions in this respect have been remarkably constant. A negative reaction on admission has almost always meant a negative reaction later; occasionally a positive reaction developed within the first few months after the child was admitted, indicating that it had been infected shortly before admission to the institution. The small group which we are recording does not, however, come under this category, as the children had been in the institution for a year or more. I shall not take the space to give a tabular account of the reactions of the

* From the Research Laboratory, Dept. of Health, New York.

1. All the milk which is furnished the institution has been thoroughly pasteurized by being subjected to a temperature of 145 F. for 45 minutes, a degree of heat which kills all tubercle bacilli.

three hundred children of the institution, but as an illustration give a table showing the reactions of some children (those whose names begin with the letters A and B) in order to show the constancy of the tests from year to year (Table 2). It will be seen that negative reactions do not become positive in the institution. There has been no instance in which we have met two negative reactions followed by a positive reaction, such as we see throughout the table showing the ward infection (Table 1).

We must conclude, therefore, that these children were all infected by this attendant during a period of exposure of six weeks. It should be mentioned, however, that a contributing cause of this wide-spread infection was probably the fact that during this period the children had stomatitis, and that this nurse was entrusted with the treatment of their mouths. We should also consider, however, that she was not an ignorant person, although not a graduate nurse; and we should have expected her, during a six-months' stay in a model sanatorium, to have acquired more than an average knowledge of the principles of prophylaxis in relation to tuberculosis.

A wide-spread ward infection of this nature shows how it comes about that we all, with few exceptions, become infected with tubercle bacilli and react to tuberculin by the time we reach adult life. It also suggests that individual susceptibility is not an important factor in relation to infection by tubercle bacilli. Given a source of infection, it is probable that every individual becomes promptly infected who has not been naturally immunized by previous contact with tubercle bacilli. Although this is true as to infection, it probably does not hold true as regards the further course of the disease; herein susceptibility plays a rôle, helping to determine whether the focus is rendered latent or allowed to progress.

154 West Seventy-Second Street.

## OILY INJECTIONS OF SALVARSAN—A WARNING

H. H. HAZEN, M.D.

Professor of Dermatology, Georgetown University, Clinical Professor of Dermatology, Howard University

WASHINGTON, D. C.

From time to time injections of salvarsan in an oily medium have been recommended by various men, notably by Levy-Bing and Lafay,[1] Kromayer,[2] Pollitzer[3] and Hazen.[4] All of these men have, I believe, given up this method of administration in favor of the intravenous route, but without publishing their reasons for so doing. In view of the fact that a number of our best drug houses are now marketing preparations of salvarsan in oil, it seems wise to state my experience with this form of injection.

Up to the present time I have given fifty-eight of these injections to forty-four individuals. Fifty-two of the injections were of salvarsan, and six of the neosalvarsan. In general the effects on the lesions and on the Wassermann reaction were excellent. In the majority of instances the immediate results, so far as pain and disability are concerned, have also been excellent. Twenty of the injections were practically painless, and only twelve caused pain that was at all severe. Morphin was required in but three instances. Only three patients lost time from work, one about ten days and the other two not over two days each. There has not been a single patient who was not willing to take another injection.

There is a more serious side, however, especially when the patients are followed for a considerable length of time, and some of the immediate evil consequences cannot be ignored. Four cases presented complications shortly after injection; two developed slight abscesses of no particular import; one developed peripheral phlebitis about two weeks later; but the most serious accident was pulmonary embolism, the patient fortunately recovering in about two weeks.

In six instances abscess at the site of injection developed in from three to twenty-four months after treatment. In one of these patients both buttocks broke down about three months after injection, although the injection was unilateral. In this case it is rather difficult to hold the salvarsan responsible for either side. In the most interesting case of this series exactly two years after the administration of salvarsan an abscess pointed in the buttock. It was opened, and about 6 ounces of sterile pus and considerable tissue debris were evacuated. In another case five small injections were given at biweekly intervals without any especial trouble, but about three months after the last both buttocks became red, swollen and painful, with distinct fluctuation. Operation was refused, and the swellings resolved in about two months; but even now, one year later, are still sore and tender on pressure. Several other men have told me of similar experiences, the longest interval between injection and abscess being one year. One other patient has had permanent nodules left in his buttocks, and complains bitterly of pains radiating down both sciatic nerves.

It is rather difficult to account for this late trouble except on the hypothesis that the material injected is toxic to tissue at the site of injection, and that this dead tissue, if not absorbed, may act as a foreign body. In the abscesses that I have opened no trace of the salvarsan could be found, and in all of them the therapeutic effect had been marked.

After the use of neosalvarsan in water as recommended in the circular accompanying the ampule one must be prepared for severe pain. I have seen one patient rendered absolutely helpless for three weeks; suffering more than from any type of injection that I have ever used. Nor does the administration of neosalvarsan in glycerin, as suggested by Wolbarst,[5] work any better; both of the patients on whom I tried it suffered severely. I have found that the oily injections of neosalvarsan are more painful than when salvarsan is used. One tabetic had four treatments with salvarsan without the slightest discomfort, but the newer preparation kept him in bed for ten days. Out of six injections three patients experienced great discomfort.

In view of the tendency for late abscess formation following oily injections, and in view of the pain of all other methods, I feel that the intravenous method should be the only one employed, remembering, of course, that it should be used very carefully in certain cases, notably those with disease of the heart or central nervous system.

The Rochambeau.

1. Levy-Bing and Lafay: Bull. Soc. franc. de dermat. et de syph., 1910, xxi, 217.
2. Kromayer: Berl. klin. Wchnschr., 1910, xlvii, 1698.
3. Pollitzer: New York Med. Jour., 1911, xciii, 403.
4. Hazen, H. H.: Washington Med. Ann., 1911, x, 181; 1912, xi, 199
5. Wolbarst: Med. Rec., 1912, lxxxii, 148.

## NEW ETHER PAD AND CONE

EDWIN M. JONES, M.D., MIAMI, FLA.

The illustrated pad and cone were devised to make the administration of ether more agreeable to the patient and infinitely easier for the administrator as compared with the methods now used in over 85 per cent. of the hospitals.

Unless the anesthetic is in the hands of a professional it is usually given by using an Esmarch cone, towels, petrolatum, rubber tissue and moist cotton for the eyes, all of which are useless and hard to handle, and before the patient is asleep they are usually out of place and the eyes exposed to the ether vapors. The cone in this case does not fit, consequently the vapors escape down the sides of the patient's face, hence the waste of ether; and the administrator has no idea of the ether percentage he is giving, but hopes the patient will soon be asleep so he can arrange the towels, which he usually does at the wrong time. The patient at this period should have a lower ether percentage.

In a great many hospitals which I have visited the interns give the anesthetic and they having just graduated, invariably used the method described, because it is the custom.

To correct this I suggest, especially to the novice, the use of the pad and open ether method.

The pad consists of absorbent cotton about 1 inch thick, 8 inches wide and 12 inches long, with an aperture in the center 1 inch wide and 2 inches long. The cotton is covered with two plies of gauze and sewed round the edges. The cone is similar to the Esmarch without the handle and is used as illustrated.

### ITS ADVANTAGES

It does away with the use of petrolatum as only the vapor comes in contact with the skin and does not burn.

It does away with the use of towels.

It does away with the use of moist cotton or rubber tissue for the eyes.

It fits the face and feels comfortable to the patient and ether vapors do not escape down the sides.

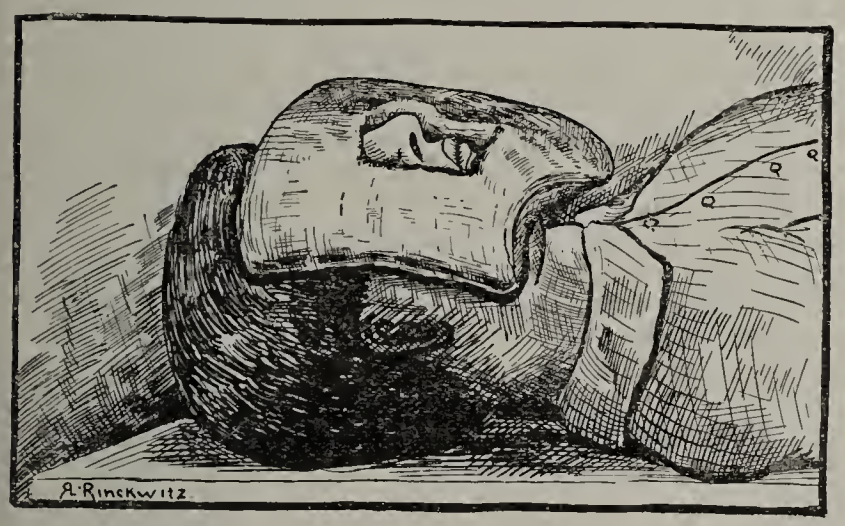
It enables the anesthetist to regulate the ether percentage by folding the corners as illustrated.

It does not get out of order by the patient moving his head during the stage of excitement.

It is easy to carry and cheap, costing approximately five cents each and can be re-used six or eight times by sterilizing.

I have used this method in 500 cases and think it worth mentioning.

909 Avenue C.













New ether pad and cone, showing successive steps in use.

## A METHOD OF CONTROLLING RECTAL HEMORRHAGES

B. L. MYERS, A.B., M.D., OMAHA, NEB.

While serving as intern in Immanuel Hospital, I was called to see a patient 74 years old, who had been operated on four days previously for very large thrombotic hemorrhoids, which had become gangrenous. He was quite exsanguinated; the dressings were soaked, and a small stream of blood was flowing from the rectum.

The patient was removed to the operating-room and I soon ascertained that the hemorrhage was taking place inside the sphincter, considerable quantities of blood being expelled periodically, after the "whistle tube" was withdrawn.

I packed the rectum with cotton saturated with epinephrin (adrenalin chlorid), as the surgeon in charge telephoned me to do, but without giving relief. I then packed with gauze, but this too failed. I then resorted to the following method:

Taking a piece of gauze about 18 inches square, I spread it in a single layer over a Kelly proctoscope, rubbed petrolatum into it thoroughly and inserted the proctoscope into the rectum well past the sphincters. The obturator was then withdrawn and the invaginated piece of gauze was packed, through the proctoscope, with a 10-yard 1-inch gauze bandage, withdrawing the proctoscope as the invaginated gauze was ballooned up. When the packing filled the rectum and the proctoscope was withdrawn, the loose edges of the invaginated gauze were twisted tightly together, which bound the packing into a hard mass. The hemorrhage stopped completely at once.

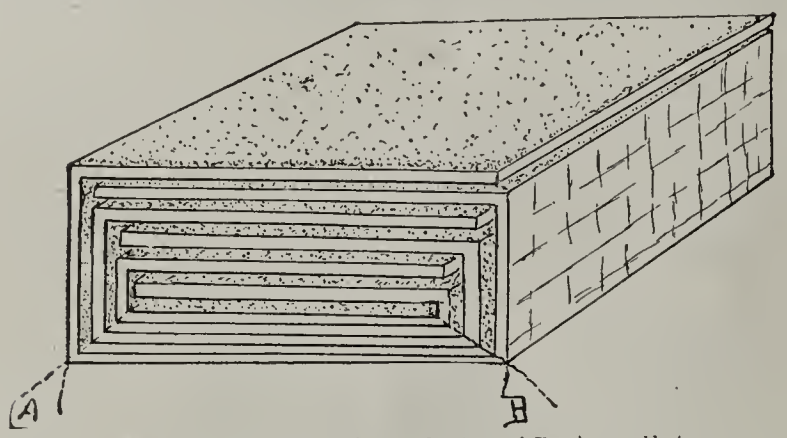
Thirty-eight hours later the packing was withdrawn with perfect ease, without hurting the patient or starting the hemorrhage again, by catching the external end of the bandage used as packing and drawing it out. This allowed the invaginated piece of gauze to collapse and slip out without the slightest dragging on the tender mucous membrane. The patient was discharged from the hospital three weeks later in good condition and without further hemorrhages.

---

## A PLASTER-OF-PARIS SPLINT

M. D. TOUART, M.D., NEW YORK

Every surgeon using molded plaster-of-Paris splints in the treatment of fractures has been more or less annoyed by the great amount of manipulation and soiling and the time required in the making of such splints. To overcome these disadvantages I have devised means for preparing plaster-of-Paris splints in a dry state so that they may be kept until needed.




Method of preparing plaster-of-Paris splint.

Several layers of unstiffened gauze, three times the width of the desired splint, are stitched together lengthwise along two lines (*A* and *B* in the diagram), so as to divide them into three equal parts. Plaster of Paris is applied to the middle third and rubbed into the cloth in the usual manner. A layer from one of the outer thirds is now folded to the center, and plaster applied to it. Then the corresponding layer of the remaining third is treated in like manner, and so on until all the interstices are filled. When completed, the splint consists of several alternating layers of gauze and plaster thoroughly incorporated into one composite whole.

I have used for some time such splints of various lengths and widths and find them most satisfactory. They are prepared as described above, folded lengthwise to a convenient size and securely enclosed in paraffined paper. With a piece of surgical lint of sufficient size for padding, they are placed in a box forming a package easy to carry in any surgical bag.

For use, the splint should be folded crosswise and stood on end under water until thoroughly moistened. The excess of water is then expressed and the splint smoothed out on a flat surface until wrinkles have been removed. With the strip of surgical lint as padding the splint is applied to the part, bandaged firmly and allowed to harden. It is then removed, the ends and corners rounded, or shortened if necessary, and replaced with adhesive plaster retaining-straps. The time required in the application is short, the manipulation slight and the soiling need not extend beyond the surgeon's hands.

The great value of such a splint, aside from its convenience, is apparent. It may be applied from the moment a fracture occurs. It may be loosened to accommodate swelling or tightened as the swelling disappears. It allows of inspection, massage or other treatment at any time. It is a most efficient agent for immobilization by virtue of its fitting the part with accuracy and having no thick padding to favor displacement. It is exceedingly comfortable, being light and exerting an even pressure throughout its whole length. It has sufficient durability to last throughout the period of treatment. In a word, it is a splint that will give both patient and surgeon the utmost satisfaction.

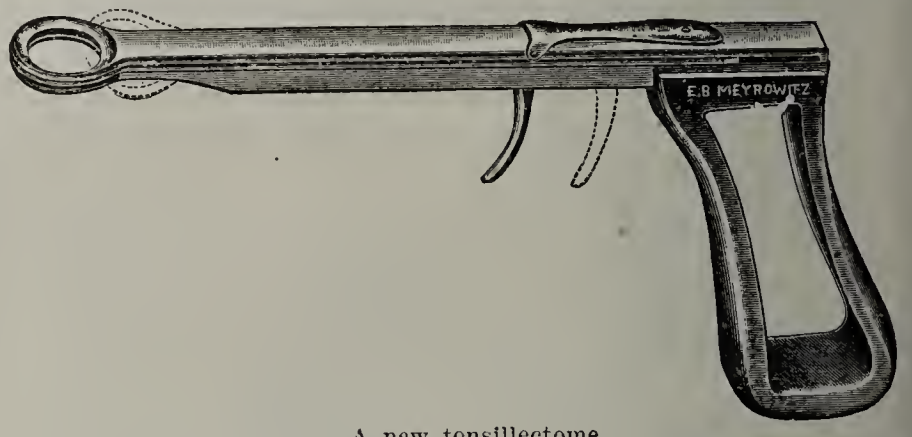
450 West One Hundred and Forty-Fifth Street.

---

## A NEW TONSILLECTOME*

J. ELLIS JENNINGS, M.D., ST. LOUIS

This new tonsillectome was designed to remove the tonsil in its capsule by the Sluder method. The essential and distinctive feature of this operation is the moving of the tonsil completely out of its normal bed forward and upward onto the eminence of the lower jar produced by the last molar tooth, and the utilization of this prominence in putting the tonsil through the aperture of the guillotine. For this operation a tonsillectome of great strength and leverage power is essential. To attain these ends Dr. Sluder has modified the Physick-Mackenzie guillotine by doubling the thickness of the shaft, shortening its length and making the handle longer. In using this instrument with its dull blade I found considerable difficulty in exerting sufficient pressure with the thumb to cut




A new tonsillectome.

through the tissues. In consequence they were bruised and torn before the tonsil was removed.

In thinking over the matter it seemed to me: (1) that the best way to remove a tonsil was to cut from behind forward; (2) that when the whole tonsil was through the ring its attachments should be cut off cleanly with a sharp blade, and that when they had been severed in this way the hemorrhage would be little greater than if the blade were dull, and (3) that it was much easier to pull with the finger than to push with the thumb. Therefore I began to study the possibilities of the Fahnestock-Mathiew tonsillotome with its ring-knife to cut on the pull. I found it was not adapted to the Sluder operation because any attempt to exert a leverage force caused a painful pressure of the rings against the bones of the fingers. So I discarded the rings for the fingers and the elevating prongs, greatly strengthened the supporting blade, added a strong handle and trigger, and evolved what might aptly be called the pistol guillotine. It is very strong. The pistol grip enables the operator to exert all the leverage force required to put the tonsil through the aperture, and the sharp ring-knife cuts the attachments of the tonsil by a natural movement of the finger on the trigger. By lifting and turning the small plate above the handle, one may take the instrument apart in a second.

508 Carleton Building.

---

* Read before the oto-laryngologic section of the St. Louis Medical Society, March 26, 1913.

## AN ORIGINAL METHOD OF TESTING FOR POTASSIUM IODID IN THE URINE†

HENRY POWER, M.D., SPOKANE, WASH.

The use of the internal administration of potassium iodid in doses of one or more grams and a subsequent series of tests of the urine that its total period of elimination may be determined has come to be considered as a practical test for the functional activity of the kidney. The drug is expected to disappear in about fifty hours. Heretofore the urine has been subjected to the action of fuming nitric acid and then washed with chloroform, the iodid color appearing in the globules of the latter solvent.

Believing that this test had many factors in common with the tests for indican, I set about devising the following method, which is able to indicate the presence of the drug in one-fifteenth part of 1 per cent. and is at the same time free from the objection of possible confusion with the indican reaction.

*Materials Required.*—A, boiled starch solution. B, a small platinum or carbon electrode. C, any convenient source of direct electric current. D, a white evaporating dish.

*Test.*—Urine is mixed with starch solution in the dish and the two electric poles immersed in the fluid; the positive or carbon pole being of platinum or carbon. A current of from 3 to 10 milliamperes is allowed to flow through the liquid mixture and in a few seconds the starch about the positive pole is seen to turn blue as a result of the iodin set free from combination by the action of the current.

421 Old National Bank Building.

---

# *Special Article*

## BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(*Continued from page 1541*)

### INOCULATION TECHNIC

Bacterial vaccines are administered by subcutaneous injection. Attempts to administer them by the mouth or by rectum have not progressed beyond the experimental stage. Intravenous and intramuscular injections are not practiced as a rule.

*Syringe.*—While the physician's ordinary hypodermic syringe can be used, a special syringe should be set apart for vaccine therapy. Preferably this syringe, or at least its barrel, should be of glass, accurately graduated either in minims or in fractions of a cubic centimeter. A capacity of 1, or at most 2 c.c. is sufficient. The plunger may be of metal to fit a ground barrel, of glass ground to make a good fit, or of glass with asbestos packing. Ordinary steel hypodermic needles with slip-joint or screw-joint rust readily and dull when sterilized by boiling, but they are cheap as compared with the more durable needles of platinum or gold. A simple glass-barreled syringe with asbestos-packed glass plunger, graduated according to the apothecaries' measure or the metric system, with two steel needles, is inexpensive and satisfactory.

*Sterilization of the Syringe.*—Boiling in water for five or ten minutes is the most satisfactory method of sterilizing the vaccine syringe. When the water is hard, the layer of salts deposited on the syringe and plunger must be dissolved occasionally with hydrochloric acid. After use the syringe should be rinsed with boiled water to remove traces of vaccine, and then rinsed with alcohol, the special object of which is to prevent the internal rusting of the needle. When the syringe is in daily use it can be left filled with alcohol until next day.

*Vaccine Container.*—The most convenient container for bacterial vaccine is the vaccine bottle of Wright—a bottle of convenient size covered with a tightly fitting rubber cap of sufficient thickness. Such a bottle holding 25 c.c. answers admirably for stock vaccines. For concentrated suspensions or for individual autogenous vaccines a 4-dram homeopathic vial covered with a heavy rubber test-tube cap, or two thinner test-tube caps, answers all purposes. In using such a container, a drop of liquor cresolis compositus is placed on the rubber cap, the bottle shaken, the needle plunged through the cresolized area on the cap, and the vaccine withdrawn from the inverted bottle into the sterilized syringe. With a cap of suitable thickness, or a double cap of thinner rubber, the puncture seals itself, and vaccine can be withdrawn repeatedly through freshly cresolized punctures.

Market vaccines in bulbs or bottles of single doses are withdrawn into the sterilized syringe; one should not forget to invert the bulb or narrow-necked bottle during the withdrawal of the vaccine.

*Shaking the Vaccine.*—In all vaccines the bacteria sink to the sides or bottom of the container if undisturbed. Hence the necessity of vigorous shaking to secure a uniform suspension.

*Injection-Site.*—It is important to choose a proper site for inoculating bacterial vaccines. Physicians daily make glaring mistakes in this seemingly simple matter. Although the upper arm is not usually suitable as the inoculation site, physicians not uncommonly make repeated inoculations in this restricted area, resulting in a series of indurations painful to the patient and defeating the immunizator's purpose. For the two or three injections required in antityphoid inoculation, it is permissible to use the upper arm, provided a fresh site is chosen for each injection; but the tense skin of the upper arm is a drawback, and local reactions are more severe because of the muscular movements. If possible, one should select a site with thin, loose integument. The infraclavicular region on both sides in an area as large as the outstretched hand is suitable. The skin over this site is thin and loose and the area sufficient to furnish a fresh point for each of a number of inoculations. In women with exceptionally large breasts, inoculating over mammary tissue should be avoided.

Other regions often recommended have certain disadvantages. In adults, the integument of the back, either in the interscapular region or over the buttocks, is two or three times as thick as that on the front of the body, and adheres tightly to the underlying tissues. In infants and young children whose skin is tender and loose, inoculations are permissible in the back or upper part of the buttocks. Over the abdomen there is usually a well-developed layer of fat to which the skin sticks tightly, and persistent indurations commonly follow inoculations in this region. In the legs there is the objection of pain from muscular movement, though the inner upper thigh is a much better locality than the arm.

*Repeated Localized Inoculations.*—Whatever the site of inoculation, repeated injections in a circumscribed

---

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

† Described and demonstrated at the meeting of the Spokane County Medical Society, April 10, 1913.

area should be avoided, a new site being chosen for each inoculation of a series.

*The Injection Proper.*—As preparatory to the injection, a drop of liquor cresolis compositus may be placed over the skin to be punctured, or the surface may be mopped with alcohol. The integument is lifted into a convenient fold, and the needle plunged through the disinfected area perpendicularly to the surface or nearly so, to avoid the more painful thrust at an angle. Making sure that the point of the needle lies in the loose subcutaneous tissue, the operator discharges the vaccine. It is superfluous to seal the puncture, which may be wiped with a pledget of cotton moistened with alcohol. There is no necessity of forcing out a portion of air that may have been drawn into the syringe with the vaccine, for the injection of this air into the subcutaneous tissue is entirely harmless, and when the syringe is held upright, serves to force the last portion of vaccine from the barrel and needle.

Occasionally a minute vein is punctured during the inoculation, and a hemorrhagic ecchymosis follows which sometimes alarms the patient. Should a swelling indicate that the fluid has been enmeshed in dense connective tissue, the swollen area should be gently massaged and the swelling reduced.

### LOCAL REACTION TO BACTERIAL INOCULATION

After the disturbance of the immediate injection subsides there is usually a period of freedom for from three to twelve hours, depending on the dose and the nature of the bacteria. Then the injection site may become tender, at least on pressure. With this tenderness may come a more or less marked inflammatory blush, and in twenty-four hours there is often a moderate swelling, sometimes soft, sometimes indurated. Not uncommonly the tenderness, redness and swelling are entirely absent. With larger doses, more irritating bacteria or greater susceptibility, the local reaction may be more pronounced, even to the point of producing quite extensive reddened areas or large indurations which sometimes persist unduly. Usually these more pronounced local reactions indicate excessive dosage and are to be avoided. Likewise a persistent and tender induration is an undesirable consequence, and as a general rule one should wait until it has subsided before repeating an inoculation. With a nicely adjusted dose, marked therapeutic response is usually obtained with little or no local reaction.

### GENERAL REACTION TO BACTERIAL INOCULATION

The systemic effect of a therapeutic bacterial inoculation has been studied by means of the opsonic index, and also through the symptomatic response. This effect varies according to the infection under treatment, the idiosyncrasy of the patient, and the dose of injected bacteria.

*Negative Phase.*—The opsonic index usually falls in the first twenty-four hours after inoculation, a depression which Wright styled the "negative phase." This opsonic negative phase persists for a varying time, but with well-adjusted dosage remains but a day or two and is succeeded by a rising opsonic index constituting the "positive phase." Excessive doses produce a prolonged depression of the opsonic index; minute doses usually induce a short negative and short positive phase.

Symptomatically the negative phase is to be recognized by slight general disturbances like malaise, anorexia, nausea and headache; an elevation of temperature of a degree or two appears in from six to twelve hours after the inoculation, and there is temporary aggravation of localized infectious processes, if such exist, as shown by increased inflammatory reaction or more copious suppuration. These phenomena indicate the symptomatic negative phase, and like the depression of the opsonic index may be short and fleeting or prolonged and intensified, depending on whether the dose has been adequate or excessive.

*Positive Phase.*—The symptomatic positive phase is ushered in by a general feeling of well-being amounting at times to remarkable buoyancy and a relief of the general symptoms; improvement in local conditions is shown by diminished inflammatory reactions, relief of pain and lessened suppuration.

In a series of successful inoculations the wave of immunizing response as determined by the opsonic index becomes less sharply marked after successive injections, and ultimately there may come a prolonged positive phase—the "sustained high tide of immunity," as Wright calls it. Symptomatically this much-to-be-desired result is manifested by steady improvement, both local and general, resulting in final recovery. The ideal toward which all bacteriotherapists strive is the attainment of this sustained high tide of immunity with the fewest possible inoculations, reducing the degree and duration of the negative phase, and quickly securing a prolonged positive phase.

When the exactly suitable dose of the correct vaccine has been inoculated, one at times witnesses a symptomatic positive phase established so quickly as to make the symptomatic negative phase unrecognizable. With no preceding depression, a pronounced clinical improvement both local and constitutional may manifest itself in from six to eighteen hours after an inoculation, and occasionally a single inoculation such as this will appear to effect symptomatic recovery.

### DOSAGE OF BACTERIAL VACCINES

Next to the selection of the precise vaccine suited to the individual case comes the dosage. Many failures arise from the use of wrong vaccines, but still more unsatisfactory results follow errors in dose and in inoculation interval.

The dosage of vaccines has a wide range. It may vary from 10 million bacteria per dose to 1,000 million or more. The dosage is influenced by the nature of the infection and also by individual susceptibility. The latter condition has not been sufficiently recognized. The dose of a certain bacterial species for one person with a certain infection may be 10 million, while for another person with the same infection a dose of 1,000 million or more may be required—an increase of dosage of a hundredfold or more. Under these circumstances, the difficulty of supplying a satisfactory working formula is obvious. This complexity makes it clear that vaccine therapy demands experience and extensive special knowledge.

A prolonged negative phase, as shown by the opsonic index, indicates an excessive dose, while a short negative phase followed by a short positive phase suggests that the dose has been too small. The symptoms also furnish a guide. Extensive redness, tenderness and induration at the injection-site, with prolonged exacerbation of local lesions and of constitutional symptoms must be accepted as a warning of extreme dosage. Slight local reaction and fleeting improvement or none at all indicate insufficient dosage.

*(To be continued)*

# STATE BOARD STATISTICS FOR 1912

## THE ANNUAL PRESENTATION BY THE COUNCIL ON MEDICAL EDUCATION OF RESULTS OF STATE BOARD EXAMINATIONS

On pages 1624 to 1633 are three tables, A, B and C, giving in detail the results of the various state medical license examinations held during 1912. Complete reports were received for publication from all states except Pennsylvania.

Tables A and B have been arranged so that, read from left to right, they give the results by colleges, showing the number of graduates appearing for examination in each state, whether they passed or failed, the total number examined during the year, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of each school appeared for examination. Read from above downward, they give the results by states, showing the number registered and rejected from each college, the total number examined, the total number registered, the total number rejected and the percentage of rejections. The fact that the majority of graduates take the license examination in the state in which the college is located is shown by the dark diagonal zone made by the grouping of figures, passing from the upper left to the lower right corner of each table. This shows also that the states which harbor low-grade medical schools are themselves the recipients of the greater portion of the ill-trained output of such schools. These tables are worthy of much careful study, for many important deductions are possible.

### Caution in Forming Conclusions

In making comparisons on the basis of these statistics several factors should be carefully considered. The number examined is important since, if all other conditions are equal, the larger the number of graduates examined, the more accurate is the finding. But other conditions are seldom equal. The number of states in which a school's graduates have been examined is important. The larger this number the more accurate will be the conclusions. Again, the character of the board making the examination and the methods employed are important factors to be considered, since some boards hold very careful examinations and include practical laboratory and clinical tests, or they may mark the papers more severely, while others, especially partisan boards, may be very lenient. In this connection it should be stated that although conditions are undergoing a steady improvement it is still true that the character of the license examination as usually conducted at the present time is such that graduates of colleges conducted largely by quiz-class methods may easily be successful in passing them. Therefore, the statistics herewith presented should be taken only as part of any investigation of medical schools, although it is an important part.

### Graduates of All Years Examined in 1912

Table A shows the results for all candidates who took examinations in 1912 regardless of the years in which they graduated. This shows that altogether 6,353 were examined last year, as compared with 6,960 in 1911; 7,004 in 1910; 7,287 in 1909, and 7,770 in 1908. Of those examined 17.8 per cent. failed, as compared with 19.9 per cent. in 1911; 18.4 per cent. in 1910; 19.6 per cent. in 1909, and 21.7 per cent. in 1908. The omission of the figures from Pennsylvania accounts for the smaller totals appearing in this and other tables.

There were 110 medical colleges in the United States granting degrees in 1912, which had graduates examined. Foreign graduates were examined in twenty-six states, the total number being eighty-eight and of this number thirty-five or 39.8 per cent. failed. The largest number of foreigners examined in any state were twenty in New York. Graduates of Canadian schools were examined in twenty-two states, more appearing, naturally, in the border-line states. The figures for the Canadian colleges are given separately in order to show the number of candidates coming from each as well as to show the successes of their graduates at the examinations. Altogether seventy-four candidates from Canadian colleges were examined, of which number eighteen or 24.3 per cent. failed. Of all Canadian colleges, the McGill University had the largest number examined. The highest percentages of failures were for Laval University, 52.6, and Queen's University, 41.7.

### Undergraduates Examined During 1912

Line 120 of Table A shows the number of non-graduates examined in four states during 1912. Altogether 253 non-graduates were examined, of which number eighty-eight or 35.0 per cent. failed as compared with 38.5 per cent. in 1911 and 45.6 per cent. in 1910. Such candidates were examined during 1912 in Colorado, Maine, Massachusetts, Oregon and Tennessee. The largest number registered was in Tennessee where, out of the 313 candidates registered by examination during the year in that state, 142, or 45.4 per cent., were non-graduates. In 1911, 51.6 per cent of all candidates licensed by examination were non-graduates, and in 1910 45.1 per cent. were non-graduates. In the last five years in Tennessee of the 1,331 physicians licensed, 525 or 39.4 per cent. had not previously graduated from medical colleges. Meanwhile, Tennessee is now the only southern state which has the door wide open for this sort of candidates.

### Recent Graduates Examined During 1912

Table B gives the results for graduates of 1908 to 1912 inclusive, which were examined during 1912. This table is particularly important, since it deals with recent graduates and is, therefore, the fairest basis for comparison between colleges. The fairest estimate of a medical college from the standpoint of failures at state board examinations would be obtained from this table. Of all candidates examined in 1912, 5,257, or 82.7 per cent., were recent graduates, and of this number 17.4 per cent. failed, as compared with 17.8 per cent for all candidates. The figures for several medical schools which have ceased to exist either through merger or otherwise have been included in the line for miscellaneous colleges.

### Old Practitioners Examined During 1912

Table C is so arranged as to show in comparison the results for graduates of all years (first column), for recent graduates (second column), the graduates of 1907 and previous years (third column), and the graduates of 1912 (fourth column.) Of the graduates of 1907 and previous years, or "old practitioners," 843 were examined and of this number 240 or 29.1 per cent. failed as compared with 17.4 per cent. of failures for recent graduates. This high percentage of failures is probably due chiefly to the long time these candidates have been out of college and to the fact that they are required to take the same examination as recent graduates. Undoubtedly the less favorable conditions in medical colleges at the time these physicians graduated have some bearing on this result. Justice to such candidates, most of whom have already been licensed, but who, for good reasons, may desire to change their locations, is the strongest argument for interstate reciprocity in medical licensure, or for special percentage allowances at the examinations for years of practice. The total number of these candidates will naturally diminish each year as increased reciprocal relations are established since, as a rule, the states which do not have reciprocal relations with other states (e. g., California, Florida, Washington, see Table L) examined the largest numbers of old practitioners.

### Graduates of 1912 Examined During 1912

Table C also gives the results for the graduates of 1912 who were examined during the year by state boards, and

*CONTINUED ON PAGE 1634*

| Marginal Number | NAME OF COLLEGE | 1 Alabama P | 1 Alabama F | 2 Arizona P | 2 Arizona F | 3 Arkansas P | 3 Arkansas F | 4 California P | 4 California F | 5 Colorado P | 5 Colorado F | 6 Connecticut P | 6 Connecticut F | 7 Delaware P | 7 Delaware F | 8 District of Columbia P | 8 District of Columbia F | 9 Florida P | 9 Florida F | 10 Georgia P | 10 Georgia F | 11 Idaho P | 11 Idaho F | 12 Illinois P | 12 Illinois F | 13 Indiana P | 13 Indiana F | 14 Iowa P | 14 Iowa F | 15 Kansas P | 15 Kansas F | 16 Kentucky P | 16 Kentucky F | 17 Louisiana P | 17 Louisiana F | 18 Maine P | 18 Maine F | 19 Maryland P | 19 Maryland F | 20 Massachusetts P | 20 Massachusetts F | 21 Michigan P | 21 Michigan F | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ALABAMA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R. | 20 | 22 | | | | | | | | | | | | | | | 1 | 0 | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 2 | University of Alabama, Med. Dept.—R. | 21 | 9 | | | | | | | | | | | | | | | 4 | 2 | | | | | | | | | | | | | | | 8 | 0 | | | | | | | | | 2 |
| | ARKANSAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | College of Physicians and Surgeons.—R. | | | | | 1 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 4 | Univ. of Arkansas, Med. Dept.—R. | | | | | 40 | 9 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 1 | 1 | | | | | | | | | 4 |
| | CALIFORNIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | College of P. and S., Los Angeles.—R. | | | 1 | 0 | | | 24 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 6 | College of P. and S., San Francisco.—R. | | | | | | | 2 | 4 | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | 6 |
| 7 | Cooper Medical College.—R. | | | | | | | 30 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 8 | Hahnemann Medical College of the Pacific.—H. | | | | | | | 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 9 | Oakland College of Med. and Surg.—R. | | | | | | | 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 10 | Univ. of California, Med. Dept.—R. | | | | | | | 33 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| | COLORADO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Univ. of Colorado, Med. Dept.—R. | | | | | | | 4 | 1 | 30 | 0 | | | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | 11 |
| | CONNECTICUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Yale Medical College.—R. | | | | | | | | | | | 18 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 2 | 0 | | | 12 |
| | DISTRICT OF COLUMBIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | George Washington University.—R. | | | | | | | 2 | 0 | | | | | | | 21 | 2 | | | 1 | 0 | 1 | 0 | 2 | 0 | | | 1 | 0 | | | | | | | 2 | 1 | | | 1 | 0 | 13 |
| 14 | Georgetown University, School of Med.—R. | | | | | | | | | | | 2 | 0 | | | 13 | 2 | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | 14 |
| 15 | Howard University, Med. Dept.—R. | 0 | 1 | | | | | 1 | 0 | 0 | 1 | | | | | 5 | 0 | 4 | 0 | 3 | 1 | | | | | | | | | | | | | | | 1 | 3 | 1 | 1 | | | 15 |
| | GEORGIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Atlanta College of Physicians and Surgeons.—R. | 1 | 2 | | | | | | | | | | | | | | | 12 | 1 | 53 | 1 | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 17 | Atlanta School of Medicine.—R. | 1 | 2 | | | | | | | | | | | | | | | 4 | 1 | 45 | 1 | | | | | | | | | | | | | 0 | 1 | | | | | 0 | 2 | | | 17 |
| 18 | Georgia College of Eclectic Med. and Surg.—E. | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 19 | Southern College of Med. and Surg., Atlanta.—R. | | | | | | | | | | | | | | | | | 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 20 | Medical College of Georgia.—R. | 0 | 1 | | | | | | | | | | | | | | | 2 | 3 | 31 | 0 | | | | | | | | | | | | | | | | | | | | | | | 20 |
| | ILLINOIS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Bennett Medical College.—R. | 1 | 0 | | | 1 | 0 | 1 | 1 | | | | | | | | | 2 | 0 | | | | | 49 | 14 | 1 | 0 | 2 | 0 | | | | | | | | | | | 1 | 0 | 2 | 0 | 21 |
| 22 | Chicago Coll. of Med. and Surg.—R. | | | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 0 | | | | | | | 1 | 0 | | | 1 | 1 | 95 | 24 | 4 | 0 | 5 | 0 | 1 | 0 | | | | | | | | | 1 | 0 | | | 22 |
| 23 | College of Physicians and Surgeons.—R. | | | | | | | 13 | 4 | | | | | | | | | 1 | 0 | | | 3 | 0 | 112 | 25 | 3 | 0 | 13 | 1 | 1 | 0 | | | | | | | | | | | 8 | 0 | 23 |
| 24 | Hahnemann Medical College and Hospital.—R. | | | | | 2 | 0 | 1 | 2 | | | 1 | 0 | | | 1 | 0 | 1 | 0 | | | | | 18 | 12 | 3 | 0 | 4 | 1 | | | | | | | | | 1 | 0 | | | 1 | 0 | 24 |
| 25 | Hering Medical College.—H. | | | | | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | 2 | 2 | | | | | | | 1 | 0 | | | | | | | | | | | 25 |
| 26 | Jenner Medical College.—R. | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 9 | 3 | | | | | | | | | | | | | | | | | | | 26 |
| 27 | Northwestern Univ. Med. School.—R. | 2 | 0 | 1 | 0 | | | 6 | 1 | 1 | 0 | | | | | | | | | | | 5 | 1 | 68 | 6 | 4 | 0 | 11 | 0 | 1 | 0 | | | | | | | | | | | | | 27 |
| 28 | Rush Medical College.—R. | 1 | 0 | 5 | 0 | | | 12 | 3 | 1 | 0 | 0 | 1 | | | | | 2 | 0 | | | 1 | 0 | 74 | 2 | 1 | 0 | 7 | 0 | 5 | 0 | | | | | | | | | 1 | 0 | | | 28 |
| | INDIANA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Indiana Univ., School of Med.—R. | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 46 | 0 | | | | | | | | | | | | | | | | | 29 |
| | IOWA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Drake University, College of Med.—R. | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | 16 | 0 | | | | | | | | | | | | | 30 |
| 31 | State University of Iowa, College of Med.—R. | | | | | | | 3 | 0 | | | | | 1 | 0 | | | | | | | 2 | 2 | | | | | 35 | 1 | | | | | | | | | | | | | | | 31 |
| 32 | State University of Iowa, Homeo. Dept.—H. | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 0 | | | | | | | | | | | | | 32 |
| | KANSAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Kansas Medical College.—R. | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | | | 10 | 0 | | | | | | | | | 1 | 0 | | | 33 |
| 34 | Univ. of Kansas, School of Med.—R. | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | 10 | 1 | | | | | | | | | | | | | 34 |
| | KENTUCKY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Univ. of Louisville, Med. Dept.—R. | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | | | | | | | | | 4 | 0 | 2 | 1 | 1 | 0 | 1 | 2 | 13 | 2 | 2 | 0 | | | 69 | 4 | 3 | 4 | 0 | 1 | | | | | 1 | 0 | 35 |
| | LOUISIANA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Tulane University, Med. Dept.—R. | 10 | 6 | 1 | 0 | | | 1 | 0 | | | | | | | | | 5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | | | | 1 | 0 | | | 89 | 6 | | | | | | | | | 36 |
| | MAINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | Medical School of Maine.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7 | 0 | | | 5 | 1 | | | 37 |
| | MARYLAND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | Baltimore Medical College.—R. | | | | | | | 1 | 0 | | | 2 | 2 | 1 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | | | | | | | | | | | | | | | 2 | 0 | 16 | 2 | 2 | 0 | 1 | 0 | 38 |
| 39 | College of Physicians and Surgeons.—R. | | | 1 | 0 | | | 0 | 2 | | | 4 | 1 | | | | | 4 | 0 | 1 | 0 | | | | | | | | | | | 1 | 0 | | | | | 14 | 3 | 5 | 1 | | | 39 |
| 40 | Johns Hopkins Univ., Med. Dept.—R. | 3 | 0 | 2 | 0 | | | 2 | 0 | | | 4 | 0 | | | 1 | 0 | | | 1 | 0 | | | 2 | 0 | | | | | | | | | | | | | 47 | 1 | 6 | 0 | | | 40 |
| 41 | Maryland Medical College.—R. | | | | | | | | | | | 2 | 2 | 1 | 0 | | | | | 2 | 1 | | | | | | | | | | | | | | | 2 | 5 | 12 | 23 | 5 | 4 | | | 41 |
| 42 | Univ. of Maryland, School of Med.—R. | 2 | 0 | | | | | 1 | 0 | | | 3 | 1 | | | 3 | 0 | 5 | 0 | 2 | 0 | | | | | | | | | | | | | | | | | 37 | 6 | 2 | 0 | | | 42 |
| | MASSACHUSETTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Boston University, School of Med.—H. | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | 16 | 1 | | | 43 |
| 44 | College of Physicians and Surgeons.—R. | | | | | | | | | | | 0 | 1 | | | | | 2 | 1 | 1 | 1 | | | 1 | 0 | | | | | | | | | | | 13 | 2 | | | 10 | 6 | | | 44 |
| 45 | Harvard Medical School.—R. | 0 | 1 | | | | | 6 | 1 | 1 | 0 | 2 | 0 | | | 1 | 0 | | | | | | | 1 | 0 | 1 | 0 | | | | | | | | | 3 | 0 | | | 31 | 2 | 1 | 0 | 45 |
| 46 | Tufts College Medical School.—R. | | | | | | | 1 | 0 | | | 2 | 0 | | | | | | | | | | | 1 | 1 | | | | | 1 | 1 | | | | | 15 | 4 | | | 67 | 2 | | | 46 |
| | MICHIGAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | Detroit College of Medicine.—R. | | | 1 | 0 | | | 1 | 1 | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 38 | 0 | 47 |
| 48 | Univ. of Mich., Dept. of Med. and Surg.—R. | | | | | | | 5 | 0 | | | 1 | 0 | | | | | 3 | 0 | | | 1 | 0 | 3 | 0 | 1 | 0 | | | | | | | | | | | | | 1 | 0 | 77 | 0 | 48 |
| 49 | Univ. of Mich., Homeo. College.—H. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | 16 | 0 | 49 |
| | MINNESOTA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Univ. of Minn., College of Med. and Surg.—R. | | | 1 | 1 | | | 7 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 50 |
| | MISSOURI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | American Medical College.—E. | | | | | 4 | 1 | 0 | 1 | | | | | | | | | | | | | | | 10 | 8 | | | | | | | | | | | | | | | | | | | 51 |
| 52 | Barnes Medical College.—R. | | | 1 | 0 | 3 | 1 | 0 | 2 | | | | | | | | | 1 | 2 | | | 1 | 1 | 1 | 4 | | | 2 | 0 | | | | | | | | | | | | | | | 52 |
| 53 | Eclectic Medical University, Kansas City.—E. | | | | | 13 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 53 |
| 54 | Ensworth Medical College.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | | 54 |
| 55 | Kansas City Hahnemann Med. College.—H. | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | 6 | 2 | | | | | | | | | | | | | 55 |
| 56 | St. Louis University, School of Medicine.—R. | | | | | 2 | 0 | 3 | 0 | 1 | 0 | 1 | 0 | | | | | | | 1 | 0 | | | 8 | 2 | 1 | 0 | 3 | 0 | | | | | | | | | | | | | | | 56 |
| 57 | St. Louis College of Phys. and Surgs.—R. | | | | | 1 | 1 | 1 | 0 | | | | | | | | | 0 | 2 | 1 | 0 | 1 | 1 | 0 | 3 | | | 1 | 2 | 0 | 2 | | | 0 | 1 | | | | | | | | | 57 |
| 58 | University Medical College, Kansas City.—R. | | | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | 7 | 2 | | | | | | | | | 1 | 0 | | | 58 |
| 59 | Washington University, Med. Dept.—R. | | | 1 | 0 | 1 | 0 | 4 | 1 | | | | | | | | | | | | | | | 6 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | 59 |
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | |

R—Regular; H—Homeopathic; E—Eclectic

| Marginal Number | 22 Minnesota | | 23 Mississippi | | 24 Missouri | | 25 Montana | | 26 Nebraska | | 27 Nevada | | 28 New Hampshire | | 29 New Jersey | | 30 New Mexico | | 31 New York | | 32 North Carolina | | 33 North Dakota | | 34 Ohio | | 35 Oklahoma | | 36 Oregon | | 37 Pennsylvania | | 38 Rhode Island | | 39 South Carolina | | 40 South Dakota | | 41 Tennessee | | 42 Texas | | 43 Utah | | 44 Vermont | | 45 Virginia | | 46 Washington | | 47 West Virginia | | 48 Wisconsin | | 49 Wyoming | | Totals: | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Ex. in | Marginal Number |
|---|---|---

| Marginal Number | NAME OF COLLEGE | 1 Alabama P | 1 Alabama F | 2 Arizona P | 2 Arizona F | 3 Arkansas P | 3 Arkansas F | 4 California P | 4 California F | 5 Colorado P | 5 Colorado F | 6 Connecticut P | 6 Connecticut F | 7 Delaware P | 7 Delaware F | 8 District of Columbia P | 8 District of Columbia F | 9 Florida P | 9 Florida F | 10 Georgia P | 10 Georgia F | 11 Idaho P | 11 Idaho F | 12 Illinois P | 12 Illinois F | 13 Indiana P | 13 Indiana F | 14 Iowa P | 14 Iowa F | 15 Kansas P | 15 Kansas F | 16 Kentucky P | 16 Kentucky F | 17 Louisiana P | 17 Louisiana F | 18 Maine P | 18 Maine F | 19 Maryland P | 19 Maryland F | 20 Massachusetts P | 20 Massachusetts F | 21 Michigan P | 21 Michigan F | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NEBRASKA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | John A. Creighton Medical College.—R | | | | | | | 3 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 60 |
| 61 | Lincoln Medical College.—E | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 61 |
| 62 | University of Nebraska, College of Med.—R | | | 0 | 1 | | | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 62 |
| | NEW HAMPSHIRE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | Dartmouth Medical School.—R | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 6 | 1 | | | 63 |
| | NEW YORK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 | Albany Medical College.—R | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 2 | 0 | | | 64 |
| 65 | Columbia University, Coll. of P. and S.—R | 1 | 0 | 1 | 0 | | | 5 | 0 | | | 4 | 1 | | | | | 1 | 0 | | | 0 | 1 | 1 | 0 | | | | | | | | | | | 2 | 0 | | | 2 | 0 | | | 65 |
| 66 | Cornell University Medical College.—R | | | | | | | 2 | 0 | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | 66 |
| 67 | Eclectic Med. Coll. of City of New York.—E | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | 67 |
| 68 | Fordham University, School of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 68 |
| 69 | Long Island College Hospital.—R | | | | | | | | | | | 0 | 1 | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | 69 |
| 70 | New York Homeo. Med. Coll. and Hosp.—H | | | | | | | 1 | 0 | | | 2 | 0 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | 2 | 0 | | | 70 |
| 71 | New York Med. Coll. and Hosp. for Women.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 71 |
| 72 | Syracuse University, College of Medicine.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | 72 |
| 73 | Univ. and Bellevue Hosp. and Med. Coll.—R | 1 | 0 | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | | | 73 |
| 74 | Univ. of Buffalo, Med. Dept.—R | | | | | | | | | | | | | | | | | 1 | 1 | | | 2 | 0 | 1 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | 74 |
| | NORTH CAROLINA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | Leonard School of Medicine.—R | 1 | 2 | | | | | | | | | | | | | | | 4 | 2 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 75 |
| 76 | North Carolina Medical College.—R | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 76 |
| | OHIO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | Cleveland College of Phys. and Surg.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 77 |
| 78 | Cleveland-Pulte Medical College.—H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 78 |
| 79 | Eclectic Medical College.—E | | | | | 6 | 0 | 1 | 0 | | | | | | | | | | | | | | | 1 | 0 | 3 | 0 | | | | | 3 | 0 | | | | | | | | | | | 79 |
| 80 | Ohio-Miami Medical College.—R | 1 | 0 | | | | | | | | | | | | | | | 0 | 1 | | | 1 | 0 | | | | | | | 1 | 0 | 2 | 0 | | | 1 | 0 | | | | | 1 | 0 | 80 |
| 81 | Starling-Ohio Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 81 |
| 82 | Toledo Medical College.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 82 |
| 83 | Western Reserve University, Med. Dept.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 83 |
| | OKLAHOMA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | University of Oklahoma, School of Medicine.—R | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 84 |
| | OREGON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | Willamette University, Med. Dept.—R | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 85 |
| 86 | University of Oregon, Med. Dept.—R | | | | | | | 1 | 1 | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | 86 |
| | PENNSYLVANIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 87 | Hahnemann Med. College and Hospital.—H | | | | | 1 | 0 | 1 | 0 | | | 1 | 0 | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 3 | 0 | 1 | 0 | | | 87 |
| 88 | Jefferson Medical College.—R | 3 | 1 | | | 3 | 0 | 2 | 0 | | | 0 | 1 | 7 | 0 | 1 | 0 | 2 | 2 | 2 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 9 | 0 | 1 | 0 | | | | | 5 | 0 | 4 | 1 | 6 | 0 | | | 88 |
| 89 | Medico-Chirurgical College of Philadelphia.—R | | | | | | | 2 | 1 | 1 | 0 | 2 | 0 | 2 | 0 | | | | | 1 | 0 | 1 | 0 | | | 1 | 0 | | | 1 | 0 | | | | | 1 | 1 | 8 | 2 | 1 | 0 | | | 89 |
| 90 | Temple University, Med. Dept.—R | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | | | 90 |
| 91 | Univ. of Pennsylvania, Dept. of Med.—R | 0 | 1 | 1 | 0 | 2 | 0 | 7 | 2 | | | 3 | 0 | 3 | 0 | | | | | 1 | 0 | 1 | 0 | 1 | 0 | | | | | 1 | 0 | 1 | 0 | | | 4 | 0 | 5 | 0 | 5 | 0 | | | 91 |
| 92 | Univ. of Pittsburgh, School of Medicine.—R | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 92 |
| 93 | Woman s Med. Coll. of Pennsylvania.—R | 1 | 0 | | | | | 1 | 0 | | | 2 | 1 | 1 | 0 | 1 | 1 | | | | | | | 1 | 0 | 2 | 0 | 2 | 0 | 1 | 0 | | | 1 | 0 | 2 | 0 | 2 | 1 | | | | | 93 |
| | SOUTH CAROLINA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | Med. Coll. of the State of South Carolina.—R | | | | | | | | | | | | | | | | | 5 | 1 | 6 | 0 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 94 |
| | TENNESSEE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | Memphis Hospital Medical College.—R | 2 | 7 | | | 16 | 3 | | | | | | | | | | | 3 | 1 | 1 | 0 | | | | | | | | | 2 | 0 | 0 | 1 | | | 12 | 18 | | | | | | | 95 |
| 96 | Meharry Medical College.—R | 1 | 6 | | | 7 | 4 | | | | | | | | | | | 2 | 0 | 8 | 8 | | | 0 | 2 | 2 | 0 | | | | | 1 | 0 | 4 | 0 | | | 0 | 1 | | | | | 96 |
| 97 | Lincoln Memorial Univ., Med. Dept.—R | | | 0 | 1 | | | 0 | 1 | | | | | | | | | 1 | 0 | | | 0 | 1 | | | | | | | | | 0 | 1 | | | | | | | | | | | 97 |
| 98 | Univ. of Tennessee, Medical Dept.—R | 3 | 2 | | | 1 | 1 | | | | | | | | | | | 4 | 1 | 0 | 1 | | | | | | | | | | | 0 | 2 | 1 | 0 | 0 | 2 | | | | | 1 | 0 | 98 |
| 99 | Univ. of West Tennessee, Med. Dept.—R | | | | | | | | | | | | | | | | | 1 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | 99 |
| 100 | Vanderbilt University, Med. Dept.—R | 2 | 2 | | | 5 | 1 | 4 | 0 | | | 1 | 0 | | | | | 5 | 1 | 1 | 0 | | | 1 | 0 | | | | | | | 3 | 0 | 3 | 0 | | | | | | | | | 100 |
| | TEXAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | Baylor University, College of Medicine.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 101 |
| 102 | Texas Christian University, Med. Dept.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | 102 |
| 103 | Southern Methodist University Med. Dept.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 103 |
| 104 | University of Texas, Dept. of Med.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | 104 |
| | VERMONT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | Univ. of Vermont, College of Med.—R | | | | | | | | | | | 4 | 1 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 3 | 0 | | | 8 | 3 | | | 105 |
| | VIRGINIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | Medical College of Virginia.—R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 106 |
| 107 | Univ. of Virginia, Dept. of Med.—R | 1 | 1 | 2 | 0 | | | 2 | 0 | | | | | 1 | 0 | | | | | 2 | 0 | | | | | | | | | | | | | | | 2 | 0 | | | 1 | 0 | | | 107 |
| 108 | University College of Medicine.—R | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | 0 | 1 | | | 108 |
| | WISCONSIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | Marquette University, Med. Dept.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 3 | 2 | | | 3 | 1 | | | | | | | | | | | | | | | 109 |
| 110 | Wisconsin Coll. of Phys. and Surgs.—R | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 110 |
| | CANADIAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | Dalhousie Med. College | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 111 |
| 112 | Laval University, Med. Dept | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | | | 2 | 4 | 1 | 1 | 112 |
| 113 | Manitoba Medical College | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 113 |
| 114 | McGill University, Medical Faculty | | | | | | | | | | | 3 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | 3 | 0 | | | 114 |
| 115 | Queens University, Medical Faculty | | | | | | | | | | | 0 | 1 | | | | | | | | | | | 0 | 1 | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | 115 |
| 116 | University of Toronto, Faculty of Medicine | | | 1 | 0 | | | 1 | 0 | | | | | | | | | 1 | 0 | | | | | 2 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | 116 |
| 117 | Western University, Med. Dept | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 117 |
| 118 | Foreign Colleges | | | 1 | 0 | | | 9 | 1 | 1 | 0 | | | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | | | 3 | 3 | 1 | 0 | | | | | | | | | | | 1 | 0 | 6 | 4 | 2 | 1 | 118 |
| 119 | Miscellaneous Medical Colleges | 4 | 5 | 8 | 7 | 5 | 2 | 26 | 19 | 1 | 0 | 0 | 2 | | | 1 | 1 | 14 | 5 | 2 | 2 | 4 | 2 | 19 | 18 | 3 | 2 | 4 | 1 | 1 | 0 | 6 | 3 | 3 | 2 | 1 | 0 | 1 | 1 | 3 | 4 | 7 | 1 | 119 |
| 120 | Undergraduates | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 2 | | | 13 | 16 | | | 120 |
| | Totals by States | 156 | | 42 | | 151 | | 316 | | 42 | | 88 | | 23 | | 56 | | 145 | | 195 | | 47 | | 639 | | 99 | | 138 | | 62 | | 96 | | 164 | | 91 | | 206 | | 281 | | 162 | | |
| | Totals—Examined—Passed | 84 | | 3[illegible] | | 124 | | 256 | | 41 | | 70 | | 22 | | 49 | | 114 | | 178 | | 35 | | 505 | | 95 | | 131 | | 50 | | 88 | | 128 | | 74 | | 160 | | 227 | | 159 | | |
| | Totals—Examined—Failed | 72 | | 1[illegible] | | 27 | | 60 | | 1 | | 18 | | 1 | | 7 | | 31 | | 17 | | 12 | | 134 | | 4 | | 7 | | 12 | | 8 | | 36 | | 17 | | 46 | | 54 | | 3 | | |
| | Percentage of Failures | 46.2 | | 23.[illegible] | | 17.9 | | 19.0 | | 2.4 | | 20.5 | | 4.4 | | 12.5 | | 21.4 | | 8.7 | | 25.5 | | 21.0 | | 4.0 | | 5.1 | | 19.4 | | 8.3 | | 22.0 | | 18.7 | | 22.3 | | 19.2 | | 1.9 | | |
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | |

R—Regular; H—Homeopathic; E—Eclectic.

| Marginal Number | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | Totals: | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Ex. in | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Minnesota | Mississippi | Missouri | Montana | Nebraska | Nevada | New Hampshire | New Jersey | New Mexico | New York | North Carolina | North Dakota | Ohio | Oklahoma | Oregon | Pennsylvania | Rhode Island | South Carolina | South Dakota | Tennessee | Texas | Utah | Vermont | Virginia | Washington | West Virginia | Wisconsin | Wyoming | | | | | | |
| | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | P F | | | | | | |
| 60 | .. .. | .. .. | 1 0 | 2 0 | 41 4 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 0 1 | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 55 | 50 | 5 | 9.1 | 8 | 60 |
| 61 | .. .. | .. .. | .. .. | .. .. | 9 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 12 | 10 | 2 | 16.7 | 3 | 61 |
| 62 | .. .. | .. .. | .. .. | .. .. | 9 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | 14 | 13 | 1 | 7.2 | 6 | 62 |
| 63 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 3 1 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | 17 | 15 | 2 | 11.8 | 6 | 63 |
| 64 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 30 2( | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 56 | 36 | 20 | 35.7 | 5 | 64 |
| 65 | 1 ( | .. .. | .. .. | 2 0 | .. .. | .. .. | 1 0 | 3 0 | .. .. | 65 ( | .. .. | .. .. | .. .. | .. .. | 3 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 2 0 | .. .. | .. .. | .. .. | 105 | 95 | 10 | 9.5 | 17 | 65 |
| 66 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 4 0 | .. .. | 23 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 34 | 34 | 0 | 0. | 8 | 66 |
| 67 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 1 | .. .. | 7 ( | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 17 | 9 | 8 | 47.1 | 4 | 67 |
| 68 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 11 7 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 19 | 12 | 7 | 36.8 | 2 | 68 |
| 69 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | 1 0 | 5 0 | .. .. | 63 17 | 1 0 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 93 | 75 | 18 | 19.4 | 10 | 69 |
| 70 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 4 0 | .. .. | 18 5 | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 33 | 28 | 5 | 15.2 | 8 | 70 |
| 71 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 3 2 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 5 | 3 | 2 | 40.0 | 1 | 71 |
| 72 | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | 20 5 | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 30 | 25 | 5 | 16.7 | 5 | 72 |
| 73 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 7 0 | .. .. | 70 7 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 ( | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 90 | 83 | 7 | 7.8 | 8 | 73 |
| 74 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 31 10 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 1 | .. .. | .. .. | 50 | 38 | 12 | 24.0 | 6 | 74 |
| 75 | .. .. | 0 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 8 12 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 3 | .. .. | .. .. | .. .. | .. .. | .. .. | 7 10 | .. .. | 1 2 | .. .. | .. .. | 56 | 24 | 32 | 57.1 | 8 | 75 |
| 76 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 20 ( | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 0 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 29 | 22 | 7 | 24.1 | 4 | 76 |
| 77 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 18 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 20 | 20 | 0 | 0. | 3 | 77 |
| 78 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 10 3 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 13 | 10 | 3 | 23.1 | 1 | 78 |
| 79 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 6 2 | .. .. | 0 1 | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | 0 1 | 0 2 | .. .. | 28 | 22 | 6 | 21.4 | 10 | 79 |
| 80 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 0 1 | .. .. | .. .. | 47 2 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | 1 0 | .. .. | 60 | 56 | 4 | 6.7 | 10 | 80 |
| 81 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 54 1 | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 58 | 57 | 1 | 1.7 | 3 | 81 |
| 82 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 9 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 10 | 9 | 1 | 10.0 | 1 | 82 |
| 83 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 34 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 38 | 38 | 0 | 0. | 4 | 83 |
| 84 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 9 1 | 0 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 12 | 10 | 2 | 16.7 | 3 | 84 |
| 85 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 9 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 12 | 2 | 10 | 83.3 | 3 | 85 |
| 86 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 8 8 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 5 1 | .. .. | .. .. | 25 | 14 | 11 | 44.0 | 4 | 86 |
| 87 | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | 5 1 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 22 | 21 | 1 | 4.5 | 13 | 87 |
| 88 | .. .. | .. .. | 5 0 | 1 0 | .. .. | 3 0 | 1 0 | 10 0 | .. .. | 2 2 | 13 0 | .. .. | 3 0 | 4 0 | 2 0 | .. .. | 3 1 | 2 0 | 2 0 | .. .. | .. .. | 2 0 | .. .. | 0 1 | 3 0 | 7 0 | 1 0 | .. .. | 124 | 115 | 9 | 7.3 | 34 | 88 |
| 89 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | 6 0 | .. .. | 1 1 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | 1 1 | .. .. | .. .. | .. .. | .. .. | 1 0 | 2 0 | .. .. | .. .. | .. .. | .. .. | 40 | 34 | 6 | 15.0 | 18 | 89 |
| 90 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 4 | 4 | 0 | 0. | 2 | 90 |
| 91 | 2 0 | .. .. | 2 0 | 1 0 | .. .. | .. .. | .. .. | 8 0 | .. .. | 8 4 | .. .. | .. .. | 4 0 | .. .. | 1 0 | .. .. | 1 0 | .. .. | 1 0 | 1 0 | 2 0 | 1 0 | .. .. | 3 0 | .. .. | .. .. | 2 0 | .. .. | 79 | 72 | 7 | 8.9 | 28 | 91 |
| 92 | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | 0 1 | .. .. | .. .. | 1 0 | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 4 0 | 0 1 | .. .. | 12 | 10 | 2 | 16.7 | 9 | 92 |
| 93 | 1 1 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | 1 0 | .. .. | 5 4 | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 1 0 | .. .. | 1 0 | .. .. | 1 0 | .. .. | 38 | 30 | 8 | 21.1 | 21 | 93 |
| 94 | 0 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 58 13 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 86 | 71 | 15 | 17.4 | 6 | 94 |
| 95 | .. .. | 21 18 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | 6 3 | .. .. | .. .. | .. .. | 0 2 | .. .. | 37 2 | 2 4 | .. .. | .. .. | 1 0 | .. .. | 1 0 | .. .. | .. .. | 163 | 104 | 59 | 36.2 | 14 | 95 |
| 96 | .. .. | 0 4 | 3 4 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 0 2 | .. .. | .. .. | 8 7 | .. .. | .. .. | .. .. | 0 3 | .. .. | 32 6 | 8 3 | .. .. | .. .. | 4 1 | .. .. | 1 0 | .. .. | .. .. | 132 | 81 | 51 | 38.6 | 18 | 96 |
| 97 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | 1 2 | .. .. | 1 0 | .. .. | 0 1 | .. .. | .. .. | 0 1 | .. .. | 11 2 | .. .. | .. .. | .. .. | 2 0 | 1 0 | .. .. | .. .. | .. .. | 29 | 19 | 10 | 34.5 | 13 | 97 |
| 98 | .. .. | 2 2 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | 0 1 | .. .. | 21 2 | 1 0 | .. .. | .. .. | 0 1 | .. .. | 1 0 | .. .. | .. .. | 51 | 36 | 15 | 29.4 | 15 | 98 |
| 99 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 0 1 | .. .. | .. .. | 4 2 | .. .. | .. .. | .. .. | 0 1 | .. .. | 4 2 | .. .. | .. .. | .. .. | 0 2 | .. .. | .. .. | .. .. | .. .. | 20 | 9 | 11 | 55.0 | 6 | 99 |
| 100 | .. .. | 1 0 | 2 0 | 0 1 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | 1 0 | .. .. | .. .. | 4 0 | .. .. | .. .. | .. .. | 2 0 | .. .. | 15 0 | 4 0 | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | 61 | 56 | 5 | 8.2 | 19 | 100 |
| 101 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 15 2 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 17 | 15 | 2 | 11.8 | 1 | 101 |
| 102 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 14 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 18 | 16 | 2 | 11.1 | 3 | 102 |
| 103 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 12 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 14 | 13 | 1 | 7.2 | 2 | 103 |
| 104 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 48 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 49 | 49 | 0 | 0. | 2 | 104 |
| 105 | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 3 0 | .. .. | .. .. | 1 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 1 | .. .. | .. .. | .. .. | .. .. | .. .. | 33 1 | .. .. | .. .. | .. .. | .. .. | .. .. | 63 | 56 | 7 | 11.1 | 9 | 105 |
| 106 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 1 | 4 2 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | 34 6 | .. .. | 1 0 | .. .. | .. .. | 50 | 41 | 9 | 18.0 | 5 | 106 |
| 107 | .. .. | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 1 | 3 0 | .. .. | .. .. | 1 0 | 1 1 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 8 0 | .. .. | 1 0 | .. .. | .. .. | 32 | 29 | 3 | 9.4 | 15 | 107 |
| 108 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | 11 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 21 1 | .. .. | 2 0 | .. .. | .. .. | 42 | 39 | 3 | 7.1 | 9 | 108 |
| 109 | .. .. | .. .. | 0 1 | 3 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | 4 0 | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 32 6 | 1 0 | 61 | 50 | 11 | 18.0 | 11 | 109 |
| 110 | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 10 1 | .. .. | 14 | 13 | 1 | 7.2 | 4 | 110 |
| 111 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 | 1 | 0 | 0. | 1 | 111 |
| 112 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | 1 0 | .. .. | .. .. | 0 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 2 1 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 19 | 9 | 10 | 52.6 | 8 | 112 |
| 113 | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 3 | 3 | 0 | 0. | 3 | 113 |
| 114 | 2 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 3 1 | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | 2 0 | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | 21 | 20 | 1 | 4.8 | 10 | 114 |
| 115 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 3 2 | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 0 1 | .. .. | .. .. | .. .. | 1 0 | .. .. | 12 | 7 | 5 | 41.7 | 8 | 115 |
| 116 | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 5 1 | .. .. | 0 1 | 1 0 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | .. .. | .. .. | .. .. | 1 0 | .. .. | 17 | 15 | 2 | 11.8 | 11 | 116 |
| 117 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 1 | 1 | 0 | 0. | 1 | 117 |
| 118 | .. .. | 0 1 | 3 1 | 1 0 | .. .. | 1 0 | 2 1 | 1 5 | .. .. | 8 12 | .. .. | .. .. | 1 1 | .. .. | 2 1 | .. .. | .. .. | .. .. | .. .. | .. .. | 1 0 | 2 0 | 1 0 | .. .. | 0 3 | .. .. | 2 0 | .. .. | 88 | 53 | 35 | 39.8 | 25 | 118 |
| 119 | 3 1 | 10 18 | 15 1 | 5 2 | 3 0 | 0 1 | 2 0 | 0 3 | 1 1 | 2 4 | 3 5 | 2 3 | 2 1 | 14 2 | 14 9 | .. .. | .. .. | 0 2 | 1 1 | 15 8 | 5 1 | 2 0 | .. .. | 3 3 | 6 6 | 1 1 | 1 1 | 1 0 | 375 | 224 | 151 | 40.8 | 45 | 119 |
| 120 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 8 18 | .. .. | .. .. | .. .. | .. .. | 142 52 | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | .. .. | 253 | 165 | 88 | 35.0 | 5 | 120 |
| | 60 | 104 | 245 | 59 | 98 | 9 | 4 | 73 | 8 | 586 | 124 | 22 | 211 | 121 | 161 | ..... | 51 | 125 | 17 | 389 | 164 | 22 | 47 | 135 | 9( | 86 | 87 | 11 | 6353 | .... | .... | ..... | .. | |
| | 55 | 56 | 213 | 50 | 88 | 8 | 3( | 5( | 6 | 433 | 87 | 15 | 199 | 94 | 96 | ..... | 39 | 90 | 16 | 313 | 151 | 20 | 45 | 105 | 6 | 66 | 68 | 11 | .... | 5110 | .... | ..... | .. | |
| | 5 | 48 | 32 | 9 | 10 | 1 | 7 | 14 | 2 | 153 | 37 | 7 | 12 | 27 | 65 | ..... | 12 | 35 | 1 | 76 | 13 | 2 | 2 | 30 | 2 | 20 | 19 | 0 | .... | .... | 1243 | ..... | .. | |
| | 8.3 | 46.2 | 13.1 | 15.3 | 10.2 | 11.1 | 16.3 | 19.2 | 25.0 | 26.1 | 29.8 | 31.8 | 5.7 | 22.3 | 40.4 | ..... | 23.5 | 28.0 | 5.9 | 19.5 | 7.9 | 9.1 | 4.3 | 22.2 | 28.3 | 23.3 | 21.8 | 0. | .... | .... | .... | 17.8 | .. | |
| | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | .... | .. .. | .... | ..... | .. | |

| Marginal Number | NAME OF COLLEGE | 1 Alabama P | 1 Alabama F | 2 Arizona P | 2 Arizona F | 3 Arkansas P | 3 Arkansas F | 4 California P | 4 California F | 5 Colorado. P | 5 Colorado. F | 6 Connecticut P | 6 Connecticut F | 7 Delaware P | 7 Delaware F | 8 District of Columbia P | 8 District of Columbia F | 9 Florida P | 9 Florida F | 10 Georgia P | 10 Georgia F | 11 Idaho P | 11 Idaho F | 12 Illinois P | 12 Illinois F | 13 Indiana P | 13 Indiana F | 14 Iowa P | 14 Iowa F | 15 Kansas P | 15 Kansas F | 16 Kentucky P | 16 Kentucky F | 17 Louisiana P | 17 Louisiana F | 18 Maine P | 18 Maine F | 19 Maryland P | 19 Maryland F | 20 Massachusetts P | 20 Massachusetts F | 21 Michigan P | 21 Michigan F | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ALABAMA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R | 20 | 22 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| 2 | University of Alabama, Medical Dept.—R | 21 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| | ARKANSAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | College of Physicians and Surgeons.—R | ... | ... | .. | .. | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 |
| 4 | University of Arkansas, Medical Dept.—R | ... | ... | .. | .. | 38 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 4 |
| | CALIFORNIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | College of P. and S., Los Angeles.—R | ... | ... | 1 | 0 | .. | .. | 24 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 |
| 6 | College of P. and S., San Francisco.—R | ... | ... | .. | .. | .. | .. | 2 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 |
| 7 | Cooper Medical College.—R | ... | ... | .. | .. | .. | .. | 30 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 |
| 8 | Hahnemann Medical College of the Pacific.—H | ... | ... | .. | .. | .. | .. | 3 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 |
| 9 | Oakland College of Medicine and Surgery.—R | ... | ... | .. | .. | .. | .. | 6 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 |
| 10 | University of California, Medical Dept.—R | ... | ... | .. | .. | .. | .. | 33 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 10 |
| | COLORADO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | University of Colorado, Medical Dept.—R. | ... | ... | .. | .. | .. | .. | 3 | 0 | 30 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | ... | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 11 |
| | CONNECTICUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Yale Medical College.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 17 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 2 | 0 | .. | .. | 12 |
| | DISTRICT OF COLUMBIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | George Washington University.—R | ... | ... | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 21 | 2 | .. | .. | 1 | 0 | .. | .. | 2 | 0 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | 1 | 0 | 13 |
| 14 | Georgetown University, School of Medicine.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | 13 | 2 | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 14 |
| 15 | Howard University, Medical Dept.—R | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 0 | 4 | 0 | 3 | 1 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | 1 | 0 | .. | .. | 15 |
| | GEORGIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Atlanta College of Physicians and Surgeons.—R. | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 12 | 1 | 53 | 1 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 16 |
| 17 | Atlanta School of Medicine.—R | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | 45 | 1 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | 0 | 2 | .. | .. | 17 |
| 18 | Georgia College of Eclectic Med. and Surg.—E | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 18 |
| 19 | Southern College of Med. and Surg., Atlanta.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 19 |
| 20 | Medical College of Georgia.—R | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | 31 | 0 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 20 |
| | ILLINOIS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Bennett Medical College.—R | 1 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 49 | 14 | 1 | 0 | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 2 | 0 | 21 |
| 22 | Chicago College of Medicine and Surgery.—R | ... | ... | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 0 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 1 | 95 | 23 | 4 | 0 | 5 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 22 |
| 23 | College of Physicians and Surgeons.—R | ... | ... | .. | .. | .. | .. | 6 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | 111 | 25 | 3 | 0 | 13 | 1 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 0 | 23 |
| 24 | Hahnemann Medical College and Hospital.—R | ... | ... | .. | .. | 2 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 17 | 11 | 3 | 0 | 4 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 24 |
| 25 | Hering Medical College.—H | ... | ... | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 2 | 2 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 25 |
| 26 | Jenner Medical College.—R | ... | ... | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 26 |
| 27 | Northwestern University Medical School.—R | 2 | 0 | .. | .. | .. | .. | 5 | 1 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 1 | 66 | 6 | 4 | 0 | 10 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 27 |
| 28 | Rush Medical College.—R | 1 | 0 | 4 | 0 | .. | .. | 6 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | 72 | 2 | 1 | 0 | 5 | 0 | 4 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 28 |
| | INDIANA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Indiana University, School of Medicine.—R | ... | ... | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | 46 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 29 |
| | IOWA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Drake University, College of Medicine.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | 16 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 30 |
| 31 | State Univ. of Iowa, College of Medicine.—R | ... | ... | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | 34 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 31 |
| 32 | State Univ. of Iowa, Homeo. Dept.—H | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | 4 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 32 |
| | KANSAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Kansas Medical College.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | 10 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 33 |
| 34 | University of Kansas, School of Medicine.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | ... | .. | .. | .. | .. | .. | 10 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 34 |
| | KENTUCKY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | University of Louisville, Medical Dept.—R | 0 | 1 | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 0 | 2 | 1 | .. | .. | 1 | 2 | 13 | 2 | 2 | 0 | .. | .. | 68 | 4 | 3 | 4 | 0 | 1 | .. | .. | .. | .. | 1 | 0 | 35 |
| | LOUISIANA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Tulane University, Medical Dept.—R | 9 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 0 | 1 | 0 | .. | .. | ... | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 89 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | 36 |
| | MAINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | Medical School of Maine.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 0 | .. | .. | 4 | 0 | .. | .. | 37 |
| | MARYLAND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | Baltimore Medical College.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 16 | 2 | 1 | 0 | 1 | 0 | 38 |
| 39 | College of Physicians and Surgeons.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | .. | .. | .. | .. | 3 | 0 | 1 | 0 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | 14 | 3 | 4 | 1 | .. | .. | 39 |
| 40 | Johns Hopkins University, Medical Dept.—R | 3 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | 3 | 0 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 46 | 1 | 6 | 0 | .. | .. | 40 |
| 41 | Maryland Medical College.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 1 | 0 | .. | .. | .. | .. | 2 | 1 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 5 | 11 | 22 | 5 | 4 | .. | .. | 41 |
| 42 | University of Maryland, School of Medicine.—R | 1 | 0 | .. | .. | .. | .. | 1 | 0 | .. | .. | 3 | 1 | .. | .. | 2 | 0 | 3 | 0 | 2 | 0 | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 36 | 6 | 2 | 0 | .. | .. | 42 |
| | MASSACHUSETTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Boston University, School of Medicine.—H | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | 16 | 1 | .. | .. | 43 |
| 44 | College of Physicians and Surgeons.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | 1 | 1 | 1 | 1 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 13 | 2 | .. | .. | 10 | 5 | .. | .. | 44 |
| 45 | Harvard Medical School.—R | 0 | 1 | .. | .. | .. | .. | 6 | 1 | 1 | 0 | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | 29 | 2 | 1 | 0 | 45 |
| 46 | Tufts College Medical School.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 14 | 3 | .. | .. | 67 | 2 | .. | .. | 46 |
| | MICHIGAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | Detroit College of Medicine.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 38 | 0 | 47 |
| 48 | Univ. of Mich., Dept. of Med. and Surg.—R | ... | ... | .. | .. | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 0 | 2 | 0 | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 76 | 0 | 48 |
| 49 | Univ. of Mich., Homeo. College.—H | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 16 | 0 | 49 |
| | MINNESOTA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | Univ. of Minn., College of Med. and Surg.—R | ... | ... | .. | .. | .. | .. | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 50 |
| | MISSOURI | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | American Medical College.—E | ... | ... | .. | .. | 3 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 51 |
| 52 | Barnes Medical College.—R | ... | ... | .. | .. | 3 | 1 | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 0 | 1 | 2 | .. | .. | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 52 |
| 53 | Eclectic Medical University, Kansas City.—E | ... | ... | .. | .. | 13 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 53 |
| 54 | Ensworth Medical College.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 54 |
| 55 | Kansas City Hahnemann Medical College.—H | ... | ... | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... | .. | .. | .. | .. | .. | 6 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 55 |
| 56 | St. Louis University, School of Medicine.—R | ... | ... | .. | .. | 2 | 0 | 2 | 0 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 8 | 2 | 1 | 0 | 3 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 56 |
| 57 | St. Louis College of Phys. and Surg.—R | ... | ... | .. | .. | 0 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 0 | 1 | .. | .. | .. | .. | 0 | 3 | .. | .. | 1 | 2 | 0 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 57 |
| 58 | University Medical College, Kansas City.—R | ... | ... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 0 | .. | .. | 1 | 0 | .7 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 58 |
| 59 | Washington University, Medical Dept.—R | ... | ... | 1 | 0 | 1 | 0 | 2 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 0 | .. | .. | 1 | 0 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 59 |
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | |

R—Regular; H—Homeopathic; E—Eclectic.

| Marginal Number | 22 Minnesota | | 23 Mississippi | | 24 Missouri | | 25 Montana | | 26 Nebraska | | 27 Nevada | | 28 New Hampshire | | 29 New Jersey | | 30 New Mexico | | 31 New York | | 32 North Carolina | | 33 North Dakota | | 34 Ohio | | 35 Oklahoma | | 36 Oregon | | 37 Pennsylvania | | 38 Rhode Island | | 39 South Carolina | | 40 South Dakota | | 41 Tennessee | | 42 Texas | | 43 Utah | | 44 Vermont | | 45 Virginia | | 46 Washington | | 47 West Virginia | | 48 Wisconsin | | 49 Wyoming | | Totals: | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Ex. In | Marginal Number |
|---|---|---

| Marginal Number | NAME OF COLLEGE | 1 Alabama P | 1 Alabama F | 2 Arizona P | 2 Arizona F | 3 Arkansas P | 3 Arkansas F | 4 California P | 4 California F | 5 Colorado P | 5 Colorado F | 6 Connecticut P | 6 Connecticut F | 7 Delaware P | 7 Delaware F | 8 District of Columbia P | 8 District of Columbia F | 9 Florida P | 9 Florida F | 10 Georgia P | 10 Georgia F | 11 Idaho P | 11 Idaho F | 12 Illinois P | 12 Illinois F | 13 Indiana P | 13 Indiana F | 14 Iowa P | 14 Iowa F | 15 Kansas P | 15 Kansas F | 16 Kentucky P | 16 Kentucky F | 17 Louisiana P | 17 Louisiana F | 18 Maine F | 18 Maine P | 19 Maryland P | 19 Maryland F | 20 Massachusetts P | 20 Massachusetts F | 21 Michigan P | 21 Michigan F | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NEBRASKA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | John A. Creighton Medical College.—R. | | | | | | | 2 | 0 | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 60 |
| 61 | Lincoln Medical College.—E. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 61 |
| 62 | University of Nebraska, College of Med.—R. | | | 0 | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | 62 |
| | NEW HAMPSHIRE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | Dartmouth Medical School.—R. | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | 6 | 1 | | | 63 |
| | NEW YORK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 | Albany Medical College.—R. | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 2 | 0 | | | 64 |
| 65 | Columbia University, Coll. of P. and S.—R. | 1 | 0 | | | | | 2 | 0 | | | 1 | 0 | | | | | | | | | 0 | 1 | 1 | 0 | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | 65 |
| 66 | Cornell University Medical College.—R. | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | 66 |
| 67 | Eclectic Med. Coll. of City of New York.—E. | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | 67 |
| 68 | Fordham University, School of Medicine.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 68 |
| 69 | Long Island College Hospital.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 69 |
| 70 | New York Homeo. Med. Coll. and Hosp.—H. | | | | | | | | | | | 1 | 0 | 2 | 0 | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | 1 | 0 | | | 70 |
| 71 | New York Med. Coll. and Hosp. for Women.—H. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 71 |
| 72 | Syracuse University, College of Medicine.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 72 |
| 73 | University and Bellevue Hosp. Med. Coll.—R. | 1 | 0 | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 73 |
| 74 | Univ. of Buffalo, Med. Dept.—R. | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | 74 |
| | NORTH CAROLINA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | Leonard School of Medicine.—R. | 1 | 1 | | | | | | | | | | | | | | | 4 | 2 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 75 |
| 76 | North Carolina Medical College.—R. | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 76 |
| | OHIO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | Cleveland College of Phys. and Surg..—R. | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 77 |
| 78 | Cleveland-Pulte Medical College.—H. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 78 |
| 79 | Eclectic Medical College.—E. | | | | | 4 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | 3 | 0 | | | | | 2 | 0 | | | | | | | | | | | 79 |
| 80 | Ohio-Miami Medical College.—R. | 1 | 0 | | | | | | | | | | | | | | | 0 | 1 | | | 1 | 0 | | | | | | | | | 1 | 0 | 2 | 0 | | | 1 | 0 | | | | | 80 |
| 81 | Starling-Ohio Medical College.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 81 |
| 82 | Toledo Medical College.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 82 |
| 83 | Western Reserve University, Med. Dept.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 83 |
| | OKLAHOMA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | University of Oklahoma, School of Medicine.—R. | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 84 |
| | OREGON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | Willamette University, Med. Dept.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 85 |
| 86 | University of Oregon, Med. Dept.—R. | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 86 |
| | PENNSYLVANIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 87 | Hahnemann Med. College and Hospital.—H. | | | | | | | | | | | 1 | 0 | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 | 1 | 0 | | | 87 |
| 88 | Jefferson Medical College.—R. | 2 | 1 | | | 1 | 0 | | | | | 0 | 1 | 6 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 9 | 0 | 1 | 0 | | | | | 5 | 0 | 4 | 0 | 4 | 0 | | | 88 |
| 89 | Medico-Chirurgical College of Phila.—R. | | | | | | | | | 1 | 0 | 1 | 0 | 2 | 0 | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | 1 | 1 | 8 | 2 | 1 | 0 | | | 89 |
| 90 | Temple University, Med. Dept.—R. | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 0 | | | | | 90 |
| 91 | Univ. of Pennsylvania, Dept. of Med.—R. | 0 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | | | 3 | 0 | 2 | 0 | | | | | 1 | 0 | | | | | | | | | 1 | 0 | 1 | 0 | | | 4 | 0 | 5 | 0 | 4 | 0 | | | 91 |
| 92 | Univ. of Pittsburgh, School of Medicine.—R. | | | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | 92 |
| 93 | Woman s Med. Coll. of Pennsylvania.—R. | | | | | | | | | | | 2 | 1 | 1 | 0 | | | | | | | | | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | | | 1 | 0 | 2 | 0 | 2 | 1 | | | | | 93 |
| | SOUTH CAROLINA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | Med. Coll. of the State of South Carolina.—R. | | | | | | | | | | | | | | | | | 4 | 1 | 3 | 0 | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 94 |
| | TENNESSEE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | Memphis Hospital Medical College.—R. | 2 | 7 | | | 14 | 3 | | | | | | | | | | | 2 | 1 | | | | | | | | | 2 | 0 | 0 | 1 | | | 11 | 17 | | | | | | | | | 95 |
| 96 | Meharry Medical College.—R. | 1 | 6 | | | 6 | 3 | | | | | | | | | | | 2 | 0 | 8 | 8 | | | 0 | 1 | 2 | 0 | | | | | 1 | 0 | 4 | 0 | | | 0 | 1 | | | | | 96 |
| 97 | Lincoln Memorial Univ., Med. Dept.—R. | | | | | | | 0 | 1 | | | | | | | | | 1 | 0 | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | 97 |
| 98 | Univ. of Tennessee, Medical Dept.—R. | 3 | 2 | | | 1 | 1 | | | | | | | | | | | 4 | 1 | 0 | 1 | | | | | | | | | | | 0 | 2 | 1 | 0 | 0 | 2 | | | 1 | 0 | | | 98 |
| 99 | Univ. of West Tennessee, Med. Dept.—R. | | | | | | | | | | | | | | | | | 1 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | 99 |
| 100 | Vanderbilt University, Med. Dept.—R. | 2 | 2 | | | 4 | 1 | 2 | 0 | | | | | | | | | 4 | 0 | 1 | 0 | | | 1 | 0 | | | | | | | 3 | 0 | 3 | 0 | | | | | | | | | 100 |
| | TEXAS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | Baylor University, College of Medicine.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 101 |
| 102 | Texas Christian University, Med. Dept.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | 102 |
| 103 | Southern Methodist Univ., Med. Dept.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 103 |
| 104 | University of Texas, Dept. of Med.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | 104 |
| | VERMONT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | Univ. of Vermont, College of Med.—R. | | | | | | | | | | | 4 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 0 | | | 8 | 3 | | | 105 |
| | VIRGINIA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | Medical College of Virginia.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 106 |
| 107 | Univ. of Virginia, Dept. of Med.—R. | 1 | 1 | | | | | 1 | 0 | | | | | 1 | 0 | | | | | 2 | 0 | | | | | | | | | | | | | | | | | | | | | | | 107 |
| 108 | University College of Medicine.—R. | 1 | 0 | | | | | | | | | 1 | 0 | | | | | | | 1 | 0 | | | | | | | | | | | | | | | | | 1 | 0 | | | | | 108 |
| | WISCONSIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | Marquette University, Med. Dept.—R. | | | | | | | | | | | | | | | | | | | | | | | 3 | 2 | | | 3 | 1 | | | | | | | | | | | | | | | 109 |
| 110 | Wisconsin Coll. of Phys. and Surgs.—R. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 110 |
| | CANADIAN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | Dalhousie Medical College | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 111 |
| 112 | Laval University, Medical Dept | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 2 | | | 2 | 4 | | | 112 |
| 113 | Manitoba Medical College | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 113 |
| 114 | McGill University, Medical Faculty | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | 2 | 0 | | | 114 |
| 115 | Queens University, Medical Faculty | | | | | | | | | | | | | | | | | | | | | | | 0 | 1 | | | | | | | | | | | 1 | 0 | | | 1 | 0 | | | 115 |
| 116 | University of Toronto, Faculty of Medicine | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 2 | 0 | | | | | | | | | | | | | | | 1 | 0 | | | 116 |
| 117 | Western University, Medical Dept. | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 0 | | | | | | | | | | | | | | | 117 |
| 118 | Foreign Colleges | | | | | | | 3 | 0 | 1 | 0 | | | | | | | 1 | 0 | | | | | 2 | 1 | | | | | | | | | | | | | | | 2 | 1 | | | 118 |
| 119 | Miscellaneous Medical Colleges | 3 | 4 | 2 | 2 | 2 | 2 | 2 | 1 | | | 0 | 1 | | | | | 1 | 1 | 2 | 2 | 2 | 0 | 7 | 15 | 0 | 1 | 1 | 0 | | | 6 | 3 | 1 | 2 | | | | | 1 | 2 | 5 | 1 | 119 |
| | Total by States | 149 | | 13 | | 131 | | 176 | | 37 | | 69 | | 18 | | 51 | | 104 | | 183 | | 21 | | 596 | | 93 | | 129 | | 56 | | 94 | | 154 | | 78 | | 196 | | 220 | | 153 | | |
| | Totals—Examined—Passed | 79 | | 10 | | 105 | | 159 | | 37 | | 58 | | 18 | | 46 | | 82 | | 168 | | 17 | | 474 | | 90 | | 124 | | 45 | | 86 | | 122 | | 64 | | 153 | | 191 | | 152 | | |
| | Totals—Examined—Failed | 70 | | 3 | | 26 | | 17 | | 0 | | 11 | | 0 | | 5 | | 22 | | 15 | | 4 | | 122 | | 3 | | 5 | | 11 | | 8 | | 32 | | 14 | | 43 | | 29 | | 1 | | |
| | Percentage of Failures | 47.0 | | 23.1 | | 19.8 | | 9.7 | | 0. | | 15.8 | | 0. | | 9.8 | | 21.2 | | 8.2 | | 19.0 | | 20.5 | | 3.2 | | 3.9 | | 19.6 | | 8.5 | | 20.8 | | 18.9 | | 21.9 | | 13.2 | | 0.7 | | |
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | | 18 | | 19 | | 20 | | 21 | | |

R—Regular; H—Homeopathic; E—Eclectic.

| Marginal Number | 22 Minnesota | | 23 Mississippi | | 24 Missouri | | 25 Montana | | 26 Nebraska | | 27 Nevada | | 28 New Hampshire | | 29 New Jersey | | 30 New Mexico | | 31 New York | | 32 North Carolina | | 33 North Dakota | | 34 Ohio | | 35 Oklahoma | | 36 Oregon | | 37 Pennsylvania | | 38 Rhode Island | | 39 South Carolina | | 40 South Dakota | | 41 Tennessee | | 42 Texas | | 43 Utah | | 44 Vermont | | 45 Virginia | | 46 Washington | | 47 West Virginia | | 48 Wisconsin | | 49 Wyoming | | Totals: | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Ex. in | Marginal Number |
|---|---|---

| Marginal Number | NAME OF COLLEGE | Graduates of All Years. | | | | | Graduates of 1908-1912. | | | | | Graduates of 1907 and Previous. | | | | | Graduates of 1912. | | | | | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | |
| | ALABAMA | | | | | | | | | | | | | | | | | | | | | |
| 1 | Birmingham Medical College.—R | 49 | 27 | 22 | 44.9 | 5 | 48 | 26 | 22 | 45.8 | 4 | 1 | 1 | 0 | 0. | 1 | 33 | 15 | 18 | 54.5 | 3 | 1 |
| 2 | University of Alabama, Medical Dept.—R | 49 | 37 | 12 | 24.5 | 6 | 48 | 37 | 11 | 22.9 | 5 | 1 | 0 | 1 | 100.0 | 1 | 38 | 30 | 8 | 21.1 | 4 | 2 |
| | ARKANSAS | | | | | | | | | | | | | | | | | | | | | |
| 3 | College of Physicians and Surgeons.—R | 7 | 3 | 4 | 57.1 | 3 | 7 | 3 | 4 | 57.1 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 |
| 4 | University of Arkansas, Medical Dept.—R | 59 | 46 | 13 | 22.0 | 5 | 56 | 43 | 13 | 23.2 | 5 | 3 | 3 | 0 | 0. | 2 | 53 | 41 | 12 | 22.6 | 5 | 4 |
| | CALIFORNIA | | | | | | | | | | | | | | | | | | | | | |
| 5 | College of P. and S., Los Angeles.—R | 32 | 29 | 3 | 9.4 | 6 | 32 | 29 | 3 | 9.4 | 6 | ..... | ..... | ..... | ..... | ..... | 25 | 22 | 3 | 12.0 | 3 | 5 |
| 6 | College of P. and S., San Francisco.—R | 10 | 5 | 5 | 50.0 | 4 | 9 | 4 | 5 | 55.6 | 3 | 1 | 1 | 0 | 0. | 1 | 3 | 1 | 2 | 66.7 | 1 | 6 |
| 7 | Cooper Medical College.—R | 34 | 31 | 3 | 8.8 | 2 | 33 | 31 | 2 | 6.1 | 2 | 1 | 0 | 1 | 100.0 | 1 | 31 | 29 | 2 | 6.5 | 2 | 7 |
| 8 | Hahnemann Medical College of the Pacific.—H | 4 | 3 | 1 | 25.0 | 1 | 4 | 3 | 1 | 25.0 | 1 | ..... | ..... | ..... | ..... | ..... | 4 | 3 | 1 | 25.0 | 1 | 8 |
| 9 | Oakland College of Medicine and Surgery.—R | 7 | 6 | 1 | 14.3 | 1 | 7 | 6 | 1 | 14.3 | 1 | ..... | ..... | ..... | ..... | ..... | 7 | 6 | 1 | 14.3 | 1 | 9 |
| 10 | University of California, Medical Dept.—R | 35 | 35 | 0 | 0. | 3 | 34 | 34 | 0 | 0. | 2 | 1 | 1 | 0 | 0. | 1 | 26 | 26 | 0 | 0. | 1 | 10 |
| | COLORADO | | | | | | | | | | | | | | | | | | | | | |
| 11 | University of Colorado, Medical Dept.—R | 47 | 44 | 3 | 6.4 | 10 | 44 | 43 | 1 | 2.3 | 10 | 3 | 1 | 2 | 66.7 | 2 | 21 | 21 | 0 | 0. | 4 | 11 |
| | CONNECTICUT | | | | | | | | | | | | | | | | | | | | | |
| 12 | Yale Medical College.—R | 30 | 28 | 2 | 6.7 | 6 | 28 | 26 | 2 | 7.1 | 5 | 2 | 2 | 0 | 0. | 2 | 15 | 15 | 0 | 0. | 2 | 12 |
| | DISTRICT OF COLUMBIA | | | | | | | | | | | | | | | | | | | | | |
| 13 | George Washington University.—R | 47 | 40 | 7 | 14.9 | 16 | 44 | 37 | 7 | 15.9 | 14 | 3 | 3 | 0 | 0. | 3 | 25 | 23 | 2 | 8.0 | 9 | 13 |
| 14 | Georgetown University, School of Medicine.—R | 26 | 21 | 5 | 19.2 | 9 | 24 | 20 | 4 | 16.7 | 7 | 2 | 1 | 1 | 50.0 | 2 | 8 | 7 | 1 | 12.5 | 2 | 14 |
| 15 | Howard University, Medical Dept.—R | 48 | 35 | 13 | 27.1 | 16 | 41 | 32 | 9 | 22.0 | 13 | 7 | 3 | 4 | 57.1 | 4 | 22 | 18 | 4 | 18.2 | 9 | 15 |
| | GEORGIA | | | | | | | | | | | | | | | | | | | | | |
| 16 | Atlanta College of Physicians and Surgeons.—R | 79 | 73 | 6 | 7.6 | 8 | 78 | 73 | 5 | 6.4 | 7 | 1 | 0 | 1 | 100.0 | 1 | 72 | 68 | 4 | 5.6 | 5 | 16 |
| 17 | Atlanta School of Medicine.—R | 65 | 55 | 10 | 15.4 | 9 | 65 | 55 | 10 | 15.4 | 9 | ..... | ..... | ..... | ..... | ..... | 59 | 53 | 6 | 10.2 | 8 | 17 |
| 18 | Georgia College of Eclectic Med. and Surg.—E | 4 | 1 | 3 | 75.0 | 3 | 3 | 0 | 3 | 100.0 | 2 | 1 | 1 | 0 | 0. | 1 | 3 | 1 | 2 | 66.7 | 2 | 18 |
| 19 | South. College of Med. and Surg., Atlanta.—R | 5 | 3 | 2 | 40.0 | 2 | 5 | 3 | 2 | 40.0 | 2 | ..... | ..... | ..... | ..... | ..... | 5 | 3 | 2 | 40.0 | 2 | 19 |
| 20 | Medical College of Georgia.—R | 41 | 35 | 6 | 14.6 | 4 | 41 | 35 | 6 | 14.6 | 4 | ..... | ..... | ..... | ..... | ..... | 38 | 34 | 4 | 10.5 | 3 | 20 |
| | ILLINOIS | | | | | | | | | | | | | | | | | | | | | |
| 21 | Bennett Medical College.—R | 98 | 75 | 23 | 23.5 | 16 | 93 | 71 | 22 | 23.7 | 14 | 5 | 4 | 1 | 20.0 | 4 | 65 | 57 | 8 | 12.3 | 10 | 21 |
| 22 | Chicago College of Medicine and Surgery.—R | 166 | 134 | 32 | 19.3 | 24 | 161 | 131 | 30 | 18.6 | 23 | 5 | 3 | 2 | 40.0 | 3 | 120 | 105 | 15 | 12.5 | 16 | 22 |
| 23 | College of Physicians and Surgeons.—R | 213 | 175 | 38 | 17.8 | 19 | 194 | 161 | 33 | 17.0 | 17 | 19 | 14 | 5 | 26.3 | 7 | 148 | 129 | 19 | 12.8 | 13 | 23 |
| 24 | Hahnemann Medical College and Hospital.—H | 63 | 44 | 19 | 30.1 | 19 | 47 | 34 | 13 | 27.7 | 12 | 16 | 10 | 6 | 37.5 | 10 | 32 | 23 | 9 | 28.1 | 5 | 24 |
| 25 | Hering Medical College.—H | 9 | 6 | 3 | 33.3 | 6 | 9 | 6 | 3 | 33.3 | 6 | ..... | ..... | ..... | ..... | ..... | 5 | 3 | 2 | 40.0 | 3 | 25 |
| 26 | Jenner Medical College.—R | 14 | 11 | 3 | 21.4 | 3 | 12 | 10 | 2 | 16.7 | 3 | 2 | 1 | 1 | 50.0 | 1 | 9 | 8 | 1 | 11.1 | 2 | 26 |
| 27 | Northwestern University Medical School.—R | 139 | 131 | 8 | 5.8 | 22 | 130 | 122 | 8 | 6.2 | 20 | 9 | 9 | 0 | 0. | 8 | 72 | 68 | 4 | 5.6 | 12 | 27 |
| 28 | Rush Medical College.—R | 166 | 158 | 8 | 4.8 | 25 | 137 | 134 | 3 | 2.2 | 21 | 29 | 24 | 5 | 17.2 | 13 | 90 | 88 | 2 | 2.2 | 15 | 28 |
| | INDIANA | | | | | | | | | | | | | | | | | | | | | |
| 29 | Indiana University, School of Medicine.—R | 50 | 49 | 1 | 2.0 | 5 | 50 | 49 | 1 | 2.0 | 5 | ..... | ..... | ..... | ..... | ..... | 45 | 45 | 0 | 0. | 1 | 29 |
| | IOWA | | | | | | | | | | | | | | | | | | | | | |
| 30 | Drake University, College of Medicine.—R | 21 | 21 | 0 | 0. | 6 | 19 | 19 | 0 | 0. | 4 | 2 | 2 | 0 | 0. | 2 | 17 | 17 | 0 | 0. | 2 | 30 |
| 31 | State University of Iowa, College of Med.—R | 49 | 44 | 5 | 10.2 | 8 | 39 | 38 | 1 | 2.6 | 5 | 10 | 6 | 4 | 40.0 | 5 | 35 | 35 | 0 | 0. | 2 | 31 |
| 32 | State University of Iowa, Homeo. Dept.—H | 5 | 5 | 0 | 0. | 2 | 4 | 4 | 0 | 0. | 1 | 1 | 1 | 0 | 0. | 1 | 4 | 4 | 0 | 0. | 1 | 32 |
| | KANSAS | | | | | | | | | | | | | | | | | | | | | |
| 33 | Kansas Medical College.—R | 15 | 15 | 0 | 0. | 5 | 12 | 12 | 0 | 0. | 3 | 3 | 3 | 0 | 0. | 2 | 9 | 9 | 0 | 0. | 1 | 33 |
| 34 | University of Kansas, School of Medicine.—R | 15 | 13 | 2 | 13.3 | 4 | 15 | 13 | 2 | 13.3 | 4 | ..... | ..... | ..... | ..... | ..... | 15 | 13 | 2 | 13.3 | 4 | 34 |
| | KENTUCKY | | | | | | | | | | | | | | | | | | | | | |
| 35 | University of Louisville, Medical Dept.—R | 188 | 154 | 34 | 18.1 | 34 | 177 | 146 | 31 | 17.5 | 31 | 11 | 8 | 3 | 27.3 | 9 | 119 | 106 | 13 | 10.9 | 20 | 35 |
| | LOUISIANA | | | | | | | | | | | | | | | | | | | | | |
| 36 | Tulane University, Medical Dept.—R | 154 | 140 | 14 | 9.1 | 16 | 147 | 135 | 12 | 8.2 | 12 | 7 | 5 | 2 | 28.6 | 6 | 125 | 120 | 5 | 4.0 | 10 | 36 |
| | MAINE | | | | | | | | | | | | | | | | | | | | | |
| 37 | Medical School of Maine.—R | 18 | 16 | 2 | 11.1 | 4 | 15 | 15 | 0 | 0. | 4 | 3 | 1 | 2 | 66.7 | 2 | 9 | 9 | 0 | 0. | 3 | 37 |
| | MARYLAND | | | | | | | | | | | | | | | | | | | | | |
| 38 | Baltimore Medical College.—R | 59 | 44 | 15 | 25.4 | 18 | 42 | 34 | 8 | 19.0 | 13 | 17 | 10 | 7 | 41.2 | 13 | 22 | 20 | 2 | 9.1 | 6 | 38 |
| 39 | College of Physicians and Surgeons.—R | 75 | 58 | 17 | 22.7 | 19 | 65 | 50 | 15 | 23.1 | 14 | 10 | 8 | 2 | 20.0 | 8 | 42 | 33 | 9 | 21.4 | 8 | 39 |
| 40 | Johns Hopkins University, Medical Dept.—R | 95 | 90 | 5 | 5.3 | 19 | 86 | 81 | 5 | 5.8 | 15 | 9 | 9 | 0 | 0. | 8 | 64 | 62 | 2 | 3.1 | 11 | 40 |
| 41 | Maryland Medical College.—R | 81 | 35 | 46 | 56.8 | 12 | 78 | 33 | 45 | 57.7 | 12 | 3 | 2 | 1 | 33.3 | 2 | 52 | 22 | 30 | 57.7 | 10 | 41 |
| 42 | University of Maryland, School of Medicine.—R | 99 | 86 | 13 | 13.1 | 19 | 85 | 74 | 11 | 12.9 | 16 | 14 | 12 | 2 | 14.3 | 11 | 64 | 57 | 7 | 10.9 | 13 | 42 |
| | MASSACHUSETTS | | | | | | | | | | | | | | | | | | | | | |
| 43 | Boston University, School of Medicine.—H | 30 | 29 | 1 | 3.3 | 6 | 26 | 25 | 1 | 3.8 | 6 | 4 | 4 | 0 | 0. | 3 | 21 | 20 | 1 | 4.8 | 5 | 43 |
| 44 | College of Physicians and Surgeons.—R | 43 | 31 | 12 | 28.0 | 10 | 41 | 30 | 11 | 26.9 | 10 | 2 | 1 | 1 | 50.0 | 2 | 14 | 12 | 2 | 14.3 | 3 | 44 |
| 45 | Harvard Medical School—R | 85 | 75 | 10 | 11.8 | 20 | 73 | 64 | 9 | 12.3 | 18 | 12 | 11 | 1 | 8.3 | 8 | 31 | 28 | 3 | 9.7 | 11 | 45 |
| 46 | Tufts College Medical School—R | 119 | 107 | 12 | 10.1 | 11 | 107 | 99 | 8 | 7.5 | 7 | 12 | 8 | 4 | 33.3 | 8 | 61 | 58 | 3 | 4.9 | 6 | 46 |
| | MICHIGAN | | | | | | | | | | | | | | | | | | | | | |
| 47 | Detroit College of Medicine—R | 44 | 43 | 1 | 2.3 | 6 | 39 | 39 | 0 | 0. | 2 | 5 | 4 | 1 | 20.0 | 4 | 38 | 38 | 0 | 0. | 1 | 47 |
| 48 | Univ. of Mich., Dept. of Med. and Surg.—R | 107 | 105 | 2 | 1.9 | 16 | 93 | 93 | 0 | 0. | 11 | 14 | 12 | 2 | 14.3 | 10 | 82 | 82 | 0 | 0. | 6 | 48 |
| 49 | Univ. of Mich., Homeopathic College.—H | 19 | 19 | 0 | 0. | 3 | 19 | 19 | 0 | 0. | 4 | ..... | ..... | ..... | ..... | ..... | 18 | 18 | 0 | 0. | 3 | 49 |
| | MINNESOTA | | | | | | | | | | | | | | | | | | | | | |
| 50 | Univ. of Minn., College of Med and Surg.—R | 52 | 50 | 2 | 3.8 | 7 | 39 | 39 | 0 | 0. | 5 | 13 | 11 | 2 | 15.4 | 6 | 31 | 31 | 0 | 0. | 3 | 50 |
| | MISSOURI | | | | | | | | | | | | | | | | | | | | | |
| 51 | American Medical College.—E | 61 | 43 | 18 | 29.5 | 8 | 57 | 40 | 17 | 29.8 | 6 | 4 | 3 | 1 | 25.0 | 4 | 53 | 38 | 15 | 28.3 | 6 | 51 |
| 52 | Barnes Medical College.—R | 39 | 20 | 19 | 48.7 | 16 | 18 | 11 | 7 | 38.9 | 8 | 21 | 9 | 12 | 57.1 | 14 | ..... | ..... | ..... | ..... | ..... | 52 |
| 53 | Eclectic Medical University, Kansas City.—E | 13 | 13 | 0 | 0. | 1 | 13 | 13 | 0 | 0. | 1 | ..... | ..... | ..... | ..... | ..... | 11 | 11 | 0 | 0. | 1 | 53 |
| 54 | Ensworth Medical College.—R | 13 | 5 | 8 | 61.5 | 6 | 12 | 5 | 7 | 58.3 | 5 | 1 | 0 | 1 | 100.0 | 1 | 7 | 4 | 3 | 42.9 | 2 | 54 |
| 55 | Kansas City Hahnemann Med. College.—H | 15 | 10 | 5 | 33.3 | 5 | 14 | 9 | 5 | 35.7 | 5 | 1 | 1 | 0 | 0. | 1 | 12 | 9 | 3 | 25.0 | 4 | 55 |
| 56 | St. Louis University, School of Medicine.—R | 91 | 88 | 3 | 3.3 | 16 | 88 | 86 | 2 | 2.3 | 15 | 3 | 2 | 1 | 33.3 | 3 | 77 | 75 | 2 | 2.6 | 10 | 56 |
| 57 | St. Louis College of Phys. and Surg.—R | 37 | 16 | 21 | 56.7 | 18 | 27 | 11 | 16 | 59.2 | 12 | 10 | 5 | 5 | 50.0 | 9 | 5 | 3 | 2 | 40.0 | 1 | 57 |
| 58 | University Medical College, Kansas City.—R | 46 | 39 | 7 | 15.2 | 12 | 39 | 32 | 7 | 18.0 | 7 | 7 | 7 | 0 | 0. | 7 | 34 | 28 | 6 | 17.6 | 5 | 58 |
| 59 | Washington University, Medical Dept.—R | 67 | 65 | 2 | 3.0 | 12 | 57 | 56 | 1 | 1.8 | 11 | 10 | 9 | 1 | 10.0 | 4 | 47 | 47 | 0 | 0. | 4 | 59 |

R—Regular; H—Homeopathic; E—Eclectic.

| NAME OF COLLEGE | Graduates of All Years. | | | | | Graduates of 1908-1912. | | | | | Graduates of 1907 and Previous. | | | | | Graduates of 1912. | | | | | Marginal Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | Number Examined | Number Passed | Number Failed | Per Cent. Failed | Number of States | |
| NEBRASKA | | | | | | | | | | | | | | | | | | | | | |
| John A. Creighton Medical College.—R | 55 | 50 | 5 | 9.1 | 8 | 51 | 47 | 4 | 7.8 | 7 | 4 | 3 | 1 | 25.0 | 4 | 44 | 42 | 2 | 4.5 | 6 | 60 |
| Lincoln Medical College.—E | 12 | 10 | 2 | 16.7 | 3 | 9 | 8 | 1 | 11.1 | 2 | 3 | 2 | 1 | 33.3 | 2 | 7 | 6 | 1 | 14.3 | 1 | 61 |
| University of Nebraska, College of Med.—R | 14 | 13 | 1 | 7.2 | 6 | 10 | 9 | 1 | 10.0 | 3 | 4 | 4 | 0 | 0. | 4 | 8 | 8 | 0 | 0. | 2 | 62 |
| NEW HAMPSHIRE | | | | | | | | | | | | | | | | | | | | | |
| Dartmouth Medical School.—R | 17 | 15 | 2 | 11.8 | 6 | 16 | 14 | 2 | 12.5 | 6 | 1 | 1 | 0 | 0. | 1 | 8 | 7 | 1 | 12.5 | 4 | 63 |
| NEW YORK | | | | | | | | | | | | | | | | | | | | | |
| Albany Medical College.—R | 56 | 36 | 20 | 35.7 | 5 | 54 | 34 | 20 | 37.0 | 4 | 2 | 2 | 0 | 0. | 2 | 29 | 25 | 8 | 27.6 | 1 | 64 |
| Columbia Univ., College of Phys and Surg.—R | 105 | 95 | 10 | 9.5 | 17 | 88 | 79 | 9 | 10.2 | 13 | 17 | 16 | 1 | 5.9 | 11 | 57 | 32 | 5 | 8.8 | 3 | 65 |
| Cornell University Medical College.—R | 34 | 34 | 0 | 0. | 8 | 31 | 31 | 0 | 0. | 7 | 3 | 3 | 0 | 0. | 3 | 8 | 8 | 0 | 0. | 1 | 66 |
| Eclectic Med. Coll. of City of New York.—E | 17 | 9 | 8 | 47.1 | 4 | 17 | 9 | 8 | 47.1 | 4 | ..... | ..... | ..... | ..... | ..... | 10 | 6 | 4 | 40.0 | 2 | 67 |
| Fordham University, School of Medicine.—R | 19 | 12 | 7 | 36.8 | 2 | 19 | 12 | 7 | 36.8 | 2 | ..... | ..... | ..... | ..... | ..... | 9 | 6 | 3 | 33.3 | 1 | 68 |
| Long Island College Hospital.—R | 93 | 75 | 18 | 19.4 | 10 | 86 | 69 | 17 | 19.8 | 5 | 7 | 6 | 1 | 14.3 | 6 | 38 | 29 | 9 | 23.7 | 3 | 69 |
| New York Homeo. Med. Coll. and Hosp.—H | 33 | 28 | 5 | 15.2 | 8 | 30 | 25 | 5 | 16.7 | 7 | 3 | 3 | 0 | 0. | 3 | 15 | 14 | 1 | 6.7 | 4 | 70 |
| New York Med. Coll. and Hosp. for Women.—H | 5 | 3 | 2 | 40.0 | 1 | 5 | 3 | 2 | 40.0 | 1 | ..... | ..... | ..... | ..... | ..... | 2 | 2 | 0 | 0. | 1 | 71 |
| Syracuse University, College of Medicine.—R | 30 | 25 | 5 | 16.7 | 5 | 25 | 20 | 5 | 20.0 | 1 | 5 | 5 | 0 | 0. | 4 | 13 | 11 | 2 | 15.4 | 1 | 72 |
| University and Bellevue Hosp. Med. Coll.—R | 90 | 83 | 7 | 7.8 | 8 | 88 | 82 | 6 | 6.8 | 7 | 2 | 1 | 1 | 50.0 | 2 | 62 | 58 | 4 | 6.5 | 2 | 73 |
| University of Buffalo, Medical Dept.—R | 50 | 38 | 12 | 24.0 | 6 | 44 | 34 | 10 | 22.7 | 4 | 6 | 4 | 2 | 33.3 | 4 | 31 | 23 | 8 | 25.8 | 2 | 74 |
| NORTH CAROLINA | | | | | | | | | | | | | | | | | | | | | |
| Leonard School of Medicine.—R | 56 | 24 | 32 | 57.1 | 8 | 54 | 24 | 30 | 55.6 | 8 | 2 | 0 | 2 | 100.0 | 2 | 36 | 23 | 13 | 36.1 | 7 | 75 |
| North Carolina Medical College.—R | 29 | 22 | 7 | 24.1 | 4 | 27 | 21 | 6 | 22.2 | 3 | 2 | 1 | 1 | 50.0 | 2 | 25 | 19 | 6 | 24.0 | 3 | 76 |
| OHIO | | | | | | | | | | | | | | | | | | | | | |
| Cleveland College of Phys. and Surg.—R | 20 | 20 | 0 | 0. | 3 | 20 | 20 | 0 | 0. | 3 | ..... | ..... | ..... | ..... | ..... | 18 | 18 | 0 | 0. | 1 | 77 |
| Cleveland-Pulte Medical College.—H | 13 | 10 | 3 | 23.1 | 1 | 13 | 10 | 3 | 23.1 | 1 | ..... | ..... | ..... | ..... | ..... | 13 | 10 | 3 | 23.1 | 1 | 78 |
| Eclectic Medical College.—E | 28 | 22 | 6 | 21.4 | 10 | 24 | 18 | 6 | 25.0 | 9 | 4 | 4 | 0 | 0. | 3 | 17 | 15 | 2 | 11.8 | 6 | 79 |
| Ohio-Miami Medical College.—R | 60 | 56 | 4 | 6.7 | 10 | 60 | 56 | 4 | 6.7 | 10 | ..... | ..... | ..... | ..... | ..... | 53 | 51 | 2 | 3.8 | 5 | 80 |
| Starling-Ohio Medical College.—R | 58 | 57 | 1 | 1.7 | 3 | 58 | 57 | 1 | 1.7 | 3 | ..... | ..... | ..... | ..... | ..... | 55 | 54 | 1 | 1.8 | 1 | 81 |
| Toledo Medical College.—R | 10 | 9 | 1 | 10.0 | 1 | 10 | 9 | 1 | 10.0 | 1 | ..... | ..... | ..... | ..... | ..... | 10 | 9 | 1 | 10.0 | 1 | 82 |
| Western Reserve University, Med. Dept.—R | 38 | 38 | 0 | 0. | 4 | 37 | 37 | 0 | 0. | 3 | 1 | 1 | 0 | 0. | 1 | 35 | 35 | 0 | 0. | 2 | 83 |
| OKLAHOMA | | | | | | | | | | | | | | | | | | | | | |
| University of Oklahoma, School of Medicine—R | 12 | 10 | 2 | 16.7 | 3 | 12 | 10 | 2 | 16.7 | 3 | ..... | ..... | ..... | ..... | ..... | 10 | 9 | 1 | 10.0 | 1 | 84 |
| OREGON | | | | | | | | | | | | | | | | | | | | | |
| Willamette University, Medical Dept.—R | 12 | 2 | 10 | 83.3 | 3 | 10 | 2 | 8 | 80.0 | 2 | 2 | 0 | 2 | 100.0 | 2 | 8 | 1 | 7 | 87.5 | 1 | 85 |
| University of Oregon, Medical Dept.—R | 25 | 14 | 11 | 44.0 | 4 | 22 | 14 | 8 | 36.4 | 3 | 3 | 0 | 3 | 100.0 | 3 | 14 | 8 | 6 | 42.8 | 2 | 86 |
| PENNSYLVANIA | | | | | | | | | | | | | | | | | | | | | |
| Hahnemann Medical College and Hosp.—H | 22 | 21 | 1 | 4.5 | 13 | 15 | 14 | 1 | 6.7 | 8 | 7 | 7 | 0 | 0. | 6 | 6 | 6 | 0 | 0. | 4 | 87 |
| Jefferson Medical College.—R | 124 | 115 | 9 | 7.3 | 34 | 97 | 92 | 5 | 5.2 | 31 | 27 | 23 | 4 | 14.8 | 17 | 65 | 62 | 3 | 4.6 | 22 | 88 |
| Medico-Chirurgical College of Philadelphia.—R | 40 | 34 | 6 | 15.0 | 18 | 32 | 28 | 4 | 12.5 | 14 | 8 | 6 | 2 | 25.0 | 5 | 20 | 17 | 3 | 15.0 | 7 | 89 |
| Temple University, Medical Dept.—R | 4 | 4 | 0 | 0. | 2 | 4 | 4 | 0 | 0. | 2 | ..... | ..... | ..... | ..... | ..... | 3 | 3 | 0 | 0. | 1 | 90 |
| University of Pennsylvania, Dept. of Med.—R | 79 | 72 | 7 | 8.9 | 28 | 59 | 56 | 3 | 5.1 | 24 | 20 | 16 | 4 | 20.0 | 10 | 24 | 23 | 1 | 4.2 | 13 | 91 |
| Univ. of Pittsburgh, School of Medicine.—R | 12 | 10 | 2 | 16.7 | 9 | 12 | 10 | 2 | 16.7 | 9 | ..... | ..... | ..... | ..... | ..... | 5 | 5 | 0 | 0. | 2 | 92 |
| Woman's Med. Coll. of Pennsylvania.—R | 38 | 30 | 8 | 21.1 | 21 | 31 | 24 | 7 | 22.6 | 17 | 7 | 6 | 1 | 14.3 | 6 | 13 | 10 | 3 | 23.1 | 7 | 93 |
| SOUTH CAROLINA | | | | | | | | | | | | | | | | | | | | | |
| Med. Coll. of the State of South Carolina.—R | 86 | 71 | 15 | 17.4 | 6 | 81 | 66 | 15 | 18.5 | 6 | 5 | 5 | 0 | 0. | 3 | 67 | 59 | 8 | 11.9 | 5 | 94 |
| TENNESSEE | | | | | | | | | | | | | | | | | | | | | |
| Memphis Hospital Medical College.—R | 163 | 104 | 59 | 36.2 | 14 | 153 | 96 | 57 | 37.3 | 12 | 10 | 8 | 2 | 20.0 | 8 | 110 | 79 | 31 | 28.2 | 11 | 95 |
| Meharry Medical College.—R | 132 | 81 | 51 | 38.6 | 18 | 119 | 78 | 41 | 34.5 | 18 | 13 | 3 | 10 | 76.9 | 6 | 84 | 58 | 26 | 31.0 | 15 | 96 |
| Lincoln Memorial Univ., Medical Dept.—R | 29 | 19 | 10 | 34.5 | 13 | 22 | 15 | 7 | 31.8 | 8 | 7 | 4 | 3 | 42.9 | 6 | 16 | 12 | 4 | 25.0 | 4 | 97 |
| University of Tennessee, Medical Dept.—R | 51 | 36 | 15 | 29.4 | 15 | 48 | 35 | 13 | 27.1 | 14 | 3 | 1 | 2 | 66.7 | 2 | 33 | 26 | 7 | 21.2 | 10 | 98 |
| University of West Tennessee, Medical Dept.—R | 20 | 9 | 11 | 55.0 | 6 | 18 | 8 | 10 | 55.6 | 6 | 2 | 1 | 1 | 50.0 | 1 | 9 | 6 | 3 | 33.3 | 4 | 99 |
| Vanderbilt University, Medical Dept.—R | 61 | 56 | 5 | 8.2 | 19 | 55 | 51 | 4 | 7.3 | 18 | 6 | 5 | 1 | 16.7 | 4 | 39 | 37 | 2 | 5.1 | 15 | 100 |
| TEXAS | | | | | | | | | | | | | | | | | | | | | |
| Baylor University, College of Medicine—R | 17 | 15 | 2 | 11.8 | 1 | 17 | 15 | 2 | 11.8 | 1 | ..... | ..... | ..... | ..... | ..... | 17 | 15 | 2 | 11.8 | 1 | 101 |
| Texas Christian University, Medical Dept.—R | 18 | 16 | 2 | 11.1 | 3 | 17 | 15 | 2 | 11.8 | 3 | 1 | 1 | 0 | 0. | 1 | 16 | 15 | 1 | 6.3 | 2 | 102 |
| Southern Methodist Univ., Medical Dept.—R | 14 | 13 | 1 | 7.2 | 2 | 14 | 13 | 1 | 7.2 | 2 | ..... | ..... | ..... | ..... | ..... | 13 | 12 | 1 | 7.7 | 2 | 103 |
| University of Texas, Dept. of Medicine.—R | 49 | 49 | 0 | 0. | 2 | 48 | 48 | 0 | 0. | 2 | 1 | 1 | 0 | 0. | 1 | 45 | 45 | 0 | 0. | 1 | 104 |
| VERMONT | | | | | | | | | | | | | | | | | | | | | |
| University of Vermont, College of Medicine.—R | 63 | 56 | 7 | 11.1 | 9 | 59 | 53 | 6 | 10.2 | 8 | 4 | 3 | 1 | 25.0 | 4 | 33 | 32 | 1 | 3.0 | 4 | 105 |
| VIRGINIA | | | | | | | | | | | | | | | | | | | | | |
| Medical College of Virginia.—R | 50 | 41 | 9 | 18.0 | 5 | 49 | 41 | 8 | 16.3 | 5 | 1 | 0 | 1 | 100.0 | 1 | 39 | 35 | 4 | 10.3 | 4 | 106 |
| University of Virginia, Dept. of Medicine.—R | 32 | 29 | 3 | 9.4 | 15 | 24 | 21 | 3 | 12.5 | 11 | 8 | 8 | 0 | 0. | 6 | 7 | 7 | 0 | 0. | 2 | 107 |
| University College of Medicine.—R | 42 | 39 | 3 | 7.1 | 9 | 40 | 38 | 2 | 5.0 | 8 | 2 | 1 | 1 | 50.0 | 2 | 34 | 33 | 1 | 2.9 | 5 | 108 |
| WISCONSIN | | | | | | | | | | | | | | | | | | | | | |
| Marquette University, Medical Dept.—R | 61 | 50 | 11 | 18.0 | 11 | 59 | 48 | 11 | 18.6 | 9 | 2 | 2 | 0 | 0. | 2 | 47 | 41 | 6 | 12.8 | 7 | 109 |
| Wisconsin College of Physicians and Surgs.—R | 14 | 13 | 1 | 7.2 | 4 | 13 | 12 | 1 | 7.7 | 3 | 1 | 1 | 0 | 0. | 1 | 13 | 12 | 1 | 7.7 | 3 | 110 |
| CANADIAN | | | | | | | | | | | | | | | | | | | | | |
| Dalhousie Medical College | 1 | 1 | 0 | 0. | 1 | 1 | 1 | 0 | 0. | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 111 |
| Laval University, Medical Dept. | 19 | 9 | 10 | 52.6 | 8 | 14 | 7 | 7 | 50.0 | 4 | 5 | 2 | 3 | 60.0 | 4 | 2 | 1 | 1 | 50.0 | 2 | 112 |
| Manitoba Medical College | 3 | 3 | 0 | 0. | 3 | 1 | 1 | 0 | 0. | 1 | 2 | 2 | 0 | 0. | 2 | 1 | 1 | 0 | 0. | 1 | 113 |
| McGill University, Medical Faculty | 21 | 20 | 1 | 4.8 | 10 | 10 | 9 | 1 | 10.0 | 6 | 11 | 11 | 0 | 0. | 7 | 4 | 3 | 1 | 25.0 | 3 | 114 |
| Queens University, Medical Faculty | 12 | 7 | 5 | 41.7 | 8 | 10 | 7 | 3 | 30.0 | 7 | 2 | 0 | 2 | 100.0 | 2 | 3 | 1 | 2 | 66.7 | 3 | 115 |
| University of Toronto, Faculty of Medicine | 17 | 15 | 2 | 11.8 | 11 | 10 | 9 | 1 | 10.0 | 7 | 7 | 6 | 1 | 14.3 | 5 | ..... | ..... | ..... | ..... | ..... | 116 |
| Western University, Medical Dept. | 1 | 1 | 0 | 0. | 1 | 1 | 1 | 0 | 0. | 1 | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 0 | 0. | 1 | 117 |
| Foreign Colleges | 88 | 53 | 35 | 39.8 | 25 | 26 | 17 | 9 | 34.6 | 13 | 62 | 36 | 26 | 41.9 | 22 | 1 | 1 | 0 | 0. | 1 | 118 |
| Miscellaneous Medical Colleges | 375 | 224 | 151 | 40.3 | 45 | 148 | 72 | 76 | 51.4 | 29 | 227 | 152 | 75 | 33.0 | 40 | 27 | 18 | 9 | 33.3 | 5 | 119 |
| Undergraduates | 253 | 165 | 88 | 34.8 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 120 |
| Totals | 6353 | 5110 | 1243 | 17.8 | .... | 5257 | 4342 | 915 | 17.4 | ..... | 843 | 603 | 240 | 29.7 | .... | 3625 | 3172 | 453 | 12.5 | | |

R—Regular; H—Homeopathic; E—Eclectic.

CONTINUED FROM PAGE 1623

shows that 3,625 or 57.2 per cent. of all candidates examined during the year graduated in 1912, including twelve who graduated in Canada and other foreign colleges. Educational statistics show that the medical colleges of the United States graduated 4,483 students last year; therefore, 80.9 per cent. of all graduates in 1912 took examinations for license during that year. These figures would be changed somewhat if the Pennsylvania figures could have been included. In some of the states graduates in medicine are allowed to serve hospital internships without first becoming licensed practitioners, which doubtless accounts for some of the remaining 20 per cent. Of those examined 453, or 12.5 per cent., failed.

Table C permits of an interesting study of medical schools from the standpoint of state board examinations. For some colleges a marked improvement in teaching methods is apparent from the fact that while the percentages of failures are high for old practitioners they are lower for recent graduates and still lower for graduates of 1912. Other colleges, however, show no improvement either for recent graduates, or for graduates of 1912. In the latter instance a knowledge of these colleges, based on a careful study, which included inspections of the colleges, bears out what the figures of this table indicate, that some of these institutions are teaching medicine no better to-day than they did ten or more years ago.

TOTAL RESULTS
Comparison with Previous Years.

| Year. | Table A | | | | B | | C | | A | | K | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Examined. | Examined—Passed. | Examined—Failed. | Percentage Failed. | Recent Grads. Examined. | Percentage Failed. | Older Prac. Examined. | Percentage Failed. | Non-Grads. Examined. | Percentage Failed. | Regist. Without Written Examination. | Total Registered. |
| 1904 | 7035 | 5672 | 1363 | 19.3 | 4773 | 14.1 | 579 | 29.7 | 515 | 52.6 | 999 | 6671 |
| 1905 | 7170 | 5680 | 1490 | 20.8 | 6054 | 16.2 | 690 | 37.7 | 472 | 61.9 | 394 | 6074 |
| 1906 | 8035 | 6368 | 1667 | 20.7 | 6250 | 16.4 | 793 | 27.1 | 703 | 51.3 | 1497 | 7865 |
| 1907 | 7271 | 5723 | 1548 | 21.3 | 5922 | 15.1 | 675 | 27.7 | 674 | 69.6 | 1426 | 7149 |
| 1908 | 7770 | 6084 | 1686 | 21.7 | 6477 | 17.8 | 796 | 31.5 | 494 | 56.8 | 1276 | 7360 |
| 1909 | 7287 | 5857 | 1430 | 19.6 | 5891 | 15.4 | 958 | 30.0 | 438 | 54.1 | 1373 | 7230 |
| 1910 | 7004 | 5712 | 1292 | 18.4 | 5678 | 14.9 | 973 | 29.1 | 353 | 45.6 | 1640 | 7352 |
| 1911 | 6960 | 5578 | 1382 | 19.9 | 5685 | 17.2 | 945 | 29.4 | 330 | 38.5 | 1246 | 6824 |
| 1912 | 6353 | 5110 | 1243 | 17.8 | 5257 | 17.4 | 843 | 29.7 | 253 | 34.8 | 1257 | 6723* |

* Includes 369 licensed in Pennsylvania.

RESULTS FOR LARGER COLLEGES
Comparison with Previous Years (Table E).

| Year. | Colleges Represented. | Total Examined. | Per Cent. Failed. | Colleges, 100 or More Examined. | Total Examined. | Per Cent. Failed. | Colleges, 50 to 100 Examined. | Total Examined. | Per Cent. Failed. | Colleges, Less than 50 Examined. | Total Examined. | Per Cent. Failed. | Foreign, Misc., and Non-grads. Exam'd. | Per Cent. Failed. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1904 | 149 | 6241 | 16.4 | 14 | 2271 | 11.7 | 28 | 1817 | 16.9 | 107 | 2153 | 21.0 | 794 | 43.1 |
| 1905 | 153 | 6411 | 18.3 | 14 | 2350 | 12.4 | 37 | 2543 | 17.7 | 102 | 1518 | 28.9 | 759 | 51.1 |
| 1906 | 151 | 6938 | 17.3 | 16 | 2504 | 14.5 | 34 | 2381 | 16.9 | 96 | 2053 | 21.3 | 1097 | 42.5 |
| 1907 | 146 | 6207 | 13.8 | 12 | 1626 | 12.7 | 36 | 2578 | 14.7 | 98 | 2003 | 13.6 | 1064 | 55.5 |
| 1908 | 137 | 6491 | 17.2 | 19 | 2596 | 15.6 | 26 | 1825 | 15.5 | 92 | 2070 | 20.8 | 1279 | 14.6 |
| 1909 | 134 | 6341 | 16.2 | 17 | 2476 | 16.9 | 27 | 1920 | 12.3 | 90 | 1945 | 19.2 | 946 | 42.6 |
| 1910 | 121 | 5953 | 15.3 | 17 | 2379 | 13.3 | 25 | 1791 | 13.7 | 79 | 1783 | 19.3 | 1051 | 36.5 |
| 1911 | 119 | 6062 | 17.2 | 18 | 2508 | 11.0 | 28 | 1895 | 17.1 | 73 | 1659 | 20.1 | 898 | 37.6 |
| 1912 | 110 | 5563 | 17.1 | 12 | 1776 | 15.6 | 31 | 2148 | 17.3 | 67 | 1639 | 18.5 | 790 | 37.0 |

TABLE D.—COLLEGES GROUPED BY STATES
Showing the Number Examined and Percentage of Failures

| All Colleges of | Graduates. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Of All Years. | | Of 1908 to 1912. | | Of 1907 & Prev. | | Of 1912. | | State Rank According to the Number Examined. | Rank According to Successes at Examinations. |
| | Number Examined. | Per Cent. Failed. | Number Examined. | Per Cent. Failed. | Number Examined. | Per Cent. Failed. | Number Examined. | Per Cent. Failed. | | |
| Alabama | 98 | 34.7 | 96 | 34.4 | 2 | 50.0 | 71 | 36.6 | 16 | 28 |
| Arkansas | 66 | 25.8 | 63 | 27.0 | 3 | 0. | 53 | 22.6 | 21 | 26 |
| California | 122 | 10.7 | 119 | 10.1 | 3 | 33.3 | 96 | 9.4 | 14 | 11 |
| Colorado | 47 | 6.4 | 44 | 2.3 | 3 | 66.7 | 21 | 0. | 25 | 5 |
| Connecticut | 30 | 6.7 | 28 | 7.1 | 2 | 0. | 15 | 0. | 27 | 7 |
| District of Columbia | 121 | 20.7 | 109 | 18.3 | 12 | 41.7 | 55 | 12.7 | 15 | 23 |
| Georgia | 194 | 13.9 | 192 | 13.5 | 2 | 50.0 | 177 | 10.2 | 9 | 16 |
| Illinois | 868 | 15.3 | 783 | 14.6 | 85 | 23.5 | 541 | 10.9 | 1 | 17 |
| Indiana | 50 | 2.0 | 50 | 2.0 | .... | ..... | 45 | 0. | 24 | 2 |
| Iowa | 75 | 6.7 | 62 | 1.6 | 13 | 30.8 | 56 | 0. | 20 | 7 |
| Kansas | 30 | 6.7 | 27 | 7.5 | 3 | 0. | 24 | 8.3 | 27 | 7 |
| Kentucky | 188 | 18.1 | 177 | 17.5 | 11 | 27.3 | 119 | 10.9 | 10 | 22 |
| Louisiana | 154 | 9.1 | 147 | 8.2 | 7 | 28.6 | 125 | 4.0 | 12 | 8 |
| Maine | 18 | 11.1 | 15 | 0. | 3 | 66.7 | 9 | 0. | 28 | 12 |
| Maryland | 409 | 23.5 | 356 | 23.6 | 53 | 22.6 | 244 | 20.5 | 4 | 25 |
| Massachusetts | 277 | 12.6 | 247 | 11.7 | 30 | 20.0 | 127 | 7.1 | 7 | 15 |
| Michigan | 170 | 1.8 | 151 | 0. | 19 | 15.8 | 138 | 0. | 11 | 1 |
| Minnesota | 52 | 3.8 | 39 | 0. | 13 | 15.4 | 31 | 0. | 23 | 3 |
| Missouri | 382 | 21.7 | 325 | 19.1 | 57 | 36.8 | 246 | 12.6 | 5 | 24 |
| Nebraska | 81 | 9.9 | 70 | 8.6 | 11 | 18.2 | 59 | 5.1 | 19 | 9 |
| New Hampshire | 17 | 11.8 | 16 | 12.5 | 1 | 0. | 8 | 12.5 | 29 | 13 |
| New York | 532 | 17.7 | 487 | 18.3 | 45 | 11.1 | 274 | 16.1 | 2 | 21 |
| North Carolina | 85 | 45.9 | 81 | 44.4 | 4 | 75.0 | 61 | 31.3 | 18 | 29 |
| Ohio | 227 | 6.6 | 222 | 6.8 | 5 | 0. | 201 | 4.5 | 8 | 6 |
| Oklahoma | 12 | 16.7 | 12 | 16.7 | .... | ..... | 10 | 10.0 | 30 | 19 |
| Oregon | 37 | 56.7 | 32 | 50.0 | 5 | 100.0 | 22 | 59.1 | 26 | 30 |
| Pennsylvania | 319 | 10.3 | 250 | 8.8 | 69 | 15.8 | 136 | 7.4 | 6 | 10 |
| South Carolina | 86 | 17.4 | 81 | 18.5 | 5 | 0. | 67 | 11.9 | 17 | 20 |
| Tennessee | 456 | 33.3 | 415 | 31.8 | 41 | 46.3 | 291 | 25.1 | 3 | 27 |
| Texas | 98 | 5.1 | 96 | 5.2 | 2 | 0. | 91 | 4.4 | 16 | 4 |
| Vermont | 63 | 11.1 | 59 | 10.2 | 4 | 25.0 | 33 | 3.0 | 22 | 12 |
| Virginia | 124 | 12.1 | 113 | 11.5 | 11 | 18.2 | 80 | 6.2 | 13 | 14 |
| Wisconsin | 75 | 16.0 | 72 | 16.7 | 3 | 0. | 60 | 11.7 | 20 | 18 |
| Totals Examined in 1912 | 5563 | 17.1 | 5036 | 16.2 | 527 | 25.2 | 3586 | 12.3 | .... | .... |

This table gives data relating to the group of colleges in each state. For example, it shows that of all the medical schools in New York 532 graduates of various years were examined by state boards during 1912, of which number 17.7 per cent. failed. Of the 487 who graduated in recent years, however, (1908 to 1912 inclusive), 18.3 per cent. failed; of the 45 who graduated previous to 1908, 11.1 per cent. failed, and of the 274 graduates of 1912 16.1 per cent. failed.

The ninth column gives the rank of each state group of colleges according to the number of applicants. The Illinois group of colleges leads, having 868 graduates examined by state boards during 1912, followed by New York with 532, Tennessee with 456, Maryland with 409 and Missouri with 382.

The tenth column gives the rank of each state group of colleges according to the success of the graduates at state board examinations. It is interesting to compare the figures of these two last columns. While the Illinois group ranks first according to the number examined it ranks as the seventeenth in the success of its graduates at examinations. While New York ranks second as to the number examined, it ranks as the twenty-first in the success of its graduates at examinations and while Tennessee ranks third as to the number examined, it ranks as the twenty-seventh in the success of its graduates at examinations.

### STUDY OF TOTALS AND PERCENTAGES

A study of totals and percentages as compared with previous years is of interest. The total examined and the percentage of failures, shown in Table A, are the lowest since the compiling of these statistics was begun in 1904. The total examined in 1912 shows a decrease of 1,682 below 1906, when 8,035 candidates were examined. By all methods—examination, reciprocity, under exemption, etc.—6,723 physicians were licensed during 1912, or 101 less than in 1911 and 1,142 less than in 1906, when 7,865 physicians were licensed.

Other deductions from the larger tables have been made and are presented in Tables D to M, which are worthy of careful study.

### STUDY OF COLLEGES BY STATE GROUPS

Table D is based on the first four large tables and gives the results for the group of colleges located in each state. It shows what states are furnishing the largest number of physicians and the failure percentages indicate what kind of training these colleges are furnishing so far as may be judged from the failures of their graduates before state boards. By comparing the percentages of the first column with the other columns it can be seen whether there has been any reduction in failures for graduates of recent years. Of the thirty-three states having medical colleges which grant degrees, fifteen furnished 100 or more candidates examined. Of these fifteen groups of colleges, three had failure percentages of less than 10 per cent.; eight had failure percentages between 10 and 20, and four had over 20 per cent. of failures. The highest failure percentage was obtained by the Ore-

gon group with 56.7. Of the states having 100 or more candidates examined, however, the highest failure percentage was obtained by the Tennessee group, which had 33.3 per cent., followed by the Maryland group with 23.5 per cent., and the Missouri group with 21.7 per cent. of their graduates failing. Other deductions are given with the table.

### Study of Larger Colleges

Table D, is also based on the three large tables and gives the results of state board examinations as they affect the forty-three largest medical colleges. Although these colleges represent 39 per cent. of the medical colleges in the United States having graduates examined, they furnished 70.5 per cent. of all the candidates for license coming from medical schools of the United States. This table shows that the graduation of large classes by a medical college does not prove excellence of teaching since several colleges having 100 or more examined have very high failure percentages and this holds true even for the graduates of 1912. In fact, the larger the college from the standpoint of the number of students and graduates the more serious is inferior teaching ability, indicated by a high failure percentage. In fairness to the medical student, and in the interests of the public, such schools should greatly strengthen their teaching facilities or reduce the size of their classes.

Altogether for these schools 648 or 16.5 per cent. failed, as compared with 18.5 per cent. of failures for the 1,639 candidates from the sixty-seven colleges having less than fifty each examined.

Besides the graduates of the medical colleges of the United States 790 candidates were examined, made up of seventy-four graduates of Canadian colleges, 88 foreign college graduates, 375 graduates of miscellaneous colleges and 253 non-graduates. Of these 790 candidates, 292 or 37 per cent. failed.

## TABLE E—COLLEGES HAVING FIFTY OR MORE EXAMINED

Table Shows Total Number Examined, Total Number Passed, Total Number Failed, Percentage of Failures and Number of States in Which Each College Had Representatives

| College | Graduates, All Years. | | | | | Graduates of 1908-1912. | | | | | Graduates, 1907 and Previous. | | | | | Graduates of 1912. | | | | | Marginal Number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Examined. | Number Passed. | Number Failed. | Per Cent. of Failures. | No. States. | Total Examined. | Number Passed. | Number Failed. | Per Cent. of Failures. | No. States. | Total Examined. | Number Passed. | Number Failed. | Per Cent. of Failures. | No. States. | Total Examined. | Number Passed. | Number Failed. | Per Cent. of Failures. | No. States. | |
| College of Physicians and Surgeons, Chicago.... | 213 | 175 | 38 | 17.8 | 19 | 194 | 161 | 33 | 17.0 | 17 | 19 | 14 | 5 | 26.3 | 7 | 148 | 129 | 19 | 2.8 | 13 | 23 |
| University of Louisville, Medical Department..... | 188 | 154 | 34 | 18.1 | 34 | 177 | 146 | 31 | 17.5 | 31 | 11 | 8 | 3 | 27.3 | 9 | 119 | 106 | 13 | 10.9 | 20 | 35 |
| Chicago College of Medicine and Surgery..... | 166 | 134 | 32 | 19.3 | 24 | 161 | 131 | 30 | 18.6 | 23 | 5 | 3 | 2 | 40.0 | 3 | 120 | 105 | 15 | 12.5 | 16 | 22 |
| Rush Medical College..... | 166 | 158 | 8 | 4.8 | 25 | 137 | 134 | 3 | 2.2 | 21 | 29 | 24 | 5 | 17.2 | 13 | 90 | 88 | 2 | 2.2 | 15 | 28 |
| Memphis Hospital Medical College..... | 163 | 104 | 59 | 36.2 | 14 | 153 | 96 | 57 | 37.3 | 12 | 10 | 8 | 2 | 20.0 | 8 | 110 | 79 | 31 | 28.2 | 11 | 95 |
| Tulane University, Medical Department..... | 154 | 140 | 14 | 9.1 | 16 | 147 | 135 | 12 | 8.2 | 12 | 7 | 5 | 2 | 28.6 | 6 | 125 | 120 | 5 | 4.0 | 10 | 36 |
| Northwestern University Medical School..... | 139 | 131 | 8 | 5.8 | 22 | 130 | 122 | 8 | 6.2 | 20 | 9 | 9 | 0 | 0. | 8 | 72 | 68 | 4 | 5.6 | 12 | 27 |
| Meharry Medical College..... | 132 | 81 | 51 | 38.6 | 18 | 119 | 78 | 41 | 34.5 | 18 | 13 | 3 | 10 | 76.9 | 6 | 84 | 58 | 26 | 31.0 | 15 | 96 |
| Jefferson Medical College..... | 124 | 115 | 9 | 7.3 | 34 | 97 | 92 | 5 | 5.2 | 31 | 27 | 23 | 4 | 14.8 | 17 | 65 | 62 | 3 | 4.6 | 22 | 88 |
| Tufts College Medical School..... | 119 | 107 | 12 | 10.1 | 11 | 107 | 99 | 8 | 7.5 | 7 | 12 | 8 | 4 | 33.3 | 8 | 61 | 58 | 3 | 4.9 | 6 | 46 |
| University of Michigan, Dept. of Med and Surg.. | 107 | 105 | 2 | 1.9 | 16 | 93 | 93 | 0 | 0. | 11 | 14 | 12 | 2 | 14.3 | 10 | 82 | 82 | 0 | 0. | 6 | 48 |
| Columbia University, College of Phys. and Surg.. | 105 | 95 | 10 | 9.5 | 17 | 88 | 79 | 9 | 10.2 | 13 | 17 | 16 | 1 | 5.9 | 11 | 57 | 52 | 5 | 8.8 | 3 | 65 |
| University of Maryland, School of Medicine..... | 99 | 86 | 13 | 13.1 | 19 | 85 | 74 | 11 | 12.9 | 16 | 14 | 12 | 2 | 14.3 | 11 | 64 | 57 | 7 | 10.9 | 13 | 42 |
| Bennett Medical College..... | 98 | 75 | 23 | 23.5 | 16 | 93 | 71 | 22 | 23.7 | 14 | 5 | 4 | 1 | 20.0 | 4 | 65 | 57 | 8 | 12.3 | 10 | 21 |
| Johns Hopkins University, Medical Department... | 95 | 90 | 5 | 5.3 | 19 | 86 | 81 | 5 | 5.8 | 15 | 9 | 9 | 0 | 0. | 8 | 64 | 62 | 2 | 3.1 | 11 | 40 |
| Long Island College Hospital..... | 83 | 75 | 18 | 19.4 | 10 | 86 | 69 | 17 | 19.8 | 5 | 7 | 6 | 1 | 14.3 | 6 | 38 | 29 | 9 | 23.7 | 3 | 69 |
| St. Louis University, School of Medicine..... | 91 | 88 | 3 | 3.3 | 16 | 88 | 86 | 2 | 2.3 | 15 | 3 | 2 | 1 | 33.3 | 3 | 77 | 75 | 2 | 2.6 | 10 | 56 |
| University and Bellevue Hospital Medical Coll.... | 90 | 83 | 7 | 7.8 | 8 | 88 | 82 | 6 | 6.8 | 7 | 2 | 1 | 1 | 50.0 | 2 | 62 | 58 | 4 | 6.5 | 2 | 73 |
| Medical College of the State of South Carolina.. | 86 | 71 | 15 | 17.4 | 6 | 81 | 66 | 15 | 18.5 | 6 | 5 | 5 | 0 | 0. | 3 | 67 | 59 | 8 | 11.9 | 5 | 94 |
| Harvard Medical School..... | 85 | 75 | 10 | 11.8 | 20 | 73 | 64 | 9 | 12.3 | 18 | 12 | 11 | 1 | 8.3 | 8 | 31 | 28 | 3 | 9.7 | 11 | 45 |
| Maryland Medical College..... | 81 | 35 | 46 | 56.8 | 12 | 78 | 33 | 45 | 57.7 | 12 | 8 | 2 | 1 | 33.3 | 2 | 52 | 22 | 30 | 57.7 | 10 | 41 |
| Atlanta College of Physicians and Surgeons..... | 79 | 73 | 6 | 7.6 | 8 | 78 | 73 | 5 | 6.4 | 7 | 1 | 0 | 1 | 100.0 | 1 | 72 | 68 | 4 | 5.6 | 5 | 16 |
| University of Pennsylvania, Dept. of Medicine.... | 79 | 72 | 7 | 8.9 | 28 | 59 | 56 | 3 | 5.1 | 24 | 20 | 16 | 4 | 20.0 | 10 | 24 | 23 | 1 | 4.2 | 13 | 91 |
| College of Physicians and Surgeons, Baltimore... | 75 | 58 | 17 | 22.7 | 19 | 65 | 50 | 15 | 23.1 | 14 | 10 | 8 | 2 | 20.0 | 8 | 42 | 33 | 9 | 21.4 | 8 | 39 |
| Washington University, Medical Department..... | 67 | 65 | 2 | 3.0 | 12 | 57 | 56 | 1 | 1.8 | 11 | 10 | 9 | 1 | 10.0 | 4 | 47 | 47 | 0 | 0. | 4 | 59 |
| Atlanta School of Medicine..... | 65 | 55 | 10 | 15.4 | 9 | 65 | 55 | 10 | 15.4 | 9 | .... | .... | .... | ..... | .... | 59 | 53 | 6 | 10.2 | 8 | 17 |
| Hahnemann Medical Coll. and Hosp., Chicago... | 63 | 44 | 19 | 30.1 | 19 | 47 | 34 | 13 | 27.7 | 12 | 16 | 10 | 6 | 37.5 | 10 | 32 | 23 | 9 | 28.1 | 5 | 24 |
| University of Vermont, College of Medicine..... | 63 | 56 | 7 | 11.1 | 9 | 59 | 53 | 6 | 10.2 | 8 | 4 | 3 | 1 | 25.0 | 4 | 33 | 32 | 1 | 3.0 | 4 | 105 |
| American Medical College, St. Louis..... | 61 | 43 | 18 | 29.5 | 8 | 57 | 40 | 17 | 29.8 | 6 | 4 | 3 | 1 | 25.0 | 4 | 53 | 38 | 15 | 28.3 | 6 | 51 |
| Vanderbilt University, Medical Department..... | 61 | 56 | 5 | 8.2 | 19 | 55 | 51 | 4 | 7.3 | 18 | 6 | 5 | 1 | 16.7 | 4 | 39 | 37 | 2 | 5.1 | 15 | 100 |
| Marquette University, Medical Department..... | 61 | 50 | 11 | 18.0 | 11 | 59 | 48 | 11 | 18.6 | 9 | 2 | 2 | 0 | 0. | 2 | 47 | 41 | 6 | 12.8 | 7 | 109 |
| Ohio-Miami Medical College..... | 60 | 56 | 4 | 6.7 | 10 | 60 | 56 | 4 | 6.7 | 10 | .... | .... | .... | ..... | .... | 53 | 51 | 2 | 3.8 | 5 | 80 |
| University of Arkansas, Medical Department..... | 59 | 46 | 13 | 22.0 | 5 | 56 | 43 | 13 | 23.2 | 5 | 3 | 3 | 0 | 0. | 2 | 53 | 41 | 12 | 22.6 | 5 | 4 |
| Baltimore Medical College..... | 59 | 44 | 15 | 25.4 | 18 | 42 | 34 | 8 | 19.0 | 13 | 17 | 10 | 7 | 41.2 | 13 | 22 | 20 | 2 | 9.1 | 6 | 38 |
| Starling-Ohio Medical College..... | 58 | 57 | 1 | 1.7 | 3 | 58 | 57 | 1 | 1.7 | 3 | .... | .... | .... | ..... | .... | 55 | 54 | 1 | 1.8 | 1 | 81 |
| Albany Medical College..... | 56 | 36 | 20 | 35.7 | 5 | 54 | 34 | 20 | 37.0 | 4 | 2 | 2 | 0 | 0. | 2 | 29 | 31 | 8 | 27.6 | 1 | 64 |
| Leonard School of Medicine..... | 56 | 24 | 32 | 57.1 | 8 | 54 | 24 | 30 | 55.6 | 8 | 2 | 0 | 2 | 100.0 | 2 | 36 | 23 | 13 | 36.1 | 7 | 75 |
| John A. Creighton Medical College..... | 55 | 50 | 5 | 9.1 | 8 | 51 | 47 | 4 | 7.8 | 7 | 4 | 3 | 1 | 25.0 | 4 | 44 | 42 | 2 | 4.5 | 6 | 60 |
| University of Minnesota, Coll. of Med and Surg.. | 52 | 50 | 2 | 3.8 | 7 | 39 | 39 | 0 | 0. | 5 | 13 | 11 | 2 | 15.4 | 6 | 31 | 31 | 0 | 0. | 3 | 50 |
| University of Tennessee, Medical Department..... | 51 | 36 | 15 | 29.4 | 15 | 48 | 35 | 13 | 27.1 | 14 | 3 | 1 | 2 | 66.7 | 2 | 33 | 26 | 7 | 21.2 | 10 | 98 |
| Indiana University, School of Medicine..... | 50 | 49 | 1 | 2.0 | 5 | 50 | 49 | 1 | 2.0 | 5 | .... | .... | .... | ..... | .... | 45 | 45 | 0 | 0. | 1 | 29 |
| University of Buffalo, Medical Department..... | 50 | 38 | 12 | 24.0 | 6 | 44 | 34 | 10 | 22.7 | 4 | 6 | 4 | 2 | 33.3 | 4 | 31 | 23 | 8 | 25.8 | 2 | 74 |
| Medical College of Virginia..... | 50 | 41 | 9 | 18.0 | 5 | 49 | 41 | 8 | 16.3 | 5 | 1 | 0 | 1 | 100.0 | 1 | 39 | 35 | 4 | 10.3 | 5 | 106 |
| Totals..... | 3924 | 3276 | 648 | 16.5 | .... | 3567 | 3001 | 566 | 15.9 | .... | 357 | 275 | 82 | 23.0 | .... | 2572 | 2261 | 311 | 12.1 | | |

This table is especially interesting, since it gives data relating to the 43 larger medical colleges arranged according to the number of graduates examined. This allows of comparisons between colleges having classes of nearly equal size. This time the College of Physicians and Surgeons of Chicago had the largest number, which position it held also in 1906 and 1907. In 1908 Jefferson Medical College had the highest number examined. In 1909, 1910 and 1911 the University of Louisville Medical Department had the largest number examined. The first place from the standpoint of the number examined, however, does not always mean first place from the standpoint of scholarship. Note the percentages of failures.

Of the 12 colleges having 100 or more examined, 6 have failure percentages of less than 10, while 6 stand out prominently with large failure percentages of 10.1, 17.8, 18.1, 19.3, 36.2 and 38.6. This marked difference holds for four of the colleges even in respect to recent graduates (of 1908 to 1912 inclusive) as well as for the graduates of 1912. The three highest failure percentages are for Meharry Medical College, 38.6 Memphis Hospital Medical College, 36.2, and the Chicago College of Medicine and Surgery, 19.3.

Of the 31 colleges having between 50 and 100 graduates examined, 12 had failure percentages of less than 10; 7 had failure percentages between 10 and 20, and 12 had failure percentages above 20, the 4 colleges having the highest failure percentages being Leonard School of Medicine, 57.1; Maryland Medical College, 56.8; Albany Medical College, 35.7, and Hahnemann Medical College, Chicago, 30.1.

The average percentage of failures for these larger colleges for graduates of 1907 and previous years was 23.0; for graduates of 1908 to 1912 inclusive (recent graduates), 15.9; for graduates of 1912, 12.1, and for graduates of all years, was 16.5. Of the 5,563 graduates of the 110 colleges in the United States which were examined by state boards in 1912 these larger schools furnished 3,924 or 70.5 per cent.

TABLE F.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE B.

| College. | Total Examined. | Results in Home State. Passed. | Failed. | Per Cent. Failed. | Results in Other States. Passed. | Failed. | Per Cent. Failed. |
|---|---|---|---|---|---|---|---|
| ALABAMA..... —34.6 | 96 | 41 | 31 | 42.9 | 22 | 2 | 8.3 |
| Birmingham Medical College..... | 48 | 20 | 22 | 52.4 | 6 | 0 | 0. |
| University of Alabama..... | 48 | 21 | 9 | 30.0 | 16 | 2 | 11.1 |
| ARKANSAS..... +24.2 | 63 | 39 | 11 | 22.0 | 7 | 6 | 46.2 |
| College of Physicians and Surgeons..... | 7 | 1 | 2 | 66.7 | 2 | 2 | 50.0 |
| University of Arkansas..... | 56 | 38 | 9 | 19.1 | 5 | 4 | 44.4 |
| CALIFORNIA..... —0.1 | 119 | 98 | 11 | 10.1 | 9 | 1 | 10.0 |
| College of P. and S., Los Angeles..... | 32 | 24 | 3 | 11.1 | 5 | 0 | 0. |
| College of P. and S., San Francisco..... | 9 | 2 | 4 | 66.7 | 2 | 1 | 33.3 |
| Cooper Medical College..... | 33 | 30 | 2 | 6.2 | 1 | 0 | 0. |
| Hahnemann Med. Coll. of the Pacific.... | 4 | 3 | 1 | 25.0 | .... | .... | ..... |
| Oakland Coll. of Medicine and Surg..... | 7 | 6 | 1 | 14.3 | .... | .... | ..... |
| University of California..... | 34 | 33 | 0 | 0. | 1 | 0 | 0. |
| COLORADO..... +7.2 | 44 | 30 | 0 | 0. | 13 | 1 | 7.2 |
| University of Colorado..... | 44 | 30 | 0 | 0. | 13 | 1 | 7.2 |
| CONNECTICUT..... +4.4 | 28 | 17 | 1 | 5.6 | 9 | 1 | 10.0 |
| Yale Medical School..... | 28 | 17 | 1 | 5.6 | 9 | 1 | 10.0 |
| DISTRICT OF COLUMBIA..... +14.9 | 109 | 39 | 4 | 9.3 | 50 | 16 | 24.2 |
| George Washington University..... | 44 | 21 | 2 | 8.7 | 16 | 5 | 23.8 |
| Georgetown University..... | 24 | 13 | 2 | 13.3 | 7 | 2 | 22.2 |
| Howard University..... | 41 | 5 | 0 | 0. | 27 | 9 | 25.0 |
| GEORGIA..... +37.8 | 192 | 129 | 2 | 1.5 | 37 | 24 | 39.3 |
| Atlanta College of Phys and Surgs..... | 78 | 53 | 1 | 1.9 | 20 | 4 | 16.7 |
| Atlanta School of Medicine..... | 65 | 45 | 1 | 2.2 | 10 | 9 | 47.4 |
| Georgia College of Eclectic M. and S.... | 3 | .... | .... | ..... | 0 | 3 | 100.0 |
| Southern Coll. of Medicine and Surg.... | 5 | .... | .... | ..... | 3 | 2 | 40.0 |
| Medical College of Georgia..... | 41 | 31 | 0 | 0. | 4 | 6 | 60.0 |
| ILLINOIS..... —6.4 | 783 | 420 | 85 | 18.8 | 249 | 29 | 10.4 |
| Bennett Medical College..... | 93 | 49 | 14 | 22.2 | 22 | 8 | 26.7 |
| Chicago College of Medicine and Surg.... | 161 | 95 | 23 | 19.5 | 36 | 7 | 16.3 |
| College of Physicians and Surgeons..... | 194 | 111 | 25 | 18.4 | 50 | 8 | 13.8 |
| Hahnemann Medical College and Hosp.. | 47 | 17 | 11 | 39.3 | 17 | 2 | 10.5 |
| Hering Medical College..... | 9 | 2 | 2 | 50.0 | 4 | 1 | 20.0 |
| Jenner Medical College..... | 12 | 8 | 2 | 20.0 | 2 | 0 | 0. |
| Northwestern University Medical School. | 130 | 66 | 6 | 8.3 | 56 | 2 | 3.4 |
| Rush Medical College..... | 137 | 72 | 2 | 2.7 | 62 | 1 | 1.6 |
| INDIANA..... +25.0 | 50 | 46 | 0 | 0. | 3 | 1 | 25.0 |
| Indiana University, School of Medicine.. | 50 | 46 | 0 | 0. | 3 | 1 | 25.0 |
| IOWA..... +12.5 | 62 | 54 | 0 | 0. | 7 | 1 | 12.5 |
| Drake University, College of Medicine... | 19 | 16 | 0 | 0. | 3 | 0 | 0. |
| State Univ. of Iowa, College of Med.... | 39 | 34 | 0 | 0. | 4 | 1 | 20.0 |
| State Univ. of Iowa, Homeo. Dept..... | 4 | 4 | 0 | 0. | .... | .... | ..... |
| KANSAS..... +23.8 | 27 | 20 | 1 | 4.8 | 5 | 2 | 28.6 |
| Kansas Medical College..... | 12 | 10 | 0 | 0. | 2 | 0 | 0. |
| Univ. of Kansas, School of Medicine..... | 15 | 10 | 1 | 9.1 | 3 | 1 | 25.0 |
| KENTUCKY..... +20.1 | 177 | 68 | 4 | 5.6 | 78 | 27 | 25.7 |
| University of Louisville, Medical Dept.... | 177 | 68 | 4 | 5.6 | 78 | 27 | 25.7 |
| LOUISIANA..... +10.5 | 147 | 89 | 4 | 4.3 | 46 | 8 | 14.8 |
| Tulane University Medical Dept..... | 147 | 89 | 4 | 4.3 | 46 | 8 | 14.8 |
| MAINE..... — | 15 | 7 | 0 | 0. | 8 | 0 | 0. |
| Medical School of Maine..... | 15 | 7 | 0 | 0. | 8 | 0 | 0. |
| MARYLAND..... +3.4 | 356 | 123 | 34 | 21.7 | 149 | 50 | 25.1 |
| Baltimore Medical College..... | 42 | 16 | 2 | 11.1 | 18 | 6 | 25.0 |
| College of Physicians and Surgeons..... | 65 | 14 | 3 | 17.7 | 36 | 12 | 25.0 |
| Johns Hopkins University..... | 86 | 46 | 1 | 2.1 | 35 | 4 | 10.3 |
| Maryland Medical College..... | 78 | 11 | 22 | 66.7 | 22 | 23 | 51.1 |
| University of Maryland..... | 85 | 36 | 6 | 14.3 | 38 | 5 | 11.6 |
| MASSACHUSETTS..... +8.9 | 247 | 122 | 10 | 7.6 | 96 | 19 | 16.5 |
| Boston University..... | 26 | 16 | 1 | 5.9 | 9 | 0 | 0. |
| College of Physicians and Surgeons..... | 41 | 10 | 5 | 33.3 | 20 | 6 | 23.1 |
| Harvard Medical School..... | 73 | 29 | 2 | 6.5 | 35 | 7 | 16.7 |
| Tufts College Medical School..... | 107 | 67 | 2 | 2.9 | 32 | 6 | 15.8 |
| MICHIGAN..... — | 151 | 130 | 0 | 0. | 21 | 0 | 0. |
| Detroit College of Medicine..... | 39 | 38 | 0 | 0. | 1 | 0 | 0. |
| Univ. of Michigan, Dept. of Med..... | 93 | 76 | 0 | 0. | 17 | 0 | 0. |
| Univ. of Michigan, Homeopathic Coll... | 19 | 16 | 0 | 0. | 3 | 0 | 0. |
| MINNESOTA..... — | 39 | 29 | 0 | 0. | 10 | 0 | 0. |
| Univ. of Minn., Coll. of Med. and Surg.. | 39 | 29 | 0 | 0. | 10 | 0 | 0. |
| MISSOURI..... +12.9 | 325 | 144 | 21 | 12.7 | 119 | 41 | 25.6 |
| American Medical College..... | 57 | 23 | 8 | 25.8 | 17 | 9 | 34.6 |
| Barnes Medical College..... | 18 | 2 | 3 | 60.0 | 9 | 4 | 30.8 |
| Eclectic Med. University, Kansas City... | 13 | .... | .... | ..... | 13 | 0 | 0. |
| Ensworth Medical College..... | 12 | 3 | 2 | 40.0 | 2 | 5 | 71.4 |
| Kansas City Hahnemann Med. Coll..... | 14 | 2 | 0 | 0. | 7 | 5 | 41.7 |
| St. Louis University..... | 88 | 55 | 0 | 0. | 31 | 2 | 6.1 |
| St. Louis College of Phys. and Surgs... | 27 | 2 | 3 | 60.0 | 9 | 13 | 59.1 |
| University Medical Coll., Kansas City... | 39 | 18 | 5 | 21.8 | 14 | 2 | 12.5 |
| Washington University..... | 57 | 39 | 0 | 0. | 17 | 1 | 5.6 |
| NEBRASKA..... +1.7 | 70 | 55 | 5 | 8.3 | 9 | 1 | 10.0 |
| John A. Creighton Medical College..... | 51 | 40 | 4 | 9.1 | 7 | 0 | 0. |
| Lincoln Medical College..... | 9 | 7 | 1 | 12.5 | 1 | 0 | 0. |
| University of Nebraska..... | 10 | 8 | 0 | 0. | 1 | 1 | 50.0 |
| NEW HAMPSHIRE..... —16.7 | 16 | 3 | 1 | 25.0 | 11 | 1 | 8.3 |
| Dartmouth Medical School..... | 16 | 3 | 1 | 25.0 | 11 | 1 | 8.3 |
| NEW YORK..... —16.3 | 487 | 332 | 86 | 20.6 | 66 | 3 | 4.3 |
| Albany Medical College..... | 54 | 30 | 20 | 40.0 | 4 | 0 | 0. |
| Columbia University, Coll. of P. and S.. | 88 | 64 | 8 | 11.1 | 15 | 1 | 6.3 |
| Cornell University Medical School..... | 31 | 22 | 0 | 0. | 9 | 0 | 0. |
| Eclectic Medical College, New York..... | 17 | 7 | 6 | 46.2 | 2 | 2 | 50.0 |
| Fordham University..... | 19 | 11 | 7 | 38.9 | 1 | 0 | 0. |
| Long Island College Hospital..... | 86 | 61 | 17 | 21.8 | 8 | 0 | 0. |
| New York Homeo. Med. Coll. and Hosp. | 30 | 13 | 5 | 27.8 | 12 | 0 | 0. |
| N. Y. Med. Coll. and Hosp. for Women | 5 | 3 | 2 | 40.0 | .... | .... | ..... |
| Syracuse University..... | 25 | 20 | 5 | 20.0 | .... | .... | ..... |
| Univ. and Bellevue Hosp. Med. Coll..... | 88 | 70 | 6 | 7.9 | 12 | 0 | 0. |
| Univ. of Buffalo, Medical Dept..... | 44 | 31 | 10 | 24.4 | 3 | 0 | 0. |
| NORTH CAROLINA..... +15.0 | 81 | 28 | 17 | 37.8 | 17 | 19 | 52.8 |
| Leonard School of Medicine..... | 54 | 8 | 12 | 60.0 | 16 | 18 | 52.9 |
| North Carolina Medical College..... | 27 | 20 | 5 | 20.0 | 1 | 1 | 50.0 |
| OHIO..... +12.3 | 222 | 178 | 9 | 4.8 | 29 | 6 | 17.1 |
| Cleveland College of Phys. and Surgs.. | 20 | 18 | 0 | 0. | 2 | 0 | 0. |
| Cleveland-Pulte Medical College..... | 13 | 10 | 3 | 23.1 | .... | .... | ..... |
| Eclectic Medical College..... | 24 | 6 | 2 | 25.0 | 12 | 4 | 25.0 |
| Ohio-Miami Medical College..... | 60 | 47 | 2 | 4.1 | 9 | 2 | 18.2 |
| Starling-Ohio Medical College..... | 58 | 54 | 1 | 1.8 | 3 | 0 | 0. |
| Toledo Medical College..... | 10 | 9 | 1 | 10.0 | .... | .... | ..... |
| Western Reserve University..... | 37 | 34 | 0 | 0. | 3 | 0 | 0. |
| OKLAHOMA..... +40.0 | 12 | 9 | 1 | 10.0 | 1 | 1 | 50.0 |
| Univ. of Oklahoma, School of Medicine.. | 12 | 9 | 1 | 10.0 | 1 | 1 | 50.0 |
| OREGON..... —50.0 | 32 | 9 | 15 | 62.5 | 7 | 1 | 12.5 |
| Willamette University..... | 10 | 1 | 8 | 88.9 | 1 | 0 | 0. |
| University of Oregon..... | 22 | 8 | 7 | 46.7 | 6 | 1 | 14.3 |
| PENNSYLVANIA..... — | 250 | .... | .... | ..... | 228 | 22 | 8.8 |
| Hahnemann Medical College and Hosp.. | 15 | .... | .... | ..... | 14 | 1 | 6.7 |
| Jefferson Medical College..... | 97 | .... | .... | ..... | 92 | 5 | 5.2 |
| Medico-Chirurgical Coll. of Phila..... | 32 | .... | .... | ..... | 28 | 4 | 12.5 |
| Temple University..... | 4 | .... | .... | ..... | 4 | 0 | 0. |
| University of Pennsylvania..... | 59 | .... | .... | ..... | 56 | 3 | 5.1 |
| University of Pittsburgh..... | 12 | .... | .... | ..... | 10 | 2 | 16.7 |
| Woman's Med. Coll. of Pennsylvania.... | 31 | .... | .... | ..... | 24 | 7 | 22.6 |
| SOUTH CAROLINA..... —0.4 | 81 | 57 | 13 | 18.6 | 9 | 2 | 18.2 |
| Med. Coll. of the State of So. Carolina.. | 81 | 57 | 13 | 18.6 | 9 | 2 | 18.2 |
| TENNESSEE..... +34.7 | 415 | 118 | 10 | 7.8 | 165 | 122 | 42.5 |
| Memphis Hospital Medical College..... | 153 | 36 | 2 | 5.3 | 60 | 55 | 47.8 |
| Meharry Medical College..... | 119 | 32 | 3 | 8.6 | 46 | 38 | 45.2 |
| Lincoln Memorial Univ., Med. Dept..... | 22 | 11 | 2 | 15.4 | 4 | 5 | 55.6 |
| University of Tennessee..... | 48 | 20 | 1 | 4.8 | 15 | 12 | 44.4 |
| University of West Tennessee..... | 18 | 4 | 2 | 33.3 | 4 | 8 | 66.7 |
| Vanderbilt University..... | 55 | 15 | 0 | 0. | 36 | 4 | 10.0 |
| TEXAS..... +15.6 | 96 | 87 | 4 | 4.4 | 4 | 1 | 20.0 |
| Baylor University..... | 17 | 15 | 2 | 11.8 | .... | .... | ..... |
| Texas Christian University..... | 17 | 13 | 1 | 7.2 | 2 | 1 | 33.3 |
| Southern Methodist University..... | 14 | 12 | 1 | 7.7 | 1 | 0 | 0. |
| University of Texas..... | 48 | 47 | 0 | 0. | 1 | 0 | 0. |
| VERMONT..... +16.2 | 59 | 32 | 1 | 3.0 | 21 | 5 | 19.2 |
| University of Vermont..... | 59 | 32 | 1 | 3.0 | 21 | 5 | 19.2 |
| VIRGINIA..... +4.0 | 113 | 63 | 7 | 10.0 | 37 | 6 | 14.0 |
| Medical College of Virginia..... | 49 | 34 | 6 | 15.0 | 7 | 2 | 22.2 |
| University of Virginia..... | 24 | 8 | 0 | 0. | 13 | 3 | 18.7 |
| University College of Medicine..... | 40 | 21 | 1 | 4.5 | 17 | 1 | 5.6 |
| WISCONSIN..... +7.5 | 72 | 42 | 7 | 14.3 | 18 | 5 | 21.8 |
| Marquette University..... | 59 | 32 | 6 | 15.8 | 16 | 5 | 23.8 |
| Wisconsin College of Phys. and Surgs... | 13 | 10 | 1 | 9.1 | 2 | 0 | 0. |
| Totals..... +8.4 | 5036 | 2658 | 395 | 12.9 | 1560 | 423 | 21.3 |

In this table the number of graduates examined in the state in which the college is located are grouped in one column while graduates of that college examined in other states are in another column. For example, under Tennessee, this table shows that, of the 153 graduates of Memphis Hospital Medical College examined by State Boards during 1912, 38 were examined in Tennessee of which number 36 passed and 2 or 5.3 per cent. failed, while 115 were examined in other states of which number 60 passed and 55 or 47.8 per cent. failed. This table shows that in the majority of instances the graduates have better chances of passing examinations in the state in which their colleges are located than they have elsewhere. This should always be considered in making comparison between colleges. A low standard college, by having all its graduates examined in the home state, may sometimes show a lower percentage of failures than a college of much higher grade which has graduates examined by several states. The reports from Pennsylvania were not received for publication, which prevents showing the results for the colleges of that state.

The heavy-faced figures give the results by states. The first column of heavy-faced figures preceded by the + and — signs, shows the differences between the percentages of examination in the home state and the examinations elsewhere. The plus sign indicates that graduates have better chances of success in the state where the colleges from which they graduated are located; the minus sign indicates that the chances are better elsewhere. The most marked variations in 1912 were in the examination of the graduates of the colleges of Oklahoma, 40.0 per cent.; Georgia, 37.8 per cent.; Tennessee, 34.7 per cent.; Indiana, 25.0 per cent., and Arkansas, 24.2 per cent., in all of which the chances of the graduates were better in the home state. The marked variations where the graduate's chances were better elsewhere were in Oregon, 50.0 per cent., and Alabama, 34.6 per cent. The danger of forming hasty conclusions from these percentages taken alone, however, is very well shown by the heavy figures for Indiana where there is one high grade school, where only 4 graduates were examined in "other states" and where the failure of one of them could have been accidental. The same is doubtless true regarding the percentages in Oklahoma where only two candidates were examined in "other states." More reliable are the percentages in Tennessee and Missouri where larger numbers from larger groups of colleges were examined in "other states." The totals show that on the average the chances of success were 8.4 per cent. better if the graduate took the examination in the state where his college was located.

### RESULTS IN HOME STATES AND ELSEWHERE

Table F is of much interest, because it shows for each college the results of examinations in the state in which the college is located, as compared with the results of examinations in other states, where there is less possibility of local influence. Of all recent graduates examined in 1912, 3,053, or about 60 per cent., took their license examinations in the states in which the colleges from which they graduated were located. Of this number 12.9 per cent. failed on the average, whereas, of the 1,983 candidates examined in other states, 21.3 per cent. failed. This would indicate that, as a rule, the student's chances of passing the license examination are better if he stays in the college's home state. In this connection it is interesting to note that no graduate of any of the Iowa colleges failed in the Iowa examinations, although of the graduates of these colleges who were examined in other states, 12.5 per cent. failed. In Colorado there were no failures for the Colorado college, although of the graduates of that school examined elsewhere 7.2 per cent. failed. The student's chances for success at home and elsewhere were equal or nearly so in five instances, these being for the colleges of Maine, Michigan, Minnesota, Nebraska and South Carolina; the student's chances were better in the home state in twenty-two instances, while in six instances the student's chances were better if he went to some other state.

### TOTAL RESULTS FOR FIVE YEARS

Table G shows, so far as reports were obtainable, the number registered and the number rejected in each state for each of the past five years. A comparison of this table with the statistics in the last educational number of THE JOURNAL (Aug. 24, 1912, p. 653, Table 12), shows what would be expected, that the states having the largest number of medical graduates examine the largest number of physicians. Now, only one state, New Mexico, will register candidates on presentation of diploma, without examination. This table shows only those registered by examination. Another table (K) shows the total registration by all methods.

### CLASSIFICATION OF COLLEGES

Tables H, I and J give a classification of the medical colleges of the United States on the basis of the failures of their graduates at state board examinations during the past year. This classification is based on the examination of *recent graduates*, as shown in Table B. In forming conclusions, the caution already given should be observed, of noting the number examined, the number of states in which representatives appeared, the character of the board making the examination and the character of the examination. To form a more exact judgment one should compare the percentage of failures received by any college this year with those received in the classifications published in previous years. The exact ratings of the Pennsylvania colleges in these lists are uncertain owing to the omission of the Pennsylvania report since naturally the largest numbers from those colleges were examined in that state. Careful investigation shows that a college cannot be considered a high-grade medical school merely because its graduates occasionally show a low percentage or an absence of failures at state board examinations. The fact is, several poorly equipped and low-standard colleges appear in the first list. On the other hand, some good schools appear in the second list. For the majority of colleges, however, the classification is fairly accurate. A comparison of this classification with that based on the actual inspection of the colleges by the Council on Medical Education will be of interest (see THE JOURNAL A. M. A., Jan. 18, 1913, pp. 231-234.)

Table H gives a list of forty-one colleges which obtained failure percentages below 10 per cent., fifteen of which had no failures whatsoever and nine others had only 5 per cent. or less. The failure percentage for the entire group was 4.2. Table I shows thirty-two colleges whose failure percentages were between 10 and 20 per cent., of which number seventeen had percentages below the average for the group,

TABLE G.—PHYSICIANS EXAMINED BY STATE BOARDS, 1908 TO 1912, INCLUSIVE

| State. | 1908 | | 1909 | | 1910 | | 1911 | | 1912 | | Totals. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Registered. | Rejected. | Registered. | Rejected. | Registered. | Rejected. | Registered. | Rejected. | Registered. | Rejected. | Examined. | Registered. | Rejected. | Percentage Rejected. |
| Alabama | 66 | 66 | 7 | 20 | 94 | 64 | 107 | 54 | 84 | 72 | 634 | 358 | 276 | 43.5 |
| Arizona | 36 | 4 | 19 | 6 | 15 | 9 | 28 | 9 | 32 | 10 | 168 | 130 | 38 | 22.6 |
| Arkansas | 120 | 85 | 111 | 131 | 96 | 28 | 108 | 30 | 124 | 27 | 860 | 559 | 301 | 35.0 |
| California | 145 | 96 | 184 | 73 | 204 | 47 | 227 | 59 | 256 | 60 | 1351 | 1016 | 335 | 24.8 |
| Colorado | 52 | 14 | 36 | 15 | 48 | 5 | 33 | 8 | 41 | 1 | 253 | 210 | 43 | 17.0 |
| Connecticut | 67 | 16 | 52 | 13 | 69 | 18 | 73 | 20 | 70 | 18 | 416 | 331 | 85 | 20.5 |
| Delaware | 11 | 0 | 19 | 2 | 21 | 2 | 22 | 0 | 22 | 1 | 100 | 95 | 5 | 5.0 |
| Dist. of Columbia | 53 | 36 | 46 | 21 | 32 | 13 | 25 | 8 | 49 | 7 | 290 | 205 | 85 | 29.7 |
| Florida | 79 | 10 | 70 | 12 | 102 | 15 | 87 | 23 | 114 | 31 | 543 | 452 | 91 | 16.8 |
| Georgia | 150 | 14 | 143 | 28 | 148 | 9 | 148 | 28 | 178 | 17 | 863 | 767 | 96 | 11.1 |
| Idaho | 52 | 16 | 54 | 23 | 47 | 24 | 41 | 13 | 35 | 12 | 317 | 229 | 88 | 27.8 |
| Illinois | 646 | 96 | 645 | 117 | 631 | 100 | 432 | 154 | 505 | 134 | 3460 | 2859 | 601 | 28.5 |
| Indiana | 172 | 7 | 102 | 3 | 97 | 9 | 114 | 7 | 95 | 4 | 610 | 580 | 30 | 4.9 |
| Iowa | 139 | 43 | 98 | 14 | 113 | 4 | 75 | 6 | 131 | 7 | 630 | 556 | 74 | 11.7 |
| Kansas | 116 | 18 | 121 | 20 | 66 | 25 | 56 | 25 | 50 | 12 | 509 | 409 | 100 | 19.8 |
| Kentucky | 107 | 61 | 120 | 18 | 119 | 35 | 88 | 36 | 88 | 8 | 680 | 522 | 158 | 23.2 |
| Louisiana | 145 | 29 | 121 | 33 | 104 | 34 | 123 | 30 | 128 | 36 | 783 | 621 | 162 | 20.7 |
| Maine | 92 | 11 | 55 | 10 | 73 | 5 | 86 | 11 | 74 | 17 | 434 | 380 | 54 | 12.4 |
| Maryland | 132 | 71 | 130 | 33 | 131 | 32 | 160 | 39 | 160 | 46 | 934 | 713 | 221 | 23.7 |
| Massachusetts* | 238 | 108 | 213 | 95 | 197 | 100 | 226 | 74 | 227 | 54 | 1532 | 1101 | 431 | 28.1 |
| Michigan | 113 | 6 | 140 | 2 | 131 | 3 | 127 | 1 | 159 | 3 | 685 | 670 | 15 | 2.2 |
| Minnesota | 76 | 25 | 90 | 25 | 76 | 22 | 58 | 7 | 55 | 5 | 439 | 355 | 84 | 19.4 |
| Mississippi* | 138 | 184 | 130 | 154 | 84 | 150 | 115 | 113 | 56 | 48 | 1172 | 523 | 649 | 55.4 |
| Missouri | 181 | 50 | 212 | 70 | 181 | 23 | 182 | 38 | 213 | 32 | 1182 | 969 | 213 | 18.0 |
| Montana | 51 | 27 | 68 | 23 | 73 | 24 | 44 | 19 | 50 | 9 | 388 | 286 | 102 | 26.3 |
| Nebraska | 103 | 16 | 74 | 8 | 80 | 0 | 67 | 11 | 88 | 10 | 457 | 412 | 45 | 9.8 |
| Nevada | 17 | 0 | 9 | 0 | 12 | 1 | 8 | 1 | 8 | 1 | 57 | 54 | 3 | 5.4 |
| New Hampshire | 37 | 16 | 20 | 10 | 34 | 8 | 18 | 5 | 36 | 7 | 191 | 145 | 46 | 24.1 |
| New Jersey | 89 | 17 | 76 | 12 | 63 | 17 | 107 | 15 | 59 | 14 | 469 | 394 | 75 | 16.0 |
| New Mexico | 30 | 2 | 11 | 4 | 6 | 1 | 2 | 2 | 6 | 2 | 66 | 55 | 11 | 16.7 |
| New York | 679 | 73 | 566 | 72 | 515 | 72 | 536 | 164 | 433 | 153 | 3263 | 2729 | 534 | 16.4 |
| North Carolina | 95 | 26 | 111 | 18 | 79 | 15 | 92 | 30 | 87 | 37 | 590 | 464 | 126 | 21.4 |
| North Dakota | 52 | 10 | 41 | 6 | 42 | 5 | 25 | 1 | 15 | 7 | 204 | 175 | 29 | 14.2 |
| Ohio | 182 | 6 | 192 | 13 | 172 | 10 | 170 | 8 | 199 | 12 | 964 | 915 | 49 | 5.1 |
| Oklahoma | 34 | 10 | 92 | 44 | 100 | 42 | 123 | 39 | 94 | 27 | 605 | 443 | 162 | 26.8 |
| Oregon* | 43 | 63 | 95 | 50 | 93 | 55 | 94 | 50 | 96 | 65 | 704 | 421 | 283 | 40.2 |
| Pennsylvania | 485 | 49 | 474 | 27 | 451 | 52 | 515 | 27 | ... | ... | 2080 | 1925 | 155 | 7.5 |
| Rhode Island | 29 | 17 | 23 | 10 | 23 | 10 | 32 | 5 | 39 | 12 | 200 | 146 | 54 | 27.0 |
| South Carolina | 47 | 21 | 46 | 33 | 61 | 44 | 94 | 27 | 90 | 35 | 498 | 338 | 160 | 32.3 |
| South Dakota | 58 | 6 | 60 | 21 | 52 | 9 | 53 | 5 | 16 | 1 | 281 | 239 | 42 | 14.9 |
| Tennessee* | 213 | 87 | 277 | 4 | 315 | 52 | 213 | 42 | 313 | 76 | 1592 | 1331 | 261 | 16.4 |
| Texas | 143 | 23 | 181 | 19 | 162 | 5 | 151 | 19 | 151 | 13 | 867 | 788 | 79 | 9.1 |
| Utah | 27 | 5 | 28 | 4 | 34 | 4 | 22 | 3 | 20 | 2 | 149 | 131 | 18 | 12.1 |
| Vermont | 45 | 6 | 38 | 2 | 21 | 1 | 51 | 1 | 45 | 2 | 212 | 200 | 12 | 5.7 |
| Virginia | 128 | 53 | 136 | 40 | 122 | 14 | 115 | 43 | 105 | 30 | 786 | 606 | 180 | 24.0 |
| Washington | 182 | 60 | 148 | 49 | 154 | 43 | 102 | 43 | 69 | 27 | 877 | 655 | 222 | 25.3 |
| West Virginia | 102 | 18 | 105 | 10 | 88 | 25 | 88 | 22 | 66 | 20 | 544 | 449 | 95 | 17.5 |
| Wisconsin | 80 | 7 | 56 | 13 | 71 | 7 | 107 | 7 | 68 | 19 | 435 | 382 | 53 | 12.1 |
| Wyoming | 7 | 2 | 12 | 0 | 10 | 0 | 8 | 0 | 11 | 0 | 50 | 48 | 2 | 4.0 |
| Totals | 7770 | | 7287 | | 7004 | | 6960 | | 6353 | | 35374 | | | |
| Registered | 6084 | | 5857 | | 5712 | | 5578 | | 5110 | | 28341 | | | |
| Rejected | 1686 | | 1430 | | 1292 | | 1382 | | 1243 | | 7033 | | | |
| Per Cent. Rejected | 21.7 | | 19.6 | | 18.4 | | 19.9 | | 17.8 | | 19.9 | | | |

This table gives the number of candidates registered by examination by each state during each of the last five years, as well as the number rejected. The last four columns give the totals for the five years and the percentage rejected by each state.

Eight states registered over 1,000 candidates by examination in the five years, these being California, Illinois, Massachusetts, Mississippi, Missouri, New York, Pennsylvania and Tennessee. Over 3,000 were registered in Illinois and New York. Of the 1,331 candidates registered in Tennessee in the last five years, 525, or 39.4 per cent., were non-graduates.

The highest percentage of rejections were 55.4 in Mississippi, followed by Arkansas, Alabama and Oregon, with 43.5, 43.5 and 40.2, respectively. The states marked with an asterisk (*) included non-graduates among those examined, and for that reason would have higher percentages rejected. Such, however, was not the case in Tennessee. On the other hand, in several states the boards eliminate many candidates prior to the examination by a careful scrutiny of credentials and as a result there are lower percentages of failures at the examinations.

The lowest failure percentages were in Michigan, 2.2; Wyoming, 4.0; Indiana, 4.9; Delaware, 5.0; Ohio, 5.1; Nevada, 5.4, and Vermont, 5.7.

CLASSIFICATION OF COLLEGES
Comparison with Previous Years (Tables H, I, J).

| | Colleges Having Less than 10 Per Cent. | Colleges Having 10 to 20 Per Cent. | Colleges Having Above 20 Per Cent. | Unclassified Colleges. | Total Colleges. |
|---|---|---|---|---|---|
| 1904 | 47 | 27 | 38 | 37 | 149 |
| 1905 | 45 | 22 | 40 | 46 | 153 |
| 1906 | 62 | 24 | 43 | 20 | 149 |
| 1907 | 64 | 27 | 39 | 18 | 148 |
| 1908 | 48 | 29 | 46 | 15 | 138 |
| 1909 | 58 | 31 | 38 | 7 | 134 |
| 1910 | 57 | 22 | 42 | 0 | 121 |
| 1911 | 47 | 21 | 46 | 5 | 119 |
| 1912 | 41 | 32 | 37 | 0 | 110 |

which was 16.0. Table J includes thirty-seven colleges having failure percentages of 20 per cent. or above, of which number fifteen had below 30 per cent., eleven had between 30 and 40 per cent. and eleven had percentages above 40 per cent. The average percentage for all candidates in this group of colleges was 34.8.

A comparison of the classification this year with those of previous years shows a decrease in the number of colleges having above 20 per cent. of failures and also a decrease in those having less than 10 per cent. of failures. It will be interesting to note the changes in these totals hereafter as state boards more generally adopt the use of practical examinations.

TABLE H.—COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1912. BASED ON TABLE B.

| College. | Total Examined. | Number Passed. | Number Failed. | Per Cent. Failed. | No. of States. |
|---|---|---|---|---|---|
| CALIFORNIA | | | | | |
| College of Phys. and Surgs., Los Angeles | 32 | 29 | 3 | 9.4 | 6 |
| Cooper Medical College | 33 | 31 | 2 | 6.1 | 2 |
| University of California, Medical Dept | 34 | 34 | 0 | 0. | 2 |
| COLORADO | | | | | |
| University of Colorado, Medical Dept | 44 | 43 | 1 | 2.3 | 10 |
| CONNECTICUT | | | | | |
| Yale Medical College | 28 | 26 | 2 | 7.1 | 5 |
| GEORGIA | | | | | |
| Atlanta College of Physicians and Surgs | 78 | 73 | 5 | 6.4 | 7 |
| ILLINOIS | | | | | |
| Northwestern University Medical School | 130 | 122 | 8 | 6.2 | 20 |
| Rush Medical College | 137 | 134 | 3 | 2.2 | 21 |
| INDIANA | | | | | |
| Indiana University, School of Medicine | 50 | 49 | 1 | 2.0 | 5 |
| IOWA | | | | | |
| Drake University, College of Medicine | 19 | 19 | 0 | 0. | 4 |
| State University of Iowa, College of Med | 39 | 38 | 1 | 2.6 | 5 |
| State University of Iowa, Homeo. Dept | 4 | 4 | 0 | 0. | 1 |
| KANSAS | | | | | |
| Kansas Medical College | 12 | 12 | 0 | 0. | 3 |
| LOUISIANA | | | | | |
| Tulane University, Medical Dept | 147 | 135 | 12 | 8.2 | 12 |
| MAINE | | | | | |
| Medical School of Maine | 15 | 15 | 0 | 0. | 4 |
| MARYLAND | | | | | |
| Johns Hopkins University, Medical Dept | 86 | 81 | 5 | 5.8 | 15 |
| MASSACHUSETTS | | | | | |
| Boston University, School of Medicine | 26 | 25 | 1 | 3.8 | 6 |
| Tufts College Medical School | 107 | 99 | 8 | 7.5 | 7 |
| MICHIGAN | | | | | |
| Detroit College of Medicine | 39 | 39 | 0 | 0. | 2 |
| Univ. of Mich., Dept. of Med. and Surg | 93 | 93 | 0 | 0. | 11 |
| University of Michigan, Homeo. College | 19 | 19 | 0 | 0. | 3 |
| MINNESOTA | | | | | |
| Univ. of Minn., Coll. of Med. and Surg | 39 | 39 | 0 | 0. | 5 |
| MISSOURI | | | | | |
| Eclectic Medical University, Kansas City | 13 | 13 | 0 | 0. | 1 |
| St. Louis University, School of Medicine | 88 | 86 | 2 | 2.3 | 15 |
| Washington University, Medical Dept | 57 | 56 | 1 | 1.8 | 11 |
| NEBRASKA | | | | | |
| John A. Creighton Medical College | 51 | 47 | 4 | 7.8 | 7 |
| NEW YORK | | | | | |
| Cornell University Medical College | 31 | 31 | 0 | 0. | 7 |
| Univ. and Bellevue Hosp. and Med. Coll | 88 | 82 | 6 | 6.8 | 7 |
| OHIO | | | | | |
| Cleveland College of Physicians and Surgs | 20 | 20 | 0 | 0. | 3 |
| Ohio-Miami Medical College | 60 | 56 | 4 | 6.7 | 10 |
| Starling-Ohio Medical College | 58 | 57 | 1 | 1.7 | 3 |
| Western Reserve University, Medical Dept | 37 | 37 | 0 | 0. | 3 |
| PENNSYLVANIA* | | | | | |
| Hahnemann Medical College and Hospital | 15 | 14 | 1 | 6.7 | 8 |
| Jefferson Medical College | 97 | 92 | 5 | 5.2 | 31 |
| Temple University, Medical Dept | 4 | 4 | 0 | 0. | 2 |
| University of Pennsylvania, Dept. of Med | 59 | 56 | 3 | 5.1 | 24 |
| TENNESSEE | | | | | |
| Vanderbilt University, Medical Dept | 55 | 51 | 4 | 7.3 | 18 |
| TEXAS | | | | | |
| Southern Methodist University, Med. Dept | 14 | 13 | 1 | 7.2 | 2 |
| University of Texas, Dept. of Medicine | 48 | 48 | 0 | 0. | 2 |
| VIRGINIA | | | | | |
| University College of Medicine | 40 | 38 | 2 | 5.0 | 8 |
| WISCONSIN | | | | | |
| Wisconsin College of Physicians and Surgs | 13 | 12 | 1 | 7.7 | 3 |
| Totals | 2059 | 1972 | 87 | 4.2 | |

* Ratings of Pennsylvania colleges uncertain owing to omission of Pennsylvania report.

## TOTAL REGISTRATION IN 1912

The tables thus far described have referred only to the results of examinations and to those registered on that basis. Table K, however, shows the total number who received licenses in each state, including those registered by examination, by reciprocity and under various exemption clauses. Above 100 were registered in twenty-seven different states, above 200 in eleven and above 300 in four, the largest numbers being registered in Illinois with 546, New York with 480, Pennsylvania with 369 and Tennessee with 323. There were 165 non-graduates registered in five states, 142 (86 per cent.) having been registered in Tennessee, thirteen in Massachusetts, eight in Oregon, one in Colorado and one in Maine. Altogether, 6,723 physicians were licensed during 1912 as compared with 6,824 in 1911, 7,352 in 1910 and 7,865 in 1906.

Table L gives those registered without examination on presentation of satisfactory credentials, which included a license issued by some other state. This is usually described by the term "reciprocity," which conveys the idea that the state which accepts the license of another must be granted the same courtesy by the state issuing the original license. The term does not well describe this method of registration, however, since some state boards consider it more fair to the physician to accept his credentials, if satisfactory, whether the state board issuing the original license returns the favor or not. Had not reciprocal relations been established by the thirty-four states shown in the table, 1,141 physicians, the majority of whom have been in practice for many years, would have been compelled to undergo the ordeal of a second trying examination.

TABLE I.—COLLEGES HAVING BETWEEN 10 AND 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1912. BASED ON TABLE B.

| College. | Total Examined. | Number Passed. | Number Failed. | Per Cent. Failed. | No. of States. |
|---|---|---|---|---|---|
| CALIFORNIA | | | | | |
| Oakland College of Medicine and Surgery | 7 | 6 | 1 | 14.3 | 1 |
| DISTRICT OF COLUMBIA | | | | | |
| George Washington University | 44 | 37 | 7 | 15.9 | 14 |
| Georgetown University, School of Medicine | 24 | 20 | 4 | 16.7 | 7 |
| GEORGIA | | | | | |
| Atlanta School of Medicine | 65 | 55 | 10 | 15.4 | 9 |
| Medical College of Georgia | 41 | 35 | 6 | 14.6 | 4 |
| ILLINOIS | | | | | |
| Chicago College of Medicine and Surgery | 161 | 131 | 30 | 18.6 | 23 |
| College of Physicians and Surgeons | 194 | 161 | 33 | 17.0 | 17 |
| Jenner Medical College | 12 | 10 | 2 | 16.7 | 3 |
| KANSAS | | | | | |
| University of Kansas, School of Medicine | 15 | 13 | 2 | 13.3 | 4 |
| KENTUCKY | | | | | |
| University of Louisville, Medical Dept | 177 | 146 | 31 | 17.5 | 31 |
| MARYLAND | | | | | |
| Baltimore Medical College | 42 | 34 | 8 | 19.0 | 13 |
| University of Maryland, School of Medicine | 85 | 74 | 11 | 12.9 | 16 |
| MASSACHUSETTS | | | | | |
| Harvard Medical School | 73 | 64 | 9 | 12.3 | 18 |
| MISSOURI | | | | | |
| University Medical College, Kansas City | 39 | 32 | 7 | 18.0 | 7 |
| NEBRASKA | | | | | |
| Lincoln Medical College | 9 | 8 | 1 | 11.1 | 2 |
| University of Nebraska, College of Medicine | 10 | 9 | 1 | 10.0 | 3 |
| NEW HAMPSHIRE | | | | | |
| Dartmouth Medical School | 16 | 14 | 2 | 12.5 | 6 |
| NEW YORK | | | | | |
| Columbia Univ., Coll. of Phys. and Surgs | 88 | 79 | 9 | 10.2 | 13 |
| Long Island College Hospital | 86 | 69 | 17 | 19.8 | 5 |
| New York Homeo. Medical Coll. and Hosp | 30 | 25 | 5 | 16.7 | 7 |
| Syracuse University, College of Medicine | 25 | 20 | 5 | 20.0 | 1 |
| OHIO | | | | | |
| Toledo Medical College | 10 | 9 | 1 | 10.0 | 1 |
| OKLAHOMA | | | | | |
| University of Oklahoma, School of Med | 12 | 10 | 2 | 16.7 | 3 |
| PENNSYLVANIA | | | | | |
| Medico-Chirurgical College of Philadelphia | 32 | 28 | 4 | 12.5 | 14 |
| University of Pittsburgh, School of Med | 12 | 10 | 2 | 16.7 | 9 |
| SOUTH CAROLINA | | | | | |
| Med. Coll. of the State of South Carolina | 81 | 66 | 15 | 18.5 | 6 |
| TEXAS | | | | | |
| Baylor University, College of Medicine | 17 | 15 | 2 | 11.8 | 1 |
| Texas Christian University, Medical Dept | 17 | 15 | 2 | 11.8 | 3 |
| VERMONT | | | | | |
| University of Vermont, College of Medicine | 59 | 53 | 6 | 10.2 | 8 |
| VIRGINIA | | | | | |
| Medical College of Virgina | 49 | 41 | 8 | 16.3 | 5 |
| University of Virginia, Dept. of Medicine | 24 | 21 | 3 | 12.5 | 11 |
| WISCONSIN | | | | | |
| Marquette University, Medical Dept | 59 | 48 | 11 | 18.6 | 9 |
| Totals | 1615 | 1358 | 257 | 16.0 | |

### RECIPROCITY AND EDUCATIONAL STANDARDS

As at present administered, reciprocal relations between some states are tending to lower rather than to elevate educational standards. A study of these statistics will show that in several instances such relations exist between states differing widely in their standards of education and in the methods and severity of their examinations. It can be seen, therefore, that a loosely administered provision for reciprocity provides a wide-open door through which unqualified candidates can obtain registration. There are some boards, however, which wisely reserve and exercise the right to reject any candidate who does not possess satisfactory credentials even though he is licensed in a state with which it has reciprocal relations. Some boards also prudently require that the applicant, before he is eligible to registration through reciprocity, must have been engaged in the actual and reputable practice of his profession for at least a year in the state where the original license was granted. Without this provision a candidate may be tempted to obtain his original license in the state giving the easiest examination. Without the one-year-residence clause, therefore, standards of examination are apt to be lowered. In the establishing of reciprocal relations the state board should reserve and exercise the discretionary power to refuse to register any candidate who could not originally have registered in that state, and, secondly, the board should require that the applicant shall have been in the actual practice of medicine for at least a year before he is eligible to registration under the reciprocity provision.

TABLE J.—COLLEGES HAVING OVER 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1912. BASED ON TABLE B.

| College. | Total Examined. | Number Passed. | Number Failed. | Per Cent. Failed. | No. of States. |
|---|---|---|---|---|---|
| ALABAMA | | | | | |
| Birmingham Medical College | 48 | 26 | 22 | 45.8 | 4 |
| University of Alabama, Medical Dept. | 48 | 37 | 11 | 22.9 | 5 |
| ARKANSAS | | | | | |
| College of Physicians and Surgeons | 7 | 3 | 4 | 57.1 | 3 |
| University of Arkansas, Medical Dept. | 56 | 43 | 13 | 23.2 | 5 |
| CALIFORNIA | | | | | |
| College of Phys. and Surgs., San Francisco | 9 | 4 | 5 | 55.6 | 3 |
| Hahnemann Medical College of the Pacific | 4 | 3 | 1 | 25.0 | 1 |
| DISTRICT OF COLUMBIA | | | | | |
| Howard University, Medical Dept. | 41 | 32 | 9 | 22.0 | 13 |
| GEORGIA | | | | | |
| Georgia Coll. of Eclectic Med. and Surg. | 3 | 0 | 3 | 100.0 | 2 |
| Southern College of Medicine and Surgery | 5 | 3 | 2 | 40.0 | 2 |
| ILLINOIS | | | | | |
| Bennett Medical College | 93 | 71 | 22 | 23.7 | 14 |
| Hahnemann Medical College and Hospital | 47 | 34 | 13 | 27.7 | 12 |
| Hering Medical College | 9 | 6 | 3 | 33.3 | 6 |
| MARYLAND | | | | | |
| College of Physicians and Surgeons | 65 | 50 | 15 | 23.1 | 14 |
| Maryland Medical College | 78 | 33 | 45 | 57.7 | 12 |
| MASSACHUSETTS | | | | | |
| College of Physicians and Surgeons | 41 | 30 | 11 | 26.9 | 10 |
| MISSOURI | | | | | |
| American Medical College | 57 | 40 | 17 | 29.8 | 6 |
| Barnes Medical College | 18 | 11 | 7 | 38.9 | 8 |
| Ensworth Medical College | 12 | 5 | 7 | 58.3 | 5 |
| Kansas City Hahnemann Medical College | 14 | 9 | 5 | 35.7 | 5 |
| St. Louis College of Physicians and Surgs. | 27 | 11 | 16 | 59.2 | 12 |
| NEW YORK | | | | | |
| Albany Medical College | 54 | 34 | 20 | 37.0 | 4 |
| Eclectic Med. Coll. of the City of New York | 17 | 9 | 8 | 47.1 | 4 |
| Fordham University, School of Medicine | 19 | 12 | 7 | 36.8 | 2 |
| New York Med. Coll. and Hosp. for Women | 5 | 3 | 2 | 40.0 | 1 |
| University of Buffalo, Medical Dept. | 44 | 34 | 10 | 22.7 | 4 |
| NORTH CAROLINA | | | | | |
| Leonard School of Medicine | 54 | 24 | 30 | 55.6 | 8 |
| North Carolina Medical College | 27 | 21 | 6 | 22.2 | 3 |
| OHIO | | | | | |
| Cleveland-Pulte Medical College | 13 | 10 | 3 | 23.1 | 1 |
| Eclectic Medical College | 24 | 18 | 6 | 25.0 | 9 |
| OREGON | | | | | |
| Willamette University, Medical Dept. | 10 | 2 | 8 | 80.0 | 2 |
| University of Oregon, Medical Dept. | 22 | 14 | 8 | 36.4 | 3 |
| PENNSYLVANIA | | | | | |
| Woman's Medical College of Pennsylvania | 31 | 24 | 7 | 22.6 | 17 |
| TENNESSEE | | | | | |
| Memphis Medical College | 153 | 96 | 57 | 37.3 | 12 |
| Meharry Medical College | 119 | 78 | 41 | 34.5 | 18 |
| Lincoln Memorial University, Medical Dept. | 22 | 15 | 7 | 31.8 | 8 |
| University of Tennessee, Medical Dept. | 48 | 35 | 13 | 27.1 | 14 |
| University of West Tennessee, Medical Dept. | 18 | 8 | 10 | 55.6 | 6 |
| Totals | 1362 | 888 | 474 | 34.8 | |

In the light of the above statement in regard to reciprocity, it will be interesting to study Table M, which shows in what states the original licenses were granted of those who were registered elsewhere under the reciprocity provision during the last five years. Note that of the 6,029 physicians licensed through reciprocity during the last five years the original licenses of 1,260 (20.9 per cent.) were obtained in Illinois, more than twice as many as came from any other one state. In New York 471 physicians took their original license examinations, 376 in Iowa and 336 in Missouri.

### IN CONCLUSION

In the publication of these statistics, the endeavor has been to give an absolutely fair presentation of facts, a knowledge of which is always beneficial. Without question this annual presentation of the results of state licensing examinations has had a most helpful influence on medical education and medical licensure in this country. We reiterate our acknowledgments to the state licensing boards whose ready cooperation and complete reports have made the publication of these data possible.

TABLE K.—REGISTRATION BY STATE BOARDS DURING THE YEAR 1912.

| States. | By Examination. | | | By Reciprocity. | Without Written Exam. or Under Exemption. | Total Registered |
|---|---|---|---|---|---|---|
| | Graduates, 1908-1912. | Graduates, 1907 and Previous. | Non-graduates. | | | |
| Alabama | 79 | 5 | .... | .... | .... | 84 |
| Arizona | 10 | 22 | .... | .... | 2 | 34 |
| Arkansas | 105 | 19 | .... | 27 | .... | 151 |
| California | 159 | 97 | .... | .... | 12 | 268 |
| Colorado | 37 | 3 | 1 | 80 | .... | 121 |
| Connecticut | 58 | 12 | .... | 3 | .... | 73 |
| Delaware | 18 | 4 | .... | 11 | .... | 33 |
| District of Columbia | 46 | 3 | .... | 4 | .... | 53 |
| Florida | 82 | 32 | .... | .... | .... | 114 |
| Georgia | 168 | 10 | .... | 34 | .... | 212 |
| Idaho | 17 | 18 | .... | .... | .... | 35 |
| Illinois | 474 | 31 | .... | 41 | .... | 546 |
| Indiana | 90 | 5 | .... | 28 | .. . | 123 |
| Iowa | 124 | 7 | .... | 37 | .... | 168 |
| Kansas | 45 | 5 | .... | 52 | .... | 102 |
| Kentucky | 86 | 2 | .... | 30 | 5 | 123 |
| Louisiana | 122 | 6 | .... | 1 | .... | 129 |
| Maine | 64 | 9 | 1 | 6 | .... | 80 |
| Maryland | 153 | 7 | .... | 19 | .... | 179 |
| Massachusetts | 191 | 23 | 13 | .... | .... | 227 |
| Michigan | 152 | 7 | .... | 60 | .... | 219 |
| Minnesota | 47 | 8 | .... | 59 | .... | 114 |
| Mississippi | 53 | 3 | .... | 2 | .... | 58 |
| Missouri | 177 | 36 | . .. | 67 | .... | 280 |
| Montana | 35 | 15 | .... | .... | .... | 50 |
| Nebraska | 76 | 12 | .... | 59 | .... | 147 |
| Nevada | 3 | 5 | .... | 13 | .... | 21 |
| New Hampshire | 28 | 8 | .... | 8 | .... | 44 |
| New Jersey | 54 | 5 | .... | 74 | .... | 133 |
| New Mexico | 2 | 4 | .... | .... | 92 | 98 |
| New York | 406 | 27 | .... | 43 | 4 | 480 |
| North Carolina | 81 | 6 | .... | 22 | .... | 109 |
| North Dakota | 10 | 5 | .... | 11 | 1 | 27 |
| Ohio | 197 | 2 | .... | 64 | .... | 263 |
| Oklahoma | 70 | 24 | .... | 17 | .... | 111 |
| Oregon | 52 | 36 | 8 | .... | .... | 96 |
| Pennsylvania | 353 | 3 | .... | 13 | .... | 369 |
| Rhode Island | 33 | 6 | .... | .... | .... | 39 |
| South Carolina | 88 | 2 | .... | 2 | .... | 92 |
| South Dakota | 12 | 4 | .... | 1 | . .. | 17 |
| Tennessee | 162 | 9 | 142 | 10 | .... | 323 |
| Texas | 136 | 15 | .... | 99 | .... | 250 |
| Utah | 16 | 4 | .... | 7 | . .. | 27 |
| Vermont | 41 | 4 | .... | 2 | .... | 47 |
| Virginia | 103 | 2 | .... | 29 | .... | 134 |
| Washington | 51 | 18 | .... | .... | .... | 69 |
| West Virginia | 58 | 8 | .... | 28 | .... | 94 |
| Wisconsin | 65 | 3 | .... | 57 | .... | 125 |
| Wyoming | 6 | 5 | .... | 21 | . . | 32 |
| Totals | 4695 | 606 | 165 | 1141 | 116 | 6723 |

This table shows the total number registered during 1912 in each state by the various methods. The first column shows the recent graduates registered, the second column, the old practitioners (graduates of 1907 and previous years), the third column the non-graduates, and the fourth column shows the number licensed through reciprocity. It is interesting to note that states which have registered large numbers through reciprocity have examined very few old practitioners. The chief exception is New York, which has arranged reciprocal relations with only seven other states. The fifth column shows those registered without written examination under various exemption clauses. The last column shows the total number of physicians registered by all methods in each state during the year.

TABLE L.—PHYSICIANS REGISTERED THROUGH RECIPROCITY BY STATE EXAMINING BOARDS DURING 1912

| State Boards of | Total Reg. by Recip., Ea. State | Alabama | Arkansas | Colorado | Connecticut | Delaware | Dist. of Col. | Florida | Georgia | Idaho | Illinois | Indiana | Iowa | Kansas | Kentucky | Louisiana | Maine | Maryland | Massachusetts | Michigan | Minnesota | Mississippi | Missouri | Montana | Nebraska | Nevada | New Hampshire | New Jersey | New Mexico | New York | North Carolina | North Dakota | Ohio | Oklahoma | Pennsylvania | South Carolina | South Dakota | Tennessee | Texas | Utah | Vermont | Virginia | Washington | West Virginia | Wisconsin | Wyoming | Alaska | U. S. Army | Foreign |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number | .... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| Arkansas | 27 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 5 | 1 | .. | .. | 7 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Colorado | 80 | 1 | .. | .. | 1 | .. | 1 | .. | .. | 2 | 13 | 2 | 6 | 2 | 2 | 1 | 1 | 2 | .. | 3 | 2 | 2 | 5 | .. | 4 | .. | .. | .. | 2 | 4 | .. | .. | 1 | 4 | 6 | .. | .. | 4 | 2 | .. | 2 | .. | .. | .. | 1 | 2 | 1 | 1 | .. |
| Connecticut | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Delaware | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| District of Columbia | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Georgia | 34 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 1 | 1 | .. | 3 | .. | 4 | .. | 4 | .. | .. | 2 | .. | 1 | .. | .. | .. | .. | .. | 3 | .. | .. | .. | .. | .. | .. | 9 | .. | .. | 3 | .. | .. | 1 | .. | .. | .. | .. | .. |
| Illinois | 41 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 2 | 2 | 1 | 2 | 3 | .. | 6 | 2 | .. | 9 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. |
| Indiana | 28 | .. | .. | .. | .. | .. | 3 | .. | .. | .. | 6 | .. | .. | 1 | 2 | .. | .. | 2 | .. | 2 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 2 | .. | .. | 2 | .. | .. | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. |
| Iowa | 37 | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | 8 | 1 | .. | 2 | .. | .. | 1 | .. | .. | 1 | 1 | .. | 9 | .. | 4 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 5 | 1 | .. | .. | .. |
| Kansas | 52 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 11 | 4 | 4 | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | 15 | .. | 5 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 3 | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 2 |
| Kentucky | 30 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 4 | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | 1 | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | 2 | .. | .. | .. | .. | 9 | 1 | .. | 1 | .. | 3 | .. | .. | .. | 1 | .. |
| Louisiana | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Maine | 6 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. |
| Maryland | 19 | .. | .. | .. | .. | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | 3 | .. | .. | 1 | .. | 3 | .. | .. | 5 | .. | .. | .. | .. |
| Michigan | 60 | .. | 1 | 3 | .. | .. | .. | .. | .. | .. | 23 | 3 | 2 | .. | .. | .. | .. | 3 | .. | .. | 2 | .. | 3 | .. | .. | .. | .. | .. | .. | 3 | .. | .. | 6 | .. | 1 | .. | .. | 1 | .. | .. | 1 | .. | 1 | .. | 6 | .. | .. | .. | 1 |
| Minnesota | 59 | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 22 | 1 | 4 | .. | 1 | .. | 1 | .. | .. | 4 | .. | .. | 1 | .. | 2 | .. | .. | .. | .. | .. | .. | 5 | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 13 | .. | .. | .. | .. | .. |
| Mississippi | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Missouri | 67 | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 12 | 5 | 10 | 8 | 3 | .. | 1 | 5 | .. | 1 | 1 | .. | .. | .. | 5 | .. | .. | .. | .. | .. | .. | .. | 7 | .. | .. | .. | .. | 3 | .. | .. | 2 | .. | 2 | .. | .. | .. | .. | .. |
| Nebraska | 59 | .. | 1 | .. | .. | .. | 1 | .. | 1 | .. | 9 | 1 | 14 | 6 | 2 | .. | 4 | 1 | .. | 3 | 1 | .. | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | 1 | 3 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Nevada | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 1 | .. | 1 | .. | 2 | .. | .. | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| New Hampshire | 8 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | 1 | .. | .. | .. | .. |
| New Jersey | 74 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 2 | 1 | 8 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | 23 | .. | .. | 1 | .. | 29 | .. | .. | .. | .. | .. | 7 | .. | .. | .. | .. | .. | .. | .. | .. |
| New York | 43 | .. | .. | .. | .. | 11 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | 11 | .. | .. | .. | .. | .. | .. | .. | 10 | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | 7 | .. | .. | .. | .. | .. | .. | .. | .. |
| North Carolina | 22 | .. | .. | .. | .. | 1 | 3 | .. | 3 | .. | 1 | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 1 | 1 | 1 | 1 | .. | 2 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. |
| North Dakota | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. |
| Ohio | 64 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 11 | 6 | 1 | .. | 6 | .. | .. | 4 | .. | 12 | 1 | .. | 4 | .. | .. | .. | .. | .. | .. | 10 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 4 | 2 | .. | .. | .. | .. |
| Oklahoma | 17 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 6 | .. | .. | .. | .. | 3 | .. | .. | .. | .. | .. |
| Pennsylvania | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 7 | .. | .. | .. | .. | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| South Carolina | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| South Dakota | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tennessee | 10 | .. | .. | .. | .. | .. | 5 | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Texas | 99 | .. | 11 | .. | .. | .. | .. | 1 | .. | .. | 17 | 3 | 4 | 4 | 1 | .. | 1 | 1 | .. | 3 | 3 | .. | 8 | 1 | 2 | 2 | .. | .. | .. | .. | .. | 2 | 7 | 20 | 2 | .. | .. | 2 | .. | .. | .. | .. | .. | 3 | 1 | .. | .. | .. |
| Utah | 7 | .. | .. | 1 | .. | .. | .. | 2 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. |
| Vermont | 2 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Virginia | 29 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 2 | .. | 1 | .. | .. | 6 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | .. | .. | .. | 1 | .. | .. | 3 | .. | .. | .. | .. | 1 | 6 | .. | .. | .. | .. | .. |
| West Virginia | 28 | .. | .. | .. | .. | .. | 3 | .. | .. | .. | 1 | 1 | .. | .. | 3 | .. | .. | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 2 | .. | .. | 12 | .. | .. | .. | .. | .. | .. | .. | .. |
| Wisconsin | 57 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 34 | 1 | 4 | .. | .. | .. | .. | 3 | .. | 2 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 1 | .. | .. | .. | 1 | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. |
| Wyoming | 21 | .. | .. | 2 | .. | .. | .. | .. | .. | .. | 8 | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 2 | 2 | .. | .. | .. | 1 | .. | .. | .. | .. |
| Total | 1141 | 1 | 15 | 9 | 1 | 15 | 18 | 1 | 13 | 5 | 193 | 40 | 58 | 27 | 36 | 10 | 23 | 48 | 2 | 59 | 29 | 5 | 67 | 1 | 29 | 3 | 1 | 18 | 4 | 46 | 12 | 12 | 39 | 28 | 57 | 5 | 1 | 51 | 24 | 3 | 30 | 25 | 3 | 29 | 35 | 4 | 1 | 2 | 3 |
| Number | .... | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |

This table shows the number of physicians registered by each state through reciprocity during 1912. Reciprocity is not the best term to use, however, since some states, Colorado for instance, register candidates who have satisfactory credentials including licenses, regardless as to whether the state issuing the original license reciprocate with them or not. Taking New York as an example, reading from left to right, the table shows that New York registered a total of 43 applicants through reciprocity during 1912, of which number 11 came from Delaware, 1 from Indiana, 1 from Massachusetts, 11 from Michigan, 10 from New Jersey, 2 from Ohio, and 7 from Vermont. Reading from above downward, the table shows that 46 physicians left New York during 1912 and registered in other states under the reciprocity provision, of which number 4 registered in Colorado, 1 in Connecticut, 1 in Delaware, 1 in Maine, 3 in Michigan, 23 in New Jersey, 1 in North Carolina, 10 in Ohio, and 2 in Virginia. Texas leads, having registered 99 physicians through reciprocity, followed by Colorado which registered 80, New Jersey with 74, Missouri with 67 and Ohio with 64. It is interesting to note in what states the original licenses were issued. The table shows that of the 1,141 applicants registered through reciprocity 193, or 17.0 per cent., obtained their original licenses in Illinois and 67, the next largest number, were first registered in Missouri. The states which furnished the next highest numbers were Michigan with 59, Iowa with 58, Pennsylvania with 57, Tennessee with 51 and Maryland with 48.

TABLE M.—RECIPROCAL REGISTRATION IN FIVE YEARS
Showing What States Issued the Original Licenses.

| State. | Physicians Going from States Named During 1908 | 1909 | 1910 | 1911 | 1912 | Totals. |
|---|---|---|---|---|---|---|
| Alabama | 4 | 2 | .. | 3 | 1 | 10 |
| Arizona* | 1 | 2 | .. | .. | .. | 3 |
| Arkansas | .. | 1 | 52 | 11 | 15 | 79 |
| California* | 2 | 1 | 2 | 1 | .. | 6 |
| Colorado | 10 | 12 | 13 | 16 | 9 | 60 |
| Connecticut* | 2 | 2 | .. | .. | 1 | 5 |
| Delaware | 2 | 1 | 6 | 9 | 15 | 33 |
| District of Columbia | 14 | 13 | 11 | 23 | 18 | 79 |
| Florida* | .. | 1 | 1 | .. | 1 | 3 |
| Georgia | 18 | 10 | 14 | 7 | 13 | 62 |
| Idaho* | 1 | 1 | .. | .. | 5 | 7 |
| Illinois | 225 | 320 | 286 | 236 | 193 | 1260 |
| Indiana | 53 | 46 | 50 | 37 | 40 | 206 |
| Iowa | 94 | 77 | 84 | 63 | 58 | 376 |
| Kansas | 32 | 41 | 63 | 50 | 27 | 213 |
| Kentucky | 53 | 30 | 74 | 42 | 36 | 235 |
| Louisiana | .. | 2 | 9 | 8 | 10 | 29 |
| Maine | 24 | 18 | 15 | 14 | 23 | 94 |
| Maryland | 30 | 25 | 41 | 52 | 48 | 196 |
| Massachusetts* | 3 | 3 | .. | 2 | 2 | 10 |
| Michigan | 63 | 51 | 51 | 69 | 59 | 293 |
| Minnesota | 23 | 35 | 31 | 29 | 29 | 147 |
| Mississippi | 1 | 1 | 1 | 3 | 5 | 11 |
| Missouri | 61 | 58 | 91 | 59 | 67 | 336 |
| Montana* | .. | .. | 3 | .. | 1 | 4 |
| Nebraska | 47 | 53 | 42 | 46 | 29 | 217 |
| Nevada | 4 | 2 | 3 | 2 | 3 | 14 |
| New Hampshire | 2 | 8 | 1 | 6 | 1 | 18 |
| New Jersey | 46 | 29 | 16 | 14 | 18 | 123 |
| New Mexico* | 1 | 7 | 1 | 1 | 4 | 14 |
| New York | 100 | 59 | 224 | 42 | 46 | 471 |
| North Carolina | 4 | 7 | 7 | 16 | 12 | 46 |
| North Dakota | 6 | 5 | 8 | 7 | 12 | 38 |
| Ohio | 35 | 47 | 45 | 40 | 39 | 206 |
| Oklahoma | 3 | 5 | 21 | 3 | 28 | 60 |
| Oregon* | 1 | .. | .. | .. | .. | 1 |
| Pennsylvania | 15 | 7 | 21 | 12 | 57 | 112 |
| Rhode Island* | 1 | 1 | .. | .. | .. | 2 |
| South Carolina | 4 | 7 | 5 | 4 | 5 | 25 |
| South Dakota | 1 | 1 | .. | 2 | 1 | 5 |
| Tennessee | 14 | 21 | 45 | 28 | 51 | 159 |
| Texas | 10 | 4 | 23 | 10 | 24 | 71 |
| Utah | 3 | 4 | 1 | 2 | 3 | 13 |
| Vermont | 20 | 24 | 27 | 35 | 30 | 137 |
| Virginia | 15 | 26 | 31 | 28 | 25 | 125 |
| Washington* | .. | .. | .. | 2 | 7 | 3 | 12 |
| West Virginia | 21 | 36 | 45 | 45 | 29 | 176 |
| Wisconsin | 42 | 46 | 31 | 41 | 35 | 195 |
| Wyoming | .. | 2 | 1 | 2 | 4 | 9 |
| Alaska | .. | .. | .. | .. | 1 | 1 |
| U. S. Army | .. | 3 | .. | .. | 2 | 5 |
| U. S. P. H. Service | .. | .. | 2 | .. | .. | 2 |
| Canada | .. | .. | 2 | .. | .. | 2 |
| Foreign and Misc. | .. | 10 | .. | .. | 3 | 13 |
| Totals | 1091 | 1167 | 1502 | 1128 | 1141 | 6029 |

This table shows that 6,029 candidates were registered through reciprocity during the last five years and that until 1911 there was a positive increase each year over the registration of the previous year. A study of the totals for the different states shows that of the 6,029 registered during the four years 1,260 or 20.9 per cent. obtained their original licenses in Illinois. This is more than twice the number coming from any other state. The states furnishing the next highest numbers are New York, with 471, Iowa with 376, and Missouri with 336. The states marked with an asterisk (*) do not have reciprocal relations and would not appear in this table except for the fact that some states, like Colorado and New Jersey, will accept a physician's credentials if satisfactory, whether the state issuing his original license returns the favor or not.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, MAY 24, 1913

## STATISTICS OF STATE BOARD EXAMINATIONS

We present this week, for the tenth consecutive year, tabulated statistics based on examinations conducted by state medical licensing boards. Never before have we had such ready cooperation on the part of state licensing boards, the officers of which have long since come to appreciate the value of these statistics. In 1903, when the collecting of these data began, reports from a large number of boards could not be secured for the reason that no permanent records of the examinations had been kept.

As the casual reader glances over the tables, he will probably not appreciate the enormous amount of work that it entails, or the labor required during the year to gather the material for these tables. Furthermore, the casual reader will not appreciate the conditions which make the collection of these data so important. Matters relating to medical education and medical licensure in this country are controlled by the forty-nine individual states, no two of which entirely agree in details, each state conducting its affairs with little regard as to what is done in other states. No provision has been made by the national government for any coordination or cooperation in these matters, although there is a serious necessity for such coordination. As a matter of fact, it should not be necessary for a voluntary organization to do this work. It should be the function of the national government. The lack of coordination among the various states in these matters is quite serious, as shown by the fact that if an incompetent doctor or an impostor has had his license refused or revoked in one state, he goes promptly to another state, where he seldom fails to secure a license. If he is caught again, he as promptly transfers his allegiance to a third state. Aside from the attempt of a few state boards to work together in a federation, the only influence tending to bring about uniformity in education standards and methods of licensure is that being exerted by the American Medical Association. If, as intimated above, there were a national control of the licensing of physicians in the United States, such as exists in practically every other country, it would not be necessary for the American Medical Association to do this work.

The various statistical tables are worth careful attention. A few additional comments are worth while, and the reader is urged to make a further study by referring to the tables and the descriptive matter accompanying them.

### FACTS REGARDING EACH STATE

These tables give valuable information regarding medical licensure in each state. For example, Tables A and B show the number of candidates who appeared for examination, the colleges from which they graduated, the number from each college who passed and the number from each who failed, the total number registered, the total number rejected and the percentage of candidates rejected. This table allows of comparison between the totals and the percentages of one state and those of other states. If a state board's examinations are unusually lenient for graduates of medical schools located in that state as compared with the results for graduates from colleges in other states, the fact will be shown in Table F. The total number of candidates examined, registered and rejected in the last five years by each board and the percentage of rejections are shown in Table G. This permits comparison not only of the figures of the last year with those of the four previous years, but also of the figures of one state with those of the others. Table K shows for each state the totals registered by all methods, by examination, by reciprocity and under exemption clauses. This table also shows the number of non-graduates licensed. Table L shows the number of candidates licensed by each state through reciprocity and shows in what states the original licenses were granted. Table M shows the total number of physicians from each state who, during the last five years, secured licenses elsewhere through reciprocity.

### FACTS REGARDING EACH COLLEGE

The tables also give much information regarding medical colleges. For example, Tables A and B show in what state graduates of each college were examined; they show the number who passed and the number who failed in each state, the total examined in all states, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of the college appeared for examination. In fact, Tables A, B and C permit a comparative study of medical colleges of much value in connection with any investigation of medical colleges. Table D shows for the group of colleges located in each state the total number of graduates examined in all states, the percentage of failures and the rank of each group according (1) to the number examined and (2) to the success of the graduates at the examinations. Table E furnishes an interesting study of the larger colleges—those having fifty or more graduates examined during the year—and allows of comparison between colleges of nearly equal size. The mere fact that a college has large classes is no indication that it furnishes a better medical training. In fact, these data show that often the contrary is true. Tables H, I and J

give a classification of medical colleges based on the failures of their graduates at state board examinations. This classification should not be taken alone in forming conclusions regarding medical colleges. Occasionally low-grade colleges may have less than 10 per cent. of failures, owing probably to the fact that only a few graduates were examined, or that they were all examined in the home state. On the other hand, well-equipped and fairly good colleges may occasionally have between 10 and 20 per cent. of failures, especially if they are in states having more rigid examinations. It is seldom, however, that a well-equipped and well-conducted medical college will, year after year, receive more than 20 per cent. of failures of its graduates at state licensing examinations. This classification of colleges is interesting, however, and throws an important side-light on the third classification[1] of the medical colleges of the United States prepared by the Council on Medical Education following the actual inspection of the colleges.

### TOTAL REGISTRATION IN ALL STATES

These statistics show for each state the number of candidates coming not only from each medical school in this country but also from Canadian and other foreign medical colleges. In short, they give an accurate record of the number and source of those who are entering the practice of medicine each year in this country. Without the data published this week, it could not be known that 6,723 physicians were licensed in this country during 1912, and that this included 5,466 who were registered by examination, 116 who were registered under the various exemption clauses, and 1,141 mostly old practitioners, who were registered under the provision for reciprocity.

### STATISTICS ACCURATE AND RELIABLE

The work of collecting and publishing these statistics was begun by The Journal in 1903, but since the creation of the Council on Medical Education they have been developed as an important part of the Council's work. Every report received from the state licensing boards is now carefully checked, duplications are avoided, errors are corrected and the statistics are thereby rendered accurate and reliable. This is made possible through the enormous amount of data collected by the Council regarding medical colleges, students and graduates. Through the possession by the Council of complete alumni lists of all existing medical colleges, the Council is in position to avoid charging a college with a failure which may have been erroneously accredited to it when, in fact, the candidate who failed was a graduate of some other college.

### INFLUENCE ON MEDICAL LICENSURE

These statistics have had a much greater effect, however, than that rendered by a mere numerical record of physicians examined and licensed, and probably no one has recognized their value more than have the state licensing boards themselves. As a result, in many states splendid systems of record-keeping are now to be found where formerly, in several states at least, no records whatever were kept, and in several other states the systems were far from perfect. During the last several years, furthermore, they have furnished abundant argument for practical tests in state license examinations and have undoubtedly had much to do with the improved character of these examinations and the better methods of conducting them. A study of the statistics for several years will show that, although there has been a gradual improvement, there is still much that needs to be done.

1. The Journal A. M. A., Jan. 18, 1913, p. 231.

### INFLUENCE ON MEDICAL COLLEGES

The influence on medical colleges resulting from the publication of these statistics has been tremendous. Whereas previously these institutions may have been unaware of the weaknesses in their methods of teaching, these statistics have shown them how frequently their graduates fail at the state license examinations. There has been a marked improvement in their equipment, better teachers have been secured and better methods adopted, and it can be seen by a review of the statistics published during the last several years that a number of colleges have materially reduced the failure percentages of their graduates at these examinations.

### COOPERATION MUTUALLY ADVANTAGEOUS

As will be understood by the careful reader, these statistics have their greatest value when studied in connection with other data collected by the Council on Medical Education and published in The Journal and in the Council's reports. The state board statistics are made more accurate and reliable through the data kindly furnished by medical colleges; they are based on reports received direct from state boards; but through the careful checking of those reports, errors are frequently corrected, the state boards are notified, and in this way state records are also made more accurate. The statistics published this week, therefore, have been made possible only through the cordial cooperation of both the state boards and medical colleges, and for this cooperation we again express our acknowledgments.

---

## UNINTENTIONAL HUMOR IN SCIENCE

The following absurdity appeared, not in the Sunday edition of a "yellow" journal or in the columns of a humorous weekly, but in the March issue of a dignified scientific journal, well seasoned by sixty-eight years of useful existence—the *Chemical News* of London:

"Rewrite your works on foods, Mr. Langworthy and Dr. Wiley! Begin anew your nutrient studies, Uncle Sam, and you dietetic experts in college, state departments of agriculture, food commission and government, state and city laboratories, for all your labor has been for nothing. You have reckoned on a wrong basis. Your premises being wrong, your conclusions are wrong. You might as well admit now as later that you know noth-

ing at all about the nutritive properties of foods, for that is just what it amounts to in the light of the latest revelation. And this is not said in sareasm either. . . . As Newton overturned old traditions by revealing the law of gravitation; as radio-aetivity has upset all previous calculations concerning the make-up of matter, so has Trophogen or Bitrophon set at naught all our former reckonings regarding the nutritive power of foods."[1]

When an editor of the standing of Sir William Crookes, O.M., F.R.S., tolerates such stuff as the leading artiele in two successive issues of his widely read journal, we wonder whether there is such a thing as journalistic dotage. It is not enough to overlook such incidents; the inquiries addressed to us prevent that. One must explain.

The subject of these eommunieations is the alleged diseovery of a "Chicago physiologist," Prof. Rutledge Rutherford, "a quiet and unassuming man" whose "disclosures are sure to turn everything topsy-turvy in the food world." The real food value of our nutrients, says the professor, is not eentered in their content of fat, earbohydrate and protein, but in "the all-containing nutrient of foods," Trophogen. The new scienee of trophology, we are told, "explains why, and does not attempt to tell how; it teaches of the origin, the nature, the cause and the effect of food nutriment." Dietetics, in eontrast with trophology, he asserts, is not a true science, and "a person is worse off for knowing it than for not knowing it."

A perusal of this pseudoscientifie literature indicates that the writer has suddenly become aware of the significanee of the aceessory faetors in diet — an aspect of the story of nutrition which has repeatedly been emphasized in the eolumns of THE JOURNAL. The findings in relation to beriberi and the subtle antineuritic substances,[2] Stepp's reports on the supposed rôle of lipoids in nutrition,[3] the important and little unraveled part played by the inorganic factors in the dietary[4] — these and other familiar novelties of experimental physiology are actually presented in Mareh, 1913, in a publication of international repute, as the scientific diseovery of a Chicago "professor." It is unnecessary to refer to the statements that preservatives destroy the life-saving principle, that it is present in plants which synthesize it and from them gets into animals, or to eomment on the probable value of Trophogen, Bitrophon, or any of the astonishing discoveries thus set forth.

That the real revelations of seientific discovery are quite as wonderful as the figments of the imagination whieh find their way into literature in the undisguised form of fiction is too little appreciated by the story writers. The "boomfood" of H. G. Wells' "Food of the Gods" is no more marvelous in its poteney than are the secretions of the ductless glands. Indeed, the marvels of fiction are little else than distorted and exaggerated applications of the actual data of science. It is interesting to study the genesis of an occasional "head liner." The announcement, a few years ago, in the newspapers throughout the world, that man is by nature a cannibal was the outcome of the publieation of Michaud's studies showing that it is easier for dogs to attain nitrogenous equilibrium on a mixture of amino-acids from dog muscle than from a widely different protein. The telegraphie despatches of a month ago announcing that man's food can now be completely synthesized in the laboratory were the ingenious newspaper man's expression of Abderhalden's experiments in feeding completely digested foodstuffs.[5] Similarly a sensational editor has seized on the suggestions in Stepp's studies on miee[3] and Hopkins' researches on rats,[6] only to find in the mysterious word "lipoid" a stepping-stone by which he is "able to peer deeper into the hidden mysteries of food nutrition." Through the thin vencer of an incompetent review one sees the familiar background of well-known facts.

It is distressing to read in columns side by side with the proceedings of the Royal Society, that "fat which we have been taught to regard as one of the important nutritive principles of food, contains no partiele of nutriment in itself," and that "protein was proved to possess no nutriment." We are conscious of the vein of truth in the statement in the paper in the *Chemical News* that "trophology is a true scienee, yet a person can enjoy just as good health and get along just as well generally without it as with it." Would it not be well for our London contemporary to follow our lead and segregate sueh subtle humor into a eolumn reserved for avowed jokes?

---

## WHAT IS GRAHAM FLOUR?

"Graham flour" is the familiar and popular name given to a milling product whieh is really wheat meal eontaining all of the grain. In manufacturing graham flour the whole of the wheat kernel, after being cleaned, is ground to a powder between stones or rollers, whose surfaces are eut so as to insure a complete erushing of the grain. It has sometimes been made by removing the outer branny portion of the kernel and grinding this separately from the inner parts, afterward mixing the two, as it was thought that the efforts to grind the naturally eoarse material with the rest of the wheat had a deleterious effect on the bread-making qualities of the

1. Briggs, E. L.: The Life Nutrient in Foods, Chem. News, 1913, cvii, 133.

2. The Supposed Significance of Phosphorus Compounds in the Development of Polyneuritis and Beriberi, editorial, THE JOURNAL A. M. A., Nov. 16, 1912, p. 1801. Infantile Beriberi, editorial, THE JOURNAL A. M. A., Nov. 30, 1912, p. 1977. Antineuritic Foods, editorial, THE JOURNAL A. M. A., May 17, 1913, p. 1543.

3. The Rôle of Lipoids in Nutrition, editorial, THE JOURNAL A. M. A., Nov. 4, 1911, p. 1540; The Lipoids and Nutrition, editorial, THE JOURNAL A. M. A., March 1, 1913, p. 669.

4. Inorganic Salts and Physiologic Equilibrium, editorial, THE JOURNAL A. M. A., Aug. 17, 1912, p. 546. A New Theory of Protein Metabolism, editorial, THE JOURNAL A. M. A., Sept. 14, 1912, p. 880. Rectal Feeding and Absorption from the Large Intestine, editorial, THE JOURNAL A. M. A., Sept. 21, 1912, p. 946.

5. A Striking Experiment In Simplified Nutrition, editorial, THE JOURNAL A. M. A., May 10, 1913, p. 1464.

6. Hopkins, F. G.: Jour. Phslol., 1912, xliv, 425.

flour. Graham flour is now commonly made by crushing and grinding the whole of the kernel at once without bolting or sifting. When thus prepared it contains the same ingredients as the wheat itself and in the same proportions.

Such "unbolted wheat meal made from sound, clean, fully matured, air-dried wheat" derives its name from the American physician, Sylvester Graham. About 1839 Graham started a wide-spread agitation in favor of a return to the use of bread made from the whole of the wheat, ground but not bolted.[1] In his book, "The Science of Human Life," published in 1839, Graham emphasized the efficacy of whole-wheat flour in alimentary disorders of various sorts and urged its substitution for the superfine flour which had come into vogue. It is said that at one time, in Great Britain, owing to the fact that the newspapers and the civic physicians recommended bread made from whole-wheat flour generally, it became so universally used that in many towns it was almost impossible to find a loaf of fine-flour bread. Subsequently, owing to the heavy importation of fine flour from this country and to economic and other considerations, the people gradually returned to their old habits of eating fine-flour bread.

Graham specifically directed that the wheat to be used for bread-making should be washed and cleaned from all impurities, and should be ground by means of sharp stones, coarse rather than fine, inasmuch as he believed the coarse-ground flour to make a bread sweeter and more wholesome. Even the most successful attempts at fine grinding, however, still leave it fairly coarse and with a large proportion of branny particles. Objections to this were raised from time to time. It has been insisted, for example, that the presence of so large a proportion of the bran as there is in graham flour of this description seemed in many cases to result in irritation of the delicate mucous lining of the alimentary tract.

As a compromise between the coarse graham flour and the fine white flours (in which the bran, the aleurone layer and the germ are removed before the remainder of the kernel is ground), an intermediate product was gradually placed on the market under the name of "whole wheat" or "entire wheat" flour. These terms seem rather inexact for a product with which more or less bolting is supposed to have taken place, for they suggest something practically identical with graham flour. It has been asserted that "entire wheat" flour is prepared by removing only the woody part of the bran, leaving the aleurone layer and the germ, and that therefore it contains all the alleged nutritious part of the wheat kernel without the irritating bran. As a matter of fact, these attempts to remove only the bran do not seem always to have been entirely successful. If the intent were adequately carried out so-called entire-wheat flour would represent a grade not so coarse as graham or so fine as the white flours.

1. Some of the facts referred to are taken from LeClerc, J. A., and Jacobs, B. R.: Graham Flour, U. S. Dept. Agric., Bureau of Chemistry, Bull. 164, Washington, Government Printing Office, 1913

Among the many unexpected situations brought to light as the result of the enforcement of the national Food and Drugs Act is that pertaining to the manufacturing practices in connection with these coarser grades of flour. Investigations made by the government[1] disclose the fact that although many millers adhere to the original manner of preparing graham flour, a large percentage of so-called graham flours found on the market are made by mixing bran with inferior grades of flour. We are officially told that "statements made by many millers show that a very large percentage of the so-called graham flours on the market are mixed products or imitations, not made from purified middlings, bran and flour, but made from feed bran, which always contains the shorts and the germ, together with low-grade flour . . . and in many instances such alleged graham flours contain sweepings from the mill." It is further remarked that when such imitations are made by the use of high-grade flours, purified middlings and bran, it is evident that there is no desire to sell the consumer a cheap material, since the miller believes that the flour thus prepared is a better grade and that better results in baking may be obtained than with the true graham flour.

Such mixtures should obviously be branded "imitation graham flour," whatever their respective nutritive or therapeutic or technical qualities. The time has come when the protection of the consumer and the integrity of the trade call for an honest labeling of wheat products. Flour made to simulate the well-known, old-fashioned, unbolted ground whole-wheat kernel should be designated as imitation, and the term "bolted whole wheat" might appropriately be used in place of the present misnomer which designates as "entire wheat," wheat meal from which something has been removed. We may differ with one another as to the comparative virtues of whole wheat, bolted wheat, patent flour, shorts, germ meal or bran, but there should be no debate on the propriety of a representative name and an honest label.

## THE OFFICE OF CORONER

In an interesting article on the coroner's office, Macht[1] points out that since early times men have provided themselves with some form of legal machinery for inquiry to determine the causes and manner of deaths from unknown and unnatural causes. In most European countries to-day such investigations are directed by forensic officials who rely on medical and scientific experts in the service of the state. In order that the necessary expert work of this kind may be conducted to the best advantage, special medicolegal institutes have been established, the functions of which also include teaching and investigation. In most English-speaking

1. Macht: Johns Hopkins Hosp. Bull., 1913, xxiv, 148.

countries the duty of making the necessary inquiry into deaths from all manner of unknown and unnatural causes devolves on the coroner, who appears early in the English scheme of government.

In our states (except several in New England) the coroner is an elective county officer, and the general methods of procedure at coroner's inquests are familiar to all. When we consider the wide and important scope of the work of the coroner's office, especially in our larger cities, and how dependent he is on experts in pathology and chemistry, it is at once apparent that at present our machinery for the proper conduct of this work is quite inadequate, being for the most part in a state of cumbersome and ineffective dismemberment. As a consequence crude methods obtain, justice is hindered, money wasted, and an orderly development of medicolegal science prevented. Nothing approaching the medicolegal institutes of Germany exists in this country, and we have almost no periodical medicolegal literature.

A thorough rehabilitation of the ancient office of coroner along modern lines is urgently needed in this country. The article by Macht makes this plain. So long as the coroner remains an elective officer with a continuous tenure of at most four years it is not likely that the office will be filled generally with properly trained medical men. Until this is realized, special efforts should be made to provide adequate facilities for the proper conduct of the office. In our larger cities the work should be centralized in suitable buildings provided with well-equipped post-mortem rooms and laboratories, pathologic and toxicologic, which should be in charge of competent experts permanently attached to the coroner's staff. It is a hopeful sign that the coroner of Cook County, Illinois (Chicago), has succeeded in securing the appropriation necessary to establish a special chemical laboratory and to secure the undivided services of a capable chemist. The daily work of the coroner will be conducted more effectively and economically through better organization in these directions. But that is not all. From the more thorough and systematic study thus made possible of the many peculiar problems investigated by the coroner's staff, important additions will be made to medical knowledge, especially in the fields of pathologic anatomy and toxicology, and to sociology in general. In short, manifestly necessary improvements in the organization of the present coroner's office will increase greatly the value of its service.

---

## DIVISION OF FEES

The vexed question of the secret division of fees, or the commission evil, is attracting more and more attention. This is encouraging, for it means that those who are guilty will stop and consider. As before remarked, there is no doubt that there are some men who divide fees, and yet we feel very sure that the evil is not so wide-spread as some suppose, or as it has been, for the discussion of the question has made many men who have not heretofore thought of it in that light realize that it is a moral wrong. Yet, while the evil has been discussed in medical journals, in societies, etc., there still seems to be a sort of general conspiracy of silence and inaction, when it comes to a definite attempt to eradicate it. This is a tacit acknowledgment that the practice is wrong; it subjects the profession to just criticism by the laity, and indeed leads the public to believe that fee-splitting is more prevalent than it really is.

The *Journal of the Indiana State Medical Association* has started an active campaign against the practice. "The very fact that the division of fees is not practiced openly, but in secret," says the *Journal*, "is sufficient to condemn it as a species of graft and dishonesty which deserves exposure and requires the adoption of means for correction of the evil. Tolerance of the practice of fee-dividing means disgrace and dishonor for the medical profession." A prominent surgeon of Indiana, having come out strongly against fee-division, invited the *Journal* to open its columns for the discussion of the question, and medical men have been asked to register openly their stand on the question. The state society as a body in a strong resolution condemns fee-splitting. The board of trustees of Indiana University, it is reported, has agreed to remove any member of the faculty of the medical department who is guilty of the practice. The *Journal* accuses the Indianapolis Medical Society of being lukewarm toward the proposition, and cites the action at a recent meeting of tabling several amendments to a resolution to incorporate in the by-laws an article providing for the automatic expulsion of any member guilty of fee-splitting. The results of the invitation of the *Journal* will be highly interesting as a declaration of the stand of the physicians of Indiana on fee-division, and should be the forerunner of a distinct improvement in the situation in that state if it is as bad as it is believed to be.

Indiana, of course, is not the only state which is attempting to eliminate the evil. The state medical association of Missouri, at its last session, defined and condemned fee-splitting. At Los Angeles, after a vigorous agitation of the subject, action was taken by the county medical society in the form of having physicians sign a pledge that they would not participate in fee-splitting. The New York Academy of Medicine passed a vigorous resolution on the subject. In Detroit the board of trustees of Harper Hospital in 1912 unanimously passed a resolution that any member of the medical staff convicted of secret division of fees should be dismissed, and adopted the definition of illegal division of fees established by the American Medical Association. More recently the faculty of the medical school of the University of Minnesota strongly denounced the secret division of fees and declared the practice tantamount to the buying and selling of patients, as disgraceful and abhorrent to every right-minded practitioner and the gravest danger that threatens the profession.

# Current Comment

## FEE-SPLITTING AND THE EXPLOITATION OF UNFORTUNATE GIRLS

The ramifications of the fee-splitting and commission evil are many. Two advertising circulars before us are from maternity homes for unmarried girls. Both offer substantial pay to the physician who refers the patient. In one case the expense to the girl, including adoption of the child, is from $150 to $250, and the home physician is to be given 10 per cent. of the patient's deposit. The physician has sunk pretty low who will accept money of this sort—it almost places a premium on seduction—but it illustrates the demoralizing effect of acquiescence in fee-splitting and commission-giving. Incidentally, we note that both advertisements announce that the baby will be adopted. In one state, Ohio we believe, such an announcement has been prohibited by law, on the ground of being contrary to public policy, placing an improper encouragement on baby-farming. There is room for some good legislation along this line in other states.

## DR. WILEY'S ATTITUDE ON ADVERTISING

With the work of the Vigilance Committee of the Associated Advertising Clubs as his text, Dr. H. W. Wiley, writing in *Printer's Ink,* expresses in unequivocal terms his attitude toward the present advertising situation. That to exclude every fraudulent advertisement does not necessarily spell bankruptcy to publishers, he illustrates from facts in The Journal's experience. "When honest manufacturers saw that dishonest competition was cut out they hastened to get a place in a journal where no tainted advertisement was allowed. To-day The Journal of the American Medical Association has a far larger income from its advertisements than ever before." He pays tribute to the Vigilance Committee's check on turbulent elements in modern advertising, and especially to its efforts on behalf of the "model bill," now adopted in several states and under favorable consideration in others.[1] In contrast to this influence for clean advertising, Dr. Wiley mentions the attempt made by the *National Druggist*—that unfailing prop of fakery—to introduce into this model bill the word, "knowingly." Such an addition Dr. Wiley declares a device of obstructers. "There is no 'knowingly' in the law against passing counterfeit money," he continues; "when you are caught with the green goods in your hands, the law knows you know." But, the *National Druggist* protests, "the *Printer's Ink* bill would make criminal a statement that is merely [*sic*] 'untrue, deceptive, or misleading.' It does not require guilty intent or even knowledge of the act committed, to make the crime complete." Even so. Hence, let the publisher assume some moral responsibility. For "when the lying advertisement has done its perfect work and the victim is dead or bankrupt, it makes no difference to (that victim) whether the author of his effacement was malicious or only maudlin." Dr. Wiley accepts one statement, however, of the *National Druggist* as splendidly true: "It [the *Printer's Ink* bill] is likely to be placed on the statute books of many states in a short time unless some organized opposition soon develops." This acknowledgment from such a source is to Dr. Wiley but a prophecy of the final rout of fake advertisers, opposition or no opposition, and of an unconditional victory for the ethics of the Vigilance Committee of the Associated Advertising Clubs of America.

1. See The Journal A. M. A., May 3, 1913, p. 1377; May 10 1913, p. 1482.

## THEOBALD SMITH ON VACCINES

There appears in this issue of The Journal an important discussion by Theobald Smith of Boston on the present use of vaccines, both for preventive and for curative purposes.[1] We may be permitted to point out that there is no one who is entitled to receive closer attention or whose word carries more weight in discussions of general questions relating to infection and immunity than Theobald Smith. We owe to him discoveries of fundamental significance. In conjunction with Kilbourne he demonstrated that Texas or southern cattle fever is caused by a blood parasite which is transmitted through the bite of a tick, thus paving the way for the demonstrations that malaria, yellow fever and other diseases are transmitted by biting insects. He was the first to differentiate the bacillus of bovine tuberculosis from the bacillus of human tuberculosis. Smith was also the first to note the peculiar way in which a guinea-pig injected with horse-serum reacts on subsequent injection, and this phenomenon—"Theobald Smith's phenomenon"—is a central point of the recent intensive study of the various phases of anaphylaxis. This must suffice to illustrate Theobald Smith's achievements as investigator. In addition to being a great investigator he has in rare degree the power of discussion, broadly scientific and philosophic, yet eminently sane, direct and practical, of the large problems of infection and immunity. This is well shown in his instructive and clarifying consideration of preventive and curative vaccination, the diligent study of which is urged on all physicians who aim to be something higher and more useful than mere slaves of routine and unsafe commercialized short cuts.

## THE DUKET "CONSUMPTION CURE"

Three or four years ago we began to receive inquiries concerning a consumption cure exploited by one Peter P. Duket, M.D., in and around Findlay and Toledo, Ohio. As in all such cases, the advertising matter, circular letters, etc., sent out by the promoter were collected with the intention of making a thorough investigation. It soon became evident, however, that the fake was a minor one and that its perpetrator was but a small fish in the ocean of quackery. There were so many other and more dangerous frauds to be shown up that the Findlay concern was not deemed worth space in The Journal. The data collected were filed with such occasional additional matter as came to The Journal office; otherwise the case was forgotten. Suddenly, however, it has flared into prominence: two months ago the newspapers heralded it as a new cure for consumption

1. Smith, Theobald: An Attempt to Interpret Present-Day Uses of Vaccines, p. 1591, this issue.

emanating from Chicago, professionally fathered by a medical college of that city and financially backed by a well-known politician and banker. The conditions under which this unknown product is now being exploited are entirely different from those under which it was pushed in Findlay; its possibilities for harm have been enormously increased through its tacit recognition by presumably responsible persons. THE JOURNAL, therefore, makes no apology for taking up the subject. We believe that when our readers have gone over the article appearing in the Propaganda Department this week, they will wonder, with us, what can have led the Bennett Medical College to lend recognition to a humbug so palpable. Mr. Lorimer's connection with this latest medical fiasco may charitably be assumed to be an altruistic one. But why men of scientific training should allow themselves to be drawn into a thing of this sort is hard to understand.

## THE TRANSMISSION OF RECURRENT FEVER BY THE LOUSE

An epidemic of recurrent fever in Tunis during 1912 gave Nicolle and his co-workers the opportunity to make important investigations on the transmission of this disease, the chief results of which may be recounted. Nicolle came to this task fresh from his work on typhus fever which he, like the American investigators, found to be transmitted by the ordinary louse (*Pediculus vestimenti* as well as *P. capitis*), so that he was in full command of the best methods for studying louse transmission. Fleas, ticks and lice have all been charged with the conveyance of recurrent fever, but the evidence at hand outside of that now presented by Nicolle[1] is not sufficient to fix the charge on any one of these insects. Indeed, it has been shown that the bite of seemingly infected lice is harmless and in one experiment Nicolle, Blaizot and Conseil found that as many as 6,515 bites of infected lice were without effect on the monkey and on man. By means of the ultramicroscope the French investigators now traced the fate of the spirillum of recurrent fever in the louse, and they found that the spirilla disappear very early and completely, to reappear after about eight days in the body cavity (*la cavité lacunaire*), where they remain about twelve days without invading any of the surrounding organs or the buccal apparatus. At the end of this time they disappear for good. These spirilla are virulent for man and for monkeys, but as they cannot escape from the insect while it is alive, infection is held to take place as a consequence of scratching and crushing the lice, whereby the spirilla are set free and may be carried on the nails to excoriations and to the conjunctiva, and thus enter the blood and cause recurrent fever. Clean-cut experiments are given, which establish this mode of transmission. As the infection may be hereditary in the louse the virus can maintain itself in this insect. These results show that the louse is the agent of transmission of recurrent fever, and this disease consequently becomes subject to the same method of prevention as exanthematic typhus. Both these diseases are louse diseases. While the investigations in question were conducted with the recurrent fever of North Africa, the results undoubtedly are applicable to the spirillosis of other countries as well; at all events it seems as if it would not be difficult to subject to experimental tests their probable transmission by lice.

1. Nicolle, Blaizot and Conseil: Étiologie de la fièvre récurrente, son mode de transmission par les poux. Ann. de l'Institut Pasteur, 1913, xvii, 204; abstract 49, p. 1670, this issue.

# Medical News

### CALIFORNIA

**Examination for Health Director.**—The Civil Service Board of Oakland announces an examination June 30 for health director, the salary being about $3,000.

**Personal.**—Health Commissioner L. M. Powers of Los Angeles was given a dinner by the employees of the health department May 7, at which he was presented with a diamond-studded gold shield.——It is announced that Dr. R. G. Brodrick, health officer of San Francisco, is to retire to become superintendent of the new San Francisco City and County Hospital and that his place will be filled by Dr. A. P. O'Brien, formerly health officer of the city.——The office of Dr. J. A. Copeland, Delano, was destroyed by fire, recently.

### ILLINOIS

**Personal.**—Dr. S. M. Green, Dixon, charged with having caused the death of May Coleman, Milledgeville, by an alleged criminal operation, was found not guilty, May 11.——Dr. Z. T. Baum has just entered on his fifth term as mayor of Paris.

**Appropriation Sought for State Hospital.**—Dr. W. A. Crooks, the superintendent of the Watertown State Hospital, is asking for an appropriation of $165,000, of which $75,000 is for a dormitory for female patients, $25,000 for a building for male patients suffering from tuberculosis and $22,000 for the purchase of eighty additional acres of land.

#### Chicago

**Study of Tropical Medicine.**—Dr. John R. McDill, Milwaukee, who has been for several years in the Philippine Islands, has been appointed associate professor of surgery (tropical diseases) in Rush Medical College and will give a short course next winter. It is possible that this is the first step toward the establishment of a department for the study and teaching of tropical diseases in Chicago.

**Hospital News.**—Dr. Maximilian Meinhardt announces that he will assume personal management of the Lakeside Hospital, August 31. The hospital will thereafter be known as the Lakeshore Hospital.——The following appointments are announced on the attending staff of Cook County Hospital: department of contagious diseases, Drs. Archibald L. Hoyne, William L. Baum, George H. Weaver, Edward K. Armstrong and Anson M. Cameron; department of children's diseases, Dr. Grace L. Meigs; department of pediatrics, Drs. J. H. Hess, C. G. Grulee and Joseph Brennemann.

**Honor Professor Ingals.**—A number of colleagues of Dr. E. Fletcher Ingals gave a testimonial banquet April 28 in his honor and in appreciation of his forty-two years of service in the medical profession. Dr. Frank Billings presided. Addresses were made by Prof. J. G. Coulter for the University of Chicago; Hon. Frederick A. Smith for the board of trustees of the university; by Dr. E. L. Shurly, Detroit, for laryngology; by Dr. Norman Bridge, Los Angeles, for the faculty, and by Dr. Otto T. Freer, for the department of laryngology. Dr. John M. Dodson presented a loving cup to Dr. Ingals and in his response, the guest of honor gave a historical sketch of the evolution of Rush Medical College.

### INDIANA

**Wynn Given Loving Cup.**—Dr. Frank B. Wynn, Indianapolis, was presented with a loving-cup by the officers of the Indianapolis State Medical Association, May 7.

**Personal.**—Dr. James H. Walker, Henryville, has been appointed consulting physician to the Indiana Reformatory, Jeffersonville.——Dr. R. O. McAlexander has been appointed president of the Board of Health of Indianapolis, vice Dr. J. H. Ford.——Dr. Henry Jameson, president of the Indianapolis Park Board, has returned from Europe.——Dr. Hugh M. Miller has succeeded Dr. C. A. Daugherty, deceased, as medical director of the Epworth Hospital, South Bend.

## IOWA

**New Officers.**—Delaware County Medical Society at Manchester: president, Dr. M. E. Dittmer, Colesburg; secretary-treasurer, Dr. E. J. Winterberg, Delhi.——Union County Medical Society organized at Creston, May 5: president, Dr. J. W. Fry; secretary, Dr. T. V. Golden, both of Creston.

**First County Hospital.**—Washington County has erected the first county hospital in the state. The building was erected at a cost of $30,000 and the equipment was presented to the institution by the people of the county, and the hospital grounds embracing twelve acres, were donated by William P. Wells. The institution is located at State Center, and the number of patients for the nine months since its opening has averaged about twelve.

## KENTUCKY

**The New Louisville Hospital.**—Dr. J. W. Fowler, superintendent of the new Louisville City Hospital, has returned from a visit to the municipal hospitals of Chicago, Toronto and Detroit and is to visit similar institutions in Boston, New York and St. Louis. It is estimated that at least $160,000 will be required for its maintenance. There will be required sixteen interns and sixty nurses. The hospital is to have a separate nurses' home which is expected to be a model of its kind.

**Personal.**—Dr. E. M. Ellaby, South Park, who has been seriously ill at the Norton Infirmary, Louisville, is improved and has been removed to his home.——Dr. W. C. Caywood, Winchester, has succeeded Dr. E. H. Maggard, Frankfort, as physician at the State Reformatory.——Dr. J. M. Mathews has been elected president, Drs. Joseph B. Marvin, Louisville, and J. A. Stucky, Lexington, have been made vice-presidents, and Dr. John D. Trawick, Louisville, has been elected secretary of the Kentucky Society for Social Hygiene.——Mr. Bernard Flexner, Louisville, has resigned as a member of the State Tuberculosis Commission.——Dr. Henry Enos Tuley, Louisville, was elected president of the Louisville Commercial Club, May 13.

## MISSOURI

**State Secretaries' Meeting.**—At the annual meeting of the Society of Medical Secretaries held in Joplin, May 13, the following officers were elected: president, Dr. F. H. Matthews, Liberty; vice-presidents, Dr. A. N. Bobbitt, Joplin, and J. A. McComb, Lebanon, and secretary-treasurer, Dr. J. H. Timberman, Marston.

**State Association Meeting.**—At the fifty-sixth annual meeting of the Missouri State Medical Association held in St. Louis, May 15, Dr. E. H. Miller, Liberty, was elected president, Dr. E. J. Goodwin, St. Louis, secretary (reelected); Dr. J. Franklin Welch, Salisbury, treasurer (reelected); Dr. T. E. Potter, St. Joseph, orator on surgery, and Dr. T. F. Lockwood, Miller, orator on medicine.

**State Board Items.**—The governor has appointed the following members of the State Board of Health: Drs. F. H. Matthews, Liberty; J. A. B. Adcock, Warrensburg; R. L. Wills, Neosho; G. O. Cuppaidge, Moberly, and T. H. Wilcoxsen, Bowling Green. The new board organized, electing Dr. Matthews vice-president and Dr. Adcock secretary and state registrar of vital statistics.

### St. Louis

**Personal.**—Dr. M. F. Harmann sailed for Europe, May 3.——Dr. Ernst Jonas has been appointed by the German government examining physician for German citizens subject to service in the Imperial army.——Dr. Harry L. Whitener who was seriously injured in an automobile accident, recently, is reported to be improving.

**Cornerstones Laid.**—The cornerstone for the new medical department buildings for Washington University was laid May 17. The buildings include the medical school building which is to cost $1,000,000, the Barnes Hospital which is to cost a similar amount and the Children's Hospital to cost $2,500,000.——The cornerstone of the Jewish Home for Chronic Invalids, St. Louis, was laid with appropriate ceremonies, May 4.

## NEBRASKA

**New Officers for State Society.**—At the annual meeting of the Nebraska State Medical Association held in Omaha, May 13-15, the following officers were elected: president, Dr. D. C. Bryant, Omaha; vice-presidents, Drs. David T. Martyn, Columbus, and W. E. Shook, Shubert; secretary, Dr. Joseph M. Aiken, Omaha (reelected); treasurer, Dr. A. S. von Mansfelde, Ashland (reelected); delegate to the American Medical Association, Dr. A. R. Mitchell, Lincoln, and alternate, Dr. F. A. Long, Madison. Lincoln was selected as the meeting place for 1914.

## NEW YORK

**Public Health Week at Solvay.**—This village has recently carried out a public health week. The State Health Department loaned the village an exhibit of charts, maps, pictures, etc., dealing with the various phases of public health, and provided lecturers.

**Public Health Lectures in Parochial Schools.**—With the hearty cooperation and approval of the bishops of Buffalo, Rochester, and Syracuse, the State Department of Health has arranged for special lectures to be given in the parochial schools on "Preventable Disease" and the "Carriers of Disease." To carry on this special educational work Dr. Porter has appointed Dr. Katherine Daly, Rochester, and Mrs. Elizabeth Finnegan, Lyons.

**Failure to Report Births.**—During 1912 there were 312 instances of failure to report births. In 300 cases the delinquents were physicians and in six midwives. In six cases excuses were accepted, while the remaining 300 were fined amounts ranging from $10 to $100. Since January there have been but 50 lapses of this nature. It is the intention of the department to prosecute to the fullest extent all present and future violations of the law. It is worthy of attention that violations of this section of the Sanitary Code seem more frequent among physicians than among midwives.

### New York City

**Personal.**—Surgeon L. L. Williams of the United States Public Health Service has assumed the duties of chief medical officer at Ellis Island.——Dr. John R. Hicks, New Brighton, Staten Island, has been appointed chief medical officer of the hospital and detention hospital at Hoffman's Island, and Dr. Albert A. Mendez of the contagious disease station at Swinbourne Island.

**War on Houseflies after City Clean-Up.**—Announcement is made at the headquarters of the Health Department that as soon as the task of removing the mountains of rubbish from the streets of the city is completed the health authorities propose to eliminate as far as possible all breeding spots of flies. Especial attention will be given to vacant lots; persons who do not clean up their vacant lots will be compelled to do so and to send the refuse to the city dumps at their own expense. Notices are being sent out explaining that it will be necessary to screen all outhouses. Nearly 25,000 cards, bearing instructions to storekeepers in regard to the protection of their wares from flies, have been distributed by the members of the Housewives League and others.

## OHIO

### Cincinnati

**Commencement Arrangements.**—The annual commencement of the Medical School of the University of Cincinnati will be held June 14. Notwithstanding the recent disastrous floods, a large attendance of the alumni is expected, and arrangements are already partially completed for their entertainment. Clinics will be held each morning from 9 to 12 at the City Hospital, beginning Tuesday, June 10, and extending to Friday, June 13. Some form of entertainment is being planned by the local alumni for the visitors on Friday evening, June 13.

**Modern College.**—Sir William Osler has written Dr. Christian R. Holmes urging that steps be taken toward the erection of a modern medical college building near the new City Hospital to commemorate the work of Dr. Daniel Drake.——Mrs. Mary Emery has again made a generous offer for the good of Cincinnati. This time her gift consists of $125,000 to endow the pathologic department of the medical school of the university.

## PENNSYLVANIA

**Start Abington Hospital.**—Ground has been broken for the erection of the Abington General Hospital and the work will be pushed as rapidly as possible. When completed the institution will involve an outlay of $100,000, without furnishings.

**Jefferson Surgeons Hold Clinic at Harrisburg Hospital.**—A clinic was held at the Harrisburg Hospital, May 16, by members of the faculty of Jefferson Medical College of Philadelphia. Those who hold the clinic were Drs. S. MacCuen Smith, H. R. Loux, H. Augustus Wilson, Thomas McCrae, E. P. Davis, J. M. Fisher and Henry K. Gaskill.

**Appointments at Jefferson.**—Dr. Frederick J. Kalteyer, assistant professor of medicine, associate professor of medicine; Dr. John C. DaCosta, Jr., associate professor of medicine; Dr. R. Max Goepp, assistant professor of clinical medicine; Dr. Ross V. Patterson, assistant professor of medicine, and Dr. P. Brooke Bland, assistant professor of gynecology.

**Personal.**—Dr. C. D. Wilkins, superintendent of the Wilkes-Barre Hospital, has been appointed superintendent of the Charity Hospital, New Orleans.——Physicians of Mahanoy City presented Dr. Phaon H. Hermany with a silver loving-cup, May 10, on the occasion of the fiftieth anniversary of his entrance into the medical profession.——Clinton County Medical Society gave a banquet May 7 in honor of Dr. R. B. Watson, Lock Haven, in celebration of his seventy-fifth birthday anniversary and his fiftieth anniversary as a practitioner. ——Dr. Henry H. Riegel, Catasauqua, last week celebrated the fifty-sixth anniversary of his entrance into practice.——Dr. E. F. Bickel, Shamokin, has been chosen as secretary-treasurer of the Five County Alumni Association of the Medico-Chirurgical Faculty of Philadelphia, comprising Northumberland, Union, Snyder, Montgomery and Columbia counties.——Dr. W. N. Pringle, Johnstown, has returned from a trip to Australia and the South Sea Islands.——Drs. Walter Loftus, Carbondale, and A. L. Diefenderfer, Oringsburg, have been elected members of the medical staff of the Emergency Hospital, Scranton.——The coroner's jury on May 13 exonerated Dr. J. A. Lichty, Pittsburgh, from any blame in the death of J. A. Jackson, who was struck and killed by Dr. Lichty's automobile, March 29.——In the case of Dr. Frank H. Lawrence, Reading, who was sued for damages for alleged assault, the jury, after twenty minutes deliberation, returned a verdict in favor of the physician.

### Philadelphia

**War on Rats.**—Dr. Joseph S. Neff, director of public health and charities, has urged householders of the city to wage unceasing war against rats, mice and roaches and has published methods for destroying these pests.

**Many Vaccinated.**—Vaccination of more than 3,500 persons in the northeast section of the city was made on May 11. One of the small-pox patients had attended service at the St. Paul's Church, Eighth street below Girard Avenue less than a week earlier and Dr. A. A. Cairns, chief medical inspector, demanded that the congregation be vaccinated. The church was locked and a line of police outside prevented the holding of any service until the pastor gave the assurance that every member would be vaccinated. Dr. Cairns spoke at both the morning and evening service and each person handed in his name and stated whether he wished to be vaccinated by his own or a city physician. There have been no new cases reported.

**Dr. Duhring Wills $81,000 to University.**—The will of Dr. Louis A. Duhring, former professor of dermatology at the University of Pennsylvania, devises approximately $81,000 to the university and hospital connected with it. The income of $25,000 is to be used for the department of cutaneous medicine. A museum for the study of cutaneous disease is to be established. Should any of the income of this $25,000 trust fund be available for other purposes, lectures, prizes and scholarships are to be awarded and facilities for research work are to be given. The University hospital is to receive $50,000 for the support of wards of free beds for the treatment of skin diseases and similar physical disorders. After the payment of other bequests the residue is to be given to the trustees of the University of Pennsylvania and to the College of Physicians to be distributed in a specified manner.

## TENNESSEE

**New Officers.**—Chester County Medical Association reorganized at Henderson, April 26: president, Dr. J. R. Carroll, Henderson; secretary- treasurer, Dr. E. D. DeBerry, Gail.

**State Board News.**—Dr. E. L. Simmons, Greeneville, has been appointed a member of the State Board of Medical Examiners, vice Dr. W. H. Halbert, Nashville, resigned.——At the annual meeting of the State Board of Health in Nashville, April 29, Dr. R. E. Fort, Nashville, was elected president, Dr. A. M. Gamble, Maryville, vice-president and Dr. H. H. Shoulders, Nashville, assistant secretary of the board, was chosen as state registrar of vital statistics.

## TEXAS

**Free Telephone Service for Benefit of Public Health.**—The people of Texas are to have at their command telephone lines of the state for health control and prevention of sickness and epidemics. Dr. Martin E. Taber, Dallas, director of the Southwestern Telegraph and Telephone Company, announces that he will appoint physicians in every city where the company maintains an exchange, and that this organization will be at the service of the community as conditions of public stress develop.

**State Association Meeting.**—The State Medical Association of Texas at its forty-fifth annual meeting in San Antonio, May 6-8, elected the following officers: president, Dr. Marvin L. Graves, Galveston; vice-presidents, Drs. John H. Foster, Houston, J. S. Anderson, Plainview, and R. R. White, Temple; secretary, Dr. Holman Taylor, Fort Worth (reelected); treasurer, Dr. W. L. Allison, Fort Worth; trustee, Dr. John S. Turner, Dallas; councilors: Dr. W. C. Dickey, Memphis, third district; Dr. W. A. King, San Antonio, fifth district (reelected); Dr. W. N. Wardlow, Corpus Christi, sixth district; Dr. A. C. Scott, Temple, twelfth district, and Dr. W. H. Blythe, Mount Pleasant, fifteenth district; delegates to the American Medical Association, Drs. Holman Taylor and Clay Johnson, Fort Worth, and Dr. C. A. Smith, Texarkana, and alternates, Drs. Joseph Beeton, Greenville, Frank Paschal, San Antonio and O. L. Norsworthy, Houston. Houston was selected as the place of meeting for 1914.

## GENERAL

**French Physicians on a Visit.**—Drs. Mouriquand and Leriche, professors agrégé of Lyons, France, who, as stated in THE JOURNAL of May 10, page 1473, were awarded the Falcoux and Crouzet prizes, respectively, by the Faculty of Medicine of Lyons, are visiting various points in the United States.

**Medical Examiners to Meet.**—The American Association of Medical Examiners will hold its annual meeting in Minneapolis, June 16, immediately preceding the meeting of the American Medical Association. Dr. Frank W. Foxworthy, Indianapolis, is president and Dr. George Strohbach, Cincinnati, Ohio, secretary-treasurer.

**International Medical Congress.**—It is announced from London by the committee of organization of the Seventeenth International Medical Congress, to be held there August 6-12, that the position of president of the section on ophthalmology, left vacant by the death of Sir Henry Swanzy, has been filled by the appointment of Sir Anderson Critchett. The subscription fee of $5 for the congress can be sent directly to the treasurer, 13 Hinde Street, London W., England. The wives and daughters of members can be inscribed for $2.50. Other news of the congress has appeared in THE JOURNAL from time to time and there is an item in the London Letter of this issue.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, May 3, 1913.

### The International Medical Congress

Some further information may be given as to the International Medical Congress which will meet in London in August. In the section of the history of medicine a wide interpretation has been given to the subject. In some cases the papers will be more or less of an anthropologic nature. A paper on the history of the relations of medicine and vivisection will be read by Mr. Stephen Paget, secretary of the Research Defense Society. That the artistic side of the subject will be well represented is shown by the following titles: "Relations between Art and the History of Medicine," Hollander; "Physiology of Vision and Impressionism in Art," Leonard Hill, and "Painting in Relation to the History of Medicine," Corsini. Sir Shirley Murphy has promised a paper on the origin and growth of public health legislation. Sir William Osler will give an illustrated lecture on the earliest printed medical books. Dr. Sambon will discuss the light thrown by the healing practices of animals and savage men on the study of primitive medicine.

In the section of psychiatry, over which Sir James Crichton Browne will preside, Janet will discuss psychanalysis; Dr. Adolf Meyer will read a paper on the psychiatric clinic, its aims, educational and therapeutic, and the results obtained in the promotion of recovery. Morselli will discuss the psychology of crime.

In the section of anatomy Dr. C. U. Ariens-Kapper of Amsterdam will read a paper on cerebral circulation and the precise function of the furrows of the brain.

In the section of physiology there will be a debate on the correlation of the organs of internal secretions and their disturbances.

In the section of pathology shock is one of the subjects to be discussed, and there is a special subsection devoted to chemical pathology.

In the section of bacteriology and immunity, among the subjects to be discussed are theories of immunity and anaphylaxis, the nature of virulence, filter passers, leprosy and allied bacteria.

In the section of therapeutics there are many novelties, such as non-bacterial toxins and antitoxins, the comparative value of heart remedies, and thermal treatment.

In the section of surgery there will be a special subsection devoted to anesthesia, general and local, and recent methods, such as spinal analgesia, and there will be a discussion of recent special methods of general anesthesia. Yandell Henderson of New Haven, Conn., will contrast the immediate and after-effects of spinal and local analgesia with inhalation anesthesia, particularly with regard to shock. Postoperative shock will also come under review.

In the section of ophthalmology Carl von Hess of Würzburg will read a paper on "Affections of the Eye Produced by Undue Exposure to Light."

In the section of hygiene and preventive medicine, the following subjects will be discussed: the effect of dust in producing diseases of the lungs, infant mortality in the first weeks of life, the factors that determine the rise, spread and severity of epidemic diseases, the supervision of the health of children between infancy and school age, and the causes, prevention and treatment of visual defects in school children.

In the section of naval and military medicine, the subjects are: hospital ships and transport of wounded, transport of wounded in hill warfare, water-supplies in the field, antityphoid inoculation, sanitary organization in the tropics, caisson disease and the physiology of physical training and marching. In the section of tropical medicine and hygiene the subjects to be discussed are plague, beriberi, leishmaniasis and relapsing fevers.

### International Dental Congress

The sixth International Dental Congress will be held in London, August 3-8, 1914, at the invitation of the British Dental Association. The meetings will be held at the University of London and the Imperial College of Science and Technology, South Kensington. The president will be Mr. J. Howard Mummery. Previous congresses have taken place in Paris, 1889; Chicago, 1893; Paris, 1900; St. Louis, 1904, and on the last occasion at Berlin, in the Reichstag, in 1909, when the German emperor took a personal interest in the meeting. Delegates attended from twenty different countries, and the governments of many of them were officially represented. Invitations are being issued to dental organizations throughout the world, and it is hoped thus to secure the cooperation of leading specialists and representative authorities in all branches of dental surgery. The rules of the International Dental Congress provide that all ethical practitioners of dentistry possessing the qualifications of the country in which they received their professional education, or of the country in which they practice, are eligible for membership. The subscription for members of the congress will be $7.50, and for members of their families accompanying them, $3.75. The offices of the congress are at 19 Hanover Square, London, W., to which address all communications should be sent.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, May 2, 1912.

### Death of Sigismond Jaccoud

Dr. Jaccoud, who was life secretary of the Académie de médecine, and formerly professor of clinical medicine at the Faculté de médecine de Paris, is dead at the age of 83. Although somewhat in the background during his last years, Jaccoud formerly held an important place in the medical profession.

Jaccoud was born at Geneva, Nov. 29, 1830. He earned the money to pay for his medical education by playing as one of the first violinists at the Opéra-Comique. He was given his medical degree in 1860, and his thesis had for its subject the pathogenic conditions of albuminuria. In 1862 he was given the position of physician to the hospitals of Paris, was *agrégé* in 1863, and professor in 1876. At first he taught internal pathology, and later became professor of clinical medicine. In 1877 he was elected to the Académie de médecine, and occupied the position of life secretary since 1901.

Although as a consulting physician, perhaps from his somewhat reserved personality, he never reached the prominence held, for example, by one of his pupils, Dieulafoy, he won great renown by his works. He was versed in several languages and was noted for his erudition. His "Traité de pathologie interne," the first edition of which was published in 1871, was long a favorite with students. He was the author of several volumes of "Leçons cliniques," and under his direction there were published, from 1864 to 1886, the "Nouveau dictionnaire de médecine et de chirurgie pratiques," in forty volumes. This work is yet known, for short, as Jaccoud's Dictionary.

### The Spirochete in the Brain in General Paralysis

In several recent articles Noguchi and Moore have shown that the *Spirochaeta pallida* can be found in the brain in cases of general paralysis with the silver method of Levaditi (as mentioned in abstract, THE JOURNAL, Feb. 22, 1913, p. 627). These organisms are found distributed through the gray substance of the convolutions, and are not related to the meninges or the lesions. The spirochetes are found not in all brains examined in cases of typical general paralysis, but in from 17 to 24 per cent. This finding, so important from the point of view of etiology and perhaps even of therapy, has been confirmed recently by Marinesco and Minea, who found the spirochete in one case among twenty-six examined for this purpose, by the silver method. Dr. A. Marie, chief physician of the public asylums of the Seine, reported at a recent meeting of the Société de biologie that in collaboration with Drs. C. Levaditi and J. Bankowski, he had been able to find spirochetes in the cerebral cortex in two cases of true paralysis out of twenty-four examined for this purpose. One of the patients had had general paralysis for seven years, with false remissions. It is interesting to learn that the pathogenic agent of syphilis can remain in the brain notwithstanding the long duration of general paralysis. In the second case the duration of the disease was short. Recently Marie has discovered the spirochete in the brain of a patient with general paralysis, not only with the ultramicroscope, the method used by Noguchi, but also by the India-ink method used by Burri and the method of Fontana-Tribondeau.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, April 18, 1913.

### Sixth International Congress on Physiotherapy

*(Continued from page 1554)*

#### RADIUM EMANATIONS IN THERAPEUTICS

Ramsauer reported on a method of administration from which the chief defects have been eliminated and the exactness of which has been determined by a quantitative estimation of the possible experimental errors. Particularly the freedom from error with this technic in the activation in the emanatorium and thermostat and in drawing blood, and the completeness of inactivation and the sufficient accuracy of the methods of estimation have been determined.

Holthusen reported on the absolute value of the absorption coefficients found under the greatest variation of experimental conditions. The results varied in the normal blood between 0.295 and 0.325 with complete independence of a partial pressure. The extremes in anemia and polycythemia were 0.22 and 0.37. The content in red blood-corpuscles was shown to be a determining factor for the height of the absorption coefficients.

Kisch of Marienbad uttered a warning against the overestimation of radio-activity as the potent factor in mineral springs. There is no reason to displace the well-known chemical and physical qualities of mineral springs by their radioactivity, or to hold that the degree of radio-activity of the springs runs parallel with their value. Ordinary spring water often contains more radio-active units than the well-known curative springs. Only a slight amount of emanation is shown by the well-recognized active saline waters, and also the sulphate waters so highly valued in balneotherapy. The radioactive springs are suited neither for drinking nor for the bath treatment, as an insufficient number of units is communicated to the organism in this way. Even the emanatoriums—artificial mineral springs—do not furnish sufficient units. Every mineral spring is an individuality the peculiar value of which is to be estimated not by this or that constituent, but according to the manner in which they are combined and its physical and chemical properties.

Kionka of Jena reported on the pharmacologic action of radium emanations. He showed by lantern slides the favor-

ing influence of radium emanations on the growth of the green parts of plants and their inhibitory influence on the growth of roots. Further he showed lantern-slides of photomicrographs of pieees of elder pith which had been inserted under the skin of frogs kept in water containing emanations. In these there was shown restriction of the immigration of leukocytes. Exactly the same phenomena were observed on frogs which were kept in very dilute barium solutions.

### RELATION OF IMMUNITY TO NUTRITION

Czerny of Berlin spoke on the dependence of natural immunity on nutrition. He recognizes the maintenance of the natural immunity as a function of the living organism. Children born at term, who were nourished with mother's milk, show in the majority of cases so high a degree of immunity that their growth is not disturbed by infections. Natural immunity is very closely allied to nutrition. An infection of the mouth with thrush is not possible in a normally born and breast-fed child, but as soon as a slight disturbance of the nutrition occurs the child loses the natural immunity. The bottle-fed child is at a great disadvantage as compared with the breast-fed child. One-sided nutrition with carbohydrates injures the immunity of children, and therefore fat in the form of cod-liver oil should be added to the nutriment.

Weigert found that tubereulous children who were nourished with carbohydrates succumbed more easily than when they were nourished with fat. The water content of the organism is inversely proportioned to the natural immunity. Carbohydrate diet increases unneeessarily the amount of water and prompts a rapid rise in the body-weight, but such children are water-logged and show slight resisting power against infection. The lack of absorbable calcium salts in the diet favors the water-logging. The exudative diathesis is most readily removed if after the first year of life as little milk as possible enters into the diet.

### ALCOHOL IN INFECTIOUS DISEASES

Ewald of Berlin spoke on the subject of alcohol and infectious diseases. The opinion has now been reached that alcohol no longer plays the rôle in therapeutics, especially of infectious diseases, that was formerly ascribed to it. The injury caused by the alcohol to the infection does not compensate for the harm resulting from the unfavorable influenees on the natural protective power of the organism, the blood-pressure and the respiration. The stimulating action of alcohol on the heart is of only short duration and is followed by a marked decline. It was believed formerly that treatment by alcohol was especially indicated in the infeetious tropical diseases, in syphilis and other venereal diseases, in pneumonia, rheumatism, scarlet fever, measles and diphtheria. But at present the opinion prevails that treatment with alcohol is injurious rather than advantageous in many cases. Even in pulmonary tuberculosis the injurious influence of alcohol is established. Ewald gives alcohol only in severe heart-failure and in certain forms of diabetes, particularly in incurable cases, in order to divert the mind of the patient from dwelling on the hopelessness of his condition.

### DIET IN CHOLELITHIASIS

Salomon of Vienna discussed the dietetic treatment of patients with gall-stones. In the latent stage of cholelithiasis a diet should be maintained which is appropriate in cases of hyperacidity; especially all fats of minor value should be avoided, as well as irritating spices, coarse varieties of the cabbage family, uncooked vegetables and particularly fat foods, mayonnaise, coffee, alcohol, cold drinks, etc. The habitual use of catharties should be discouraged; on the other hand, saline mineral waters have a very good effect. A well-regulated intestinal peristalsis seems to be the best stimulus for the flow of bile. The treatment of constipation often causes the disappearance of severe pain and febrile attaeks. This may explain the success of a course of eating grapes.

### DIET IN DIABETES

Von Noorden of Vienna discussed the dietetic treatment of severe diabetes with special reference to acidosis. He distinguishes benign forms of severe glycosuria and a malignant form in which the patients often feel best when they receive from 75 to 120 gm. of bread daily with the inclusion of short periods of vegetable days, oatmeal days and single abstinence days, and in which the diet must be the more liberal the more hopeless the case is. In the benign forms the most careful estimation of tolerance should be made, not only with reference to the amount of carbohydrate which can be taken within twenty-four hours, but also with reference to the question of whether the same amount should be taken at one time or in small portions, and whether it is better to give it in the morning or evening. All other factors should also be carefully considered. Oatmeal days are especially suitable, also the vegetable and egg days or abstinence days. In other cases of glycosuria, freedom from sugar can be obtained only temporarily. For these one should use a strict diet only in case no marked acetonuria occurs. In such a case one should administer carbohydrates in order to avert immediate danger. The best service is given by a varied diet; finally, in same cases the ocurrence of threatening coma may be postponed by the oatmeal diet. Alcohol is a valuable aid in nutrition in most cases of severe diabetes, as it facilitates the giving of fats and furnishes a large amount of energy. In threatening coma the administration of cognac or whisky is to be recommended.

## Marriages

DAVID C. DODDS, M.D., Summerfield, Kan., to Miss Hulda Wolking, formerly of Clay County, Kan., at Albuquerque, New Mex., April 30.

ROBERT B. MIDDLEBROOK, M.D., Wessington, S. Dak., to Miss Julia McPherson Ward of Kansas City, Mo., April 11.

EDWARD R. SCHUNK, M.D., Dietz, Wyo., to Miss Elva C. Bradley of Plano, Ill., in Sheridan, Wyo., April 30.

DEWEY SUTTON, M.D., Wolsey, S. Dak., to Miss Grace Corley of Huron, S. Dak., at Mellette, S. Dak., April 30.

WILLIAM CHARLES TROXELL, M.D., Allentown, Pa., to Miss Lillian F. Schuler of East Texas, Pa., May 8.

JOHN FRANK STANDEVEN, M.D., Wall, S. Dak., to Miss Mary Elsie Wylie of Randolph, Iowa, April 30.

JOSEPH SAMUEL COHEN, M.D., Philadelphia, to Miss Dorothy Shaffer of Allentown, Pa., May 6.

MORRIS BENJAMIN BADT, M.D., to Miss Mabel Glenn, both of Fort Worth, Tex., May 8.

OSCAR E. VEATCH, M.D., to Miss Helen Johnson, both of Fort Worth, Tex., April 30.

## Deaths

**Ernest L. Shurly, M.D.** University of Buffalo, N. Y., 1866; a member of the American Medical Association and American Laryngologieal Assoeiation; one of the founders and emeritus professor of laryngology and clinical medieine in the Detroit College of Medieine; formerly acting assistant surgeon in the Army with service in Indian campaigns and the Yellowstone Expedition; a pioneer in the fight against tubereulosis; founder of the first tuberculosis eamp in Michigan at Eloise; a specialist in diseases of the nose, throat and chest and author of standard works in this specialty; for many years chief of staff of the Harper Hospital, Detroit, and a member of the staff of St. Mary's, St. Luke's and the Woman's hospitals; died in Harper Hospital, May 10, from heart disease, aged 67.

**Arthur Edward Spohn, M.D.** Long Island College Hospital, Brooklyn, 1867; Bellevue Hospital Medical College, 1879; professor of surgical anatomy in Long Island College Hospital in 1867-1868; for more than forty years a praetitioner of Corpus Christi, Tex.; formerly assistant surgeon U. S. M. H. Service; an expert in yellow fever; died at his home in Corpus Christi, May 6, from cerebral hemorrhage. In respeet to Dr. Spohn's memory, all business houses and publie sehools of the city were closed during the time of the funeral.

**George Herman Powers, M.D.** Harvard Medieal Sehool, 1865; a member of the American Medieal Association; emeritus professor of ophthalmology in the University of California, San Francisco; oculist and aurist for the Southern Pacific System, St. Luke's, St. Mary's and San Francisco City and County hospitals; one of the first speeialists in diseases of the eye and ear of San Franciseo; a surgeon of volunteers during the Civil War; died at the home of his daughter in Detroit, May 4, from heart disease, aged 72.

**Edmund A. Reilly, M.D.** Western Reserve University, Cleveland, 1881; a member of the Medical Soeiety of the State of New York and American Public Health Association; health

officer of Elmira from 1889 to 1894; died at his home after a long illness, April 29, aged 53. At a joint meeting of the Medical Society of the County of Chemung and the Elmira Academy of Medicine, May 2, eulogistic addresses were made and a committee was appointed to prepare suitable resolutions regarding the death of Dr. Reilly.

**Alexander Gray Fell, M.D.** University of Pennsylvania, Philadelphia, 1887; a member of the American Medical Association and president of the Luzerne County Medical Society in 1901; a school director of Wilkes-Barre and one of the most prominent practitioners of the Wyoming Valley; one of the staff surgeons of the Nesbitt West Side Hospital and Wilkes-Barre City Hospital; died at his home, May 1, from heart disease, aged 52.

**George Hancock Ingalls, M.D.** University of Vermont, Burlington, 1885; formerly a member of the American Medical Association; a member of the Massachusetts Medical Society and a councilor of the Roxbury District Medical Society; formerly a practitioner of Jamaica Plain, Boston; a member of the New Hampshire legislature in 1893 and 1894; died at his home in East Kingston, N. H., about May 5, aged 52.

**Louis George Le Beuf, M.D.** Tulane University, New Orleans, 1887; formerly a member of the American Medical Association and once president of the Orleans Parish Medical Society; one of the first to institute a campaign of education that yellow fever was contagious only through the mosquito; for several years coroner of Jefferson Parish; died at his home in Pass Christian, Miss., May 5, aged 47.

**Albert G. Pickett, M.D.** Medical College of Ohio, Cincinnati, 1847; Illinois Army Board, 1862; assistant surgeon of the Fiftieth Illinois Volunteer Infantry during the Civil War; thereafter a practitioner of Mattoon, Ill., until 1898, when he moved to Chicago; died at the home of his daughter in Urbana, Ill., May 5, from myocarditis, aged 86.

**William Kirk Jameson, M.D.** University of Michigan, Ann Arbor, 1866; a veteran of the Civil War, in which he served as surgeon of the Thirtieth Wisconsin Volunteer Infantry; for many years a practitioner of Muscoda, Wis.; died at the home of his daughter in Moscow, Idaho, March 24, from hemorrhage of the stomach, aged 77.

**Michael Edward McGann, M.D.** College of Physicians and Surgeons, Chicago, 1903; a member of the Illinois State Medical Society and a veteran of the Spanish-American War; a member of the executive board of St. Joseph's Hospital, Joliet, for the past five years; died at his home, May 7, from disease of the intestine, aged 38.

**David Coggin, M.D.** Harvard Medical School, 1868; a member of the American Ophthalmological Association and Massachusetts Medical Society; a specialist on diseases of the eye and ear, of Salem, Mass.; for many years in charge of the eye and ear department of the Salem Hospital; died at his home, May 7, aged 70.

**James K. White, M.D.** University of Louisville, Ky., 1877; a member of the American Medical Association; a member of the staff of the Beaver Valley General Hospital; for one term coroner of Beaver County; a member of the New Brighton School Board; died at his home in that place, May 4, aged 63.

**Benjamin H. Barr, M.D.** Homeopathic Medical College of Pennsylvania, Philadelphia, 1855; surgeon-in-chief of an army corps during the Civil War; for many years a practitioner of Philadelphia; died at the home of his daughter in Burlington, N. J., May 5, from senile debility, aged 85.

**Charles Dickinson, M.D.** Albany (N. Y.) Medical College, 1860; once president of the Scoharie County (N. Y.) Medical Society; for many years a practitioner of Seward; died at the home of his daughter in Cobleskill, N. Y., April 29, from cerebral hemorrhage, aged 79.

**George W. McElveen, M.D.** Baltimore University School of Medicine, 1885; a veteran of the Spanish-American War, in which he served in the hospital corps of the Thirty-Fourth Michigan Infantry, U. S. V.; died at his home in Detroit, May 11, aged 46.

**Edmond Arthur Waggener, M.D.** University of Louisville, Ky., 1871; Bellevue Hospital Medical College, 1873; a member of the Kentucky State Medical Association and a Confederate veteran; died at his home in Columbia, May 5, aged 67.

**Carl Faber, M.D.** Chicago Homeopathic Medical College, 1879; formerly of Blue Island and Monee, Ill.; a veteran of the Franco-German and Spanish-American wars; died at his home in Steger, Ill., April 26, from arteriosclerosis.

**George R. Sanborn, M.D.** Berkshire Medical College, Pittsfield, Mass., 1850; for more than half a century a practitioner of New Haven, Conn.; died at his home in Middlebury, Vt., April 22, from senile debility, aged 86.

**William Luther Shollenbarger, M.D.** Medical College of Ohio, Cincinnati, 1899; of Winton Place, Cincinnati; a member of the American Medical Association; died at the Bethesda Hospital, Cincinnati, May 5, aged 39.

**George Washington Peddy, M.D.** New Orleans School of Medicine, 1859; surgeon of the Fifty-Sixth Georgia Regiment, C. S. A., during the Civil War; died at his home in Newnan, Ga., May 6, from erysipelas, aged 75.

**Charles W. McIntyre, M.D.** University of Louisville, Ky., 1887; died in his office in Louisville, March 26, from the effects of carbolic acid, believed to have been self-administered with suicidal intent, aged 43.

**Edward Russell Ogden, M.D.** Northwestern University, Chicago, 1884; a member of the American Medical Association and Physicians' Club of Chicago; died at his home in Chicago, May 14, from pneumonia, aged 50.

**J. D. Bradley, M.D.** St. Louis College of Physicians and Surgeons, 1893; a pioneer practitioner of Sebastian County, Ark.; died in the Sparks Memorial Hospital, Fort Smith, April 30, from nephritis, aged 64.

**James Samuel Tazewell Baird, M.D.** Jefferson Medical College, 1852; for many years a practitioner in and around Asheville, N. C., died at his home in Beaverdam, N. C., April 22, from senile debility, aged 81.

**Jeremiah Beattie, M.D.** Cincinnati College of Medicine and Surgery, 1875; for thirty-eight years a practitioner of Salt Lake City; died suddenly at his home, May 7, from heart disease, aged 74.

**William Ray Inghram, M.D.** Hahnemann Medical College, Philadelphia, 1906; who went to Arizona a year later on account of his health; died at his home in Tucson, May 6, aged 35.

**George M. Goodrich, M.D.** Eclectic Medical Institute, Cincinnati, 1883; a member of the State Medical Society of Wisconsin; died at his home in Clintonville, May 5, from diabetes, aged 52.

**John Mahon MacDonald, M.D.** New York University, New York City, 1890; of Belleville, N. J.; died at the home of his brother in Red Bank, N. J., March 29, from heart disease, aged 45.

**Thomas Nelson Watson Morris, M.D.** University of Virginia, Charlottesville, 1881; of Poindexter; died at the home of his brother Hazelbrook, in Trevilians, Va., about April 28, aged 53.

**Abel S. Cloud, M.D.** University of Louisville, Ky., 1868; of Kiowa; a member of the Kansas Medical Society; died at the home of his son in Cherokee, Kan., about May 2.

**Putnam Brinley, M.D.** University of Pennsylvania, Philadelphia, 1851; of Hartford, Conn.; died in the Hartford Retreat, April 30, from senile debility, aged 87.

**Evans M. Myers, M.D.** University of Maryland, Baltimore, 1901; a member of the American Medical Association; died at his home in Bennet, Neb., April 29, aged 37.

**C. D. Crawford, M.D.** Washington University, St. Louis, 1868; formerly of Malden, Mo.; died at the home of his daughter in Pine Bluff, Ark., April 24, aged 77.

**John Haven Emerson, M.D.** College of Physicians and Surgeons, New York City, 1865; died at his home in New York City, May 4, from cerebral hemorrhage, aged 73.

**John Theron James, M.D.** University of Buffalo, N. Y., 1889; a life-long resident of Medina, N. Y.; died in the Rochester (N. Y.) General Hospital, May 4, aged 52.

**Charles W. Slocum, M.D.** Eclectic Medical Institute, Cincinnati, 1855; died at his home in Morenci, Mich., April 24, from cerebral hemorrhage, aged 80.

**R. Durant Morford, M.D.** Western Reserve University, Cleveland, 1882; of McKeesport, Pa.; died in the McKeesport Hospital, May 7, aged 58.

**Frank Taylor, M.D.** Saginaw Valley (Mich.) Medical College, 1900; died at his home in Spokane, Wash., May 1, aged 44.

**William Henry Meredith, M.D.** Jefferson Medical College, 1866; died at his home in Quakertown, Pa., about May 1, aged 69.

**Robert Watts Eastman, M.D.** University of Buffalo, N. Y., 1879; died at his home in New York City, May 5, aged 60.

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## THE DUKET CONSUMPTION "CURE"

### Giving the Results of Some Investigations

Two weeks ago we gave a brief outline of a so-called cure for consumption exploited by one Peter P. Duket, M.D., and now being financed by ex-Senator William Lorimer. The reply of Duket and his backers in the newspapers to the criticisms is that THE JOURNAL is making a personal "attack" and that no matter what Duket's personal shortcomings may be, the essential point is, does he produce "cures"? THE JOURNAL has made no "attack" on Duket personally; in fact, every effort has been made to avoid personalities.

To recapitulate briefly: In 1910, Duket was operating a "sanitarium" at Findlay, Ohio, where he exploited what he termed an "antiseptic lymph" for the cure of tuberculosis. At that time he claimed to produce cures in 90 per cent. of all cases in the "first stage" of consumption, in 75 per cent. of cases in the "second stage" and in 50 per cent. of those in the "third stage." Before that time he was advertising in the Toledo newspapers his "combination of vitalized and electrified air" as a "godsend to the sick"—"two trial treatments free."

#### THE CURE ESPOUSED BY A MEDICAL COLLEGE

The object of the present article is to show what Duket really accomplished with his "cure" when in Findlay. Before taking this up in detail, the following facts should be given our readers: The only reason that Duket and his cure are now being given any serious consideration is that recently the Bennett Medical College of Chicago has assumed to act as his professional sponsor while ex-Senator Lorimer is backing him financially. Duket seems to have approached the medical college at the psychologic moment. It was at a time when the newspapers were full of the Friedmann "cure"; when descriptions of serums for tuberculosis made splendid copy for newspaper "stories"; when the public imagination was fired with the therapeutic possibilities of secret—and therefore awe-inspiring—remedies. Bennett Medical College, then—whether from altruistic or ulterior motives, we are not prepared to say—seems to have decided to father the Duket "lymph," or, as the newspapers have it, "serum"; but capital was necessary—and straightway forthcoming from Mr. Lorimer. Whether Mr. Lorimer's interest in the Duket "cure" was prompted by a desire to get before the public in a more favorable light than that which he achieved in his political ventures, or whether it was a sincere desire to give humanity the benefit of some of his abundant wealth, need not be discussed. Motives in such a case are unessential. The facts are: a man of little education, of no scientific standing and of quackish tendencies has been given a certain professional recognition by the sponsorship of a medical college, and a financial standing by the aid of ex-Senator Lorimer.

#### WHAT HAS IT ACCOMPLISHED?

Duket claims to have "discovered" his "serum" or "lymph" nine years ago. What has he to show for it? So far as we have been able to discover, the main exhibit is a long list of death certificates. When conducting his "Tubercular Sanitarium" at Findlay, Ohio, Duket issued a prospectus containing a description of the "sanitarium" and a farrago of pseudoscientific nonsense about the "cure." The booklet also gave what purported to be reports of cases of tuberculosis in patients who were successfully treated by his "exclusive" method. Of the fifteen case-reports, in only three were actual names furnished. The remaining twelve were identified by initials and addresses. Of these twelve, four were Toledo patients, and it is manifestly impossible to obtain data regarding individuals who are known only by initials and who live, or did live, in a city of nearly 200,000 population. This left eight cases of patients, identifiable only by initials, and living in small towns, whom Duket claimed to have cured with his "lymph." Inquiries were addressed to physicians in these towns asking for such information as they could give us regarding the cases. We have received replies from four of them.

Here it should be said that the three cases described in Duket's booklet in which the full names and addresses were given are those of Henry Buske of Toledo, Herman Buske of Adrian, Mich., and Bessie Gartz of Toledo. The two Buskes are brothers and are both living; Miss Gartz, also, is living. These three seem to be Duket's forlorn hope in his present exploitation. Miss Gartz admits that she and the two Buskes were present at a consultation held in Adrian, Mich., a little while ago at which a representative of the Bennett Medical College was among those present. In the reports that follow, it should be noted that Henry Buske seems to have drummed up a good deal of "trade" for Duket at the time he was in Findlay.

#### PUBLISHED REPORTS—AND THE FACTS

Now for the reports on those cases, that we have been able to trace, described in the Duket booklet published in March, 1911.

*What the booklet said:* "Mrs. B. McC. ————, Circleville, Ohio. Admitted on Sept. 24, 1910. Weight 90 pounds. The disease had reached the stage of suppuration, or third stage. Left on Dec. 3, 1910. Weight 97 pounds. Feeling good."

*What we found:* Mrs. B. McC——, Circleville, Ohio, although reported to have left Duket's "sanitarium" in December, 1910, "feeling good," went back there in March, 1911. Her daughter states that she "never was any better any time while under this treatment." She died July, 1911, of pulmonary tuberculosis.

*What the booklet said:* "Mrs. F. McG. ————, Upper Sandusky, Ohio. Admitted on Oct. 26, 1910. Weight 95½ pounds. Left on Jan. 14, 1911. Weight 105½ pounds. The disease had reached the third stage and well advanced. The patient is now in good health."

*What we found:* Mrs. F. McG——— went to a reputable physician in Upper Sandusky a few weeks after her return—"in good health"—from Duket's "sanitarium." The physician reports that he "found her in very advanced pulmonary tuberculosis with some involvement of the digestive tract." This diagnosis was substantiated by a bacteriologic examination made at the Hygienic Laboratories of the Ohio State Board of Health. Mrs. McG——— then went to another physician, who advised an operation, to which she submitted. She died a few days after the operation. The physician who first examined her after her return from the Duket place says: "I am satisfied she would have died of tuberculosis in three months at most from the time I first saw her."

*What the booklet said:* "Mrs. C. L. ————, Arlington, Ohio. Admitted on Nov. 12, 1910. Weight 94½ pounds. Left on Jan. 1911. Weight 120¼ pounds. The disease had reached the third stage. The patient is now feeling well."

*What we found:* Mrs. C. L——— was not benefited by the Duket treatment. Our informant writes: "The lady was up and able to do part of her work *before* treatment, which she was never able to *thereafter*." Mrs. L——— died of tuberculosis in July, 1912.

*What the booklet said:* "Mrs. C. F. K. ————, McComb, Ohio Admitted on Nov. 12, 1910. Weight 94½ pounds. Left on Jan. 22, 1911. Weight 108 pounds. The disease had reached the third stage. The patient is now feeling well."

*What we found:* Mrs. C. F. K——— died of pulmonary tuberculosis in April, 1911, three months after leaving the Duket place, "feeling well."

#### SOME MORE "CURES"

These are all the reports we have obtained up to date regarding the cases described in the Duket booklet. We have

however, been able to obtain reports of other cases of which Duket—with more shrewdness than frankness—makes no record in his booklet. We have signed statements for the matter we are about to give and also have certified copies of the death certificates of the individuals whose cases are described. To shield the relatives of the unfortunate victims from an unenviable publicity, we give merely the initials of the persons involved:

*Mr. S. C———.* First taken sick in 1911. Went to Findlay in the fall, where he took three treatments, staying about two months. Duket said to have promised to cure him in three treatments, but the patient returned unimproved. Died July, 1912.

*Mr. A. K———'s* mother states that her son first went to the Ohio state sanatorium for tuberculosis, where he remained under treatment until June, 1910. Came home much improved. Later he went to Duket's "sanitarium," where he received three injections. The "treatment" cost $210. Duket is claimed to have said that three treatments would cure him. After giving the treatments Duket is said to have told the patient he was cured and could go home. He died January, 1913.

*Mr. F. J. K———'s* mother states that her son first heard of Duket in January, 1911, from an acquaintance of Henry Buske. Duket and Buske called to see him and Duket is said to have promised a cure after three treatments. Treatments cost $195. Had the last treatment in March, 1911; died two weeks later.

*Mr. W. L.———'s* wife said that her husband heard of Duket through a man who worked with Henry Buske. Went to Duket's "sanitarium" in June, 1910, and stayed six weeks. Received four or five injections. Returned home weaker than before going away. Died November, 1910.

*Mr. G. C. S———'s* father stated that his son was persuaded to go to Findlay by the man who was financing Duket's "sanitarium." Was told that if he would take three injections three weeks apart he would be able to return home cured. Was to pay $25 for each treatment and $15 a week for board. Went to the Duket "sanitarium" in July, 1910. Was given four injections. Death occurred in September, 1910. Duket is said to have collected for the fourth treatment after threatening suit.

*Miss W. W———*, according to her mother, heard of the Duket treatment through a relative of Henry Buske. Buske sent Duket to call. Duket is said to have claimed he could cure Miss W——— in four treatments. She went to Findlay in January, 1911, and had three treatments, paid $25 for each treatment and $15 a week in advance for room. After six weeks Duket advised her to return home, which she did in March, 1911. Four weeks later she died. Her mother states that her daughter "had not coughed or raised sputum" until after beginning the Duket treatment.

*Miss M. S. C———*, who is still living, states that she heard of Duket through Henry Buske and that Duket promised the first treatment would relieve her cough and that two more treatments would make a definite cure. Duket wanted to give a fourth treatment but she would not permit it. When giving the second treatment, Duket failed to locate a vein and had to make two incisions. Miss C——— has four large scars as a result of the "treatment." She states that she never had any hemorrhages, that the treatment did not modify the cough and that she lost weight while at the "sanitarium." She also states that Duket had only one nurse at any one time at the "sanitarium" and that this nurse also had to do the cooking. When Miss C——— refused the fourth treatment, Duket told her she would not live three months. This was three years ago. Miss C——— is still living.

Such, then, are the records of some of the Duket cases of which we have learned. To give in brief the results of our investigations, the following list is printed. Unquestionably it could be greatly enlarged if a more extended search were made but, as it is, it should be sufficient to demonstrate the absolute worthlessness of the "cure" and the utter unreliability of the man exploiting it. These cases are not selected.

| | PATIENT | ADDRESS | CONDITION |
|---|---|---|---|
| 1. | Miss M. S. C..... | Toledo, Ohio..... | Alive |
| 2. | Mr. S. C..... | Toledo, Ohio..... | **Dead** |
| 3. | Mr. A. K..... | Toledo, Ohio..... | **Dead** |
| 4. | Mr. F. K. K..... | Toledo, Ohio..... | **Dead** |
| 5. | Mr. W. L..... | Toledo, Ohio..... | **Dead** |
| 6. | Mr. G. C. S..... | Toledo, Ohio..... | **Dead** |
| 7. | Miss W. W..... | Toledo, Ohio..... | **Dead** |
| 8. | Miss B. G..... | Toledo, Ohio..... | Alive |
| 9. | Mrs. E. O'H..... | Findlay, Ohio..... | **Dead** |
| 10. | Mrs. A. M. E..... | Lucas County, Ohio... | **Dead** |
| 11. | Mrs. S. E. U..... | Toledo, Ohio..... | **Dead** |
| 12. | Mr. O. B..... | Toledo, Ohio..... | **Dead** |
| 13. | Mr. H. B..... | Toledo, Ohio..... | Alive |
| 14. | Mr. H. B..... | Adrian, Mich..... | Alive |
| 15. | Mrs. B. McC..... | Circleville, Ohio..... | **Dead** |
| 16. | Mrs. F. McG..... | Upper Sandusky, Ohio. | **Dead** |
| 17. | Mrs. C. L..... | Arlington, Ohio..... | **Dead** |
| 18. | Mrs. C. F. K..... | McComb, Ohio..... | **Dead** |

### A SECRET "CURE"

What is the Duket "cure"? We do not know. The medical profession does not know. Secrecy is quackery's handmaid. To the public there is something mysterious in a medical treatment put forward under exaggerated claims and whose composition no one but the exploiter knows.

In investigating the Duket cure, the JOURNAL'S representative was told that while operating the Findlay concern, Duket bought his drugs from Niles, Mich., and that it was thought that he was using a widely advertised "consumption cure" known as the Hyer-Baldwin preparation. While this product does not seem to have a fixed composition, it has been claimed to consist of:

| | |
|---|---|
| Guaiacol carbonate | 12.5 per cent. |
| Salicylic acid | 37.5 per cent. |
| Glycerin | 50 per cent. |

This mixture, according to its exploiters, is to be injected intravenously. Whether Duket's "cure" is the same as the Hyer-Baldwin "cure," we do not know, but there is a striking similarity in the claims made for, and the method of exploiting, the two preparations.

### GOVERNMENT AID FOR QUACKERY

One more point must be referred to before closing. As we said in the previous article, the United States Public Health Service has been called on to make an investigation of Duket's "cure." Through whose influence this was accomplished we do not know, although the newspapers of the country ascribe it to Mr. Lorimer. It is an outrageous state of affairs when the machinery of a scientific department of the United States government can be set in motion for no other purpose than that of advertising a secret nostrum exploited by a man of no scientific standing and of unsavory professional reputation. Duket's cure has no more claim to serious consideration on the part of the United States Public Health Service than has Yonkerman's Tuberculozyne, Hill's Consumption Cure, Tuberclecide, Nature's Creation, Lung Germine, Oxidaze, Eckman's Alterative or any other of the scores of "consumption cures" with which the country is flooded. This much is certain: If the report of the Public Health Service is an unfavorable one, then it should not only be given the utmost publicity but should be couched in such terms as to deal a smashing rebuke to those who have seen fit to utilize the government as an advertising asset. If this is done, consumption-cure fakers may, in the future, hesitate to follow Duket's course.

In the meantime, Duket, by carefully selecting his cases so that the "treatment" is given only to those who in the ordinary course of events may be expected to live for four or five years at the least, will have accomplished what he seeks. And the medical college which is standing sponsor for him will have obtained much free advertising. And the unhappy consumptive is all this time paying the bill in blasted hopes—a refinement of cruelty that is a disgrace to a civilized community.

# Association News

## THE MINNEAPOLIS SESSION

### Golf Club Courtesies—Details of Special Trains

The Minneapolis Number of THE JOURNAL, May 10, gave full particulars about the Minneapolis session, the programs, hotels, railroad rates, excursions, meeting places, etc.

#### GOLF OPPORTUNITIES

The various country clubs situated around Minneapolis will offer the use of their golf links to golf enthusiasts who may be attending the American Medical Association convention and may desire a game.

Cards may be secured by writing the chairman of the Committee on Arrangements, Dr. F. C. Todd, Donaldson Building, Minneapolis, or by inquiring at the Bureau of Registration during the meetings.

#### GREAT WESTERN TRAINS

The following special trains are announced on the Great Western, the details concerning which were not ready for announcement in the Minneapolis Number:

*From Chicago.*—"The Journal Special" will leave Grand Central Depot, Harrison and Fifth Ave., 6:40 p. m., Monday, June 16, arriving at Minneapolis, 8:00 a. m. the following day.

"The Rochester Special" will leave at 6:30 p. m. Sunday, June 15, arriving Rochester, 6:30 a. m., the following day. Convention tickets are good via Rochester with stop-over without extra charge.

*From Kansas City, St. Joseph and Des Moines.*—"The Southwest Medical Special" will leave Kansas City at 1:45 p. m., Sunday, June 15, St. Joseph, 4:00 p. m., Des Moines, 9:20 p. m., arriving Minneapolis, 7:45 a. m., the following day.

*From Denver.*—"The Colorado Special" will leave Denver via the Union Pacific road at 3:00 p. m., June 15, and from Omaha via the Chicago Great Western at 7:00 a. m., Monday, June 16, arriving Minneapolis same evening.

*From Omaha.*—"The A. M. A. Train" will leave Omaha at 8:20 p. m., Monday, June 16, arriving Minneapolis, 8:00 a. m., June 17.

For details and reservations, members can consult any representative of the road.

# Correspondence

### Request for Embryologic Specimens

*To the Editor:*—The embryologic collection at the Johns Hopkins Medical School has now grown sufficiently large to be of great value to the medical profession. Over one hundred special papers on various topics in human embryology are based on this collection, and it is for this reason that I again appeal to physicians for more abortion specimens to help along the studies in this subject. Not only does this collection prove to be of value in the study of the anatomy of the human embryo, but it also sheds light on the cause of abortion, a question which concerns very much the general practitioner. In every hundred pregnancies there are about twenty abortions, among which there are seven pathologic ova and one monster. The clinical histories in these cases show that some sort of uterine disease produces the abortion, and for this reason it seems plain that the pregnancies would have resulted in normal births had the uterus been normal. Therefore from a practical point of view it is important to study the cases clinically as well as normal and pathologic development of ova and embryos.

Substantial financial aid has been secured to study human embryology on a large scale, and to do this successfully much more material with good clinical histories must be collected. A number of studies are under way, the successful termination of which is dependent on the intelligent cooperation of physicians in active practice.

The collection is not only preserved in a fire-proof building, but it is also given every possible attention by a competent staff of scientific and technical assistants. The histories, notes, drawings and photographs are also carefully preserved. As occasion demands specimens bearing on the various phases of the subject—ovulation, implantation, diseases of the uterus and ovum, and serial sections of normal and pathologic embryos—are distributed to competent investigators elsewhere. Every attention is also given to physicians sending specimens, so that they depend on this "clinical laboratory" for gratuitous expert advice.

As the types of pathologic ova found in tubal pregnancies differ from those obtained from the diseased uterus, which in turn differ markedly from those of lower animals, there is every reason to hope for information which bears on the cause of monsters, of sterility and possibly the study of eugenics. These subjects as well as the anatomy of embryos interest us now, but to make headway in this study we must procure many specimens and they can be obtained only through the cooperation of physicians in active practice.

Those who are interested in this embryologic project are asked to send to us all abortion material which they secure in their practice. Practically perfect material is obtained when the fresh specimen is fixed as soon as possible, without cutting the membrane, in a large quantity of 10 per cent. dilution of liquor formaldehydi in water. It should be floated in this fluid and should never be forced into a bottle or wrapped in cotton.

When placed in a bottle completely filled with the formaldehyd solution, the condition of the specimen imitates that of the fetus in utero, and the specimen may be safely sent by express. Fill up the bottle before shipping it; if there is no air space it is almost impossible to injure the embryo by shaking it.

Send all specimens to the undersigned at the Johns Hopkins Medical School.

FRANKLIN P. MALL, M.D., Baltimore.

### American Surgical Association Desires Articles on Fractures

*To the Editor:*—The Committee on Fractures of the American Surgical Association desires to have two reprints of any paper dealing with the non-operative or operative treatment of open or compound fractures or the medicolegal relations of roentgenography to the diagnosis and treatment of fractures which has been published within the last five years. If authors have no reprints, the committee would be pleased to receive memoranda of the places of publication.

JOHN B. ROBERTS, M.D., Chairman,
313 South Seventeenth St., Philadelphia.

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### CRITICISM OF THE PRESCRIPTION OF A CONSULTANT

*To the Editor:*—A consultant in a case of chorea due to rheumatism supplements an arsenic and bromid course of treatment by the following directing the tablets to be used to overcome insomnia:

℞ Lupulin
Scutellarin āā gr. ss
Ergotin
Macrotin āā ¼ gr.
Hyoscyamin sulph. 1/1000 gr.
Zinc bromid 1/10 gr.
(Tablets as prepared by Upjohn Co.)

I shall be glad to see THE JOURNAL'S comment on this prescription.

1. Should an ordinary druggist be prepared to fill this without depending on the ready-made stocks of the larger pharmaceutical houses?

2. If the formula is a useful one, could not a framework be constructed that would lend itself to the needs of a physician well acquainted with the action of each individual ingredient, and

desiring to modify the proportions of each in accordance with the needs?

3. Does it not seem a singular coincidence that the doctor (whom the patient's family look up to as a leader of his profession) should find this precise formula exactly suited to his case?

4. What will be the separate and combined action of the six ingredients in the doses given?

5. What should be the attitude of the attending physician toward a consultant displaying such profound pharmacologic erudition?

6. Is there any comment he can reasonably make to the parents of the patient? W. R. T.

ANSWER.—There is no need of argument as to the impropriety of such a prescription, for it would puzzle any pharmacologist to explain its physiologic or therapeutic action, if it has any.

1. Any druggist ought to be able to fill the prescription, although some of the products named, such as scutellarin, for example, are of uncertain composition and may not be in his stock.

2. The utility of the prescription is not sufficient to make it worth while to produce any model framework to be varied at the judgment of the practitioner. Surely the intelligent practitioner will be able to meet all the indications of an ordinary case with a more scientific prescription, one less on the shotgun order.

3. We fail to find any indication of a "coincidence" in the incident as presented by our correspondent. It was once thought that hops, from which lupulin is derived, was an efficient and harmless remedy for insomnia. This seems to be the ingredient of the formula which probably suggests its use in insomnia as a routine pill for such patients. A "pet formula" is not in itself objectionable, but a physician must always be careful in using it. This caution is specially needed in a consultation in which the consultant is called as an expert to assist in a given case. The attendant evidently feels that in this instance the prepared pill proves that the consultant failed to consider carefully the problem presented in the particular patient. An intelligent and sympathetic cooperation in the interest of the patient between the attendant and the consultant will result in a course of treatment adapted to the individual case.

4. The action of ergotin, hyoscyamin and zinc bromid can be found in any up-to-date treatise on pharmacology. The action, as well as the potency, of the other ingredients is very uncertain. Except as the drugs complement each other as a sedative, the action of the combination is an unanswerable question.

5. The patient is under the care of the attendant, who should be governed by his own opinion as to whether or not harm is being done the patient. If not, he can conscientiously overlook the failures of the consultant, as he hopes that the consultant will overlook his own. If, however, he believes that the patient is not receiving proper treatment, the attendant should firmly but courteously insist on the course that he considers best. There will seldom be serious difference if the treatment is fully discussed by two physicians, both of whom have their interest centered in the welfare of the patient. If, by any chance, the attendant and the consultant cannot agree, a third physician, selected by the patient, should be called into the conference. Should it not be possible to arrange for this additional consultant, the first consultant should withdraw from the case.

6. Usually, it is unnecessary and unwise to make any comment to the patient or the parents concerning a difference between the physicians, other than to state frankly that the attendant is assuming entire responsibility for the treatment. Should the progress of the case be unsatisfactory and the patient become dissatisfied, the attendant should withdraw, leaving the patient entirely free to select a physician to direct the future treatment, even though it is probable that the patient's choice will be the previous consultant.

---

## EFFECT OF SILVER NITRATE PROSTATIC INJECTIONS—ACTION OF TANNIC ACID ON URETHRA

*To the Editor:*—1. Have injections of nitrate of silver into the prostatic urethra ever been followed by abscess of the seminal vesicles, prostatic abscess or such a hemorrhage as to necessitate an external urethrotomy?

2. Have insufflations or saturated solutions of tannic acid been used as a topical application to the prostatic urethra? If so, have such complications followed as blood-poisoning, abscess of the seminal vesicles or abscesses of the follicles of the prostate gland, caused by the tannin coagulating the albumin of the tissues and forming an insoluble albuminate and so blocking up the ejaculatory and prostatic ducts? SUBSCRIBER.

ANSWER.—1. Silver nitrate injections used in sufficient strength (over 5 per cent.) to act as a corrosive might produce necrosis of tissue, and abscess formation with hemorrhage, although not of a grade so severe as to necessitate external urethrotomy.

2. Tannic acid, in saturated solution or insufflated, is of itself so powerful an astringent that this action would have a tendency to close up ducts and sinuses, but it would not unite with the albumin of the tissues to produce an insoluble albuminate. Such a compound could only be formed with the free mucus in the prostatic urethra. There is no reason why tannic acid in full strength should be used as a topical application to the posterior urethra.

---

## SKIN DISEASES AND CLEANLINESS IN INSTITUTIONS

*To the Editor:*—In a large institution for children, in spite of unusual precautions as to isolation, use of individual towels, bubbling cups, etc., we have been unable to prevent the spread of skin and other contagious diseases.

Would you consider it of any advantage to add calcium hypochlorite to the water used in scrubbing floors, beds, etc., or to the water in the bathing-tank? M. M.

ANSWER.—The reason that all sorts of minor skin diseases are so prevalent in large institutions, in spite of all efforts of precaution, is that children, like animals, are indifferent to dirt, and therefore are dirty. They have no hesitation, also, about using each others' things, so that infectious diseases become the common possession of many. Nothing but complete isolation and constant surveillance will prevent them from using each others' hats, combs, drinking-cups and other such things, and it is by these personal articles that infections are usually spread. In addition, children's skins are very sensitive and particularly vulnerable to pus infections and infections by the common parasites such as lice and ringworm. All these factors make it almost impossible to prevent infections in children who are thrown together in large schools or large institutions.

The addition of calcium hypochlorite would be of little or no advantage for the purpose mentioned. For scrubbing floors, beds, etc., it would be much better to use 1 : 1,000 solution of corrosive sublimate with an equal quantity of a similar solution of hydrochloric acid. There is no antiseptic which could be used in sufficient strength in a swimming-tank to be effective. The best thing to do with that is to have the tank supplied with fresh water, to keep the youngsters from wallowing over each other, and to see to it that they use individual towels and do not get their clothes mixed. Shower-baths should also be provided and each person compelled to take a shower-bath with soap before going into the tank.

---

## LITERATURE ON FLUID-CORE GOLF-BALLS

*To the Editor:*—Please let me know what literature there is in regard to eye injuries resulting from cutting open golf-balls containing acid or other sight-destroying compounds.

G. I. HOGUE, M.D., Milwaukee, Wis.

ANSWER.—The following may be referred to:

Wood, C. A.: Burns of Eyeball from Contents of So-Called "Water-Core" Golf-Balls, *Ophth. Rec.*, October, 1912.

Nance, W. O.: Severe Burn of the Eye from Contents of Fluid-Core Golf-Ball, *Jour. Ophth. and Oto-Laryngol.*, November, 1912.

Carpenter, J. T., and Baer, B. F.: Inflammation of Eye Resulting from Explosion of Golf-Ball, *Pennsylvania Med. Jour.*, December, 1912.

Crigler, L. W.: Burn of Eyeball Due to Caustic Contents of Golf-Ball, THE JOURNAL, April 26, 1913, p. 1297.

Water-Core Golf-Balls, editorial, THE JOURNAL, April 26, 1913, p. 1307.

---

## INSURANCE COMPANY ASKING SUPPORT OF PHYSICIANS

*To the Editor:*—I have been solicited to buy shares in the Royal Life Insurance Company, head offices 108 South La Salle Street, Chicago, at $30 per share. In the event of my buying shares I was to be appointed associate medical director and be the examiner for the county in which I reside. As a further inducement I was told that one-half of the mortuary savings would be divided among the associate medical directors. The company will begin to write its business June 15. Can you give me any information regarding this company or its prospects for the future? S. J. M.

ANSWER.—There have been similar inquiries regarding this company from other sources. In some it is said that the

proposition to invest came subsequent to appointment and acceptance by the physician.

A condition precedent to an insurance company's doing business in Illinois is the deposit with the state insurance department of $100,000 for the protection of policy-holders and the further requirement of law as to a reserve. In other states insurance regulations must be complied with. None of these conditions has, we understand, been met. Radical departure from other customs in insurance business rests in the fact that it is proposed to issue policies from each state, and any bank or banker will be "authorized to act as claim agent." The "sop" to the doctor is thrown in the plan to have districts in every state with associate medical directors and medical examiners, who must be stockholders, to supervise and assist agents and who, as further reward, will share in 50 per cent. of the "mortality savings," according to their holdings of stock.

Roseate estimates of what can be done are given in the prospectus, of which an expert in life-insurance says: "It is full of misleading statements as to the returns an investor is likely to receive." Like nostrum exploitation, it promises too much on the panacea order. The plan proposed is so involved, hazy and withal embryonic that it will not appeal to the careful physician.

---

### COBRA VENOM TEST FOR SYPHILIS COMPARED WITH THE WASSERMANN REACTION

*To the Editor:*—What is the value of the cobra venom test for syphilis as compared with the Wassermann test?

F. L. WILHOIT, M.D., Louisville, Ky.

ANSWER.—This test appears to be less sensitive than the Wassermann test in parasyphilitic affections and in syphilis of the nervous system. In general the present evidence tends to show that it is not so reliable as the Wassermann reaction, although it may be serviceable in confirming it, or possibly in complementing it in latent cases. It should be remembered, however, that the test has not yet been applied to a sufficient number of cases to permit very definite conclusions to be drawn.

---

# *Medical Economics*

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

## MEDICAL ORGANIZATION IN ENGLAND

From time to time during the last two years, THE JOURNAL has discussed the development of medical organization in Great Britain and the changes consequent on the discussion and adoption of the Lloyd George national insurance act. The provisions of this law and its effect on medical men and the public were freely discussed prior to its final adoption. Owing to the unsatisfactory terms of compensation and other objectionable provisions, the British Medical Association at first refused to endorse the measure and called on its members to refuse to accept service under it. Later on, however, it was found impossible to retain a united front on this question, so that the opposition of the organized medical profession in England has gradually been withdrawn. It has been predicted in all quarters, however, that the passage and effective operation of this law would produce important and far-reaching changes in professional conditions in England. This prediction is apparently borne out by the increasing amount of discussion in the leading British medical periodicals, of the advisability of reorganizing the medical profession on a trade-union basis. This discussion has apparently reached a climax in a recent issue of the *British Medical Journal*, which contains, as its leading editorial, a discussion of "Trade-Unionism and Medicine," as well as a special article discussing the subject from a legal point of view.

The special article is unsigned and therefore is evidently prepared by the editorial staff of the *Journal*. According to the writer, at the annual representative meeting, held at Liverpool last year, the question of the establishment of a medical union, registered under the trade-union acts, was discussed. The solicitor of the association stated that the legal difficulties in the way of converting the British Medical Association into a body which could come under the provisions of the trade-union acts were considerable. Future discussion of the question was postponed until the next annual meeting. In the meantime, however, a medical union was organized in Leicester, which has since obtained recognition under the trade-union acts, while another body, known as the National Medical Guild, has been organized and has applied for registration under the same acts. Eleven of the fourteen members of the council of the latter organization are residents of London.

These developments have led to a lively discussion in British medical journals on the relation between trade-unionism and medicine. The plan of organization and method of conduct of trade-unions in Great Britain is carefully prescribed in the trade-union acts. One of the most important questions for determination in this connection is the limitations of powers and privileges under such a plan of organization. The primary object of the trade-union is to make the terms of service, including the remuneration of all persons concerned, reasonably good and so to maintain them, while an ancillary object is to assist the members in defending their rights and help them to make better provisions for their welfare. Most, but not all, of the disputes in which trade-unions have engaged have turned on the question of compensation. A medical union must be prepared to deal with unreasonable or improper demands unduly increasing the labors and responsibilities of its members, and with attempts to reduce just compensation for services. It must have the power to defend its members individually, as well as its own acts collectively. The criticism which has been made against the existing organization of the British Medical Association is that its powers and resources for collective and individual defense are inadequate and that its control over its members is insufficient to insure effective action. This is admitted by the most loyal members of the association. To assume from this, however, that a medical trade-union is the only alternative or the best solution is a long step and one which cool-headed members of the association will want to consider very carefully before taking. The article endeavors to put the question in the form of a syllogism, as follows: "An effective union of the profession is desirable. A union registered under the trade-union acts is an effective union. Therefore the organization of a medical union under the trade-union acts is desirable." This statement, the writer says, would be water-tight if a union registered under the trade-union acts were the only effective union possible. As an alternative proposition, he suggests the organization of a union which shall be registered under the companies acts; in other words, the formation of a corporation rather than of a trade-union.

After quoting at length from the trade-union acts of different years, the membership provisions of the recently organized Leicester union are discussed. The objects of this organization are given as follows:

1. To regulate the relations and conduct of medical practitioners as between themselves, and between medical practitioners and their employers.

2. To regulate the rates of payment and condition of service of clubs, friendly societies, dispensaries and other forms of contributory contract practice, and the terms and conditions on which medical service shall be given to persons of limited income.

3. To impose any other restrictive conditions which may be considered desirable on the conduct, by members of the union, of the trade or business of medical practitioners carried on by them.

To further these objects, the Leicester union has adopted the following methods: the establishment of funds for the promotion of a public medical service for persons unable to pay, the promotion of school clinics for the treatment of children unable to pay, the giving of legal assistance to members, the promotion of legislation for the protection of the

union and for the general and material welfare of its members, the advising of members in ethical matters, the promotion of the interests of the medical profession, the general amalgamation of other bodies having similar objects and the establishment of branches and subdivisions. There is an entrance fee of one guinea ($5.25) and annual dues of the same amount.

The rules of this organization forbid any member to consult with or meet any medical practitioner who does not conform to the rules of the union, to take or treat any patient at a lower rate than that prescribed by the union, to act for any insurance committee, society or organization which does not conform to the rules of the union, or to canvass or advertise for patients. Any member found guilty of conduct detrimental to the honor and interests of the union, or calculated to bring the business, trade and profession of the medical practitioner into disrepute, is subject to expulsion.

The National Medical Guild, in addition to the objects set forth by the Leicester Union, provides for the employment of the funds of the guild for political objects, for insurance of members against death, illness or damages, for the publication of books and periodicals to further the ends of the guild and for the acquirement of such property as may be necessary.

Comparison of these objects with the powers of the British Medical Association under its present charter raises the question, "What can a trade-union do for medical men that a voluntary association cannot do?" The advantages from a legal point of view do not seem conclusive. The real power of the trade-union depends on three points: (1) its ability to include so large a majority of persons engaged in one calling that the minority will be negligible, as far as influence is concerned; (2) the constancy of its members in abiding by the regulations of the union, as decided by the majority; (3) the power of the union, in the event of failure to come to an amicable agreement with employers, to induce its members to refuse to work until satisfactory conditions are secured.

On the first point, a trade-union would have no advantage over a voluntary association. The proportion of persons in any one calling who would affiliate with such an organization would depend on the successful management of the organization rather than on the exact form which the organization might take. The power of the trade-union as compared with a corporation in Great Britain is practically the same.

On the second point, the constancy of members to the organization will depend entirely on the benefits which the organization provides for its members. The hold which trade-unions have on their members lies in the fact that a tradesman who leaves his union forfeits his rights to the benefits which it offers, while the power which a union has over its members in case of dispute with employers is based on a sense of loyalty to one's associates, as well as the fear of losing any benefits involved or the fear of social or professional ostracism.

Perhaps the most significant sentence in the special article is found in the closing paragraph, in which the writer says, "Every one realizes that the insurance act will have the effect of increasing rather than diminishing the need for an effective system of professional defense against encroachment by the government, by friendly societies and other forms of contract practice, and by individuals." An explanation of the present situation of the medical profession in Great Britain is to be found in the opinion, here expressed by the official organ of the British Medical Association, that the government and society at large are not affording the medical profession fair or equitable treatment or just compensation for their services and that united action on the part of physicians is necessary.

Commenting editorially on this article, the *Journal* says that there is danger, in the existing situation, of mistaking the means for the end. The end is a united profession, unanimously seeking certain objects. Because a similar end has been the goal of trade-unionism, it does not necessarily follow that trade-unionism is the only means by which such an end can be secured. Dr. Cox, the president of the North of England branch, discussed this question in an address in 1907, in which he stated that in those trade-unions in which he had been able to secure information, the amounts paid out by the members for organization and for protective purposes only, apart from sick and benevolent benefits, amounted to from an eightieth to a fortieth of the member's total annual income, and that one explanation of the results secured by trade-unionism in Great Britain was that the members were willing to work for and pay for the results desired. Three courses are open to the medical profession in the present situation. These are (1) to obtain a charter from the crown, (2) to register under the companies act or (3) to register under the trade-union acts. The British Medical Association at present is registered under the section of the companies act which permits registration of an organization which does not trade for the profit of its individual members. This provision is eminently similar to the law in force in many of our own states, providing for the incorporation of organizations not for profit.

In 1907 the British Medical Association applied for a crown charter, but the application was refused. The editorial concludes: "The strength of trade-unionism lies not in the formation or laws, but in the union and solidarity it has bred. This solidarity it has brought about partly by encouraging the growth of a feeling of fellowship among men engaged in the same calling and partly by politicly making the growth of this feeling keep pace with the material interests of the individual members. The proposal to form a medical union or unions is one which needs to be threshed out."

It will be noted that neither the writer of the special article nor the writer of the editorial attempts any positive opinion on medical trade-unionism. Discussion of this question in England has been precipitated by the recent passage of the Lloyd George national insurance act. This measure was brought about by a large number of complicated social causes and conditions, with most of which the medical profession had nothing to do. In order to improve the condition of the British workingman and his family, to relieve pauperism and improve social conditions, Lloyd George decided that it was necessary for the state to furnish protection for the workingman against avoidable disease and incapacity caused by illness. The assumption, on the part of the state of the responsibility for the medical care of working men is clearly a step in the direction of state socialism. In formulating his plan for this measure, Lloyd George consulted the interests and wishes of all classes involved, except the medical profession, which, under his plan, was to furnish the services necessary for the care of those included in the scheme for industrial insurance. When the first draft of the bill was made public, the terms of compensation and service provided for physicians were seen to be so unfair and inadequate that an immediate storm of protest arose from the medical profession. Unfortunately, however, due partly to the commercializing of the British medical profession through friendly societies, medical clubs and other forms of what is generally termed "contract practice," as well as through the fact that the organized medical profession had for years made little or no effort to educate the public as to its objects or the character of its work, the profession was left to fight its battle practically alone, with little or no public support. Unable to hold its members in line on the program agreed on, it was practically forced, after a long and bitter struggle, to take what it could get in the way of compensation and conditions of service. The unionizing of the medical profession is one of the remedies now proposed as a relief for the economic evils with which the profession is threatened.

The experience and the present situation of our British professional brethren are and should be most instructive to American physicians. The principal lessons which can be drawn therefrom are the avoidance of any form of contract practice or similar arrangements which tend to commercialize the medical profession and, equally important, the cultivation of the closest possible relations with the people so that the growing importance of the work of the medical profession may be understood and appreciated and the support of the public secured in carrying out its higher aims.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

IOWA: Capitol Building, Des Moines, June 2-4; State University, Iowa City, June 5-7. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Armory, Louisville, June 3-5. Sec., Dr. J N McCormack, Bowling Green.

LOUISIANA: New Orleans, June 5-7. Sec., Dr. A. B. Brown, 108 Baronne St., P. O. Box 1060.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Pathological Laboratory State University, Minneapolis, June 3. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol Bldg., Jackson, June 3-4. Sec., Dr. E. H. Galloway.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEBRASKA: Lincoln, May 28-29. Sec.. Dr. C. P. Fall, Beatrice.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec.. Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Austin, June 4-6. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WYOMING: State House, Cheyenne, June 25 27. Sec., Dr. J. B. Tyrrell, Laramie.

## Oklahoma April Report

Dr. J. W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma, April 8-9, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 11, including two osteopaths, all of whom passed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| Birmingham Medical College .....(1911) 83; | (1912) | 79 |
| College of Physicians and Surgeons, Little Rock..(1911) | | 70 |
| College of Physicians and Surgeons, Los Angeles..(1912) | | 77 |
| Rush Medical College .....(1908) | | 88 |
| Northwestern University Medical School .....(1912) | | 81 |
| Medical College of Indiana .....(1898) | | 80 |
| Barnes Medical College .....(1905) | | 79 |
| Memphis Hospital Medical College.....(1911) | | 79 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Birmingham Medical College .....(1911) | | Mississippi |
| University of Louisville.....(1911) | | Kentucky |
| University of Nashville ....(1905) Mississippi; | (1909) | Tennessee |
| Lincoln Memorial University .....(1910) | | Tennessee |
| Memphis Hospital Medical College.....(1911) | | Tennessee |
| University of the South.....(1900) | (1908) | Tennessee |

The following questions were asked:

OBSTETRICS AND HYGIENE

1. When do you use ergot in obstetric practice, and for what purpose? 2. Give in their order the three most common presentations. 3. How long can the child live before delivery with the placental circulation cut off? What precautions should be used to prevent compression of the cord in breech presentation? 4. What symptoms would cause you to suspect a rupture of the uterus? How would you manage a case? 5. What are the stages of labor? 6. Define abortion, miscarriage, premature labor. 7. Define puerperal septicemia. Give diagnosis and treatment. 8. What precautions would you use to prevent inflammation of the mammary glands? Give in detail your treatment of mammary abscess. 9. Give instructions for the prevention of the spreading of typhoid. 10. Is cerebrospinal meningitis contagious? If so, how are the germs conveyed?

BACTERIOLOGY AND PATHOLOGY

1. What is acute miliary tuberculosis? Name three varieties of tubercle. 2. Name the lesions usually fonnd in the second and third stages of syphilis. 3. What is hypertrophy of the heart? Give three causes for same. 4. How would you diagnose croupous pneumonia from catarrhal pneumonia by microscopic examination? 5. Name three ways by which you can determine whether a certain organism is or is not pathogenic. 6. How would you make a bacteriologic examination of water suspected of fecal contamination? 7. Name a simple method of producing a pure culture of the typhoid bacillus. 8. Name three malarial parasites and the kind of malaria caused by each parasite. 9. Name three pathologic changes that may result from cerebral hemorrhage. 10. Name three pathologic changes that take place in peritonitis.

GYNECOLOGY

1. Differentiate fibroid, pregnancy, ascites, fat. 2. Diagnose and treat tuberculous endometritis. 3. Give indications for and technic of operation for amputation of cervix. 4. Give indications for and technic of trachelorrhaphy. 5. Make diagram showing relation of uterus, tubes, ovaries, vagina, bladder and rectum. 6. Differentiate pudendal hernia, abscess of Bartholin's gland, and tumor of labia. 7. Describe venereal warts. Give etiology and treatment. 8. Vulvitis. Give etiology and treatment. 9. Give indications for knee-chest posture in office treatment. 10. Give indications for use of hot vaginal douche.

MATERIA MEDICA AND THERAPEUTICS

1. State the sources and dose of salicylic acid. 2. Describe the therapeutic uses of glycerin. 3. Name four principal coal-tar derivatives and give physiologic action. 4. Name the principal potassium salts. Give dose and use of each. 5. Name three vegetable and three mineral astringents with dose of each. Treat the following diseases, giving doses of drugs used, their therapeutic effect, diet and prognosis; 6. Typhoid fever. 7. Pneumonia. 8. Pellagra. 9. Cerebrospinal meningitis. 10. Scarlet fever.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. Describe how subterranean wounds may be produced. How many kinds of open wounds? Name them according to the way they are produced. 2. How does electricity produce death? 3. Give some of the conditions simulating death. 4. Name some peculiarities of some of the special senses which would furnish important evidence in relation to identity. 5. Give some of the symptoms of organic nervous diseases. 6. How does chloral hydrate produce death? Name lethal dose. 7. How does chloroform prodnce death? 8. What are the important symptoms of poisoning by digitalis? 9. By what method of examination would you ascertain that a person was suffering from a fatal dose of quinin? 10. How does antipyrin produce death?

PHYSIOLOGY

1. Define physiology. 2. Tell the functions of the third, fourth and fifth cranial nerves. 3. What is the function of the uterus? 4. What is the function of the portal vein? What veins form it? 5. What is an enzyme? 6. Describe reflex action. 7. What is the function of the lymphatic system? 8. Tell the distribution and function of the pudic nerve. 9. Describe the cardiac cycle. 10. What nerves form the solar plexus?

PHYSICAL DIAGNOSIS

1. Describe the general method of palpation. 2. In what condition should the examiner's hands be before applying them? 3. What regions are studied by a simultaneous application of both hands? 4. What condition may cause total abolition of fremitus? 5. When is palpation of vocal fremitus of most practical value? 6. What does splashing fremitus signify when felt against the thoracic wall, shaking the body? 7. How many attributes of percussion sounds; name them. 8. Describe artificial vocal resonance (plegophonia). 9. Describe Broadbent's sign in inspection. 10. What is learned by percussion when we have simultaneous extension of the area of cardiac dulness toward both sides and upward of the pericardial sac?

ANATOMY

1. Give the origin and distribution of ulnar nerve. 2. Describe the sternum. 3. Locate saphenous opening and name an important vessel passing through it. 4. In disease of upper chest why is there frequently pain on inside of upper arm and about the shoulder? 5. How do the ventricles of the brain communicate with each other and with the subdural space? 6. Give a rule for locating the fissure of Rolando. 7. Name the arteries supplying intestinal tract from pylorus to anus. 8. Describe arrangement of gray and white matter in spinal cord. 9. Describe method of division and termination of capillary bronchial tubes. 10. Name a racemose gland. Describe its structure.

CHEMISTRY

1. Give the antidote for carbolic acid. For formaldehyd. 2. Give the chemical composition of iodoform. 3. How does permanganate of potassium act as a disinfectant? 4. What is the toxic agent in ptomains? 5. What is the formula of sulphuric acid? 6. Give the method of urinalysis for albumin and sugar. 7. Would you use iodin on the skin after a mercuric solution? 8. What is the law of Avogadro? 9. What is the antidote for arsenic? 10. What is chemistry?

SURGERY

1. What are the varieties of ankylosis? 2 Give symptoms and treatment of fractures of the nasal bones. 3. State the most common seat of fracture of the clavicle and describe a method of treatment. 4. Describe the treatment for fractnre of lower end of the humerus. 5. Describe a modified circular amputation of the leg. 6. What are the indications for excision of the knee-joint? 7. How are wounds classified? 8. Give a full description of the operation for thyroidectomy. 9. Give the indications for the removal of the mammary gland. 10. Describe an operation for circumcision.

---

**Russian Move Against Opium.**—It is reported that the Russian Department of Agriculture has prepared a law prohibiting the culture of the poppy plant in the Transbaikal, Amur, and Maritime provinces. According to this law, not only the cultivation of the poppy will be a criminal offense, but also the smoking of opium, storing or purchasing it, as well as the purchasing of utensils used for smoking opium.—Vice-Consul H. Fred Newhard, Vladivostok, in the *Daily Consular Reports*

# Medicolegal

### New Rule Announced for Canned Goods

*(Bigelow vs. Maine Central Railroad Co. (Me.), 85 Atl. R. 396)*

The Supreme Judicial Court of Maine holds that, on the assumption that the plaintiff was made sick by eating canned asparagus furnished her by the defendant company in its dining car, the defendant was not liable in damages therefor, in the absence of an express warranty. What duties the law may impose on manufacturers of food products, which turn out defective, the court does not assume to decide.

The court says that of little less importance than the appearance of the great achievements of the last century is the establishment and development of the canning industry in this country and in other parts of the world. It may be said that the art of canning, if not invented within the last century, has, at least, assumed the vast proportions which it has now attained, within a comparatively few years. It involves a unique and peculiar method of distributing, for domestic and foreign use, almost every product known to the art of husbandry.

The wholesaler, the retailer and the user of these goods, whether in the capacity of caterer, seller or host, sustain an entirely different duty, respecting a knowledge of their contents and quality than prevails with regard to knowing the quality of those food products which are open to the inspection of the seller or victualer. With reference to these it may well be considered, as has been held, that having an opportunity to investigate, and thereby to know the quality of their merchandise, they are charged with a responsibility amounting to a practical guaranty.

But, on such a state of facts as this case presented, a situation arises that cannot in the practical conduct of the canning business fall within that rule. No knowledge of the original or present contents of a perfect appearing can is possible in the practical use of canned products. They cannot be chemically analyzed every time they are used. Accordingly, the reason for the rule having ceased, a new rule should be applied to the sale and use of canned goods that will more nearly harmonize with what is rational and just.

The statement of facts before the court showed that the asparagus served to the plaintiff was of a very high brand, sold by a most reliable firm, guaranteed under the pure food law, and without fault or blemish discoverable to the eye, to the smell, or taste. It was apparently a perfect can of what it purported to contain. The plaintiff in February must have known it was a canned product when she ordered it. On her order she was entitled to a reputable brand, packed and inspected in accordance with approved methods, and the law implied a warranty on the part of the defendant to furnish it. This obligation was fully met.

### Evidence Supporting Conviction of Unlawfully Practicing Medicine

*(Mueller vs. State (Tex.), 153 S. W. R. 1142)*

The Court of Criminal Appeals of Texas affirms a conviction for unlawfully practicing medicine, with a penalty of a fine of $100 and twenty-four hours in jail. The court says that the uncontradicted evidence clearly showed that Mueller, by his public advertisements in newspapers, and to others, publicly offered to practice, and professed to be able to cure practically any and all diseases, and invited all afflicted to call on him for that purpose: but in his advertisements and in his talk to many of his patients he would tell them specifically he made no charge. In his advertisements he stated, "Positively no charges made, but the labor is worth the hire," and repeatedly stated this to some of his patients. However, the evidence disclosed that numerous of his patients, whom he did treat, paid him indirectly. One paid to his wife in his presence; others by doing work for him; others by making him or his wife presents; another by renting him a house and collecting no rent for several months. To one he prescribed medicine and furnished it. Others paid him money directly for his treatment of them. One witness, whom he treated repeatedly and for some time, stated that, in discussing the treatment and his charges, he said: "'I won't charge you anything [I don't know how many times he said that], nothing; but, if you make me a present, it is welcome.' . . . I made him a present; it was in money. Sometimes I would hand him $1, and sometimes $2 or something like that. I never told him, 'Here is your money.' I just put it in his hand, and he never looked at it. He just put it in his pocket." It was also shown that he called himself "Dr. Mueller," and was generally known and called "Dr. Mueller," and that was the title he gave himself. He was shown not to have any license registered. The evidence clearly justified the verdict.

When the state offered to prove by the editor of a newspaper, and to introduce Mueller's published advertisements therein, showing that he professed to cure any and all diseases, and inviting everybody afflicted to come to him for treatment, he objected, because such advertisement did not show that he was practicing, or offering to practice, medicine, and that in said advertisements he did not claim to be a physician or practitioner of medicine belonging to any school, and he expressly stated in said advertisements that he made no charge. In his advertisements, he called himself "Professor" Mueller; but the whole of it showed, and showed only, that he was offering to practice, and the testimony by the witnesses showed that he did actually practice, medicine on men, women, and children, and that was his profession. The evidence was admissible.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Rhode Island Medical Society, Providence, June 5.
South Dakota State Medical Association, Vermilion, May 27-29.

## CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS

*Ninth Triennial Session, held at Washington, D. C., May 6-7, 1913*

*(Concluded from page 1570)*

### The Life of Tissue Outside the Organism from the Embryologic Standpoint

DR. ROSS G. HARRISON, Yale University, New Haven: The method I have used in my observations is that of the "hanging drop culture." In the study of neuroblasts I have found that the nerve fiber is not the outgrowth of the cell, but is formed from the protoplasmic bridge which exists everywhere in the organism between the cells and cannot be isolated. I thought I would try to see what the nerve-cell did when there is no protoplasm. The parts of the central nervous system of the embryo were dissected out and then transplanted into a drop of lymph on the cover-slide. Transplanted to lymph this tissue undergoes changes in the course of a few days and spreads out and flattens because of the liquefaction of the lymph, and many cells wander out from the tissue. I then watched what took place in the nerve-cells. I also took portions of various other tissues of the embryo. I found that cells from the epidermis differentiated cilia; the pavement cells differentiated queerly. After twelve hours, it can be noted that the nerve fibers have grown out a long distance. These fibers come from isolated cells. I watched the character of the movements for six hours at intervals of eight minutes and found that the movements were very rapid —about 1 micron per minute. To show that they are real

nerve fibers, I have used the specific stain which shows neurofibrillae. It is a specific nerve tissue without doubt. The protoplasmic activity has formed nerves. If we cut off these fibers there is a regeneration of the peripheral parts. In order to produce a perfect reproduction of the tissue we must keep the tissue alive as long *in vitro* as it would have lived in the organism from which it was taken. If the tissue has been taken from an animal that lives on an average four years, then we should be able to keep the tissue alive for that length of time. This method, while producing cell division and multiplication, has failed to show any form development; the growth remains simply a mass of cells.

In discussing the effect of the medium on growth and differentiation we find that the tissues are differentiated in salt solution, but we have need of solid support or there is no movement of the cells and no growth. If nerve fibers are on a solid support when they leave the cells, this may be a visible chemical process. This brings me back to the nerve problem, and it seems evident that the protoplasmic bridges referred to are between the fibers forming the support. The results we have obtained show that this method is applicable to the study of embryonic cell movement and differentiation.

### The Life of Tissues Outside the Organism from a Pathologic Standpoint

DR. ROBERT A. LAMBERT, New York: Those of us who are directing our energies to problems relating to the nature and cause of disease are interested in the new methods of growing cells apart from the organism mainly on account of its possible application to the study of the various morbid processes affecting the human body. The new method offers several very definite advantages in that it allows one to observe directly under the microscope changes taking place in living functioning isolated cells, thus making it possible to pursue with ease many questions in the field of pathologic histology, the solution of which has seemed to wait on the discovery of a technic of this kind. In the second place, it permits us to eliminate many factors which in experiments on the animal body are a source of much confusion, as, for instance, nervous control. In the third place, the isolation of some single factor for the purpose of special study is made possible. In the fourth place, we are able to introduce more easily into an experiment known and measurable factors, such as change in the physical and chemical composition of the medium, introduction of specific toxins and poisons, variations in temperature, etc. It is obvious that not all problems having to do with the activities of cells are open to attack by these methods, since not every tissue can be made to grow *in vitro* up to this time. The number of tissues that can be successfully cultivated is not inconsiderable, including connective-tissue cells, bone, cartilage, endothelium, skin and corneal epithelium, intestinal epithelium, malignant tumors and possibly also thyroid and kidney epithelium. Certain cells, such as ganglia cells, seem to survive, though they do not proliferate. The problems which present the most fruitful field of application may be classified under three headings: (1) morphologic questions; (2) questions in immunity, including cancer immunity, cellular and bacterial immunity; (3) problems relating to the cultivation and study of the viruses of certain infectious diseases, especially those in which the specific intracellular bodies have been described.

Cytotoxins are easily demonstrable in tissue cultures, and cancer immunity is not a type of cytotoxic immunity. In my experiments on the question of cytotoxin specificity two series of guinea-pigs were immunized, respectively, with rat sarcoma and rat embryo skin. Plasma from each series of animals was used for cultures containing both kinds of tissue. These experiments show that sarcoma may immunize completely against skin and vice versa. There is no evidence of even a relative specificity. Red blood-cells will immunize against other tissues.

Another field of pathologic investigation in which this new method may be applied is the study of virnses and specific lesions of infections diseases in which the living agent has not yet been identified, as rabies, vaccinia, variola and measles. In association with Dr. Steinhardt and Dr. Poor I have made efforts at studying rabies and vaccinia. We have tried to see if Negri bodies would show any development or multiplication *in vitro* when fragments of brain from rabid animals were incubated in blood-plasma. No development or multiplication of Negri bodies in rabid brain cells took place *in vitro*, so far as we could determine. We found, however, that in the control preparations in which normal brain alone was incubated, the same structures also appeared. In the latter case the bodies certainly represented some degenerative changes in the brain-cells. Therefore we regarded our results as favoring the idea that the Negri body is not a parasite, but a specific cell degeneration.

### The Life of Tissues Outside the Organism from the Physiologic Standpoint

DR. MONTROSE T. BURROWS, New York: There is no line between the morphologic and the physiologic aspects of this subject. The object in growing tissues outside of the body is that they may be observed in the living condition; this cannot be done by Loeb's methods. In 1910 I began to study cultures with the idea of developing a method which would be applicable for practical experimental purposes. Lymph has hitherto been used as a culture medium, but this can be obtained only in small quantities, and its consistency is not always constant. I therefore turned to blood-plasma as a promising medium and prepared fibrin from the blood of chickens. My observations confirmed the results that Dr. Harrison reported. I think that it would be a good idea to test the applicability of these methods to adult tissues. My observations include experiments on the tissues of dogs, cats, rats, guinea-pigs and man. Tissues from all of these sources grow luxuriantly, except those from man. The human plasma went into solution at once. There are some small growths in the case of human tissue, but only a few. The undue liquefaction of the medium leads to the early death of the tissue. Practically all other tissues cause liquefaction in varying degrees, but it takes place slowly.

I have experimented with the chick embryos in many liquids. They grow rapidly in isotonic sodium chlorid solution of various strengths, and the growth is prolonged and increased by the addition of potassium chlorid. The growth is the same as that in a wound. The connective-tissue cells grow as isolated cells in the surrounding medium. The growth in each variety of cell is characteristic of its kind. The nerve-cells appear as axis cylinder cells, the blood-cells as amebic cells. The growth depends on the medium and is oftener greater in weak solutions than in strong ones. Adult striated muscle succumbed, but embryonic muscle wandered, divided and differentiated. The growth keeps in an inactive state as long as six months. To effect this preservation, the tissue is placed in a drop of plasma and the whole tightly sealed. If there is sufficient medium the tissue will retain its life for a long time.

This field offers a prospect of reproducing every form of cellular activity seen in the body. Wound-healing has been imitated by culture through the movement of epithelial cells. If two portions of tissue are placed near one another in the medium, each will send out cells toward the other and the tendency will be for the cells to fill the intervening space. Harrison has called attention to the need of solid body support to the growing cells. Contact with the cells, unless violent, does not stimulate movement. A single cell in a culture medium tends to move away and liquefy from a large mass rather than from a small one. All movement is due to a chemical process. Given the diameter of a wound, by the application of the principles of cell proliferation I can predict the form of healing. It has been suggested that by an application of a certain theory wounds may be made to heal in a few hours. Practically, it does not happen in so short a time. The fibrin lying between the edges of the wound is too thick and contracted in proportion to the amount of fibrin present. Cell development begins only when the cells cease to wander and locate in a clot. It is better to have a colony of cells in the culture medium as this pro-

duces sufficient liquefaction to provide nutrition. There are amebic movements at the poles of cells accompanying cleavage at the equator; these movements are due to external influences, but division is due to internal forces.

I have also experimented with the heart-muscle cell. The question as to what causes the heart to beat has long been discussed, and two theories have been advanced, the myogenic or automatic, and the neurogenic. The heart-cells are free from all nerve-cells, and it is found that they continue to beat rhythmically. This seems to me to be conclusive evidence of the truth of the myogenic theory.

DISCUSSION

DR. LEO LOEB, St. Louis: The methods I have used are based on the same principles as those related, but I have used larger pieces of tissue and have put them into a tube. This has the advantage over the cover-slip method that it enables us to study the gases and yeast and to eliminate the leukocytes. I have found that it is possible for transplanted tissue to grow without an outgrowth of cells so long as it is in contact with a solid or semisolid substance. If two pieces of tissue are placed near each other the cells grow toward each other. Different tissues act differently in the plasma; for instance, the tissues of the guinea-pig absorb the plasma and they will be found to be growing when one has supposed them to be dead. Epithelium does not grow so well as connective tissue. My experiments with a long series of transplantations have led me to believe in the potential immortality of ordinary cells.

DR. WARREN H. LEWIS, Baltimore: We have been growing tissues in known mediums, such as sodium chlorid, calcium chlorid and sodium bicarbonate. We find that in varying percentages of sodium chlorid, tissues migrate and mitosis takes place in such simple solutions as those from 0.5 to 1.5 per cent. of sodium chlorid without difficulty. A high-percentage solution causes delay of the cell activities. The saline solution offers the advantage over the plasma in that it does not cling to the cover-glass and one can study the living nerve on glass. It can be seen that the processes anastomose freely with other fibers so that a true network is formed, and stains show that the neurofibrillae pass from one nerve fiber to another. Mitosis is very frequent with various solutions. I have studied the subject of fat in the cells and the relation of fat in the cells to that in the mediums. I find that the first cultures never contain fat, but I have been able to produce cultures in which the accumulation of fat is so enormous that the cell structure is practically obliterated. Rejuvenation by transplantation can be reduplicated in artificial mediums to which cane-sugar or dextrose has been added, and the occasional addition of a fresh drop of the medium doubles the time of life and growth. The growth is striking after the addition of alcohol or ether, but not if there is more than 2 or 3 per cent.

---

# Book Notices

INNERE SEKRETION. Ihre physiologischen Grundlagen und ihre Bedeutung für die Pathologie. Von Prof. Dr. Artur Biedl, mit einem Vorwort von Hofrat Prof. Dr. R. Paltauf. Second Edition. Part One. Paper. Price, 26 marks. Pp. 534, with 151 illustrations. Berlin: Urban & Schwarzenberg, 1913.

The first edition of Biedl's splendid compilation of the literature, and his own experience on the glands of internal secretion, appeared in 1910. The early appearance of the new edition demonstrates how much need there was for such a work, and how well supplied the need was. But this is more than a new edition—it is an entirely new work; for while the entire book in its first edition was but about 400 pages, the first volume alone of the second edition contains 130 more. The author seems to have felt that in his first work the limited use of space prevented him from going into the detail which the unsettled state of many of his problems really demanded for their presentation. The need for explanation by means of illustrations has been filled by twenty colored plates and a great number of black-and-whites. In this volume, which follows in arrangement the first half of the original edition, are covered the thyroid, parathyroids, thymus and adrenal, and related subjects. There can be no question that the work, which from the start has been the best thing of the kind available, is greatly increased in value by its augmented inclusiveness, and is made much easier of understanding and of greater educational worth by the abundant illustrations. It will be used as the first source of information concerning the ductless glands, since it is the one extensive and modern collection of the latest developments of this growing and interesting part of medical science. Furthermore, it is much more than a compilation, for Biedl himself being an active investigator in this field, has analyzed the work of others with the judgment and insight which only those who are themselves familiar with the methods and difficulties of research can possess. It is to be hoped that the second volume of this monograph will soon appear, for since there is no bibliography in this it is to be assumed that that essential part of the work will be placed at the end.

THE EVIL EYE, THANATOLOGY, AND OTHER ESSAYS. By Roswell Park, M.D., LL.D. Cloth. Price, $1.50 net. Pp. 380. Boston: Richard G. Badger, 1912.

Under this title Dr. Park has published thirteen essays, addresses, etc. The first and the one from which the title of the book is taken, is an address delivered before the Buffalo Society of Natural Sciences; it is a discussion of old superstitions regarding malign influences, witchcraft, etc. The second is the paper on "Thanatology," published in THE JOURNAL last year (April 27, 1912), which caused no little discussion in the lay press. Among the other essays are "Serpent-Myths and Serpent Worship;" "Iatro-Theurgic Symbolism;" "Relation of Grecian Mysteries to the Foundation of Christianity;" "The Knights Hospitalers of St. John of Jerusalem;" "Giordano Bruno;" "Student Life in the Middle Ages;" "Study of Medical Words," "Deeds and Men," etc. They are all historical in character, and while not strictly medical are on the border-land of medicine sufficiently to make the book of special interest to physicians.

THE CHEMICAL CONSTITUTION OF THE PROTEINS. By R. H. A. Plimmer, D.Sc., Assistant Professor of Physiologic Chemistry, University College, London. Second Edition. Part Two. Cloth. Price $1.20 net. Pp. 107. New York: Longmans, Green & Co., 1913.

This is the second edition of one of this valuable set of monographs, the individual numbers of which we have reviewed and recommended as they appeared. We are glad that they have met such support as to warrant the production of new editions to keep up to date the subjects they cover. The first edition is but a little over three years old, so that even in the rapidly growing field of protein chemistry the work has not had time to grow stale and valueless. We note with pleasure that in reviewing the progress of protein chemistry during the last three years in his preface, the author finds worthy of recording as the chief items of this period, in addition to the work of the master, Emil Fischer, and his old assistant, Abderhalden, the contributions of three American chemists, T. B. Osborne of New Haven and D. D. Van Slyke and P. A. Levene of the Rockefeller Institute.

DISEASES OF THE THROAT, NOSE AND EAR. For Practitioners and Students. By W. G. Porter, M.B., B.Sc., F.R.C.S., Surgeon to the Eye, Ear and Throat Infirmary, Edinburgh. Cloth. Price, $2.50. Pp. 275, with 77 illustrations. New York: William Wood & Co., 1912.

In compact form this book offers clear, concise descriptions of affections of the nose, throat and ear with which the general practitioner daily comes in contact, and gives sufficient suggestions as to management and treatment to make it a good working guide. It is well printed and well illustrated, and in an appendix contains formulas for various washes, sprays, insufflations, etc., which may be useful as routine measures, or serve as suggestions which may be modified to suit particular cases.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Insanity, Baltimore

*April, LXIX, No. 4, pp. 643-834*

1 Diffuse Glioma of Pia Mater. A. M. Barrett, Ann Arbor, Mich.
2 *New Formation of Nerve Cells in Isolated Part of Nervous Portion of Hypophysis-Tumor in Acromegaly with Diabetes. A. Meyer, Baltimore.
3 *Brain in Case of Catatonic Hirntod. S. T. Orton, Worcester, Mass.
4 *Series of Normal-Looking Brains in Psychopathic Subjects. E. E. Southard, Worcester, Mass.
5 *Case of Large Endothelioma of Frontal Region of Brain. R. L. Whitney, Worcester, Mass.
6 Curability of Insanity. A. I. Noble, Kalamazoo, Mich.
7 Case of Epilepsy. E. V. Scribner, Worcester, Mass.
8 Personality and Outcome in Two Hundred Consecutive Cases. E. D. Bond, Hathorne, Mass.
9 Polyneuritic Delirium—Korsakoff's Psychosis. W. C. Sandy, Trenton, N. J.
10 Two Interesting Cases of Melancholia. C. A. Porteous, Montreal, Can.

2. **New Formation of Nerve Cells.**—Meyer summarizes his paper very briefly as follows: The change in the hypophysis in acromegaly seems to be more uniform than the descriptive terms in the literature would suggest. The differences of opinion may be due in part to a limitation of the examination to one or few portions of the tumor. The change found in their cases is identical with that described by Brooks. It shows also the mode of propagation of the tumor. In a sequestrated part of the nervous portion unmistakably new formation of nerve-cells with Nissl-bodies has occurred, beside other monstrosities.

3. **Brain in Catatonic Hirntod.**—The case cited by Orton is one of a psychosis of acute onset followed by death within fifteen days and showing at autopsy neither gross nor microscopic visceral alterations of sufficient intensity to be regarded as factors in the disease or cause of death. Clinically the diagnosis is not definite on account of the short time of observation and the condition of the patient, but the limited data place it probably as a case of dementia praecox of the katatonic form. Sections stained with thionin and by the Bielschowsky method yielded findings which might be the result of post-mortem disintegration, but which in the case of the thionin specimens at least were probably *ante mortem* in occurrence. In specimens stained by the Herxheimer and osmic acid methods considerable amounts of lipoid materials were found in the ganglion cells, glia cells and phagocyte cells of the perivascular spaces. By Alzheimer's Methods IV and VI amboid glia cells with a variety of granules were found widely scattered throughout the brain in the lower layers of the cortex and particularly in the subcortical white matter.

4. **Series of Normal-Looking Brains.**—That forty-two persons dying insane at ages between 76 and 91 exhibit intact brains on the autopsy table presents a significant problem in Southard's opinion. Many pathologists would wonder whether the brains of normal seniles should not exhibit some traces of atrophy, at all events in the higher eighties. And it would be only natural to suppose that the wear and tear of brains in the insane should lead to still greater atrophic changes. The assigned diagnoses in this senile group of subjects insane but intact of brain were: senile dementia, 32; paranoic conditions, 3; alcoholic conditions, 2; imbecility, 1; essential dementia, 1; manic-depressive insanity, 1; epileptic insanity, 1; delirium, 1. There were twenty-two deaths of insane with intact brains aet. 71-75. The diagnosis in these cases were: senile dementia, 7; other diagnoses, 15. Southard's general conclusion here is that four or five patients whose brains looked "normal" to the anatomist were with a certain probability abnormal (whether morbid or merely anomalous should not be risked). Gross pathologic anatomy, he says, has still to prove that senile dementia, as the term is used, is attended with any considerable loss of brain substance in large group of instances. The Worcester State Hospital series of autopsies in cases of mental disease, 1895-1911, numbered 740. The brains of 249 of these subjects, or about one brain in three, are recorded as of normal appearance on the autopsy table.

A somewhat larger Danvers State Hospital series, similarly studied, had yielded something like one brain in four as of normal appearance in the gross. As these normal-looking brains stand the best chance of corresponding with the so-called functional cases of mental disease, some effort has been spent on classifying the group from certain viewpoints, particularly those afforded by previous studies in the Danvers series. Brains should perhaps be considered normal until proved abnormal, even if they belong to the subjects of mental disease. A review of the possible groups of normal-looking brains found in insane subjects leads Southard to the supposition that there may be a certain group of such which will fail to show any lesion whatever: there may theoretically, perhaps, exist brain-structures which, whereas intrinsically normal, are extrinsically abnormal. There is actually a higher percentage of senile psychoses in the normal-brain series, viz., 32 per cent., than in the abnormal-brain series, viz., 20 per cent. A less inevitable frailty of diagnosis is shown by these statistics in that patients over 75 years of age at onset are far more apt to receive the diagnosis senile dementia than those just under 75 years of age. After 75 the diagnosis senile dementia is surely too facile.

Another odd fact (at least in Southard's view, who had supposed manic-depressive insanity might prove exceedingly "functional" and to have brains only extrinsically abnormal) is the fact that one in four of the manic-depressive brains was in some respect grossly abnormal, whereas none of the forty-two brains in dementia praecox exhibited gross abnormality. The main object of this communication is to stimulate interest in normal or normal-looking brains in psychopathic subjects, so that the question whether insanity is, or is not, always a matter of structural brain-disease may approach settlement. Incidentally the question has arisen whether dementia praecox may not on the ground of viability be divided into dementia praecox brevis (with early death, say under two years from onset; katatonic form often here found) and dementia praecox longa (in which the subject dies, as a rule more than eight years after onset, of a variety of causes; katatonic form less frequent). Use has been made of a principle that apparent normality of brains may be consistent with fine microscopic changes, possibly of a reversible nature, and that we shall hardly from gross appearances be able to assert abnormality of brains unless at least three months (preindurative period) have elapsed from the onset of some cell-destructive process. Use has also been made of a principle to the effect that various nerve cells which are in all respects intrinsically normal may be essentially sharing in processes extrinsically abnormal.

The hypothesis is raised that the whole cortex, or even the whole nervous system, might be intrinsically normal but extrinsically abnormal in its reactions to a given chemical, physical or other condition. Southard suggests that it is possible that the solution of the problem of the functionality of various diseases might be to consider the structures involved as intrinsically normal whereas extrinsically abnormal—the normal operation of various cells leading to injurious effects in the organism as a whole. It seems clear to Southard that the general statement "insanity is brain-disease" is well-nigh meaningless unless the particular structures thought to be involved are specified, since it is clear that science has not discovered even the right place to look in certain diseases (no more in mental disease than in certain forms of, say, diabetes).

5. **Large Endothelioma of Brain.**—Whitney's case is that of a large endothelioma of the frontal region of the brain located chiefly in the right frontal lobe but also extending into the left frontal lobe. The pathologic findings are compatible with a tumor of slow growth. The patient from boyhood possessed special attainments. Fifteen years ago he suffered a nervous breakdown resulting in retirement from an active professional life. Subsequently there occurred periods of lethargy, depression and loss of ambition with

final incapacity for self-support. Beginning with a transitory period of unconsciousness, various neuro-muscular disturbances were apparent which were followed by apathy, somnolence and progressive mental deterioration, which symptom complex in the absence of thorough neurologic examination led to the diagnosis of general paralysis.

### Archives of Ophthalmology, New York

*May, XLII, No. 3, pp. 227-344*

11 Use of Vaccines in Eye Infections. J. G. Dwyer, New York.
12 Herpes Iris of Conjunctiva, with Report of Case. H. Barkan, San Francisco.
13 Another View of Extraction in Capsule Cataract Operation. C. B. Meding, New York.
14 Contribution to Pathology of Hemorrhagic Glaucoma. J. Stähli, Zurich, Switzerland.
15 Pathogenesis and Therapy of Facial Eczema in Children (from Standpoint of Pediatrist). F. Goeppert, Göttingen.

### Archives of Pediatrics, New York

*April, XXX, No. 4, pp. 241-320*

16 *Infant Feeding and Examination of Stools. F. B. Talbot, Boston.
17 Hemorrhagic Conditions in Children—Pathology—Etiology—Treatment. A. L. Soresi, New York.
18 *Unique Case of Congenital Scoliosis. J. Fraser and J. W. L. Spence, Edinburgh.
19 Milk Stations or Infant Mortality. L. V. Waldron, Yonkers, N. Y.
20 Abortive Types of Small-Pox. L. A. Sexton, New York.

16. **Infant Feeding and Examination of Stools.**—The following table is given by Talbot as a synopsis of the stool findings as applied to infant feeding:

| Symptoms of Indigestion | Due to | Shown by Vomitus and Stools |
|---|---|---|
| Vomiting<br>Regurgitation | Fat | (a) Creamy vomitus<br>(b) Stools containing<br>(1) Soft curds<br>(2) Soap stools<br>a. Clay-like<br>b. Dry, crumbling<br>(3) Oily stool, col. of Indian meal |
| Gas in stomach with or without discomfort.<br>Failure to gain or loss of weight on food containing insufficient calories.<br>Gas in Bowels<br>Colic<br>Loss of appetite<br>Fever or subnorma temperature<br>Poor appetite | Carbohydrate | (a) Watery, sour vomitus (acid)<br>(b) Stools<br>(1) Acid, scalding<br>(2) Feathery, bubbly<br>(3) Starch stains blue with Gram's solution |
| Frequent or undigested stools | Protein | (a) Cheesy vomitus<br>(b) Stools containing tough curds |

Physical examination must, he says, rule out disease in other parts of the body and the milk must be absolutely clean. Infections of the gastro-intestinal canal are not considered in this classification. Talbot believes, however, that the normal saphrophytic bacteria play some rôle in the processes of digestion. The symptoms of indigestion may be practically the same in fat, sugar or casein indigestion, and it is, therefore, obvious that the symptoms alone do not tell what is the cause of the indigestion. The necessary information must be obtained from what can be seen, *i. e.*, from the vomitus and the stools. The information obtained from inspection of the vomitus is not very accurate and is frequently only confirmatory. Creamy vomitus, in absence of other data, suggests too much fat in the food; watery acid vomitus, too much sugar, and cheesy vomitus, too much casein. These characteristics usually are confirmed by the stool findings. The stools give the most accurate data, but attention should not be focused on them to the exclusion of other factors which may be equally important. Stools which apparently are not perfectly digested should not be a reason for changing the formula of a baby that has no symptoms of indigestion and is thriving and happy—for example, a breast-fed baby. It would be unwise to diminish the food of any baby unless it had some of the symptoms enumerated in the table.

18. **Case of Congenital Scoliosis.**—The seventh and eighth dorsal vertebrae in this case were incomplete. On the right side there were half vertebrae and each half tended to be wedge-shaped. On the left side the two vertebrae had fused into a single wedge-shaped bone. The last dorsal vertebra was divided into two halves by a mesial division, but the shape of each half was more or less preserved. In the lumbar region of the spine the first three lumbar vertebrae were incomplete, the right halves were present and each was distinctly wedge-shaped. On the left side the vertebrae had become two separate bones, an oval bone equal in depth to the body of a healthy vertebra, and a small wedge-shaped bone lying more anterior. On the left side there were thirteen ribs and possibly a suspicion of a fourteenth. The ribs of the left side corresponding to the seventh, eighth and ninth dorsal vertebrae had become fused about one inch from the side of the vertebral column into a single broad rib; and this single rib articulated with the vertebral column by two short processes. One of these processes was attached to the ninth dorsal vertebra, the other to the wedge-shaped remnant of the seventh and eighth vertebrae.

### Archives of Roentgen Ray, New York

*April, XVII, No. 11, pp. 411-450*

21 Method of Treating Carcinoma of Esophagus. W. Steuart, New York.
22 Case of Lymphosarcoma Treated by Radium. D. F. D. Turner, Edinburgh.
23 *Influence of Various Contrast Substances on Motility of Intestinal Canal. F. Groedel, Bad-Nauheim.
24 Some Experiments with Ionic Medication. N. S. Finzi, London.
25 *New Unit of Roentgen-Ray Power. S. Tousey, New York.

23. **Motility of Intestinal Canal.**—Barium sulphate is held by Groedel to be the best contrast material for roentgenoscopy of the stomach. He uses a barium porridge containing 250 grams of barium sulphate, 20 grams of maize flour, 20 grams of sugar, 20 grams of cocoa and 400 c.c. of water. His data are as follows: Stomach emptied: one and a half to two hours after the meal. Cecum begins to fill: one to one and a half hours. Ceeum filled: two to six hours (right flexure). Transverse colon filled four and a fourth hours (left flexure). Rectal ampulla reached twenty-four hours at latest. These figures show that with barium sulphate the stomach empties itself just twice as fast as with bismuth.

25. **New Unit of Roentgen-Ray Power.**—The proposed new unit to which Tousey has given his name—the Tousey unit—is the x-radiance which produced on an ordinary photographic film an effect equal to that of 1 candle-power of incandescent electric light. With x-radiance of medium penetration this gives a guide to accurate therapeutic dosage and correct exposure in radiography. Twenty Tousey-meter-seconds of No. 7 Benoist is equal to one Holzknecht unit. The measuring film is prepared in the following manner: A piece of film, 2½ by 3½ inches, is placed in a black envelope in which there are two covered apertures. Each of these is uncovered separately, and each aperture is exposed to 1/10 candle-power-meter-second of incandescent electric light. In the author's laboratory this has to be done at night with a 4 candle-power light at a distance of 14 meters for five seconds. A number of these films are prepared beforehand and kept in their black envelopes in readiness for making a test. For this purpose the four corners of the film are given four different exposures to the Roentgen rays measured in meter-seconds, the rest of the film being covered by a lead shield. The entire film is developed at the same time and in the same solutions, thus avoiding the difficulties of standard developers and variations of temperature. The development should last ten minutes in a strong developer, so as to be sure to develop the entire thickness of the film. Stopping the development shortly after the appearance of the image gives an entirely misleading ratio between Roentgen-ray and electric-light sensitiveness. The intensity of the Roentgen-ray light is determined by comparing the dark patches on the film. For

example, two meter-seconds (two seconds at 1 meter, or eight seconds at two meters, or half a second at ½ meter) of Roentgen radiance has the same photographic effect as 1/10 meter-second of electric light. The Roentgen-ray effect is evidently twenty times weaker, and the Roentgen-ray power on the focus-tube is said to be 1/20 Tousey.

### Boston Medical and Surgical Journal

*May 8, CLXVIII, No. 19, pp. 673-712*

26 Diagnosis of Tuberculous Character of Joint Disease E. G. Brackett, Boston.
27 Infantile Beriberi in Philippines. D. Gregg, Boston.
28 *Cholecystitis and Cholelithiasis Associated with Pregnancy: Report of Two Cases. R. M. Green, Boston.
29 Diffuse Sub-Dural Lipomatosis of Spinal Cord in Infant. S. B. Wolbach and J. A. P. Millet, Boston.
30 Abuse of Roentgen Rays in Treatment of Skin Affections. J. T. Bowen, Boston.
31 *Statistical Study of Remissions in General Paralysis. H. L. Paine, Danvers, Mass.

28. **Cholecystitis and Cholelithiasis Associated with Pregnancy.**—From a study of two cases and of those previously reported in the literature, Gregg draws the following conclusions:

1. That there seems to be a definite causal association of cholecystitis and cholelithiasis with pregnancy. 2. That symptoms due to either of these conditions may occur during pregnancy, during puerperium following labor at term, or after miscarriage. 3. That the existence of gall-bladder disease is not in itself a cause of miscarriage, but that miscarriage may induce the development of active symptoms from a process previously latent. 4. That cholecystitis or cholelithiasis occurring during convalescence from miscarriage should receive the same surgical treatment and bear the same prognosis as in cases not associated with pregnancy.

31. **Remissions in General Paralysis.**—Of 420 unselected and consecutive cases of general paralysis admitted to the Danvers State Hospital during a period of thirty-four years, Paine says, only one case with a history of a paralytic seizure showed a remission, and only six cases with a history of any form of cerebral insult showed a remission. Inversely then, Paine states, it may be said that if a case of general paralysis in its early stage has a paralytic seizure, the chances are very small that that case will have a remission.

### Bulletin of Johns Hopkins Hospital, Baltimore

*May, XXIV, No. 267, pp. 135-166*

32 Evolution of Thyroid. D. Marine, Cleveland.
33 *Hypersensitiveness to Tuberculo-Protein and to Tuberculin. C. R. Austrian, Baltimore.
34 Ancient Office of Coroner. D. I. Macht, Baltimore.
35 Dr. Ephraim McDowell, "Father of Ovariotomy": His Life and Work. A. Schachner, Louisville, Ky.

33. **Hypersensitiveness to Tuberculo-Protein and Tuberculin.**—Austrian's experiments confirm the already demonstrated facts that (1) a protein substance can be obtained by the extraction of tubercle bacilli with water, and with it animals can be actively sensitized, (2) that a refractory condition to this protein can be produced, and (3) that the hypersensitive condition is transmitted from mother to young. His experiments establish further that active sensitization induced by treatment with this protein may be as regular in its development and as intense in its manifestations as is that produced by treatment with other proteins. Passive homologous and heterologous hypersensitiveness can occasionally be produced with the blood or with the serum of an actively sensitized animal. The material transmission of the hypersensitiveness does not take place through the milk. The regularity with which maximum hypersensitiveness can be produced is largely dependent on the use of a sufficient amount of protein in preparing and in testing the animals. All the manifestations of typical hypersensitiveness to protein can be produced in guinea-pigs by treatment with aqueous extracts of tubercle bacilli. Guinea-pigs can be sensitized with albumose-free tuberculin and with old tuberculin that has been freed of glycerin and made poor in salts. And sensitization with any of these products causes the animal to react to injections of the others.

Hypersensitiveness to tuberculin develops within seven to fifteen days after infection with the *B. tuberculosis*. Tuberculous animals can occasionally be intoxicated with tuberculoprotein, developing symptoms of hypersensitiveness. The passive transference of hypersensitiveness from a tuberculous man to normal guinea-pigs has been successfully accomplished by Austrian and positive results have likewise been obtained when the serum of a sensitized animal has been injected into an untreated one. The type of the reaction symptoms and the development of them in an infected host after the administration of minimum doses of tuberculin are likewise suggestive facts. Austrian is of the opinion that this evidence justifies the interpretation of the tuberculin reaction as a manifestation of true hypersensitiveness.

### Journal of Abnormal Psychology, Boston

*February, VII, No. 6, pp. 385-452*

36 Psychoanalytic Study of Severe Case of Hysteria. L. E. Emerson, Boston.
37 Psychogenic Disorders in Childhood. T. A. Williams, Washington, D. C.
38 Mental Manifestations of Epilepsy. N. S. Yawger, Philadelphia.

### Journal of Biological Chemistry, Baltimore

*May, XIV, No. 4, pp. 335-431*

39 New Method of Isolating Trypsin. H. L. Holzberg, San Francisco.
40 Conditions Affecting Formation and Excretion of Formic Acid. H. D. Dakin, N. W. Janney and A. J. Wakeman, New York.
41 Relative Influence of Weak and Strong Bases on Rate of Oxidations in Unfertilized Egg of Sea Urchin. J. Loeb and H. Wasteneys, New York.
42 Further Metabolism Experiments on Parathyroidectomized Dogs. I. Greenwald, New York.
43 Phosphorus Content of Blood of Normal and Parathyroidectomized Dogs. I. Greenwald, New York.
44 Researches on Purines. C. O. Johns and E. J. Baumann, New Haven, Conn.
45 *Excretion of Nitrogen Subsequent to Ligation of Successive Branches of Renal Arteries. J. D. Pilcher, Cleveland.
46 *Iodin and Phosphorus Contents, Size and Physiologic Activity of Fetal Thyroid. F. Fenger, Chicago.
47 Utilization of Ammonia in Protein Metabolism. A. E. Taylor and A. I. Ringer, Philadelphia.
48 Studies in Purine Metabolism: Uricolysis in Human Subject. A. E. Taylor and W. C. Rose, Philadelphia.
49 Glyoxalase. H. D. Dakin and H. W. Dudley, New York.

45. **Nitrogen Excretion after Renal Ligation.**—Pilcher found that ligation of one of the branches of both renal arteries, *i. e.*, approximately half of the blood supply, does not cause any noticeable disturbance in renal function. The urine and the nitrogen excretion remained practically normal, with a slight tendency to nitrogen retention. Successive complete ligation of one renal artery and one branch of the other (*i. e.*, shutting off three-fourths of the arterial supply) resulted in marked temporary prostration, anorexia and loss of weight, with nitrogen output much greater than the intake. The animals recovered gradually to a condition similar to that when but one-half of the arterial supply was ligated. On the assumption that the ligated areas took no part in urine formation, the remaining one-fourth of the kidney was able to secrete the urine almost as effectively as the entire kidney area. Occlusion of one branch of the renal artery did not result in sufficient collateral circulation from the capsule to preserve the function of the ligated area; so that even after twelve months it was unable to preserve life if the renal artery was then ligated. With but one-fourth of the kidney substance functioning the quantity of urine was practically normal; the urine containing no albumin or casts; cardiac hypertrophy did not occur.

46. **Fetal Thyroid.**—In two previous communications Fenger showed that fetal thyroid tissue possesses a strong selective affinity for iodin, that the glands of beef fetuses contain an appreciable amount of iodin as early as the third month of intra-uterine life, or approximately six months before maturity, and that the iodin content increases proportionately with the age of the fetus. It was also conclusively demonstrated that the presence of active principle in a gland is an indication of its relative physiologic activity and that consequently the fetal thyroid is functionally active long before maturity of the fetus. No further definite conclusions could be drawn at that time because of the lack of raw material. During the past year at various seasons the glands from 705 beef fetuses six to nine months old were analyzed by Fenger within a short time after collection. The iodin content of the normal-sized

fetal thyroids during the last three months of intra-uterine life seemed to be fairly uniform throughout the various seasons. Normal fetal glands are relatively larger and contain more iodin and phosphorus per unit of body weight than thyroids from fully mature animals. The normal female fetal thyroids show a higher content of iodin and seem, therefore, to possess greater functional activity than the male fetal glands. Fetuses possessing enlarged thyroids, on the whole, were considerably smaller than average fetuses of the same age with normal thyroids. The enlargement of fetal thyroids exceeds, both in frequency and size, the number of goitrous-affected glands of fully mature animals and is apparently, according to Fenger, the consequence of insufficient supply or faulty assimilation of iodin on the part of the pregnant animal. Enlarged glands in general, both fetal and adult, contain less total iodin and much more total phosphorus than normal thyroids.

### Journal of Cutaneous Diseases, New York

*May, XXXI, No. 5, pp. 305-376*

50 Case of Acanthosis Nigricans. H. G. Klotz and G. L. Rohdenburg, New York.
51 Extensive Tuberculosis Cutis with Death from Pyemia: Report of Case. H. K. Gaskill, Philadelphia.
52 Some Details in Wassermann Technic. A. W. Stillians, Chicago.
53 Dermatologic Therapeutics. C. W. McMurtry, New York.

### Journal-Lancet, Minneapolis

*May 1, XXXIII, No. 9, pp. 249-273*

54 Etiology, Diagnosis and Treatment of Acute Infections of Pleura and Lungs. L. A. Nippert, Minneapolis.
55 *Rectal Section for Pelvic Abscess in Men. A. MacLaren, St. Paul, Minn.
56 *Treatment of Septic Endocarditis. S. P. Rees, Minneapolis.
57 Technic of Anesthesia. G. E. Putney, Paynesville, Minn.

55 and 56.—Abstracted in The Journal, Sept. 7, 1912, pp. 824 and 825.

### Journal of Outdoor Life, New York

*May, X, No. 5, pp. 129-158*

58 Compensations of Illness. H. H. Murphy, Kamloops, B. C.
59 Distractions of Leisure. F. Davies, Saranac Lake, N. Y.
60 Childhood Infection and Its Relation to Adult Pulmonary Tuberculosis. W. C. Bailey, Boston.
61 Tuberculosis in State Legislatures. P. P. Jacobs.

### Medical Record, New York

*May 10, LXXXIII, No. 19, pp. 829-874*

62 Consultations without Scars. J. D. Bryant, New York.
63 Osteitis Deformans (Paget's Disease). W. G. Thompson, New York.
64 *Functions of Pineal Gland. C. L. Dana and W. N. Berkeley, New York.
65 Salvarsan in Cryptogenetic Pernicious Anemia. C. E. Nammack, New York.
66 Dissolved Albumin Test for Gastric Cancer. F. W. Rolph, Toronto, Ont.
67 Cystic Polypus in Nasal Pharynx of Child. E. A. Griffin, Brooklyn.
68 Case of Exophthalmic Goiter Cured by Roentgenotherapy. S. Tousey, New York.

64. **Functions of Pineal Gland.**—The experiments carried out by the authors were the following: 1. The nucleoproteids and entire pineal gland extracts were obtained and injected into the veins to test the effect on the blood-pressure. 2. They were also injected into young animals—rabbits, guinea-pigs—for a long time to determine the effect on nutrition. 3. The whole gland was fed to young animals. 4. The whole gland was fed to defective and retarded children. Since the beginning of the summer of 1911 the investigation has been confined almost entirely to feeding experiments. The authors fed the gland to guinea-pigs and rabbits, and to certain selected children, if possible under 8 or 9 years and to children who seemed to be cases of simple retardation without notable anatomic defect and without epilepsy. Children in the retarded grades of the public schools were used for this purpose as well as private cases at the New Jersey Training School for the Feeble-Minded at Vineland, New Jersey. The gland was fed to twenty-one children, watching these and comparing them with twenty-one controls. The work was carried on for nearly eight months.

The authors state their provisional conclusions as follows: The pineal gland is the vestigium of a special sense organ of vision in invertebrates and certain low vertebrates. In man it has practically lost all the structural characters of a sense organ and has those of a glandular body. It undergoes some involution at about the seventh year of life. They are strongly of the opinion that in the early period of life it has influence over bodily nutrition, including the development of the genital organs, the deposit of subcutaneous fat, general growth and mental progress. They find that the extract of the pineal gland of bullocks injected into the veins of dogs has no effect on the blood-pressure. The same extracts fed to babies cause increase in metabolic activity, as evinced by increased in nitrogen eliminated by the urine.

As to the twenty-one children, they found that as a group the twenty-one subjects have gained 2.23 points. Of the fourteen who gained, the average mental gain is 3.35 points. The fourteen controls gained as a group 1.35 points mentally. Of the nine who gained, the average mental gain is 2.11 points. The gain in the standing height for the twenty-one subjects averages 18.52 mm.; for the fourteen controls, 24 mm. In weight the twenty-one subjects gained an average of 2.06 kg., the fourteen controls, 2.89 kg. There was no loss of weight in either subjects or controls. In grip of R. H., the twenty-one subjects gained an average of .9 kg. as a group and the twelve who gained averaged 1.58 kg. each. The fourteen controls gained an average of 3.43 kg., the ten who gained averaged 4.8 kg. each.

### Michigan State Medical Society Journal, Grand Rapids

*May, XII, No. 5, pp. 247-306*

69 *Complement Fixation Test in Diagnosis of Gonorrhea. R. G. Owen and H. Snure, Detroit.
70 Heart in Arteriosclerosis. C. H. Johnston, Grand Rapids.
71 Treatment of Trigeminal Neuralgia by Superficial Injection of Osmic Acid and Alcohol. T. C. H. Abelmann, Grand Rapids.
72 Clinical Factors in Roentgenography. A. W. Crane, Kalamazoo.
73 *Cirsoid Aneurysm of Hand. M. Ballin, Detroit.
74 Hypotension and Hypertension; Their Mechanism and Therapeutics. T. A. McGraw, Detroit.
75 Use of Sphygmomanometer in General Practice. W. J. Wilson, Detroit.

69. **Test for Gonorrhea.**—The authors found that the complement fixation test gives a very high percentage of positive results when gonococci are present, except in the very acute stage. Complement fixation will often point to the presence of gonococci when they cannot be demonstrated microscopically. A positive reaction was never found in a non-gonorrheal patient. Cured cases become negative in five to eight weeks. Persistence of a positive reaction beyond this time indicates that living organisms still exist. The test has shown that 10 to 20 per cent. of clinically cured patients are still infectious. Tests performed on a large number of individuals, selected at random without any regard to a gonorrheal history, show an astonishingly large percentage (7 to 20 per cent.) of positive results. The authors urge that all matrimonial candidates should subject themselves to the application of the Wassermann and gonorrheal tests if they have ever had syphilis or gonorrhea.

73. **Cirsoid Aneurysm.**—Ballin's patient tried to stop a sliding steel casing with his right hand, the mass of steel hyperextending the hand at the carpal joint with great force. He felt a sharp pain, and noticed, the next day, the veins on the dorsum of the injured hand were very much swollen. In the next few weeks, pain in the hand and, objectively, the swelling of the veins, were the most marked symptoms present. The swelling of the veins on the dorsum of the middle of the hand was so marked that the attending physician excised some of them, considering them to be merely varicose veins. But the swelling of the veins returned immediately and extended slowly to the little finger and on the palmar side into the hypothenar region; the hand was swollen, perspiring profusely and causing intolerable pain. When Ballin saw the patient seven months after the accident, the right hand was very much swollen, especially on the ulnar side. The swelling was not of an edematous character, but

seemed to be caused by overfilling with blood; the hand perspired very freely, especially on the little and the ring fingers; swelling extended somewhat on to the forearm. The back of the right middle hand showed marked varicose veins, which extended on volar side into hypothenar region and little finger. The veins showed slight pulsation. Flexion of hand and finger was painful; patient complained of throbbing pain in ulnar part of hand; it kept him from sleeping. On palpation, Ballin noticed a pulsation of the swollen hypothenar; by auscultation a loud bruit could be heard over the whole hypothenar region, extending along the ulnar artery two inches above the wrist. The bruit was loudest in the middle of the hypothenar region, being synchronous with the pulse. Elevation of the arm diminished the pain and the bruit. Compression of the brachial artery stopped all symptoms, which returned immediately on the cessation of the compression. Measurement of the left hand around the palm was 8 inches; the right measured 9 inches. The diagnosis of an aneurysm of the superficial end-branch of the ulnar artery with venous communication was obvious. Eight ligations of vessels were made, the patient getting a few weeks' relief from symptoms after each one. Amputation of the forearm finally became necessary and the patient made an uneventful recovery.

## New Orleans Medical and Surgical Journal

*May, LXV, No. 11, pp. 785-850*

76 Rational Care of State's Insane. J. N. Thomas, Pineville, La.
77 Early Signs of Locomotor-Ataxia and Other Parasyphilitic Conditions of Nervous System. E. M. Hummel, New Orleans.
78 General Paralysis: Plea for More Thorough Prophylaxis. H. Daspit, New Orleans.
79 Intramuscular Injections of Mercury (Emulsion) in Treatment of Syphilis of Nervous System. L. L. Cazenavette, New Orleans.
80 Dementia Praecox, Some Suggestions for General Practitioner. F. W. Quin, Pineville, La.
81 Epilepsy: Cause and Treatment. H. L. Fougerousse, Pineville, La.
82 Experience with Poliomyelitis as Health Officer for Parish of Morehouse during 1911. O. M. Patterson, Bastrop, La.
83 Foreign Body in Esophagus Removed by Eosophagoscopy: Foreign Body in Bronchial Tract. H. Dupuy, New Orleans.
84 Present Status of Epidemic Cerebrospinal Meningitis in Louisiana. O. Dowling, Shreveport, La.
85 Laboratory Diagnosis of Cerebrospinal Meningitis. C. C. Bass, New Orleans.

## New York Medical Journal

*May 10, XCVII, No. 19, pp. 957-1008*

86 Insane and Mentally Defective Aliens Arriving at Port of New York. G. W. Stoner, New York.
87 Preliminary Report on Diagnosis of Postpyloric (Duodenal) Ulcer by Means of Serial Radiography. L. G. Cole, New York.
88 High Tension, High Frequency Currents. J. H. Branth, New York.
89 What Practitioner Should Know of Wassermann Reaction. G. A. Wyeth, New York.
90 Psychogenic Psychosis. N. J. Dynan, Washington, D. C.
91 Eye Strain Symptoms in General Practice. I. Hartshorne, New York.
92 Indications for Operation on Inferior and Middle Turbinates and Serum. I. Grushlaw, New York.
93 Hospital Prophylaxis. L. D. Frescoln, Philadelphia.
94 Carcinoma of Hyperplastic Hypophysis. J. Funke, Atlanta, Ga.
95 *Tuberculosis of Liver with Jaundice. L. S. Milne, Kansas City, Mo.
96 Duodenal Tube: Its Value as Diagnostic and Therapeutic Agent. L. A. Doroff, Chelsea, Mass.
97 Biostatistics of Jewish Race Pertaining Especially to Immunity and Susceptibility. L. Levyn, Buffalo.

95. **Tuberculosis of Liver with Jaundice.**—The two cases cited by Milne presented much the same train of symptoms, although the first was much more acute. In each there was marked jaundice. The temperature and general condition was obviously tuberculous. The liver was particularly involved. In the first case the liver and spleen seemed to be the only two organs affected. In the second the disease was more widespread and much less acute, but in this case also the most extensive disease was jaundice of the liver and spleen. As the liver and spleen in both cases were apparently equally involved and the disease process so uniformly distributed in these organs, it appeared as if the infection originally was disseminated from some tuberculous focus in the mesenteric lymph-nodes. In the first case, however, the mesenteric nodes did not show any gross old standing disease. In the second these nodes were tuberculous, but in this case also the process was not particularly advanced. In view of the extraordinary frequency of tuberculosis of the mesenteric lymph-nodes without any extension to the liver, Milne says it is difficult to understand the factors which determine the widespread involvement of the liver and spleen in some cases. The same conditions, however, may be found in the relation of infection of the bronchial lymph-nodes to pulmonary tuberculosis. The intestines in both cases showed no evidences of any ulceration, either old or recent. In the second case, what seemed to be the oldest focus was situated in the adrenals.

## Old Dominion Journal of Medicine and Surgery, Richmond, Va.

*April, XVI, No. 4, pp. 153-211*

98 *Single Transverse Incision for Use in Double Inguinal Herniotomies. E. S. Judd, Rochester, Minn.
99 Cases Illustrating Ocular Disturbances due to Disease of Nose and Accessory Sinuses. J. E. Weeks, New York.
100 Conservative Treatment of Hand Injuries by Means of Wet Antiseptic Dressings. W. P. Nicolson, Atlanta, Ga.
101 Antityphoid Inoculation As State and Municipal Duty. F. A. Coward, Columbia, S. C.

98. **Single Transverse Incision in Double Inguinal Herniotomies.**—Judd makes a transverse incision from 8 to 12 cm. in length, or longer in fleshy patients, from a point situated midway between the internal and external abdominal rings of one side to a similar point on the opposite side, thus connecting the two inguinal canals. The incision passes directly through the subcutaneous fat and exposes the aponeurosis of the external oblique muscle. The fat around the external ring is dissected away for a short distance and then by properly retracting the skin and subcutaneous tissues of either end of the incision, the entire inguinal canal of that side will be exposed. The hernia on this side is repaired and then the same retraction is made on the other side for the repair of the second hernia. After the operation on the hernias has been completed the superficial tissues are loosely sutured with catgut and the skin closed either by a subcutaneous catgut suture or a through-and-through horse-hair stitch. With this incision the exposure of either inguinal canal is said to be fully as satisfactory as that obtained when an oblique incision is made directly over the inguinal canal on each side. The entire length of the transverse incision is often not more than that of the oblique incision as it is ordinarily made for the repair of a single inguinal hernia. The bleeding is very slight, as a rule, only the small branches of the superficial epigastric vessels come into consideration. One of the principal advantages of this method is seen in those patients who have worn a truss which has compressed and hardened the region or possibly has blistered and broken the skin. The injured areas in such cases are low and beneath the inguinal canals, and are not encountered when the transverse incision is used.

## South Carolina Medical Association Journal, Seneca

*April, IX, No. 4, pp. 83-106*

102 Acidosis, with Special Reference to Acetone Bodies. H. S. Mustard, Charleston.
103 Eclampsia. R. T. Ferguson, Gaffney.
104 Diabetes Mellitus. T. G. Croft, Aiken.
105 Syphilis. E. W. Carpenter, Greenville.

## Texas State Journal of Medicine, Fort Worth

*May, IX, No. 1, pp. 1-34*

106 *Some Clinical Experiments in Treatment of Typhoid with Low-Calorie Food Values. M. L. Graves, Galveston.
107 Local vs. General Anesthesia. R. W. Knox, Houston.
108 *Malignant Papilloma of Lower Lip. E. Dunlap, Dallas.
109 Case of Complete Laryngectomy under Cocain Anesthesia. F. D. Boyd, Fort Worth.
110 Extra-Gastro-Intestinal Indigestion. I. S. Kahn, San Antonio.
111 Local Diseases Amenable to Surgical Treatment as Cause of Acquired Psychoneuroses. F. Paschal, San Antonio.
112 Sympathetic Ophthalmia. T. K. Proctor, San Angelo.
113 What Roentgen-Ray Should Mean to Physician. G. D. Bond, Fort Worth.
114 Case of Screw-Worm in Nose. C. L. Edgar, Cleburne.
115 Treatment of Prostatic Hypertrophy. J. R. Caulk, St. Louis.

106. **Low-Calorie Food Values in Typhoid.**—Graves' own experiments have extended over a few years and have covered more than a hundred cases. Last year fifty-one patients with positive diagnosis of typhoid were treated with low-caloric values. This is composed of milk and lime water, fed in six to eight-ounce quantities every three hours during the twenty-four. This is alternated from time to time, with an egg-albumin preparation composed as follows: The white of one egg, eight ounces of water, one dram of sugar and the juice of half a lemon or orange. In many cases the patients are carried through the entire attack of typhoid with only these two forms of foods, alternating every three hours and occasionally utilizing one alone for twenty-four or forty-eight hours. In caloric values they measure less than 1,000 units. Another feature incident to this treatment is the proper movement of the bowels. If the patient is fed an absorbable diet, say 98 per cent., there exists but little residue to pass through the bowels. If only 0.2 per cent. of a quart and a half to two quarts of milk and egg-albumin given per day is left as an unabsorbable residue, it will be seen that it will require six days to accumulate the normal amount of feces evacuated from the bowels every day in health. Frequently, Graves says, his patients will go six to ten days and two weeks and sometimes three weeks without a movement from the bowels. When being fed on a milk diet, lumps accumulate in the descending colon. Graves has them washed out by a simple laxative enema to avoid mechanical distention—not fermentation.

108. **Malignant Papilloma of Lower Lip.**—In Dunlap's case the growth involved all the lower jaw, leaving only one or two teeth; the lip and chin have been replaced by a large cancerous mass, which extends far out and then falls forward on the neck and extends to the sternum.

## Wisconsin Medical Journal, Milwaukee

*April, XI, No. 11, pp. 339-368*

116 Differential Diagnosis of Morbid Conditions with Symptoms Resembling Neurosthenic Syndrome. A. W. Rogers, Oconomowoc.
117 Tracheobronchoscopy in Diagnosis and Treatment. W. E. Grove, Milwaukee.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

## Australasian Medical Gazette, Sydney

*March 15, XXXIII, No. 11, pp. 229-252*

1 Scylla or Charybdis. E. T. Smith.
2 Acute Abdomen. F. H. Kenny.
3 Extra-Uterine Pregnancy Twice in Same Patient. A. Andrews.

*March 22, No. 12, pp. 253-274*

4 Serum and Vaccine Therapy. D. A. Welsh.
5 Emotions and Their Relation to Mind. G. H. Taylor.
6 New Somnoform Inhaler. R. W. Hornabrook.

*March 29, No. 13, pp. 275-296*

7 Present Knowledge of Relation of Bovine to Human Tuberculosis. F. G. Griffiths.
8 Bacteriologic Examination of Sputum for Tubercle Bacilli. C. H. Shearman.

*April 5, No. 14, pp. 297-324*

9 Contract Medical Practice in New South Wales. C. Read.
10 Wassermann Reaction in Lead Poisoning. J. L. Gibson.
11 Fatal Case of Appendicitis Complicated by Spreading Cellulitis of Obscure Clinical and Bacteriologic Nature. R. S. E. Todd and C. H. Shearman.
12 Urticaria in Country Children Coming to Sydney. W. F. Litchfield.

## British Medical Journal, London

*April 26, I, No. 2730, pp. 865-920*

13 *Etiology and Treatment of Puerperal Eclampsia. R. A. Gibbons.
14 Uses and Abuses of Proprietary Foods in Infant Feeding. H. C. Cameron.
15 Prevention vs. Cure in Modern Practice. C. J. Whitby.
16 Case of Chronic Plumbism in Which Multiple Aneurysms Occurred. R. G. Chase.
17 *Unusual Fertility in Syphilitic Parents, Associated with Anomalous Involvement of Children. H. F. Watson.
18 Gonococcal Urethritis in Boy Aged Seventeen Months. A. Smith and C. S. McKee.
19 *Tetany in Acute Suppurative Appendicitis in Adult. B. Hughes.
20 Adrenalin in Chloroform Anesthesia. H. T. Depree.

13. **Puerperal Eclampsia.**—Two methods of treatment of puerperal eclampsia in Gibbons' opinion deserve to be mentioned, because in the hands of some they seem to have been efficacious. One is the therapeutic employment of normal serum from pregnant women, as carried out by Mayer (Tübingen) and the other is the use of large doses of thyroid. Gibbon refers to Nicholson, who considers that thyroid extract is the ideal vaso-dilator in cases of eclampsia, but that it is necessary to use large doses; 30 to 40 grains are given at first, and a second dose of 20 or 30 grains in six or eight hours if there should be no improvement. He considers that the noteworthy points in relation to this treatment are the unusually early reestablishment of the renal functions and the rapid and complete disappearance of symptoms. He believes that normally thyroid secretion is the opposing influence which safeguards renal circulation from a dangerous overaction of the internal secretion of the suprarenals, which acts as a constrictor of the arteries and capillaries.

The best results, Gibbons states, will come to those who regard this, in the light of present knowledge, as a poison in the blood acting on the nerve centers; and as treatment of all poisons is by an antidote when the poison is known, and by elimination, and, failing this, dilution when the poison is unknown, so the simplest way of regarding a patient suffering from puerperal eclampsia is as one suddenly poisoned, and treat her accordingly. Therefore anything which will, in any degree whatever, strengthen the defensive forces of the body, will do good. Gibbons' belief is that venesection, combined with the endeavor to eliminate the poison, and dilution with saline transfusion will be of most service.

There are many cases, however, he adds, in which no treatment is of any avail, and which are mortally ill from the moment of the first convulsion. There are others, again, which are not so seriously affected, although this can never be known at first, and therefore they are the ones which may recover under any treatment whatever, and are the cases in which one is apt to have an exaggerated idea of the importance of any special line of treatment if it happens to be successful. If the temperature be steadily rising, the patient comatose, with a rapid pulse, tending to be more frequent and thready, a tepid bath may be given if this is possible. The patient may be put into a warm bath, which is gradually cooled down to 80 F. or lower, and allowed to remain in for twenty minutes. This doubtless acts in the same way as it does in serious cases of typhoid or acute rheumatism.

Recent statistics show that the best treatment is that of rapidly emptying the uterus—by whatever means this may be most safely accomplished—after the first few convulsions; that is to say, without indefinite delay. The woman and the child are thereby given the best chance of life, and, the maternal mortality has been lowered in the hands of some to under 5 per cent. The greater the delay in carrying out this treatment after the onset of the first convulsion, the greater will be the danger.

17. **Unusual Fertility in Syphilitic Parents.**—The points of interest in Watson's cases were that both parents denied specific disease and yet both showed evidence of syphilis on very minute physical examination. Parents and children all gave a positive Wassermann reaction. The manifestations of syphilis appeared to be more severe with successive pregnancies and yet there were no abortions. Six children were born in twenty-two months.

19. **Tetany in Acute Suppurative Appendicitis in Adult.**—Hughes' patient when first seen complained of acute abdominal pain. The onset was very sudden, and she had vomited once a bile-stained fluid. She was seen thirty-six hours after the onset of the pain. Four years previously she had been seized suddenly with acute abdominal pain, not so severe as the present attack, but she gradually got better without operation. Two years later she had another attack. Her symptoms suggested a gastric origin. She had suffered pain after food, constipation and lassitude, and she was never well for any length of time. She had never had hematemesis, jaundice or melena. The urine was dark, but contained no

extraneous matter. The temperature was 100 F., pulse 112 and regular, respirations 24. The abdomen moved only slightly on respiration, and this on the left side only. There was a rigidity and general tenderness all over the right upper and lower abdominal quadrants. Pain was noticed on deep pressure in the right loin. The right flank was dull, the liver dulness was normal. On rectal examination, thickening and tenderness was found high up on the right side. The condition of acute appendicitis was diagnosed. Two hours after admission the patient developed marked and typical tetany in both hands, and the pulse rose to 120. Her general condition suddenly became grave, and an immediate laparatomy was performed. She had never had tetany before.

The abdomen was opened, and an appendix abscess containing about 2 oz. of stinking pus was evacuated. The appendix was retrocecal and its tip was bound down to the lower pole of the right kidney. There was a perforation about 1 inch from the end, and a concretion had escaped. The appendix was removed with some difficulty and a large drainage tube inserted. The patient made an uneventful recovery. This case is the only one Hughes has been able to find in which tetany was associated with acute appendicitis.

### Indiana Medical Gazette, Calcutta

*April, XLVIII, No. 4, pp. 129-168*

21 Trichostrongylus Colubriformis (Giles 1892), a Human Parasite. C. Lane.
22 Arsenic in Treatment of Kala-Azar. F. Roux.
23 Sanatorium Treatment for Phthisis in Civil Hospital. H. S. Matson and G. Singh.
24 Sanitary Requirements in Construction of Slaughter-House (Abattoir) in India. C. C. Murison.
25 Acute Yellow Atrophy of Liver. C. H. Smith.
26 Control of Eye in Cataract Operations. F. W. Sumner.
27 Extraction of Lens in Capsule. F. F. S. Smith.
28 Case of Bagdad Sores, Showing Apparently Long Incubation Period. R. S. Keelan.
29 *Case of Ovarian Fetation. F. C. Fraser.
30 Unusual Case of Enteric Fever (Typhoid). E. C. Taylor.
31 Case of Hat-Pin in Duodenum. K. L. Batavyal.
32 Rough and Ready Field Sterilizer. R. S. Kennedy.

29. **Ovarian Fetation.**—Briefly, the history of the case cited by Fraser is as follows: The woman was admitted with an abdominal tumor which she herself had noticed for about twelve months. She believed herself to be pregnant, but it was difficult to see on what grounds she based this as she stated that her periods had been quite regular up to date. She had noticed no quickening, nothing in fact save the steadily growing tumor. She was a multipara and a little milk could be squeezed from the breasts, a point of no significance in a multipara. When admitted she was screaming with pain, but her general condition was good, the abdomen being fairly lax and the pulse full and slow. On palpation a large, centrally placed tumor was made out, molded below into the pelvis and rising out of it as far as two inches above the umbilicus; the latter, however, was much displaced upward and was considerably nearer the ensiform than the pubes. The uterus could be felt perched on the front of the mass. The tumor was fairly smooth, cystic in parts, but hard in others, especially on the right; no fetal heart could be heard. The shape of the abdomen, except for the situation of the umbilicus, resembled a seven months' pregnancy.

Abdominal section was performed the following day, and on opening the abdomen a cystic tumor was disclosed, densely adherent to the omentum and intestines. After much ligaturing off, the tumor was freed except below. At this stage of the operation the cystic mass was accidentally punctured and a dark grumous fluid began to escape. On widening the puncture, the knife came down on bone and revealed a fetus, which on removal was found to be six and a half to seven months old. It had a dense clothing of lanugo which was easily removed as the fetus was partially macerated. The uterus was so much part and parcel of the sac that hystereetomy was performed. The right tube and ovary were normal, the left tube, enormously lengthened, ran across the sac, its lumen from uterine to fimbriated extremity was patent and normal so that it was clear the gestation had not originated in it. The cavity of the uterus was but little enlarged; the left ovary was absent and was evidently spread over the walls of the sac.

### Journal of Tropical Medicine and Hygiene, London

*April 15, XVI, No. 8, pp. 113-128*

33 Trypanosome Causing Disease in Man and Animals in Sebungwe District of Southern Rhodesia. E. W. Bevan.
34 Filaria Loa Cases: Continuation Reports. G. C. Low.
35 Climatic and Other Factors Influencing Health of Europeans in Uganda and East Africa. A. R. Cook.

### Lancet, London

*April 26, I, No. 4678, pp. 1147-1216*

36 Operative Treatment of Malignant Disease of Mouth and Pharynx. W. Trotter.
37 Bacteriologic Evidence in Support of Intestinal Intoxication. J. C. G. Ledingham.
38 *Vaccination for Various Infections with Living Micro-Organisms. W. Broughton-Alcock.
39 *Tests for Aceto-Acetic Acid, Including Simple New Test. W. H. Hurtley.

38. **Vaccination with Living Micro-Organisms.**—Broughton-Alcock describes the clinical observations and results from the vaccination of 150 patients as a curative method of treatment. In twenty-six cases of uncomplicated acute gonorrheal urethral discharge treated he has but once seen the discharge cease and failed to find any gonococci during three or four weeks. He does not attach any value to this result. He has tried in varied doses autogenous, non-autogenous and polyvalent living sensitized vaccines. To one patient he gave 100,000,000 non-sensitized living gonococci from a twenty-four hours' culture direct from a urethral discharge. There followed no good effect, no local or general reaction. Broughton-Alcock also tried the associated vaccination of living sensitized staphylococci albi (E) and streptococci cultures from a discharge, but these also failed to ameliorate the condition. No other treatment than that by vaccination was employed. He also adds that no patient who was treated suffered from any extension of the infection or complication.

The cases of discharge with complications are divided into two categories: (a) orchitis and epididymitis; (b) rheumatism, tendinitis, periarthritis, arthritis with exudation. In all twenty-five patients were treated. In section (a) the results were most satisfactory. Most patients were free from pain after the first injection; a few needed two. The two remaining patients were not free from pain until the third was given—all within a week. The large dose seemed to give the quicker relief. It took about three weeks to reduce the infiltration to the size of a pea, a nodule remaining in the globus minor. There were two cases of relapse, both apparently due to prolonging the interval, for rapid amelioration followed the next injection. Broughton-Alcock saw no relation between rapidity of relief and the previous duration of the infection. In section (b) there were four cases. After the first injection and within forty-eight hours acutely inflamed joints that one could barely touch, in one case of fifteen days' duration, were freely movable without pain. The exudation disappeared in three days. Vertebral pain and painful non-suppurating ganglions were also rapidly relieved by the first injection. The cure persisted when patients were seen one month later. The only instances in which there was not complete relief within a week were those of subacute tendinitis without exudation. They necessitated at least one to three weeks' injection treatment.

Broughton-Alcock's impression from experience is that great value lies in big doses, and that sensitized gonococci rapidly produce or stimulate a body reaction. He could start with a dose of 500 to 3,000 million sensitized gonococci without a very severe local or general reaction, and the doses could be augmented or similar injections given beneficially within seventy-two hours. Up to the present he has seen no advantage of the living sensitized gonococci over those allowed to die, and the preparation and injection require very delicate technic. Assured that the microorganism is adequately sensitized, Broughton-Alcock found a safe and beneficial procedure is to commence with 20,000,000 staphylococci or streptococci and 200,000,000 gonococci (dead), and to augment rapidly and as high as indicated, basing the injections on reaction, local

or general, for the two are not necessarily associated. The vaccines may be repeated every second day. A persistent local reaction does not indicate cessation, but only the need to go slowly, increasing the dose. Though not absolutely necessary to continue when, for example, a case appears cured after two or three injections, he has found it a much safer principle never to give less than six injections. Acute cases have done better with higher and daily doses. Broughton-Alcock prefers all vaccines in 1-2 c.c. of 0.8 per cent. saline. He has antistreptococcic, antistaphylococcic and antigonococcal serums prepared with many respective strains, and he keeps the sensitized virus vaccines of several strains in their "mother solution," applying them as indicated. All sub-cultures are kept going, the streptococci strains being based on Gordon's classification. Gonococcal vaccines are now always polyvalent.

39. **Tests for Acetonacetic Acid.**—Hurtley's test is performed as follows: To 10 c.c. of the urine add 2.5 c.c. of concentrated hydrochloric acid and 1 c.c. of a 1 per cent. solution of sodium nitrate; shake and allow to stand two minutes. Now add 15 c.c. of strong ammonia, followed by 5 c.c. of a 10 per cent. solution of ferrous sulphate or a solution of ferrous chlorid of equivalent strength (2 gm. of iron in 100 c.c.). Shake up, pour into a 50 c.c. Nessler glass and allow to stand undisturbed. It is not advisable to filter. A beautiful violet or purple color is produced. The reaction is a slow one, and the speed at which the color develops depends on the concentration of the aceto-acetic acid in the urine; the color deepens for several hours after its first appearance. The explanation which Hurtley offers of the test is that the aceto-acetic acid is converted by the nitrous acid into isonitroso-acetone, which forms a salt with the ammonia; the ferrous salt then produces a purple-colored salt from the ammonia salt by double decomposition. The test has been tried on several normal and on a large number of pathologic urines, and on the urine of patients taking salicylic preparations, but only urines which react with the other tests for aceto-acetic acid give this test. Acetone does not give the test, but an aqueous solution of ethyl aceto-acetate gives a pure blue color—not purple—and it only gives the blue color when much more nitrate is used than is prescribed in the test above. As regards delicacy, the test, when performed on a solution of sodium aceto-acetate, prepared in the way already described, shows at a dilution of 1 part of aceto-acetic acid in 50,000 parts of solution.

## Medical Press and Circular, London

*April 16, XCV, No. 3858, pp. 403-432*

40 Early Diagnosis of General Paralysis. G. M. Robertson.
41 Three Cases of Tuberculous Disease of Lower End of Femur, Illustrating Pathology and Treatment. W. I. De C. Wheeler.
42 Investigation into Nature of Abdominal Rigidity. T. W. Wadsworth.
43 Various Forms of Fibrositis and Their Treatment. A. P. Luff.

*April 23, No. 3859, pp. 433-458*

44 Treatment of Cancer by Non-Operative Methods. A. Don.
45 *New Operation for Ulcers of Scalp in Roentgen-Ray Scar. A. Eddowes.
46 Evolution of Epidemics: Nineteenth Century—Specificity and Evolution. J. T. C. Nash.
47 What Is a Tuberculosis Dispensary? A. E. Harris.

45. **Operation for Ulcers of Scalp in Roentgen Ray Scar.**—No general anesthetic was administered or necessary to perform the operation described by Eddowes. The ulcers and their margins are dabbed gently with strong carbolic acid and this is wiped off in half a minute with methylated spirit. The bases of the ulcers are then destroyed by the actual cautery (Paquelin), as well as a considerable portion of the margin of each right down to the skull. Then the outer plate of the skull is well roasted with even and gentle pressure as considered just sufficient to destroy the outer dense bone only. The wounds, each about the size of a shilling, are enveloped in a large swab wetted with a strong solution of bicarbonate of soda. This dressing is wetted from time to time for two days, then allowed to fall off and be replaced by a large piece of lint well covered with boric acid ointment. The granulations are on no account to be interfered with when the ointment is changed daily. What discharge is not soaked up by a protecting pad of boric wool over the lint is to be wiped away, and that gently, up to near the edges of the burns.

## Annales de l'Institut Pasteur, Paris

*March, XXVII, No. 3, pp. 185-263*

48 Anaphylaxis Not Due to Toxic Action of Any Special Substance. (Anaphylotoxine, peptotoxine et peptone dans leurs rapports avec l'anaphylaxie.) A. Besredka, H. Ströbel and F. Jupille.
49 *Relapsing Fever Transmitted by Louse. (Etiologie de la fièvre récurrente; son mode de transmission par les poux.) C. Nicolle, L. Blaizot and E. Conseil.
50 Antibodies for Ricin. (Etudes sur la ricine. 1. Préparation de sérums antitoxiques; leur activité.) C. Truche.
51 Experimental Study of Necrosis Bacillus. III. (Etudes sur le bacille de Schmorl.) E. Césari.
52 The Microbian Flora of the Large Intestine in Cattle and Sheep. J. Choukevitch.

49. **Transmission of Relapsing Fever by the Louse.**—The research reported shows that the bite of the louse seems unable to transmit the disease. Both monkeys and man showed no signs of the disease after they had been bitten by infected lice; in one instance 6,515 louse-bites proved harmless in this respect. The spirilla apparently disappear from the organism of the louse after a time but this is deceptive, as they reappear a week later in the same louse and persist in the louse body for about twelve days, when they disappear permanently. The infection of the louse may be transmitted to the young, and this hereditary factor is probably responsible for the conservation of the virus. The germs in the louse do not invade the mouth or digestive tract and thus have no communication with the exterior as long as the louse is alive and they die when the louse dies. When the louse is crushed on the skin and there are openings in the skin from scratching, the germs get into the system. It is in this way that man and monkey inoculate themselves with relapsing fever. The head-louse and the body-louse act alike in this respect. (See editorial in this issue.)

## Bulletin de l'Académie de Médecine, Paris

*April 15, LXXVII, No. 14, pp. 279-302*

53 Paratyphoid Appendicitis. Walther and F. Widal.
54 Helminth of Anthropoid Apes Found Also in Man. (Berticlla satyri, de l'Orang-outang est aussi parasite de l'Homme.) R. Blanchard.

## Journal de Chirurgie, Paris

*April, X, No. 4, pp. 417-528*

55 Technic for End-to-End Suture of the Ureter. (Uretéroraphie circulaire.) R. Proust and A. Buquet.
56 *Estimate Patient's Resisting Powers Before Attempting an Operation. (L'examen préopératoire de la résistance des opérés.) De Graeuwe.

56. **Estimate the Patient's Resisting Powers Before an Operation.**—Graeuwe had his attention called to the necessity for more careful estimation of what a patient will stand by the death of a supposedly healthy man of 60 after a simple uncomplicated operation for fistula of the anus. He died almost at once from fulminating uremia, the result of the unsuspected interstitial nephritis, evidently aggravated by the chloroform and by auto-intoxication from the constipation following the operation. The "operative shock" is in many cases undoubtedly the result of upsetting the balance in conditions which under ordinary circumstances are fully adequate for normal functioning. The patient's resisting power depends on the functional capacity of all his organs, but among them all the kidneys are the most important from this point of view. The changes in the kidney may be latent but with the injury from the anesthetic superposed they prove unequal to their task. Their insufficiency is often mistaken for operative shock or explained in other ways. Graeuwe insists that before attempting any operation on a patient over 50, the kidney functioning should be investigated with special care. We will thus learn what conditions we have to reckon with and can thus avert postoperative accidents. He found the best means for ascertaining conditions in the kidney to be by determination of the freezing-point of the blood supplemented by chromocystoscopy, that is, test injection of a

stain and examination of its appearance in the jet from each ureter mouth. When the indigo-carmin appeared in the urine in fifteen minutes or less, the freezing-point of the blood was always found normal. Whatever may be said in criticism of these methods from the standpoint of precision they have always proved in his experience a reliable index of conditions in regard to the resisting power of the patient in view of an operation. He describes his technic in detail; first he applies the chromocystoscopy test. If the findings are favorable with this and there is nothing in the patient's condition to suspect anything wrong, no further test is needed, but in case of doubt, the freezing-point of the blood is determined. He has thus tested thirty patients requiring prostatectomy and operated on all but one of them. Four died, one from pneumonia, one from peritonitis after the cancer operation and the two others presented a response to the tests which really forbade the operation, but it was applied as a last resort. In another case a man of 75 had pus in the urine and other signs of severe kidney trouble and the general condition was very bad, but the above tests gave such favorable findings that it was almost certain that one kidney must be sound and the operation done on this assumption proved an entire success. When the freezing-point of the blood is above —0.60 C. the outlook is favorable. At —0.60 he prefers cystostomy under cocain until the general condition has improved enough to permit an operation. When the freezing-point of the blood was —0.58 he operated with confidence even on patients of 78 and over, some with cancer, and the outcome always justified his expectations. His conclusions apply to operations on the urogenital apparatus; he is now studying acute infectious processes from this same standpoint.

### Journal de Médecine de Bordeaux

*April 13, XLIII, No. 15, pp. 227-240*

57 Prophylaxis of Tuberculosis. (Les mesures de preservation dans la lutte contre la tuberculose.) C. Mongour.

### Journal d'Urologie, Paris

*April, III, No. 4, pp. 425-560*

58 Roentgenoscopy of Incipient Hypertrophy of Left Heart. (L'hypertrophie localisée du cœur gauche révélée par l'orthoradioscopie au début de l'hypertension d'origine rénale.) F. Widal and G. R.- Lapointe.

59 Microscopic Miliary Tubercles at Ureter Mouth Early Sign of Incipient Tuberculous Process in Kidneys. (Méthode nouvelle de diagnostic de la tuberculose rénale.) L. Buerger (New York).

60 Operation for Calculi in Ureter. (Note sur le traitement chirurgical des calculs de l'uretère pelvien.) G. Lemoine. (Calculs de la portion intrapariétale de l'uretère.) S. Pascual.

61 Hydropyonephrosis with Calculi and Rudimentary Kidney in Man of 31. G. Marion.

62 Eight Calculi in Large Diverticulum of the Bladder. T. Nogier and G. Reynard.

63 Persistence of Chronic Gonorrhea Explained by Polyps in Urethra. Uteau and Saint-Martin.

64 Finger Enucleator for Perineal Prostatectomy. (A propos de la technique de la prostatectomie hypogastrique.) Bensa.

65 Retention Urinal After Cystostomy. (Appareil pour cystostomisés.) Badin and Uteau.

66 Danger of Infection of Others During Incubation Stage of Gonorrhea. (Précautions et soins pendant la période d'incubation de la blenorragie.) J. Janet.

67 Rupture of the Urethra. (Le traitement moderne des ruptures de l'urètre.) G. Marion.

### Presse Médicale, Paris

*April 12, XXI, No. 30, pp. 293-304*

68 Roentgenoscopy of the Heart. (Examen radiologique du cœur.) H. Lebon and P. Aubourg.

### Revue de Médecine, Paris

*March, XXXIII, No. 3, pp. 161-256*

69 No Tubercle Bacilli Found in Blood-Stream of Fifteen Tuberculous Patients Examined. A. de Verbizier.

70 *Paratyphoid Infection. (Les infections à paratyphus B. II.) E. Job.

71 *Tuberculous Disease of Colon and Vicinity, Twenty Cases. (Contribution à l'étude de la tuberculose inflammatoire du gros intestin.) M. Piéry and A. Mandoul.

70. **Paratyphoid Infection.**—Job had an opportunity to study twenty-eight cases of typhoid apparently originating from a recruit who entered the regiment with typhoid. There were two types of cases, those beginning insidiously, very much like typhoid, and those beginning suddenly with symptoms of acute gastro-enteritis, sometimes so severe as to be mistaken for cholera nostras. The course was shorter than that of typhoid and convalescence more rapid, but the only absolute means of differentiation was by bacteriologic examination. In almost all the cases the *Bacillus paratyphus B* could be demonstrated in the blood and was undoubtedly the causal agent. The germ is too wide-spread to make isolation and disinfection of all cases practicable, but active immunization by means of polyvalent vaccine may be successfully carried out. The same general hygienic precautions should be taken as in typhoid; carriers should be warned of their danger to their neighbors and particular cleanliness should be observed. On account of the frequent occurrence of paratyphus *B* in animals, all slaughtered animals should be examined bacteriologically for the germ, and if it is found, then the meat should be rejected even if no macroscopic change is found.

71. **Tuberculous Colitis and Pericolitis.**—Piéry and Mandoul conclude from a study of twenty cases that inflammatory tuberculosis is the real cause of many conditions diagnosed as simple mucomembranous enterocolitis or as plastic colitis or pericolitis. A number of cases of Hirschsprung's disease they believe may also be attributed to tuberculosis.

### Revue Médicale de la Suisse Romande, Geneva

*April 20, XXXIII, No. 4, pp. 285-356*

72 Artificial Pneumothorax in Pulmonary Tuberculosis. (Sur la valeur pratique, les indications et les contre-indications du pneumothorax artificiel dans le traitement de la tuberculose pulmonaire.) R. Burnand.

73 From the Seat of War. (Dans les Balkans.—Serbie et Constantinople.) A. C. Matthey. To be continued.

74 Technic for Examination of Sputum. (Sur la recherche du bacille de la tuberculose. Seelos.

75 Diagnosis and Treatment When Both Kidneys are Tuberculous. (Tuberculose rénale bilatérale.) C. Perrier.

### Semaine Médicale, Paris

*April 16, XXXIII, No 16, pp. 181-192*

76 Bacteriologic Diagnosis of Whooping-Cough. (Le diagnostic bactériologique de la coqueluche.) M. P. Weil.

*April 23, No. 17, pp. 193-204*

77 Phrenocardia: Sexual Psychogenic Cardiac Neurosis. L. Cheinisse.

### Berliner klinische Wochenschrift

*April 14, L, No. 15, pp. 669-716*

79 *Treatment of Progressive Paralysis. A. Westphal.

79 Abbott's Method of Correction of Lateral Curvature of the Spine. (Ueber Abbott's Methode der Behandlung seitlicher Rückgratsverkrümmungen.) Joachimsthal.

80 The Chlorid Content of the Blood on Different Diets. (Der prozentuale Chlorgehalt des Blutserums bei kochsalzarmer und kochsalzreicher fleischfreier Ernährung sowie bei verschiedener Flüssigkeitszufuhr.) W. Arnoldi.

81 Hemolytic Jaundice. (Blutveränderungen bei Icterus haemolyticus.) Huber. (Zur Frage des hämolytischen Icterus.) M. Mosse.

82 Tumors in the Chest. (Zur endoskopischen Diagnostik und Therapie endothoracischer Tumoren.) A. Ephraim.

83 *Maneuver to Facilitate Delivery. (Ein neuer Kunstgriff zur unblutigen Erweiterung des grad-verengten Beckens.) G. Freudenthal.

84 Action of Phosphorus in Rachitis. (Ueber die Wirkung des Phosphors im Phosphorlebertran bei Rachitis als Inflammator.) W. Gessner.

85 Reliability and Comparative Simplicity of Claudius' Method and of Pfeiffer's Modification of Tsuchiya's Method for Quantitative Determination of the Albumin in the Urine by the General Practitioner. (Quantitative Eiweissbestimmungen im Urine für den praktischen Arzt.) E. Pfeiffer.

78. **Treatment of Progressive Paralysis.**—Westphal discusses whether paralytic dementia ever permits recovery. The long periods of subsidence of symptoms which are often observed should be studied with special care to determine the contributing factors and thus learn to utilize them in treatment. The progressive character of the disease renders its early detection peculiarly important. The "neurasthenic" stage which is the precursor of the paralysis is often erroneously interpreted, to the great detriment of the patient and his

family. The patient seems dull and stupid as he describes his symptoms, in marked contrast to the alert self-observation of the true neurasthenic. The expression seems vague and empty, and others may testify to changes in character and social demeanor. These should suggest oncoming paralysis even when physical examination reveals nothing suspicious. The Wassermann reaction and lymphocytosis in the cerebrospinal fluid throw still further light. He has always found the Wassermann reaction positive in the cerebrospinal fluid in all cases of unmistakable progressive paralysis. He remarks that treatment has not progressed in the last few years to keep pace with the progress in differential diagnosis. The main point is prophylaxis. The striking refractory behavior of the paralysis to mercury, salvarsan and iodin, in connection with the clinical picture and tissue findings are all hard to reconcile with the presence of spirochetes in the cortex unless we accept that the spirochetes have become so modified during the long interval since early infection that they resist all therapeutic measures. It is possible also that the spirochetes in the cortex lie at a distance from the blood-vessels and thus escape the action of the drugs introduced into the blood. The meninges may not be permeable for the drugs although permitting the passage of the spirochetes. This possibility suggests the necessity of supplementing the measures now in vogue by means to increase the permeability of the meninges, possibly by drugs to augment secretion and by venous congestion by means of a constricting band around the neck. In any event, the results of recent research show that the treatment of progressive paralysis should be made the subject of a new and vigorous onslaught since we have learned that it is no "metasyphilitic" or "parasyphilitic" infection but an active infections process.

83 **Simple Means for Enlarging a Contracted Pelvis.**—Freudenthal describes a measure with which he found that the pelvis opened enough to permit the birth of a living child when preceding pregnancies had always required the sacrifice of the child. A cushion was placed under the patient's sacrum and the knees were drawn up to the middle of the abdomen during each labor pain. As the patient was unable to do this herself it was done by the attendants, one on each side, each forcibly pressing the patient's knee against the center of the abdomen, the legs turned outward. By this passive fixation of the femurs the gluteal and other muscles attached to the trochanters pulled the ilium outward on each side. This apparently stretched the ligaments of the sacro-iliac articulation, the promontory sank backward and the whole pelvis became enlarged.

### Deutsche medizinische Wochenschrift, Berlin

*April 3, XXXIX, No. 14, pp. 633-680*

86 The Comparative Anatomy, Topography and Function of the Cerebellum. (Zur Funktion des Kleinhirns.) L. Edinger and R. Barany.
87 Influence of Certain Infections on Rabbit Testicle. (Verhalten des Kaninchenhodens bei experimenteller Trypanosomen- und Spirochäteninfektion.) P. Uhlenhuth and E. Emmerich.
88 Experimental Production of Antibodies in Cattle. (Experimentelle Erzeugung von Tuberkulose-Antikörpern beim Rind; zugleich ein Beitrag zur Tuberkulose-Immunisierung.) E. Rothe and K. Bierbaum.
89 Reflex Influences from Gastro-Intestinal Tract on the Blood-Pressure. (Einfluss intraabdominaler Drucksteigerung und des Füllungszustandes des Magens auf den Blutdruck.) A. Fundner.
90 Changes in Spinal Cord with Progressive Atrophy of Spinal Muscles. (Rückenmarksveränderungen bei spinaler progressiver Muskelatrophie.) O. Huber.
91 Carbohydrate Diet in Diabetes. (Kohlehydratkuren bei Diabetes.) H. L. Richartz.
92 Blocking the Brachial Plexus. (Zur Anästhesierung des Plexus brachialis nach Kulenkampff.) P. Babitzki.
93 Treatment of Excessive Menstrual Hemorrhage. A. Rieck.
94 The Benefit from Local Hyperemia in Acute Affections. (Ueber feuchte Verbände und feuchte Umschläge bei akuten Erkankungen.) P. Herz.

*April 10, No. 15, pp. 681-728*

95 General Principles for Treatment of Infectious Diseases. J. Grober.
96 *Sugar Content of Blood. (Ueber den Zuckergehalt des Blutes.) H. Tachau.
97 *Gold in Treatment of Tuberculosis. (Zur Chemotherapie der Tuberkulose mit Gold.) W. Heubner.
98 *Camphor in Pneumonia. (Ueber die Wirkung von Kampferwasser.) H. Leo.
99 Appendicitis and Paratyphoid Infection. (Appendicitis und Paratyphus B.) C. B. Merrem.
100 Properties of Guinea-Pig Serum Interfering with Wassermann Reaction. (Ueber eigenlösende Eigenschaften des Meerschweinchenserums.) E. v. Gierke.
101 Serodiagnosis of Syphilis. (Erfahrungen mit der Hermann-Perutzschen Syphilisreaktion an 600 Fällen.) F. Lade.
102 Abbott's Method of Correction of Curvature of the Spine. (Die neue Verbandbehandlung der Skoliose nach Abbott.) O. Vulpius.
103 *Treatment of Spastic Paralysis in Children. (Die spastische Lähmung im Kindesalter und ihre Behandlung.) K. Biesalski.
104 Genu Valgum. (Zur Aetiologie und Therapie des Genu valgum.) H. Heinlein.
105 Fusing of Bones of Forearm. (Die kongenitale Vorderarmsynostose.) H. Maass.

96. **Sugar Content of Blood.**—This subject was reviewed editorially April 19, 1913, p. 1228. Tachau here states that the sugar content of the blood is very important in estimation of the true condition in diabetes mellitus. There is a pronounced increase in every case, even before sugar appears in the urine. It thus serves as an early index of the intensity of the disturbance in the metabolism and also as a guide to the progress of the case under treatment. The aim should be to bring the sugar proportion down to normal, and treatment should be kept up until this is realized. Ingestion of 100 gm. of grape sugar does not increase the proportion of sugar in the blood in healthy persons, but it sends it up when there is any pathologic disturbance in the metabolism of sugar. This is of great practical importance, Tachau reiterates, as hitherto we have had only the examination of the urine to rely on. In thirty healthy persons tested, 0.1 per cent. was the upper limit after the ingestion of 100 gm. of sugar, with 50 gm. white bread, fasting; in nineteen cases the average was 0.086 per cent. In diabetics the proportion runs up to 0.2 and over, even when there is no glycosuria. The communication issues from His' service, and the matter is discussed from various standpoints. The tests can be applied to 10 or even 5 c.c. of blood; the variations between the findings on polarization, with Bang's copper and Knapp's mercury reduction technics are slight and of no clinical moment.

97. **Chemotherapy of Tuberculosis with Gold.**—Heubner calls attention to his experimental research which suggests that the taking up of the gold preparations by the bacteria—as reported by Feldt recently—is due to the impregnation of the protecting envelope alone.

98. **Camphor in Pneumonia.**—Leo recently reported excellent results in curing experimental pneumococcus infection by intravenous injection of a saturated aqueous solution of camphor. It acts in this way much more effectively than by subcutaneous injection in oil. Thirty-eight rabbits inoculated with pneumococci and then given an injection of 20 c.c. every hour of the cold solution lived much longer than the controls. He here supplements his article (in No. 13) with the statement that Ehrlich and Böhncke found subcutaneous injections of camphor in oil effectual in protecting mice against pneumococcus infection.

103. **Treatment of Spastic Paralysis.**—Biesalski reiterates anew that the treatment of spastic paralysis stands and falls with the success of measures to exercise the limb. All other measures, of whatever nature, merely serve to pave the way for exercise therapy. Mechanical aid may prove very useful; they lay tracks for physiologic movements and create memory pictures for normal movements. It is a great help to do the exercises in a warm bath or after application of superheated air; the first reduces the weight of the limbs and both soften up the tissues by the hyperemia induced and thus render it easier to move the limbs. For the hand, one of the best measures is some manual craft work, ambition and the example of others keeping up the interest and spurring to greater efforts. He says that the first and most important principle is that the spastic muscle should never be left in repose; it must be exercised and trained incessantly. At least six hours a day should be devoted to this systematic exercise treatment. For the legs, study of the physiologic gait is a help in the therapeutic exercises, first passive in bed, then active, then standing leaning against the wall, then with crutches, then with

two canes and then one, and finally with only a string for the patient to hold by. Children must be trained to hold themselves very erect, as if on military parade. Years are necessary to bring a severe case of Little's disease to the point where one cane is all that is needed. In conclusion he urges study of the question of the extent of spontaneous recovery and when it sets in, and further study of the physiologic laws on which the exercise therapy should be based.

### Jahrbuch für Kinderheilkunde, Berlin

*April, LXXVII, No. 4, pp. 383-504*

106 *Permeability of Walls of Infant Intestine. (Die Durchlässigkeit des Magendarmkanales für heterologes Eiweiss bei ernährungsgestörten Säuglingen.) F. Lust. Commenced in No. 3. H. Hahn.
107 Whey in Infant-Feeding. (Anwendung der Molketherapie bei ruhrartigen Darmkatarrhen und ihre Erfolge.) E. A. Frank. See Abst. 117, p. 1404.

106. **Permeability of Intestinal Wall for Alien Albumin.**—Even in the new-born, moderate amounts of foreign albumin may be ingested without its penetrating the normal intestinal wall. With advancing age the tolerance increases. Lust experimented on 100 children with egg albumin and found that a quantity equal to that contained in two eggs could be given without its passing through the intestinal wall and being demonstrated in the blood or urine in healthy children. But in diseased conditions of the intestinal tract he could find albumin in the blood and urine when much smaller quantities were given. The permeability of the intestinal wall was greatest in acute intoxications. Precipitating sera were used to demonstrate the albumin in the blood. It appeared in the urine more readily than in the blood. Lust remarks that the albumin of cattle and horse sera is less suitable for the test than egg albumin. This test may be of value clinically in determining the condition of the intestines, for recovery may take place even when albumin passes into the blood in considerable amounts.

### Medizinische Klinik, Berlin

*April 13, IX, No. 15, pp. 567-610*

108 Overfatigue. (Uebermüdung.) A. Schmidt.
109 *Diabetic Coma. (Das Wesen und die Behandlung des Coma diabeticum.) F. Rolly.
110 Tumors in the Lungs. (Ueber Komplikationen und besondere klinische Verlaufsweisen der Lungengeschwülste.) A. Fraenkel.
111 Tuberculin Salve Reaction. (Studien über Tuberkulin-Percutanreaktionen.) F. Wegerer.
112 Calcium in Therapeutics. (Ueber Calciumtherapie.) P. Saxl.
113 *Tubercle Bacilli in the Blood-Stream. (Vorkommen von Tuberkelbacillen im strömenden Blute.) H. Dreesen.
114 Analysis of the Dissociated and Athetoid Motor Disturbances in Traumatic Hysteria. A. Wimmer.
115 Hemorrhage from the Uterus of New-Born Infants. A. Juda.
116 Internal Hemorrhage the Seventh Day After Contusion of the Spleen. H. Hahn.
117 Urobilinogen in Urine as Index of Liver Disease. (Kurze Bemerkung zur differentiellen Diagnostik der Affektionen der Leber.) E. Münzer.
118 Differential Blood-Count. (Die Differenzierung der weissen Blutzellen in der Zählkammer.) R. Lenzmann.

109. **Diabetic Coma.**—Rolly has been examining the blood in hundreds of patients in the last few years to determine its electric tension. The list includes a number with diabetic coma. While in health the blood shows moderate alkalinity, in eleven cases of diabetic coma there was an acid reaction in three; in the others the blood proved to be alkaline. One patient succumbed to the coma who had an entirely normal reaction in the blood. These findings indicate that the coma and the fatal termination could not have been due to the action of acids alone. The patients who showed an acid reaction were given sodium bicarbonate up to such amounts that the blood reaction became normal, and yet the general condition did not improve and the fatal outcome was not averted. Diabetic coma is thus proved to be not a pure acid intoxication in the sense of Naunyn. Experience has shown that coma once developed is beyond our influence. Treatment must therefore aim to prevent its development or to arrest it in its incipiency. Sodium bicarbonate should be given freely as it promotes the elimination of the acetone bodies. If the coma is already installed, Rolly advises intravenous injection of a liter of a 3 to 5 per cent. solution of the bicarbonate, some by the mouth and injecting 50 gm. of the solution several times a day by the rectum. In addition he advises infusion of from 3 to 5 liters a day of saline with possibly venesection just preceding. A mild purgative may aid in the elimination of the poison; it may help to rinse out the stomach and intestines although Rolly has never witnessed any benefit from this himself. Still more important are stimulants and drugs to promote diuresis.

113. **Tubercle Bacilli in the Blood-Stream.**—Dreesen examined the blood of seventy patients and found tubercle bacilli in 74 per cent. of thirty-one patients with unmistakable tuberculosis; in 55 per cent. of nine suspects, and in 46 per cent. of thirty free from any signs of tuberculosis. He thus obtained positive findings in 60 per cent. of the total seventy cases but inoculation of 128 animals was followed by development of tuberculosis in only one instance.

### Münchener medizinische Wochenschrift

*April 15, LX, No. 15, pp. 793-848*

119 *Physiologic Surgery. R. Klapp.
120 Experimental Salvarsan Treatment. (Verhalten des Nervensystems gesunder Kaninchen zu hohen Salvarsandosen.) B. Doinikow.
121 *Technic for Testing Kidney Functioning. (Notiz zur Funktionsprüfung der Niere.) K. Schlayer.
122 Eosinophilia Under Arsenic Treatment. (Ueber allgemeine und lokale Eosinophilie bei Ueberempfindlichkeit gegen organische Arsenpräparate.) H. Schlecht.
123 Exploratory Injection of Salvarsan. (Die praktische Verwendbarkeit der provozierenden Wirkung des Salvarsans.) Kall.
124 Cerebral Symptoms under Salvarsan. ("Vasocommotio cerebri," ein neuer Symptomenkomplex von Gehirnerscheinungen schwerster Art nach Salvarsaninfusionen, eine mittelbare Folge des Wasserfehlers.) M. Müller.
125 Quadruplets and Their Mothers. (Vierlinge und Vierlingsmütter.) H. Hauser.
126 Rupture of Gravid Uterus in Cesarean Section Scar. G. Schwarz.
127 Localization of Foreign Body in the Eye. M. Reichmann (Chicago).

119. **Physiologic Surgery.**—Klapp remarks that a book on the behavior of the organs under pathologic conditions is needed, written from the standpoint of the surgeon—a companion to Krehl's "Pathologic Physiology." Both surgical physiology and physiologic surgery require further development, and he cites numerous instances where empiric methods have proved their usefulness and further study of the physiology involved has explained the reasons for the benefit from them. The old treatment of diffuse peritonitis on the same principle as treatment of an abscess, proved a mistake, and progress has come as physiologic conditions became more and more respected, leaving the major part of the work to the peritoneum itself and refraining from anything that will lower the vital powers of the peritoneum. He advocates sifting all methods and selecting always the ones which resemble most closely physiologic conditions. He hopes that the recent research on keeping tissues alive outside of the organism will result in the discovery of some fluid which can be regarded as absolutely physiologic. To date we know of nothing of the kind; physiologic salt solution is far from the ideal. Blood-serum seems to be proving the best nutrient medium in Carrel's work in this line, thus showing that it is the most physiologic. But its use for infusion and rinsing out the peritoneal cavity is questionable on account of the individual differences in blood-serum. He has given up trying to rinse out the abdominal cavity with diffuse peritonitis on account of the lack of a fluid which would be free from all chemical action on the peritoneum, and he merely aspirates out all of the exudate with a large vacuum tube before he rinses or dabs the cavity dry. Rehn ascribes great importance to restoration of the abdominal pressure, and his method of immediate closing of the abdominal cavity has proved great progress but not for the reasons he advances, but rather for the reason that the physiologic conditions are restored, chilling prevented, and peristalsis favored. As Klapp looks over the field of surgery in the last few years he notices that wherever progress has been realized it has been in the line of closer imitation of phy-

siologic conditions. In plastic operations on the dura, for example, the various technics applied failed until foreign substances were avoided and autoplastic substances, fascia or fat implants, were used. In conclusion he says that the empiric route has brought us forward but in a slow zigzag course, while the physiologic route takes us straight, sure and quickly to the goal. It is still difficult to determine in the individual case what is physiologic and what not, and what is physiologically most important from that which is physiologically trivial. Here we are aided by Miss Empiricism and her twin, Casuistics.

121. **Tests of Kidney Functioning.**—Schlayer discusses the technic for the intravenous injection of lactose as a test for kidney functioning. The qualitative findings are not enough, as his experience in over 300 cases has shown. The Nylander test may prove misleading unless compared with the quantitative findings with the polarimeter. When the exact technic is not followed the results are liable to be misleading. Those reported recently from intraspinal or subcutaneous injections are not available for comparison. The lactose and potassium iodid tests do not indicate the functional capacity of the kidney in the ordinary sense; they indicate rather the kind of injury and thus the nature of the functional disturbance. Four other tests are applied to obtain this information: ascertaining the elimination of sodium chlorid when an excess is taken; elimination of water after an excess; the reaction of the kidney to a given test meal, and the reaction to the action of diuretics. In dubious cases it may be necessary to apply all these five methods to throw enough light on the case.

### Petersburger medizinische Zeitschrift, St. Petersburg

*April 14, XXXVIII, No. 7, pp. 79-92*

128 Suppurative Internal Ear Disease. (Symptomatologie und Pathogenese der eitrigen Labyrinthitis und die Indikationen zur Labyrinthoperation.) R. Wolferz.
129 Regurgitation in Young Man, Developing After Febrile Illness and Persisting for Years. (Fall von Ruminatio humana.) N. Franz.
130 Hydrogen Dioxid and Hydrolysis. (Wasserstoffsuperoxyd als hydrolysierendes Priuzip.) S. Schumowa.

### Wiener klinische Wochenschrift, Vienna

*April 10, XXVI, No. 15, pp. 561-604*

131 *Treatment of Sypbilis. (Quecksilber und Salvarsan.) E. Finger.
132 Experimental Leukemia. (Zur Lehre über die Leukämie.) J. v. Wiczkowski.
133 The Autonomic Nervous System in Course of Pulmonary Tuberculosis. (Verhalten des vegetativen Nervensystems bei tuberkulösen Erkanrankungen der Lunge.) F. Deutsch and O. Hoffmann.
134 Benzol in Leukemia. (Beeinflussung des Stoffwecbsels durch Bcuzol und seine Darreichung bei der Leukämie.) I. Sobn.
135 *Aneurysm of Abdominal Aorta. K. Byloff.
136 No Appreciable Influence from Mercury on Growth of Mouse Caucers. S. Skudro.
137 The Plague in the Sixth Century. (Das klinische Bild der Pest bei Procopius.) H. Schröder.

*April 17, No. 16, pp. 605-648*

138 Serodiagnosis of Goiter. (Ueber organabbauende Fermente im Serum bei endemischem Kropf.) J. Bauer.
139 Technic for Serodiagnosis. (Ueber Verwendung von aktivem und inaktivem Serum bei dem Komplementablenkungsversuch.) M. Hesse.
140 From the Seat of War. (Kriegschirurgische Erfahrungen.) P. Clairmont.
141 Technic for the Meiostagmin Reaction. (Die Meiostagminreaktiou bei Verwendung von Lezitbinextrakten.) E. Ferrari and L. Urizio.
142 Neurology in the Seventeenth Century. (Joh. Peter Frank und die Neuropatbologie.) M. Neuburger.

131. **Present Status of Treatment of Syphilis.**—Finger gives data and an array of arguments to sustain his view that salvarsan in combination with mercury can be relied on to abort the primary phase in the Wassermann-negative cases; in the tertiary stage it is also indicated when rapid action is necessary. But in the Wassermann-positive early cases, as also in the early secondary stage, salvarsan had better be omitted from the treatment. Even under these restrictions we have no guarantee against the development of a hemorrhagic encephalitis. He also warns that we have no experience to date to show the final outcome in patients with general paralysis, tabes and aortitis given salvarsan treatment. He cites 142 salvarsan fatalities which have been reported in the three years since its introduction (Marschalko), while only seventy fatalities are on record from mercury in the course of sixty years of use. He quotes Hallopeau's surmise that there has been a conspiracy of silence in regard to the by-effects of salvarsan. Those suggesting acute arsenic poisoning are relatively slight and briefly transient as a rule, but he refers to a number in which acute nephritis, hemorrhagic encephalitis or enteritis proved fatal in a few days. Of the encephalitis cases he cites nine which terminated in recovery, twenty with necropsy and five with a fatal outcome without post-mortem examination. Recent experimental research has confirmed the assumption that the encephalitis is the work of the toxic action of salvarsan. He gives data which show that the "water error" or other explanations suggested are untenable. Ruhmann reported recently severe cerebral phenomena with persisting paralysis after salvarsan in a woman who had never presented symptoms of syphilis but the Wassermann was faintly positive.

The neurorecurrences, or nervous relapses, he ascribes to the syphilitic process itself in a certain proportion of cases, while in others there is no doubt that the trouble is an arsenical polyneuritis. The tardy neurorecurrences have an incubation period of two or three months and they occur almost invariably in patients who have been given salvarsan at the close of the primary stage and early in the secondary, and thus at the time when the organism is most profusely flooded with spirochetes. It is plausible to assume that the spirochetes are leading a saprophytic existence on the meninges, doing no harm until the toxic action of the salvarsan is felt by the tissues under them, especially the capillaries. This reduces their resistance and the spirochetes can then exert their nefarious action. Inadequate treatment thus favors the neurorecurrences but at the same time the most energetic combined treatment does not guarantee against them.

135. **Aneurysm of the Abdominal Aorta.**—Byloff was not sure whether the symptoms presented were due to aneurysm of the abdominal aorta or to disease of the pancreas. The fact, however, that the symptoms showing disturbance in pancreas function varied within such a wide range with intervals of normal functioning, showed that the trouble could not be cancer of the pancreas or chronic hardening, and the absence of colic testified against the presence of a concrement.

### Zeitschrift für Urologie, Berlin

*February, VII, No. 2, pp. 81-180*

143 Inflammation of Neck of the Bladder. (Zur Pathologie und Tberapie der Cystitis colli proliferans s. vegetativa.) S. M. Gorodistsch.
144 Tuberculous Process in Half of Double Kidney. B. Dobrotworsky.
145 Urethral Calculus in Bilharziasis. (Ein Harnröbrenstein bei Bilharziakrankbeit.) E. Pfister.
146 Technic for Suprapubic Prostatectomy. J. Goldberger.

*March, No. 3, pp. 181-260*

147 Old Gonorrheal Urethritis Flares Up During Influenza; Cure by Vaccine Therapy. (Beitrag zum Studium der Harnröhrenerkrankungen.) E. Roucayrol.
148 Syphilis of tbe Bladder. R. Picker.
149 Pneumaturia and Apparent Subsidence of Glycosuria in Diabetics with Bladder Disease. Tesehemacher.

*April, No. 4, pp. 262-340*

150 Six Nephrectomies. (Demonstrationen zur Nierenchirurgie.) W. Israel.
151 Cancer of Syncytial Structure in Bladder of Young Man. (Fall von malignem Tumor der Blase von syncytialem Bau.) A. Blecher and Martius.
152 *Atrophy of the Prostate. (Zur Chirurgie der Prostataatrophie.) H. L. Posner.
153 *Bladder Tumors in Workers with Anilin Dyes. (Blasengeschwülste bei Arbeitern in Anilinfabriken.) A. Lewin.
154 *The Prognosis in Nephritis. (Zur Prognosenstellung bei Nephritiden.) H. Strauss.

152. **Atrophy of the Prostate.**—Posner comments on the peculiar fact that two apparently opposite processes in the prostate, hypertrophy and atrophy, may cause the same or very similar symptoms. In the four cases of atrophy at the Heidelberg surgical clinic in the last three years the cause of the trouble was different in each: in the first, chronic gonorrhea; in the second, senile involution, and in the third a valve formation from atony of the bladder, remedied by an oper-

ation on the bladder. In the fourth case the atrophy seemed to be from a defect in development. Prostatectomy may be considered when the patients are suffering from retention, but an operation in case of atrophy is not so simple and easy as is the enucleation of an enlarged prostate. A suprapubic operation permits correction of a valve formation in case there is anything of this kind.

153. **Bladder Tumors in Workers with Anilin Dyes.**—Lewin reports a new case of an especially malignant bladder tumor in a man of 49 who had worked for twenty-five years in an anilin factory but had left this occupation over six years before the bladder tumor developed. The first symptoms were hematuria and dysuria; by the fourth month there was general cachexia and the tumor was found inoperable. During the last six years the man had had nothing to do with the anilin products. This long interval confirms what others have observed in like circumstances. The man told of eight similar cases he knew of among the other workmen in the course of his service. Four recovered without medical treatment and four died, including two who had been operated on. Lewin compares his case with those reported by Leuenberger, summarized in THE JOURNAL, Nov. 30, 1912, p. 2009.

154. **The Prognosis in Nephritis.**—Strauss has been studying for years various means for determining the outlook in chronic nephritis. Among others, comparison of the nitrogen content of the blood-serum and of the urine showed that in health there was about 30 or 40 mgm. of residual nitrogen *(Reststickstoff)* in 100 c.c. of serum, while in case of insufficiency of the kidneys the amount ran up sometimes to 200 mgm. The outcome in such cases showed that an abnormally large proportion of nitrogenous waste in the blood is always a grave symptom. He has worked out a technic with which it is possible to determine with precision the proportion of residual nitrogenous waste in even as small an amount as 12 or 15 c.c. of blood. The albumin in the blood is filtered out by the following technic: About 20 c.c. of acetone-free methyl alcohol is poured in a jar graduated to 50 c.c. Then 5 c.c. of blood-serum is poured in, a drop at a time. The jar is then filled to the 50 c.c. mark with methyl alcohol and set aside for two hours; the contents are filtered through a dry filter and then 3 or 4 drops of a 10 per cent. alcoholic solution of zinc chlorid are added to the filtrate and the whole set aside until a flocculent precipitate has been thrown down. It is then filtered again through a dry filter and about 30 c.c. of the filtrate is evaporated on the water bath to expel the alcohol. The residue is taken up in a little water and the nitrogen content determined by the Kjeldahl method. Strauss gives a number of tables showing the findings and the outcome of the nephritis. Death always ensued within a few weeks or months or even sooner when more than 150 mgm. of residual nitrogen was found in 150 c.c. of blood-serum. Any proportion over 75 mgm. renders the outlook dubious. A lesser content by no means excludes impending uremia or other dangerous complications. The test is equally instructive in both acute and chronic nephritis but its most important application is in distinguishing between coma of uremic origin and coma from cerebral hemorrhage. Only positive findings are of decisive moment.

### Zentralblatt für Chirurgie, Leipsic

*April 19, XL, No. 16, pp. 593-632*

155 *Gangrene from Paralysis of the Vessels Following Exposure to Moderate Cold. (Gefässparalytische Kältegangrän.) Wieting.

156 *Paralysis of Phrenic Nerve After Blocking of Brachial Plexus. (Phrenicuslähmung bei Plexusanästhesie.) R. Klauser and A. E. Stein.

155. **Gangrene of the Feet from Exposure to Cold.**—Wieting relates that large numbers of soldiers in the Turkish army developed symmetrical gangrene of the toes or feet from long exposure of the feet to cold although the cold was never below the freezing-point. Some had had to stand in rain or cold mud or in cold windy places and most of those affected were either undernourished or had dysentery at the time or just before. The cases became more numerous when the force was stationed long at one point and the circulation was not kept up by marches or other exercise. The affection is nothing new but its occurrence in such large numbers and the almost uniform course, first the protracted exposure, then the bowel trouble and then from the sixth to the tenth day after the exposure the symptoms of gangrene. The symptoms ranged from itching and pains to chilblains and actual gangrene, all showing the paralysis of the vessels and injury of the innervation with stasis and thrombosis. The outcome in final recovery was astonishingly frequent so that conservative treatment was often brilliantly rewarded. Amputation was done only in one case, compelled by the unbearable pain and increasing debility.

156. **Paralysis of Phrenic Nerve from Blocking of the Brachial Plexus.**—Stein reports the case of a young woman who developed severe neuralgia and paralysis of the phrenic nerve after an attempt to block the brachial plexus. It had been unsuccessful and not a drop of fluid had been injected as the patient did not experience the paresthesia which is the rule when the brachial plexus is duly reached and the needle is in the right place for injection of the anesthetic. The injury from introducing the needle alone must have been responsible for the disturbances. The symptoms seemed to be those of a developing pleurisy at first but there was no fever, and the symptoms gradually subsided, the whole trouble lasting about two and a half weeks. This case warns that it might be dangerous to block the brachial plexus on both sides at one sitting as serious results might follow if the phrenic nerve on both sides should become paralyzed at the same time.

Klauser has encountered three cases of the kind but he does not regard the trouble as paralysis of the phrenic nerve but rather as a spasm of that side of the thorax from irritation of the thoracicus longus by the needle. In none of the three was there any pain in the diaphragm-attachment region; it developed rather in the region between the second and seventh ribs and the anterior axillary line to the median margin of the scapula. This corresponds to the area of the serratus anticus, and spasmodic contracture of this muscle would readily explain the pains and disturbances in breathing; they were like those after a rib has been fractured, but it was peculiar that none of the symptoms developed until after an interval of about forty-five minutes.

### Zentralblatt für Gynäkologie, Leipsic

*April 19, XXXVII, No. 16, pp. 561-600*

157 Bacteriologic Examination in Gynecologic Disease. E. Scholl and W. Kolde.

158 Untoward By-Effects with Modern Oxytocics. (Kritische Betrachtung zur Frage unserer modernen Wehenmittel.) C. Koch.

159 Transposition of Large Blood-Vessels. E. Leibich.

### Zentralblatt für innere Medizin, Leipsic

*April 19, XXXIV, No. 16, pp. 393-416*

160 Epidemic Cerebrospinal Meningitis Apparently Cured by Diphtheria Antitoxin; One Case. N. A. Rawitsch.

### Policlinico, Rome

*April 13, XX, No. 15, pp. 509-548*

161 Cystopexy. (Contributo clinico all'applicazione della cistopessia per il ripristino delle funzioni vescicali.) C. Ferro.

*April, Medical Section No. 4, pp. 145-192*

162 Epidemic of Infectious Jaundice; 25 Cases. (Considerazioni cliniche e ricerche batteriologiche in una epidemia d'ittero infettivo a Tripoli.) F. Scordo and G. Rizzuti.

163 Experimental Immunization Against Typhoid. (Nuove osservazioni sull'immunizzazione attiva contro le sostanze pirogene contenute nella anafilatossina tifica.) A. Tadini.

164 Experimental Research on Aggressins. (Contributo allo studio del meccanismo d'azione degli essudati aggressinici e dei sieri antiaggressinici.) M. Fernando.

### Semana Medica, Buenos Aires

*March 13, XX, No. 11, pp. 621-684*

165 Action of Alkalines and Mineral Waters. (Las fecnorias de los alcalinos y las aguas minerales.) V. Delfino.

166 Lumbar Puncture and Epinephrin in Epilepsy. (Mal comicial.) M. Morales.

167 Mountain Sickness. Transient Upset of Kidney Functioning. (Nueva teoria de la patogenia del mal de las montañas.) L. M. Cowley.

168 Vision Tests for Chauffeurs (La vision de los conductores de automoviles.) M. Menacho.

169 *Sputum Stain. (Sobre un nuevo metodo de coloracion del baello en los esputos de la tuberculosis.) F. Mas.

*March 20, No. 12, pp. 685-740*

170 Serotherapy of Cerebrospinal Meningitis. A. G. Alfaro and R. Iribarne.
171 Typhoid Bacillus Carriers. (La fiebre tifoidea y los portadores de bacilos.) V. Delfino.
172 Hygiene of Hearing for Schoolchildren. (El oido del niño. M. J. Rizzi.
173 Notes on Chemistry. (Apuntes de quimica.) V. Delfino
174 Anaphylaxis to Quinin. (Nota documentada de fisiopatologia general. La anafilaxia quininica y su tratamiento.) M. Morales.
175 Injurious Effect of Hair Dyes on the Eyes. (Las perturbaciones de la vista por teñirse el cabello.) J. S. Fernandez.
176 Moving Pictures and Their Influence on Children. (Influencia adversa o favorable del cinematografo en la salud fisica y mental de los niños. A. G. Gaspar.

169. **Stain for Sputum.**—Mas advocates a modification of Much's staining technic which shows up the tubercle bacilli more distinctly, he claims, and in a fraction of the time. After fixing by passing three times through the flame of an alcohol lamp or by keeping at 120 C. for thirty minutes, the material is covered with three or four drops of Lugol's iodo-iodid solution and heated till it begins to steam, then cooled and heated anew twice more, then well rinsed in water and blotted between filter paper. The specimen is then treated with gentian violet as by the Ziehl-Nielsen method, that is, heating three times till it steams slightly each time. (This stain is made with 1 gm. gentian violet; 5 gm. phenol crystals; 10 gm. alcohol and 100 gm. water.) The next step is to decolorize with 25 per cent. sulphuric acid. Follow with alcohol at 95 C. rinse in distilled water, dry with filter paper and immerse for eight to fifteen minutes in a mixture of equal parts of alcohol and acetone. Then stain with a 1 per cent. aqueous solution of methylene blue for 30 or 40 seconds. Rinse thoroughly in distilled water; dry and mount in balsam.

## Nordiskt medicinskt Arkiv, Stockholm

*XLV, Surgical Section No. 3. Last indexed Nov. 16, 1912, p. 1836*

177 *Hypertrophy of the Mamma. (Beitrag zur Kenntnis der Hypertrophia mammae.) A. J. Juhle.
178 *Operations for Inguinal and Femoral Hernia. (Ergebnisse von 295 in der Zeit 1900-1909 operativ behandelten Leisten- und Schenkelhernien.) R. Ingebrigtsen.
179 *Sporotrichosis. S. Widerøe.
180 Gall-Stone Operations; 223 Cases. (Beiträge zur operativen Behandlung der Gallenwegekrankheiten.) N. Paus. To be continued.

177. **Hypertrophy of the Mamma.**—Juhle reports two cases of enormous enlargement of the breasts in women of 23 and 27. The mammae were of normal size until the age of 21 and 18 respectively. In the second case the breasts weighed separately 4.2 and 2.9 kilograms after their removal. The enlargement seems to be merely an exaggeration of the physiologic development of the breast. It may occur in the newly born, at the time of puberty or during a pregnancy or without any connection with birth, puberty or pregnancy, but 63.9 per cent. of the seventy-two cases Juhle has found on record occurred in connection with puberty; 22.2 per cent. were connected with a pregnancy; four cases were in newly born infants, and in 8.3 per cent. there was no connection with either of the above periods.

178. **Herniotomies.**—Ingebrigtsen gives the details of seventy-three cases of incarcerated inguinal or femoral hernias and 222 simple hernias given operative treatment and 167 of the patients reexamined after a few years. There has been recurrence in only three cases, that is, in 1.47 per cent., which is a more favorable figure than he finds recorded from other European clinics. Among the three cases of recurrence in two, the buried Bassini sutures had sloughed out. Suppuration occurred in eight cases, but it did not bring back the hernia except in the above mentioned two instances. The proportion of recurrences after the Bassini operation was only 1.72 per cent. One elderly patient died from diffuse bilateral bronchitis and weakness of the heart the third day after the Bassini operation on the large right inguinal hernia and Kocher on the smaller left hernia. Ingebrigtsen regards this—his only fatality—as due to the ether in a man of 61 subject to recurring bronchitis. The tendency to bronchitis was not known at the time of the operation.

179. **Sporotrichosis.**—Widerøe reports a case in a working man. The extensive lesions were on the arm and subsided apparently permanently under potassium iodid. [He commences his report with the statement: "Since de Beurmann in 1903 described the first case of sporotrichosis . . ." He evidently is not acquainted with the earlier American literature on the subject.]

## Norsk Magazin for Lægevidenskaben, Christiania

*April, LXXIV, No. 4, pp. 441-592*

181 Pathologic Anatomy of Cystic Disease of the Kideny. O. Berner.
182 Diuretics: Indications and Mode of Administration. O. Scheel.
183 *Tonsillitis as Factor in Acute Rheumatism. (Aetiologiske og patogenetiske forhold ved rheumatismus acutus med særlig henblik paa tonsillitens betydning.) A. Vetlesen.

183. **Tonsillitis as Factor in Acute Rheumatism.**—Vetlesen quotes from Eyerlen (1789) *Materia rheumatica ad tonsillas deposita* to show that the connection between tonsillitis and rheumatism has long been known, but it seems to have been forgotten for a century. He reviews the experiences in this line at the Christiania public hospital, describing some cases of general sepsis from chronic tonsillitis and fourteen cases of acute rheumatism in which 78 per cent. of the patients had a manifest acute or chronic tonsillar affection. In the three other patients there was a possibility of another source for the infection. He compares his cases in detail with recent literature on the subject and draws the conclusion that the streptococci causing rheumatism have undergone some special change in the interior of the tonsil. The predisposition is thus of a local nature, occurring only in the tonsils. Cholera germs and tetanus bacilli have a pathogenic influence only when they get into certain tissues. Subcutaneous injection of cholera germs does not induce cholera; it follows only when they get into the intestines, while, on the other hand, tetanus bacilli do not induce tetanus when they get into the intestines but only when they have penetrated through the skin. This conception of the predisposition as a circumscribed local capacity for changing the character or the quality of the microbes is sustained by many facts in pathology and in the life of plants. The streptococcus of erysipelas is a typical *Streptococcus longus* but many cases are on record in which the streptococci have seemed to acquire other properties. Sørensen has recently reported the case of a young man who had tonsillitis, then erysipelas, the eleventh day otitis media; three and twelve days later, recurrence of the erysipelas, the next week tonsillitis with an abscess requiring incision after seventeen days. Five days later recurrence of the erysipelas, then tonsillitis after two weeks, then two recurrences of erysipelas within a month and a week later a discharge from the ear, and the next month the glands in the neck suppurated. He finally recovered his health by the end of the fifth month after the first symptoms. The case is cited as showing the transformation of the erysipelas streptococci into pyogenic streptococci, and Vetlesen ascribes this to the local influences at work in the diseased tonsils. The tonsils should be either removed in these cases or tonsillotomy should be done followed by daily painting with iodin, thus sterilizing deep into the follicles. He has found this effectual. His experience has shown further that in the cases with chronic tonsillitis in which polyarthritis developed, the latter was of a protracted form with exacerbations. In the group with acute tonsillitis followed by acute rheumatism, both tonsillitis and rheumatism were of an acute benign type followed by complete recovery. In conclusion he quotes Eppinger's report of three cases of acute nephritis following on tonsillitis. The latter had caused no symptoms but an incision revealed pus in the depths and the nephritis subsided promptly after the operation on the tonsils.

## Ugeskrift for Læger, Copenhagen

*April 10, LXXV, No. 15, pp. 599-620*

184 Radio-Active Substances in Internal Medicine. H. Jansen. Concluded in No. 16.

*April 17, No. 16, pp. 621-658*

185 Fatal Meningitis in Infant from Influenza Bacillus. H. Giese

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, NO. 22 CHICAGO, ILLINOIS MAY 31, 1913


## WHOOPING-COUGH

### A PLEA FOR MORE EFFICIENT PUBLIC REGULATIONS RELATIVE TO THE CONTROL OF THIS MOST SERIOUS AND FATAL DISEASE *


JOHN LOVETT MORSE, A.M., M.D.

Associate Professor of Pediatrics, Harvard Medical School; Associate Visiting Physician at the Children's Hospital and at The Infants' Hospital, Boston

BOSTON


According to the mortality statistics compiled by the United States Census Bureau in 1906, from a registration area comprising slightly less than one-half of the population of the United States, there were 6,324 deaths from whooping-cough in that area in children under 5 years of age. The United States *Public Health Reports* show that in 1910 the death rate per hundred thousand was as follows: whooping-cough, 11.4 per cent.; scarlet fever, 11.6 per cent.; measles, 12.3 per cent., and diphtheria, 21.4 per cent.

In order to get some more recent statistics, I wrote to all the state boards of health, asking for the number of deaths from whooping-cough, scarlet fever and diphtheria during the year 1911, and also for those from bronchitis and bronchopneumonia in children under 5 years of age. I also asked for information as to the state regulations regarding notification, quarantine, disinfection and school attendance in relation to whooping-cough. The reports from thirty states show that 6,251 died of whooping-cough, 4,232 from scarlet fever and 9,579 from diphtheria in these states during the year 1911. Three thousand eight hundred and sixty children under 5 years of age died of bronchitis and bronchopneumonia during the same period in eleven states in which 1,216 died of whooping-cough. It is, of course, impossible to know in how many of these cases the bronchitis and bronchopneumonia were secondary to whooping-cough. They were undoubtedly due to it, however, in a considerable proportion of them. These deaths should be added to those from whooping-cough. The relative mortality from whooping-cough, scarlet fever and diphtheria is essentially the same throughout the country, whooping-cough being almost everywhere more fatal than scarlet fever and less fatal than diphtheria. Whooping-cough is an especially serious disease in the Southern states, as is shown by the fact that in North Carolina 736 children died of whooping-cough in 1911 against a total of 447 from scarlet fever, measles and diphtheria combined. The death-rate from whooping-cough in North Carolina in 1911 was 32.2 per cent. against 11.4 per cent. for the whole United States.

I also wrote to the boards of health of a considerable number of cities scattered all over the United States, asking the same questions, and received replies from sixty-one, ranging in size from Livingston, Mont., with a population of 5,000, to New York (Manhattan and Bronx), with a population of 2,760,000. If Chicago and New York are excluded, the relative mortality from the three diseases under consideration is the same as that in the United States as a whole. When they are included, the figures are as follows: whooping-cough, 1,327; scarlet fever, 2,014; diphtheria, 3,539.

There were 6,908 deaths from bronchitis and bronchopneumonia in children under 5 years of age in forty cities in which there were 1,022 deaths from whooping-cough. Although there were many exceptions, the death-rate from whooping-cough was, on the whole, as would be expected, greater in the large cities than in the small.

It hardly seems necessary to give any more statistics to prove what a serious and fatal disease whooping-cough is and to show that, instead of being a trifling affair as it is usually considered to be by the laity, it is a condition of the utmost gravity. "Any disease which kills ten thousand children per annum is," as Rucker says, "a serious one. If bubonic plague were to kill that many children in the United States in one year, the whole world would quarantine against our country. A child dead of whooping-cough is just as dead as a child dead of plague." Certain other points in relation to the mortality are, however, of great importance.

German statistics, covering a period of eleven years, show that the mortality among those attacked with the disease is: Under one year of age, 26.8 per cent.; between 1 and 2 years, 13.8 per cent.; between 2 and 5 years, 3 per cent., and between 5 and 15 years, 1.8 per cent.

Ninety-six per cent. of the 6,324 deaths from whooping-cough in the United States in 1906 were in children under 5 years of age. Fifty-seven per cent. of the fatalities were in the first year, 23 per cent. in the second, 8 per cent. in the third, 4 per cent. in the fourth and 2.5 per cent. in the fifth year. It is a comparatively mild affection in healthy children over 5 years old, and after puberty it is rarely fatal. The importance of these figures will be evident when the measures to be taken to control the disease are considered.

What is being done in this country to limit the spread and diminish the death-rate from this dread disease?. Surprisingly little. It is a notifiable disease in only twenty-nine of the forty-three states that answered my inquiry on this point. The health officers of many of these states say, moreover, that very little attention is paid by physicians to the law requiring notification. Isolation is required by law in seven states and "modified" isolation in two others. It is recommended in another, but the secretary of the board of health states that it is rarely enforced. "Some attempt is

* Address of the President, Annual Meeting of the American Pediatric Society, Washington, May 5, 1913.

made at it" in another, while in another authority is given to the counties to isolate it, but the secretary of the board of health states that few counties take advantage of this authority. The disease is placarded in six states, perhaps in more. Thirty-one states do not require isolation.

Disinfection after the disease is required by law in four states and "recommended but rarely enforced" in one. "Some attempt is made at it" in another, and in another authority is given to the counties to disinfect, of which authority they do not take advantage. "Modified" disinfection is required in two states. No disinfection is required in thirty-four. The impression obtained from the letters is, however, that both isolation and disinfection are chiefly on paper and that they amount to little or nothing practically.

Two states, at least, have no law forbidding the attendance of children ill with whooping-cough at school. The others forbid attendance at school, but only three of the states from which I received answers have any regulations as to how long they shall be kept out of school. The other children in the family are not allowed to attend school in seven states. They are allowed to attend school in eleven, whether they have had the disease or not; in six, if they have had it, and in two, if the patient is isolated. There is no state regulation as to the attendance of the other children in the family in nine states. I was unable to get definite answers from the others.

The regulations of the cities, both large and small, average better than those of the states. Notification is required in forty-four of the sixty-one cities from which I received replies, but isolation is demanded in but twenty. Judging from the letters, however, the isolation is in many cases very imperfect. Some other cities placard, but do not isolate. Disinfection is required in but five, while it is "advised" in two others.

Strange as it may seem, children with the disease are allowed to go to school in three of the sixty-one cities, two of these cities being in Ohio and one in Mississippi. The other children in the family are allowed to attend school in twenty-seven. They are not allowed to attend school, unless they have had the disease, in ten; unless they have had the disease and live away from home, in two; or until after three weeks from the last exposure, in two. In the others they are not allowed to attend school under any conditions.

There is almost no provision for the hospital treatment of whooping-cough in this country. In New York there is a special ward for children with whooping-cough at Bellevue, but only those having complications are admitted. There are also two isolation cottages, each containing fifteen beds, for whooping-cough at Randall's Island. Six hundred and eight cases were treated there from 1903 to 1912 inclusive, with nineteen deaths, all of them from complications. These wards are not open, but in fair weather the children are kept out of doors as much as possible. There are no special hospitals or hospital wards for the treatment of whooping-cough in Chicago, although cases with complications are sometimes admitted to the contagious department of the Cook County Hospital and there isolated. The Philadelphia General Hospital has a separate section for children with whooping-cough. Boston has no provision for these cases. They are admitted to the isolation hospital in San Francisco, but only the most serious, complicated cases are taken and there is no special whooping-cough pavilion. There is a ward of eight beds devoted entirely to whooping-cough at the Charity Hospital in New Orleans. One pavilion in the new Cincinnati General Hospital is to be arranged exclusively for whooping-cough and at the Johns Hopkins Hospital cases are to be admitted and treated in small isolating rooms. Several of the hospitals in the smaller cities occasionally admit cases of whooping-cough with severe complications to their contagious hospitals and treat them in separate rooms. Most of the general hospitals throughout the country refuse whooping-cough entirely, although some of them at times take severe, complicated cases and treat them in separate rooms. If children with the disease are admitted by mistake, they are sent home, unless so ill that this is not possible, when they are isolated in separate rooms. These, as far as I can find out, are the only provisions made in the United States for the treatment of this disease, which at one time or another affects almost every member of the community and which causes 10,000 or more deaths yearly!

There is no general rule as to the management of children with whooping-cough in outpatient and dispensary clinics. In most clinics the children at their first visit mix freely with the other children in the waiting-room until they are discovered by the physician. In a few, the children are seen by a physician before they go to the waiting-room and many of the cases are then discovered. In the majority of the clinics the children are not allowed to return for treatment, but are referred to district or dispensary physicians. In others they are allowed to return and are "treated on the sidewalk" at the beginning or end of the clinic, or are admitted to separate rooms where they are at once treated and sent home. Judging from what I have seen of outpatient clinics in my own and other cities, the isolation obtained in this way must be very incomplete and very unsatisfactory. In some clinics no attempt whatever is made to separate these patients from the other children in the waiting-room and they are allowed to return as often as they wish. It is hard to imagine any better method for disseminating the disease. In two or three clinics, however, they are treated at an entirely different hour from the other patients.

The precautions taken in other countries to prevent the spread of this disease are but little, if at all, better than those in this country. It is not a notifiable disease in England or Scotland and there is no quarantine or disinfection after it in either country. Children with the disease are not allowed to attend school, the time limit in England being six weeks. The other children are not allowed to attend school, unless they have had the disease and do not attend the lower grades or after a quarantine of twenty-one days. Children with whooping-cough are admitted to the "fever hospitals." Five hundred and seventy cases were treated in the Metropolitan Asylums Board hospitals in 1911, the first year in which this disease was admitted, with a mortality of 12.1 per cent. There is a special ward of eight beds for whooping-cough at the Great Ormond Street Hospital and a special suite of rooms for it at St. Bartholomew's. There is a special clinic for whooping-cough in special rooms, twice a week, at a special time of day, at the Great Ormond Street Hospital, and a special clinic in the afternoon at the Victoria Hospital for Children.

Whooping-cough is a notifiable disease in Austria, but there is practically no quarantine or disinfection. Neither the patients nor other children in the family are allowed to attend school. It is admitted to special wards in some hospitals and to the infectious hospitals, and is treated in special rooms in the outpatient depart-

ments. It is not a notifiable disease in Bavaria and there is no quarantine or disinfection after it. The patient is not allowed to attend school. There are no special hospitals and the precautions taken in the outpatient departments are rudimentary. Czerny in Strasburg treats children with whooping-cough in the open wards. It is a notifiable disease in Graz, but there is no quarantine and no disinfection after it. That is, the customs are as varied as they are in this country.

Notification of whooping-cough is voluntary in France. Isolation and disinfection depend on notification. The children are not allowed to return to school until thirty days after the disappearance of the paroxysms. The regulations as to the other children depend on the locality. Children with whooping-cough are admitted to the hospitals and treated in special rooms or in small wards in isolation pavilions. The precautions taken in the outpatient departments are very rudimentary. It is evident, therefore, that the neglect to take proper precautions to prevent the spread of this disease and to provide hospital accommodations for its care is not confined to this country, but is well-nigh universal.

It is self-evident that more should be done to limit the spread of whooping-cough than is now being done and that more strenuous efforts should be made to diminish the terrible mortality from this disease than are now being made. In order to take intelligent measures to limit its spread, it is necessary, however, to know first the nature of the contagion and when and how it is transmitted.

The recent investigations of Mallory have proved conclusively that the Bordet-Gengou bacillus is the cause of whooping-cough and that the organism is present between the cilia of the epithelium lining the trachea and bronchi. This organism is present in the sputum in the catarrhal stage and is most abundant at this time and in the first two or three weeks of the spasmodic stage. It has been found in the sputum as late as the eighth week of the spasmodic stage. It is fair to assume, therefore, that the disease is transmitted by the secretions of the respiratory tract and that, while most contagious during the catarrhal and early weeks of the spasmodic stage, it is also contagious throughout the whole of the spasmodic stage. Kittens, puppies and monkeys may be infected with the disease. This probably happens so seldom under ordinary conditions, however, that infection from animals can, for practical purposes, be disregarded. The Bordet-Gengou bacillus is very easily destroyed outside of the body. Indirect contagion is, therefore, very unusual and of but little importance. The staining of smears of the sputum by proper methods gives reasonably satisfactory results. The isolation and recognition of the organism by cultures is, however, too complicated a procedure for practical everyday use. An agglutination reaction is present in many cases, but is not constant and is usually not very high. Its presence is proof of whooping-cough; its absence does not count much against it. A complement-fixation reaction is present in a considerable proportion of children with whooping-cough and convalescent from it. The frequency of the reaction increases with the duration of the disease. Both of these tests are, however, too difficult of performance to be of practical utility for everyday use. The complement-fixation reaction should be of great service in the recognition of abortive and atypical cases in exceptional circumstances, when such recognition is of great importance.

There is an increase in the total number of white corpuscles with an absolute and relative increase in the number of lymphocytes in the catarrhal stage of whooping-cough. The leukocytosis and lymphocytosis increase with the severity of the disease, reaching their highest point in the paroxysmal stage. There is either no leukocytosis or a leukocytosis with a relative increase in the polynuclear neutrophils in the diseases with which whooping-cough may be confused. This blood-formula is a fairly constant one in whooping-cough and is therefore of considerable assistance in its diagnosis before the appearance of the characteristic whoop. It is, however, not always present and may be absent, if there is some complication which is accompanied by a polynuclear leukocytosis. Due allowance must also be made in infants and young children for the normally high percentage of lymphocytes at this age. While the examination of the blood and sputum will unquestionably be of assistance in limiting the spread of whooping-cough by rendering it possible to recognize it in its early stages and thus to isolate children with it earlier than would otherwise be done, it does not solve the problem, because until the health authorities, physicians and public appreciate the importance and gravity of the disease, such examinations will not be made often enough to make any appreciable difference. In the future, when these facts are recognized, they will undoubtedly be of great assistance.

In the immediate future and probably for many years to come, it is reasonable to suppose that, because of the indefiniteness of the early symptoms and the frequency of mild types of the disease, almost everyone will sooner or later have whooping-cough. This fact, while unfortunate and presumably eventually remediable, is not so serious as it at first sight appears, when it is remembered that about 95 per cent. of the deaths from whooping-cough occur during the first five years and the great majority of these in the first two years. The most important thing, then, is to keep babies and young children from having the disease.

The first step to be taken is to convince physicians and the public in general of the seriousness of whooping-cough in infants and young children and of the importance of protecting them from it. All regulations, no matter how well planned, will be useless until those interested in enforcement are so convinced. They can be convinced only by a campaign of education. This campaign will have to be led by the pediatrists and the United States public health authorities, since they are the only ones who at present seem to appreciate the importance of the subject. When the public and physicians are properly educated, regulation will be relatively simple.

Whooping-cough must be made everywhere a reportable disease and the same penalties imposed for failure to report it as in the case of small-pox, scarlet fever and diphtheria. The house should be placarded and the inmates instructed by the health authorities as to the seriousness of the disease in infancy and the methods to be employed to prevent contagion. The sputum and vomitus should be treated in the same way as in tuberculosis.

The patients should be separated from the other children in the family, if they are under 5 years of age. If such separation is impossible, the patients should be removed by the health authorities to special hospitals provided for the purpose. These hospitals should be constructed on the "shack" plan in order to give the children the maximum amount of fresh air and thus to

prevent the development of complications and cross-infection, and so situated that the children can be up and out of doors in suitable weather. There is no reason why children should be isolated in one room and not allowed to go out of doors, provided they are kept away from other children. They ought not to be allowed on the street, but, in order to protect other children in case they do get on the street, they should be required to wear an arm-band of some prescribed color and labeled "whooping-cough" in large letters. They should not be allowed under any circumstances to visit places of public congregation or to travel in public conveyances. Children who fail to observe the quarantine regulations should at once be sent to the hospital by the public authorities, no matter what their circumstances or social position. They should not be released from quarantine until after the cessation of the paroxysmal cough or until at least six weeks have elapsed since the onset, even if the paroxysmal cough has ceased. It is to be hoped that in the future quarantine will be maintained until after the cessation of the paroxysmal cough and the disappearance of the Bordet-Gengou bacillus from the sputum.

The vitality of the Bordet-Gengou bacillus outside of the body being slight, formal disinfection is not necessary. Thorough cleaning and airing of the premises is all that is required.

The other children in the family should not be allowed to attend school unless they have already had the disease or until two weeks have elapsed since the last exposure, provided they are free from catarrhal symptoms. It is possible that this period of two weeks may be too short, the evidence as to the length of the incubation period of whooping-cough being unsatisfactory. Present observations seem to show, however, that it varies between two and ten days. Two weeks should, therefore, be amply sufficient.

Children with catarrhal symptoms, in whom there is any reason to suspect the possibility of whooping-cough, should be excluded from school. It is probable that in the future the examination of the sputum will be used as a test in the same way that the bacteriologic examination of the throat is now used when diphtheria is suspected.

The community should be required to establish hospitals not only to take care of those children that cannot be or are not properly isolated at home, but also to take care of those babies and children ill with the disease that cannot be properly treated in their homes.

It can be confidently predicted that when the physicians and the public understand what whooping-cough really means, when proper regulations for its control are established and enforced and when sufficient hospital accommodations for its care are provided, whooping-cough will cease to be the scourge which it now is.

70 Bay State Road.

**The Value of Mouth Inspection in the Treatment of Patients.**—Of what avail is it to bombard the stomach with drugs and to diet patients, when the real cause of the symptoms lies in a foul mouth, missing teeth, and filthy bridges and plates? Why prescribe sedative cough-mixtures when a long uvula is the cause of an obstinate cough? Why fill a child with tonics when adenoids and enlarged tonsils are the cause of anemia? The tonsils are the cause of so much constitutional mischief that they should always be examined as a routine process. Especially important is this examination in all cases of articular rheumatism, chronic or even acute nephritis and all cases of sepsis.—Morris Manges in *New York Med. Jour.*

# BASIC FUCHSIN IN CHRONIC LEG ULCER*

EUGENE S. MAY, M.D.
OAKLAND, CAL.
AND
M. L. HEIDINGSFELD, M.D.
Professor of Dermatology in the University of Cincinnati; Dermatologist to the Cincinnati Hospital
CINCINNATI

## DR. MAY'S REPORT

In a former paper[1] I called attention to the germicidal action of basic fuchsin (Grübler's Fuchsin für Bakterien). In this paper we wish to publish the results obtained in cases of chronic leg ulcer treated with fuchsin ointment. A brief summary, however, of the experimental work will be given before proceeding to the clinical report.

*Technic.*—With distilled water, carefully weighed quantities of Grübler's Fuchsin für Bakterien were made up in dilutions of 1.0, 0.75, 0.5, 0.25, 0.1, 0.075, 0.05, 0.025, 0.01 and 0.001 per cent. Five c.c. of each of these solutions was run into sterile test-tubes, sterilized in flowing steam in the Arnold sterilizer for fifteen minutes on three successive days and kept in a dark place. The activity of these stock solutions was then tested with the following organisms: *Bacillus typhosus, B. paratyphosus, B. coli communis, B. tuberculosis* (saprophytic strain); staphyloeocci, *Oidia albicantia* (human throat) and oidia from a case of generalized blastomycosis. Solutions of fuchsin, 1:1,000, were found always to be *germicidal,* five minutes being required to kill the microorganisms. Higher dilutions, 1:10,000 to 1:100,000, are only variably active.

Experiments were then made to test the *toxicity* of the dye. With warm 1 per cent. solutions repeated irrigations were made of the urinary bladders of rabbits. Repeated and careful examination of the urine and of microscopic sections of the bladders revealed no irritation or inflammatory changes. Basic fuchsin solutions (1.0 per cent.) were injected into the lumbar subdural spaces of dogs with no toxic effects. These experiments also demonstrated the fact that the dye has great *diffusibility.* Another important fact was also noted, namely, that *the dye does not coagulate albumin.*

The germicidal action, non-toxicity and diffusibility of the dye having been proved, I decided to use it as a general antiseptic and for surgical dressings. Wounds were dressed with gauze soaked in fuchsin solutions (1:1,000) either alone or combined with an ointment

* A report from the Laboratories and Hospital of the University of Cincinnati, in which Dr. E. S. May was formerly clinical instructor and demonstrator in surgery.

* In a previous paper, "The Germicidal Action of Basic Fuchsin" (THE JOURNAL A. M. A., April 20, 1912, p. 1174), Dr. E. S. May reported that while he had found "acid" fuchsin devoid of germicidal action "basic" fuchsin had proved strongly germicidal. In regard to the chemical identity of the "basic" fuchsin Dr. May stated that "it is the acetate which is furnished us as basic fuchsin and the hydrochlorid and sulphate as acid, or ordinary fuchsin." As he had no knowledge of the identity of the dye used (Gruebler's Fuchsin für Bacillen), and as this identity appeared of first importance, since others might wish to repeat his experiments, THE JOURNAL decided to investigate the matter. Inquiry addressed through the American agent, Eimer and Amend, to G. Gruebler & Co., brought the information that "Basic Fuchsin is a mixture of rosanilin and pararosanilin hydrochlorid with the formula of $C_{19}H_{26}N_3ClO_4$." Two specimens of Gruebler's Fuchsin für Bacillen, one sent by Dr. May and the other purchased from Eimer and Amend, as well as a specimen of "Fuchsine Merck Medicinal," which appears to be identical with the Gruebler product, have been examined in the Association Laboratory. All three dyes are in the form of hydrochlorid. Those who wish to repeat the work here reported should bear in mind that the work was done with fuchsin hydrochlorid instead of acetate. The hydrochlorid may be obtained in the form of "Gruebler's Fuchsin f. Bac." and "Fuchsine Merck Medicinal."—ED.

1. May, E. S.: Germicidal Action of Basic Fuchsin, THE JOURNAL A. M. A., April 20, 1912, p. 1174.

made up of fuchsin (1 per cent.). Marked stimulative action was noted. Under the treatment chronic ulcerative processes cleared up with *marked stimulation of the epithelium of the margins* and of the granulation tissues.

From the results of my investigations I concluded that basic fuchsin is not only a non-toxic, very diffusible germicide, but also that it has strong stimulative action on epithelial and granulation tissues.

This combination of properties in the dye suggested that because of the chronicity in leg ulcer, the dye might be of value in treatment of such cases. Accordingly it was tried out on cases of this class on Dr. Heidingsfeld's service in the wards of the Cincinnati Hospital. This series of cases forms the basis of this preliminary report.

### REPORT OF DR. HEIDINGSFELD

The investigations on the basic fuchsin described above have led me to investigate the clinical value of this drug in cases of chronic leg ulcer in the dermatologic wards of the Cincinnati Hospital. This institution, drawing from a population of about 500,000 people, freely accepts lying-in, skin and venereal cases and the cases on this service are especially well adapted to investigations of this nature.

About one-third of the patients are affected with chronic leg ulcer of every variety. Their length of residence in the hospital is usually from two to eight to ten years. Usually the ulcers have been present for a longer period of time, few being of less than ten years' standing, many of more than twenty-five years. Hospital residence, however, is not continuous; the patients often improve, leave the hospital for brief periods and resume some of their former duties. As a rule, improvement is merely relative and of a moderate degree and the patients are subsequently readmitted. They come to the hospital after all other curative measures have proved unavailing, the cures resisting the combined efforts of family and dispensary physicians, treatment with patent and proprietary remedies and surgical operations.

*Etiology.*—The etiology of chronic leg ulcer is almost as varied as the clinical manifestations. Varicose veins or impaired general circulation are the most important predisposing factors, with syphilis, thrombophlebitis and trauma strongly in the background in the majority of cases.

### TREATMENT

Under appropriate constitutional and local measures a certain number of cases promptly proceed to cure. Cases of this kind, however, are relatively few in number. From the standpoint of the practitioner, leg ulcers are the most obdurate, refractory and uninteresting class of cases which he is called on to treat.

Gottheil[2] calls attention to an interesting clinical feature of chronic leg ulcer, namely, the very slight tendency on the part of these lesions to cancerous degeneration. It seems remarkable that relatively few leg ulcers show cancerous degeneration, no matter how old the host, how long-standing the process, or how neglected or misdirected the treatment. This seems all the more remarkable because a much slighter degree of such unfavorable influence on a more favorably predisposed region, such as the face, would be followed, almost invariably, by malignant degeneration.

Of the simple inflammations which are uncomplicated with malignancy or the severe infections such as tuberculosis, leprosy, etc., chronic ulcerations of the leg are the most hopeless from the standpoint of therapy. Unless the ulcer is caused by well-defined and easily controlled causes such as syphilis and traumatism, the progress of these cases to recovery is slow and tedious, and the recovery inconstant and unstable.

Like all affections which possess no thoroughly reliable and satisfactory therapy, the literature and text-books recommend a host of measures and therapeutic agents. Most of these are helpful in a certain percentage of cases, but useless in many others. It is needless for me to enter into a detailed description of the many methods which have been described and recommended for the treatment of these cases. It will suffice to state that in the majority of cases considered in this report all forms of applications, mechanical devices and even surgical intervention have been employed with little and only transient improvement. Therefore, any new measure which gave promise of benefiting these cases has been faithfully given a trial. In nearly all of my cases all sorts of ointments have been used, including scarlet-red, pastes, various antiseptic and stimulating powders, lotions, moist compresses, zinc gelatins, elastic bandages, elastic stockings, continuous baths, elevation of the legs, mechanical devices for relieving passive congestion, curettement of ulcers and skin-grafting. In nearly all cases and with nearly all of the remedies temporary improvement was noted. With scarlet-red, temporary improvement was noted in nearly all cases, but the severe inflammatory reactions and dermatitis which followed its applications precluded its further use.

### RESULTS OF TREATMENT IN CLINICAL CASES

On March 1, 1912, twenty selected cases of chronic, persistent ulceration of the leg were treated with basic fuchsin in form of an ointment, after the following formula:

| | |
|---|---|
| Fuchsin (Grübler's Fuchsin für Bakt.) | 5 parts |
| Eucalyptus oil | 10 parts |
| Anhydrous wool fat | 100 parts |

The ointment was applied daily on a piece of lint and was universally well tolerated. The ulcerations cleaned rapidly, and pus and all evidences of secondary inflammation disappeared promptly with relief of pain. On April 18 ten of the cases were exhibited to the Hospital Clinical Society,[3] where the remarkably clean, healthy appearance of the ulcerations, their change from a deep to a superficial character, and their apparently rapid progress toward recovery elicited favorable comment from the members present. In a few cases, continued use of the remedy over a period of several or more weeks, was followed by a mild, inflammatory reaction and dermatitis, so that it became necessary to discontinue the remedy for a few days and to modify its strength to the following formula:

| | |
|---|---|
| Fuchsin (Grübler's Fuchsin für Bakt.) | 1 part |
| Petrolatum | 5 parts |
| Anhydrous wool fat | 100 parts |

This formula has been well tolerated in all cases.

My term of service terminated on June 1, 1912, before I had the opportunity to follow all the cases to complete recovery; in the interim, however, some of the patients were discharged well, and others left of their own volition after marked improvement, but before complete recovery. The remainder were all greatly improved and

2. Gottheil, W. S.: Cancerous Degeneration in Chronic Leg Ulcer, THE JOURNAL A. M. A., July 6, 1912, p. 14.

3. Cincinnati Lancet-Clinic, 1912, cvii, 606.

gave every indication and promise of proceeding to temporary complete recovery.

When I resumed my service, Oct. 1, 1912, another series of cases was selected and placed on 1 per cent. fuchsin ointment for a four months' period of observation and study. Each ulcer was photographed, and a painstaking history, covering the essential points of each case, was carefully recorded. It was the intention of the investigators to exercise a scrutinous control over as many of these cases as possible, in the hope that the four months of service from October 1 to February 1 would afford ample time to insure their complete clinical recovery. After an interval of four weeks some of the cases showed marked intolerance to the remedy in the form of local inflammatory reaction, discomfort, pain and burning. Nearly all the ulcers cleaned rapidly and showed the same but not as rapid and satisfactory improvement as those treated on March 1, 1912. The remedy was not uniformly well tolerated and the subjective discomfort and secondary inflammatory disturbance was not as promptly and completely relieved as in the first series of cases. Investigation revealed that the hospital was substituting *commercial fuchsin* for Grübler's Fuchsin (für Bakterien),[4] and on my recommendation the patients were withdrawn temporarily from this treatment until the latter specified fuchsin was supplied. It required an interval of several weeks before the change could be effected, which was long enough to influence unfavorably the result of the investigation. While the second series of cases is nothing more than a confirmation of the results following the use of the dye in the first series, it does show very conclusively that fuchsin other than that specified (Grübler's Fuchsin für Bakterien) may be highly irritative and should not be used indiscriminately. The patients showed the same favorable improvement and tolerance as soon as the change from commercial to Grübler's fuchsin was made. In a few instances it is necessary to modify the ointment and to discontinue the remedy temporarily because of symptoms of mild intolerance on the part of some of the patients. I submit the preceding as a preliminary report and hope to be able to present a more detailed and exhaustive account with the next series, covering four months of uninterrupted observation and study.

I am strongly impressed with the belief that in this class of cases basic fuchsin possesses the most satisfying therapeutic efficacy. I heartily recommend the use of this remedy as a routine measure in this class of cases. Other measures such as antisyphilitic treatment, corrective appliances, etc., when particularly indicated, should be employed. If the remedy possesses marked therapeutic efficacy in this hopeless class of cases, it also gives promise of yielding a wide field of usefulness as a therapeutic agent in many directions.

We wish to thank Drs. R. Reed, Charles Reynolds and Julian Benjamin, interns of the Cincinnati Hospital, for friendly and cooperative assistance.

1520 Harrison Street, Oakland—19 West Seventh Street, Cincinnati.

4. The fuchsin furnished was probably "fuchsin Sauer."

**A Good Surgeon Is Something More than a Mere Skilful Mechanic.**—There is no more difficult problem in surgery than that which presents itself in making a proper selection of cases for operation: Anatomic, physiologic and pathologic knowledge, diagnostic acumen, prognostic capacity are all requisites of the good surgeon. *Any one can become a surgical mechanic.* Capable surgeons are not so easily produced.—David Drummond in *Clin. Jour.*

# THE TREATMENT OF NEPHRITIS AND ALLIED CONDITIONS*

MARTIN H. FISCHER, M.D.
CINCINNATI

It is now almost two years since the first attempt to utilize the following views was made by James J. Hogan, who relieved a case of acute nephritis with anuria by injecting an alkaline hypertonic sodium chlorid solution. Since that time the simple principles of treatment proposed have been tried on many private and hospital patients, so that it has been possible to arrive at some conclusions regarding their actual value. I wish to discuss this question briefly in the following pages. At the same time, in order to satisfy a number of medical men, I desire to outline in greater detail the method of treatment which will in my judgment insure the best results.

For a detailed statement of my colloid-chemical views on the nature and cause of nephritis I must refer the reader to previous discussions.[1] They may be briefly expressed as follows: All the signs and symptoms of nephritis are colloid-chemical in nature, and in the main are the result of a common cause, the abnormal production or accumulation of acid in the kidney. The action of the acid in making the protein colloids of the kidney go into solution in the urine explains the albuminuria; its action in making the kidney-colloids swell causes the increase in the size of the kidney; its action in precipitating a second colloid makes the change of color (graying) in the kidney. Since the (colloidal) cement-substance that holds the kidney-parenchyma fast to its supporting tissue dissolves more easily than that which binds the cells to one another, the cells slip out of the uriniferous tubules in groups called "casts." The casts may be cellular, granular or hyaline, depending solely on the state of the colloids found in them. This state in its turn is determined by the amount of acid, salt, etc., present in the blood, the kidney or the urine. The changes in the output of water are referable to a disturbance in the normal dynamic relations existing between the concentration of water and acid found in the blood, and the water and acid found in the kidney-parenchyma. The absolute decrease in the amount of dissolved substances secreted is held to be secondary to the absolute decrease in the amount of water secreted by the nephritic kidney. The change in the relative concentration of the dissolved substances in a nephritic urine as compared with the relative concentration of the same substances as observed in normal urine is dependent on changes in the adsorption characteristics of the blood- and kidney-colloids, as influenced by such a change in the composition of the kidney as is determined by an abnormal production or accumulation of acid in this organ.

I maintain that all nephritides are parenchymatous. These may be general (involve the whole kidney), as is the case in the ordinary acute or chronic intoxica-

* The relief of glaucoma through rectal injections of alkali and salt is discussed in the author's reprints.

*From the Eichberg Laboratory of Physiology in the University of Cincinnati.

1. Fischer, Martin H.: Edema, New York, 1910, p. 191; Further Remarks on a Colloid-Chemical Analysis of Nephritis, Kolloid Ztschr., 1911, viii, 202; Contributions to a Colloid-Chemical Analysis of Absorption and Secretion (Absorption from Peritoneal Cavity), Kolloid-chem. Beihefte, 1911, ii, 304 (available in English in Cincinnati Lancet-Clinic, 1912, cvii); Practical Points in the Treatment of Nephritis, Ohio State Med. Jour., Aug. 15, 1911; Nephritis (a monograph dealing specifically with this subject), New York, 1912.

tions; or focal (involve only parts of the kidney), as is the case in the so-called chronic interstitial nephritides associated with cardiovascular disease (primarily contracted kidneys). In the latter, in consequence of changes in the blood-vessels, one fragment after another of the kidney is destroyed and replaced by connective tissue; but between these spots the kidney substance is largely normal, and so the decrease in urinary output, the albuminuria, the casts, etc., may be largely absent.

I wish to direct attention to two more points in order to render more clear the purpose of my therapy. It is universally held that the generalized edema of a patient is secondary to the kidney disease. This is, in the main, incorrect; for nephrectomized animals either develop no edema at all or only a very slight one as compared with the edema developed, for instance, after the injection of uranium nitrate. I believe that the generalized edema and the edema of the kidney (nephritis) arise simultaneously and from the same cause.

The other point is that there is no free water in the body; it exists in all the tissue- and body-fluids only in combination (as water of hydration) with the various (hydrophilic) colloids present. When any free water appears in the body, it is quickly removed by one of the secretory organs (such as the kidney). Conversely, it is impossible to get any secretion except as we furnish the secreting organ free water.

Text-books list as "causes" of nephritis, excessive muscular work, heart-disease, lung-disease, anemia, carbon-monoxid poisoning, exposure to cold, interference with the blood-supply to all or to a part of the kidney (pressure on the kidney-vessels, arteriosclerosis, thrombosis, embolism), intoxication of the kidney-parenchyma with a toxin, chloroform, ether, arsenic, uranium, chromium, lead, phosphorus, amyl nitrite, etc., restriction of salt consumption or excessive consumption of water low in salts. These all gain their etiologic importance because they represent methods which directly or indirectly make for an abnormal production or accumulation of acid in the kidney.

These remarks will suffice to indicate why I have formulated the general rule for the prophylaxis and treatment of nephritis in the following terms: As far as possible, avoid and combat every condition that favors the abnormal production or accumulation of acid in the kidney. Evidently the pathologic condition of the patient must be taken into consideration in the application of this rule. Naturally an anesthesia nephritis with suppression of urine will call for a more aggressive therapy than nephritis secondary to a slowly progressing arteriosclerosis. If we succeed in getting the first nephritic over his immediate kidney symptoms, we may make a hopeful prognosis, for when he has exhaled his anesthetic he has rid himself of the condition that was responsible for the abnormal acid content in his kidneys. But in the case of the second nephritic so hopeful a prognosis cannot be made, for while we may also benefit him, he continues to carry the original condition that brought him to us—his arteriosclerosis—even after we have treated him.

My rule for the treatment of the threatened or established case of nephritis may be summarized in these words: Give alkali, salts and water. The reasons in brief are as follows: The alkali is given in order to neutralize the acid present in abnormal amount in the kidney and in the other edematous organs of the body. The salts are indicated (and sodium chlorid is no exception) because the various changes induced in the kidney-colloids by acids are counteracted by adding to such acid any salt, even a neutral salt.[2] We need to give water in order to have more of this present in the body than is necessary to saturate all the body-colloids; otherwise we shall have no "free" water left for the secretion of urine.

## THE PROPHYLAXIS AND THE TREATMENT OF THE MILDER CASES OF NEPHRITIS

First of all, it is necessary to get as clear a conception as possible of all the factors that conspire toward the production or the maintenance of an abnormal acid content in any case of nephritis.[3] Usually there is more than one factor. To the toxic cause of a scarlatinal nephritis may be added that of inadequate oxidation if the patient develops bronchopneumonia. To the toxic nephritis of a pneumococcus infection, already aggravated by interference with respiration, may be added an additional item if the patient develops a convulsion, and so (through muscular work) produces suddenly an enormous additional amount of acid. The eclamptic who has just managed to drag through the last weeks of pregnancy faces death when the muscular efforts of labor or of a convulsion add more acid to that resulting from the intoxication of pregnancy. The patient with subacute or chronic nephritis, who, with persistent edema, some casts, albumin, and a deficient output of urine, is permitted to walk about the ward, may be keeping up the acid content of his tissues by even such light muscular work.

After we have removed as many of these conditions as possible, we may turn our attention to combating those which we cannot remove. These we must try to render as innocuous as possible. Directly or indirectly, we shall find ourselves face to face here with the necessity of fighting an intoxication. In an infectious disease we wish to keep the concentration of the unknown toxin produced as low as possible. The toxin is responsible for the abnormal production of acid in the cells of the kidney (and other organs), and I hold this to be the direct cause of the nephritis. But it should be recalled that the acid intoxication is itself proportional to the concentration of the acid, and this too we wish to keep as low as possible. This can be done only by giving water. It must be insisted on, moreover, that the administration of water shall be regular, and not left to the haphazard inclination of the patient. A good rule is to give a glass every hour day and night. The night administration of water is as important as that through the day, for the production of toxin does not stop with nightfall.

If the water contains an alkali of some sort, so much the better. The natural or artificial alkaline spring-waters are perhaps most easily borne. If the patient will tolerate it, 0.5 to 1.0 gm. of sodium carbonate or sodium bicarbonate may be added to each glass of such alkaline water or to plain water. Some patients who cannot tolerate the carbonates will take sodium citrate, sodium tartrate, sodium acetate or other salts of a strong base with a weak acid in half-gram or larger doses every hour, either when dissolved in water or in capsules fol-

2. Fischer, Martin H., and Moore, Gertrude: The Swelling of Fibrin, Am. Jour. Physiol., 1907, xx, 330; Kolloid Ztschr., 1908, v, 197. Fischer, M. H.: Further Experiments on the Swelling of Fibrin, Arch. f. d. ges. Physiol. (Pflüger's), 1908, cxxv, 99, and subsequent papers.

3. The term "nephritis" is used throughout this paper in its ordinary clinical sense as covering that symptom-complex which is characterized by the appearance of albumin and casts in the urine, by changes in the quantitative output of water and dissolved substances by the kidney, by the development of edema, etc.

lowed by water. Calcium hydroxid can easily be given by mixing lime-water with milk. As the salts of the bivalent metals are particularly active in decreasing the hydration-capacity of the body-colloids, the administration of magnesium oxid or milk of magnesia up to the point where two or three easy movements of the bowels are obtained daily, gives good results. The soluble salts of calcium and strontium, as well as their iodids, acetates, lactates, citrates or tartrates, are also available.

The dietary can be made an excellent and natural vehicle for getting alkali and salts into the body. A predominantly vegetable diet means a diet rich in alkali. Instead of restricting the protein intake of the patient as greatly as has been the custom, it is better to allow a moderate protein ration on the condition that the patient will greatly increase his consumption of selected fruits and vegetables. It is well to bear in mind that vegetables and fruits (with the exception of those that are high in oxalic acid) will yield a greater proportion of alkaline and neutral salts when cooked than when raw. The sweet fruits, either raw or cooked, constitute a most agreeable form in which to get an excess of alkali into a patient.

For reasons that I have often discussed, I think that the amount of table-salt should not be restricted, but that, on the contrary, it should be urged on the patient. Food serves as a natural carrier for this. In the form of salt meats and salt fish we can easily get considerable quantities of sodium chlorid into our patient, and if he keeps a salt-shaker at hand he can liberally increase his intake by dusting salt on his vegetables, his fats and such proteins as we allow him. Through the diet alone we can therefore do a great deal to keep the intake of alkali, salts and water high.

Let us now imagine that, in spite of these procedures, the symptoms of the nephritic do not improve or that the symptoms are so severe from the start that alkali by mouth seems inadequate. What are we to do then?

We continue to utilize the gastric route as well as we can, but now make use of the rectum also, in order to get a further absorption of alkali, salt and water. We never seriously consider whether the patient ordinarily drinks distilled water, or tap-water, or a table-water, and from this point of view we might be inclined to ignore the exact composition of the liquid to be injected into his rectum. But it should be remembered that the proper regulation of salt-consumption is accomplished through the "taste" of the individual. If his salt-consumption has been too high, he craves fresh water and so washes out the excess of salts. If, on the other hand, he has lost too great an amount of salt from his tissues, he consumes more salt and makes up the deficit. So when we give a nephritic water by rectum we must try to give him at least enough salt to cover also the washing-out effects that would follow if we gave pure water. Therefore the substitution of a "physiologic" sodium chlorid solution for water, or better still, a "Ringer" solution, is eminently in order.

But a nephritic has other needs than a normal individual. His kidney specifically, and all the rest of his organs generally, are suffering from an abnormal acid content; that is, they have an increased capacity for holding water (an increased tendency to swell). To reduce the edema in the kidney or in the brain, in the optic nerve or in the tissues generally in the nephritic, I therefore try to increase, at least temporarily, the absolute concentration of salt in the whole body. This is best accomplished by using a hypertonic salt solution[4] to which is added an alkali. Obviously when using such a hypertonic solution by rectum (or intravenously) I do not allow any water to be taken by mouth. The patient may wet his mouth to relieve his sense of thirst, but no more; otherwise we should only be reducing the concentration of the solution we are administering.

The following formula works very well:

| | |
|---|---|
| Sodium carbonate ($Na_2CO_3.10\,H_2O$) ... | 10 gm. |
| Sodium chlorid ..... | 14 gm. |
| Distilled water, enough to make..... | 1000 c.c. |

Simple as this formula is, care must be taken in its preparation if good effects are to be expected. Sodium carbonate is used, not bicarbonate. The carbonate is physiologically more effective than the bicarbonate, for one of the acids which are produced in the body is carbonic acid, and sodium bicarbonate is already saturated with this, and in consequence cannot act as a carrier. The chemically pure, crystallized sodium carbonate ($Na_2CO_3.10\,H_2O$) or the monohydrated form ($Na_2CO_3.H_2O$) is to be insisted on. Two other forms of sodium carbonate are found in the market, the dry ($Na_2CO_3$) and the so-called dry or "dried". The "dried" salt found on the ordinary drug-shelf contains approximately two molecules of water of crystallization ($Na_2CO_3.2\,H_2O$). I am inclined to advise against all except the large crystallized form or the monohydrated form, but *whatever salt is used, its water-of-crystallization content must be remembered, otherwise a solution of a different strength from that which I have found most useful will be obtained.* The proportionate amounts of these four salts that may be used are to each other as their molecular weights, or in definite terms:

10 gm. $Na_2CO_3.10\,H_2O$ (mol. wt. 286, crystallized "salsoda") = 4.95 gm. $Na_2CO_3.2\,H_2O$ (mol. wt. 142, "dried" "salsoda") = 4.33 gm. $Na_2CO_3.H_2O$ (mol. wt. 124, monohydrated "salsoda") = 3.71 gm. $Na_2CO_3$ (mol. wt. 106, really dry "salsoda").

The sodium-chlorid-sodium-carbonate solution should be made up in *distilled* water and filtered. If the salts used are pure and the whole is properly prepared, the resulting solution is perfectly clear.

*Rectal Injection of the Solution.*—Unless the patient is mentally incapable of comprehending what we say, it is well to explain to him before an injection is made just what we desire to accomplish and to secure his cooperation. As the solution is hypertonic and contains alkali in addition, it not only irritates the rectum somewhat, but leads temporarily to a secretion of water into the rectum while the salt and alkali are being absorbed.[5] If the patient is made comfortable in bed and if his cooperation is secured, the solution is retained for longer periods of time, or entirely, and a more perfect absorption of the alkali and salt is obtained.

To inject the solution, I make use either of a continuous drip-method, or inject larger quantities at varying

4. The osmotic conception of water absorption has assumed such dominance in the biologic sciences that the word "isotonic" has been made synonymous with "isosmotic," while the words "hypertonic" and "hypotonic" have come to mean, respectively, osmotic concentrations above and below this. As we can no longer uphold the osmotic theory of water absorption by protoplasm, we must again learn to use the words "isotonic," "hypertonic" and "hypotonic" in their original sense, "isotonic" referring to solutions of any substance or substances which allow of no change, "hypertonic" to those permitting a decrease, and "hypotonic" an increase in the volume of the cell, tissue or organ.

5. No solution is absorbed or secreted "as such," as is usually taught. See Fischer, M. H.: Edema, New York, 1910, p. 200; Kolloid-chem. Beihefte, 1911, ii, 304 (see Note 1) (available in English in Cincinnati Lancet-Clinic, 1912, cvii); Nephritis, New York, 1912, p. 113; Hogan, J. J., and Fischer, M. H.: The Theory and Practice of Perfusion, Kolloid-chem. Beihefte, 1912, iii, 385.

intervals of time. It is not necessary first to cleanse the rectum locally, and especially are we *not* to try to accomplish this end by a previous administration of cathartics. Both of these methods only increase the irritability of the rectum.

*The Fractional Instillation Method.*—This is easily accomplished by utilizing the apparatus shown in Figure 1. The solution to be injected is heated to 105 F., and the patient being in position, the catheter is lubricated with petrolatum. Into the funnel are now poured 250 c.c. of the solution, and the stop-cock is temporarily opened so as to drive the air out of the tube and catheter. The catheter is then gently inserted well into the rectum, and the funnel is emptied by again opening the pinch-cock. The short glass tube will inform the operator when the last portions of the mixture are flowing into the rectum, when the hold on the pinch-cock is released. In this way no air will be allowed to enter the rectum and balloon it, and extra irritation from this source will be avoided. The injections may be repeated as often as the symptoms of the patient demand them, or until the patient finds it difficult or impossible to retain them. A period of rest should then be given. If the case is so urgent that this cannot be allowed with safety, then the solution must be given intravenously. (See below.)

*Continuous Drip Method.*—When the solution is to be given by this method, the arrangement shown in Figure 2 works very well. From 1 to 4 drops a second should enter the rectum. This is about as high a rate of injection as the patient can stand without rejecting the fluid. Roughly, this corresponds to an injection of from 240 c.c. to 960 c. c. per hour.

The injection-fluid is retained best if it is delivered *into the patient* at not less than body temperature, and 110 F. is better. For this reason the thermometer in *D*, located as near the rectum as possible, is of great convenience. As the solution slowly passes out of *A* through the tube, it falls in temperature. The vessel *A* is therefore conveniently filled with the solution at a temperature somewhat above 110 F. Or one can set this vessel into a second one containing warm water, or place the tube *B* in warm water, or cover it with a blanket by way of maintaining the solution at a proper temperature, as convenience and the ingenuity of the medical man dictate. In hospital practice, thermostatic devices heated by electricity or gas may be installed conveniently.

*Amount and Time-Interval.*—How much of the solution may be given by rectum and how long do we continue with it? The answer to this is found in the condition of the patient. So far as I have been able to observe, no harm can be done by indefinite use of the solution. A full physiologic effect is obtained when the patient is kept free from the various signs and symptoms of nephritis, and the urine is persistently neutral in reaction toward litmus. Such a full effect may be obtained in a day or two, or it may require a week. The symptoms may have cleared entirely even before the saturation of the body with alkali has been carried to the point where the patient secretes a persistently neutral urine. His improvement will by itself suggest a reduction in the number of injections or their entire abandonment.

Individuals differ greatly in their behavior toward these injections. I have seen patients bear them for weeks at a time without complaining and without ever rejecting them. Others will insist from the first that they cannot hold them. In this connection, it is well to point out that if these hypertonic salt-alkali mixtures are retained for any time at all, say even for an hour, they do much good. When at the end of such a period the patient rejects some fluid from the bowel, this is not the same as that which was introduced, simply minus a certain quantity that has been absorbed. Hypertonic sodium chlorid-sodium carbonate mixtures are not absorbed as such. The salt and alkali are absorbed out of the solutions while water is being secreted into the bowel. If the solution is retained even for a short time, the patient will have increased his body-content of alkali and salt, which is the whole purpose of my therapy.

It is well, if possible, in the first twenty-four hours of treatment to have 2 liters (about 2 quarts) of the solution retained by the patient. For a few hours after starting the injection it is well to give but little water by mouth, in order to exert as great a shrinking effect as possible on all the tissues. But as soon as the urinary

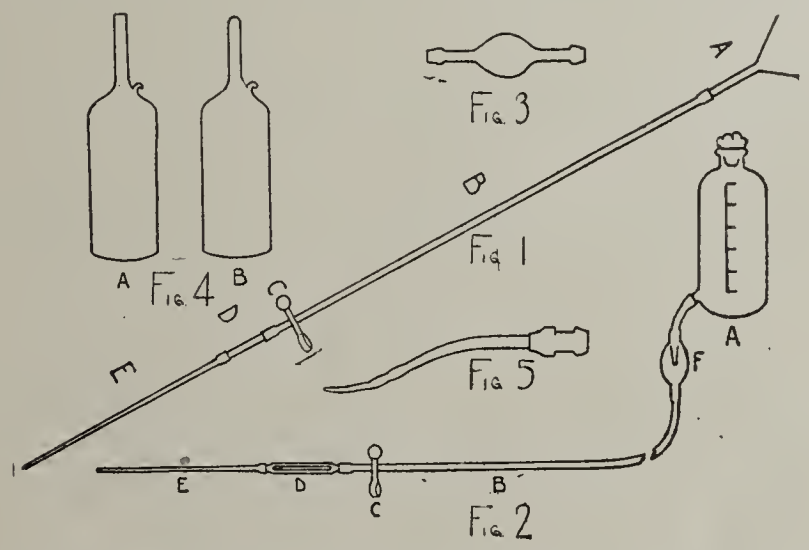



Fig. 1.—Apparatus for fractional instillation method of injecting rectal solution. *A*, funnel with capacity of not less than 250 c.c.; *B*, soft rubber tube at the lower end of which is the pinch-clamp *C*; *D*, short glass tube that connects *B* with the soft rubber catheter or rectal tube *E*.

Fig. 2.—Apparatus for continuous drip method of injecting rectal solution. *A*, ordinary half-liter or liter graduated irrigating vessel with a side tubulation. It connects through the rubber tube *B*, carrying a pinch-cock *C*, with the glass insert *D*, in which lies a thermometer. The insert connects with the soft rubber catheter or rectal tube *E*. *F*, glass insert which permits us to observe the rate at which solution is dripping into the rectum.

Fig. 3.—Bulb insert filled with sterilized glass wool for rectal or intravenous injection of salt-alkali solution.

Fig. 4.—*A*, Ampule for holding sterile salt-alkali solution; *B*, Ampule sealed in a flame.

Fig. 5.—Cannula to be connected with apparatus for injecting solution into vein.

output begins to increase and rise toward a more normal point, I urge the patient to drink water, so as to have free water available for urine. I find good practitioners overlooking the importance of this point constantly. While some water is introduced with the hypertonic salt solution, most of the "free water" that is lost through the kidney after absorption of the hypertonic solution has been taken from the tissues (which may be edematous). But it is self-evident that this robbing of the tissues can go on only for a limited time. Then we have to supply water from the outside if we wish to keep up the urinary secretion.

If for any reason it is not possible to feed enough water by mouth, then we can use the rectum. After the kidneys are functioning in a more normal way, we may substitute for the hypertonic solution one more nearly isotonic with the body-fluids. A "physiologic" salt solution (0.85 per cent. to 0.90 per cent. sodium chlorid) does very well, though the following mixture

is better, for it gives the much needed alkali as well as the water.

| | |
|---|---|
| Sodium carbonate ($Na_2CO_3.10\,H_2O$) ... | 10 gm. |
| Sodium chlorid ..... | 7 gm. |
| Distilled water enough to make..... | 1000 c.c. |

This solution may be injected in indefinite amounts and gives rise to no rectal irritation. But since it is not hypertonic, it does not produce so marked or so rapid general effects as we seek in the more acute manifestations of nephritis.

The desire to introduce into the nephritic the bivalent metals which would dehydrate his body-colloids far more than do the univalent metals that are used cannot be easily satisfied. The reason for this is obvious. Their hydroxids are largely insoluble, and so the administration of bivalent metals such as calcium or magnesium along with carbonates or hydroxids is impossible. The only schemes that I have found of service are limited to patients with mild nephritis and to patients who are recovering from the severer types, when lime-water may be added to the milk consumed by the patient; or he may be given magnesium oxid, milk of magnesia and soluble calcium or strontium salts by mouth. For rectal injection a "physiologic," 0.85 per cent., sodium chlorid solution to which not more than 0.1 per cent. calcium chlorid is added also works very well if alkaline solutions have not been used for some hours previously.

### THE TREATMENT OF SEVERE CASES OF NEPHRITIS

Under this heading I shall consider those patients in whom we encounter such especially alarming signs and symptoms as great or complete suppression of urine, rapidly progressing optic nerve changes, persistent headache and nausea, vomiting, convulsions, stupor and coma, great quantities of albumin in the urine, etc.

While I realize that a complete explanation of the nature and of the cause of these various clinical signs cannot be summed up in any brief statement, I believe that an essential, if not the essential element in all of them is an edema of the affected part. This edema is represented physico-chemically by an increased swelling on the part of the colloids of the tissues involved, and as responsible for such an increased swelling we hold the abnormal production or accumulation of acid in the part, either alone or in conjunction with such other substances as are also capable of increasing the hydration-capacity of the tissue-colloids. Or, to repeat what I have already often emphasized, what are called the serious complications of nephritis are not really complications secondary to this pathologic entity, but are manifestations in other organs of the body of the thing which in the kidney we call nephritis. The lesions in other organs are as primary as those in the kidney.

Just as the nephritis is in large measure an edema of the kidney, so the optic nerve swelling and the "retinitis" of nephritis are edema of the optic nerve and of the retina; the headache, convulsions and coma are manifestations of an edema of the brain; the persistent nausea and vomiting of central origin are manifestations of an edema of the medulla; and the generalized edema is an expression in the body-tissues of that which in the kidney we call nephritis. The same intoxication underlies all these changes, and it is mere accident, not immediately analyzable, that one nephritic will show particularly prominent eye-symptoms, another a great generalized edema, while a third will call us to his side because of a convulsion. For any one of a number of reasons, the edema may become particularly prominent in his optic apparatus, or in his body-tissues generally, or in his brain. If these facts are borne in mind, it will serve to indicate why I believe that any or all of these conditions demand the same general treatment, and why, if I succeed in combating a particularly prominent one, I find that I have succeeded in combating all the rest as well.

Whether the particularly alarming symptoms spring from the kidney itself (a suppression of urine, a great albuminuria, etc.), or whether they spring from the brain (convulsions, stupor, coma), the eye ("papillitis," "retinitis," partial blindness), or the medulla (nausea and vomiting), the purpose of my therapy is the same—I wish to stop and reduce the swelling of the involved tissues. Naturally the best and quickest way to do this is to inject something into the blood; what this something must be I have already discussed.

*The Preparation and Sterilization of the Salt-Alkali Solution.*—The first formula already recommended does very well. It is well to have this solution ready for immediate use, for its preparation in sterile form takes time, and the need for it when it arises is urgent. What I have already said regarding its chemical ingredients holds here also. The finished solution as injected into the patient must be perfectly clear and sterile. Simple as it would seem to obtain this result, it is not always obtained even when its preparation is left to trained helpers. Therefore I may be pardoned for detailing the following rules for its preparation in containers that make it available for immediate use.

Trouble arises from the fact that alkaline solutions cannot long be kept in contact with ordinary glass containers without reacting with the glass and so leading to a separation of insoluble silicates. Jena glass flasks resist better than other material, and so the finished solution may be sterilized and kept in these. For this purpose, it is only necessary to dissolve the sodium chlorid and the sodium carbonate in the necessary amount of freshly distilled water, and filter the solution through moistened filter-paper (in order to get no shreds into the solution) into thoroughly cleaned Jena flasks which have been rinsed in distilled water. It is convenient to have 2 liters of solution in each flask. The flasks are stoppered with gauze-wrapped cotton stoppers, and may be sterilized in the ordinary way by boiling. This scheme works well in hospitals or wherever storage-room is plentiful.

When needed for injection, this solution may be poured into any one of the properly sterilized intravenous injection apparatus that abound in the market. If the solutions show a precipitate in spite of the use of Jena glass containers, the clear solution may be decanted or the whole may be filtered through a sterilized funnel into the neck of which has been forced a little sterile glass wool. Or a sterilized glass bulb insert of the type shown in Figure 3 into which has been forced some glass wool may be used in the delivery tube of the injection apparatus. As the carbonates and hydroxids of the polyvalent metals are all insoluble, every piece of any injection-apparatus must be rinsed and sterilized only in distilled water. When ordinary tap-water is used, calcium and magnesium precipitates cloud the injection-mixture.

I have found it best to make up the sodium chlorid-sodium carbonate solution in ampules and then mix this concentrated solution with enough freshly distilled water to yield the proper injection-mixture at the time this is needed. One proceeds as follows: Any desired

number of multiples of 10 gm. of sodium carbonate ($Na_2CO_3.10\,H_2O$) and 14 gm. of sodium chlorid are dissolved in enough water to make 60 c.c. of finished solution. This solution is filtered and then sterilized by boiling.[6] One or more ampules of the type shown in Figure 4, *A*, and of about 60 c.c. capacity (if these are not available, bottles will do as well), are thoroughly cleaned, rinsed in distilled water and then boiled in distilled water to sterilize them. Into each of these, 60 c.c. of the concentrated sodium carbonate-sodium chlorid mixture are then filtered through a small sterilized funnel plugged with glass wool. When the ampules have been filled, they are sealed in a flame as in Figure 4, *B*. If bottles are used they are corked with sterile corks, and over these is fastened a sterilized paper hood to protect the necks from contamination. When an intravenous injection is to be given, an ampule is taken, its neck is nicked with a file, and this and the lateral bead are cleaned with alcohol, and broken off. The contents are then poured into 940 c.c. of freshly distilled water, care being taken to mix the whole so that the specifically heavier salt solution may not simply settle to the bottom.

After many trials I have found this the best way to proceed; and as dispensing pharmacists in any community are willing to carry these ampules in stock, one can easily obtain fresh and clean solutions at all times. If a precipitate of silicates should be found in an ampule, one can readily avoid pouring this into the injection-apparatus, or one may filter the contents of the ampule through a little glass wool.

*Technic of the Intravenous Injection of the Solution.*—The experience of the past year has convinced me that it is best in making these injections to cut through the skin and expose the vein to be used clearly to view. The results are bad if one fails in his attempt to enter a vein with a hypodermic needle through the skin. The salt-alkali mixture produces a great destruction of the tissues if it is by accident injected into them.

A vein that is deemed sufficiently large is sought in the arm, in the leg, or if necessary, in the neck. As we may wish to make several injections it is advisable to pick for the first injections the prominent veins most distant from the heart. Unfortunately, in many of the conditions in which we wish to use the sodium chlorid-sodium carbonate solution, not much choice is allowed us, for the blood-vessels are so much contracted (toxemic shock?) that it is often impossible to find any usable vein below the bend of the elbow. Even here, surgeons have been unable to find the median basilic in such cases. This will explain to the reader why in extreme cases, such a vein as the jugular needs to be and has been used.

To expose the vein painlessly a few drops of a cocain or a novocain solution may be injected into the skin. If the patient is stuporous or in coma this is of course needless. The vein is freed from its surroundings and a ligature is tied about its distal end. A second ligature is thrown about the vein, and after a cut has been made into the vein and the cannula connected with the injecting apparatus has been inserted, this ligature is tied. Care is of course taken to have no air enter the vein.

The best type of cannula to use is shown in Figure 5. The two openings at the tip and laterally make it well-nigh impossible to shut off the infusion-stream by crowding the cannula against the wall of the vein. The tapering character of the cannula allows one to push it into even a small-calibered vein, and the corrugation holds the cannula in place when the second ligature is tied.

Sometimes it is better to use a large hypodermic needle in place of the cannula. The first ligature about the exposed vein then serves to steady the vein when the needle is pushed into it. When the hypodermic needle is used it is simply held in place until the injection is completed. As can easily be imagined, the use of the needle is especially convenient if one works with such a vein as the jugular. The disadvantages in its use arise from the fact that one is likely at any time to injure the blood-vessel if the patient moves, and from the further fact that the carbonate solution affects the coat of the vein and so tends to leak out about the needle after the injection is kept up for some time.

As I have already mentioned, any of the various apparatus on the market for intravenous injection may be used to give the alkaline hypertonic sodium chlorid solution intravenously. The medical attendant should choose the apparatus with which he is most familiar.

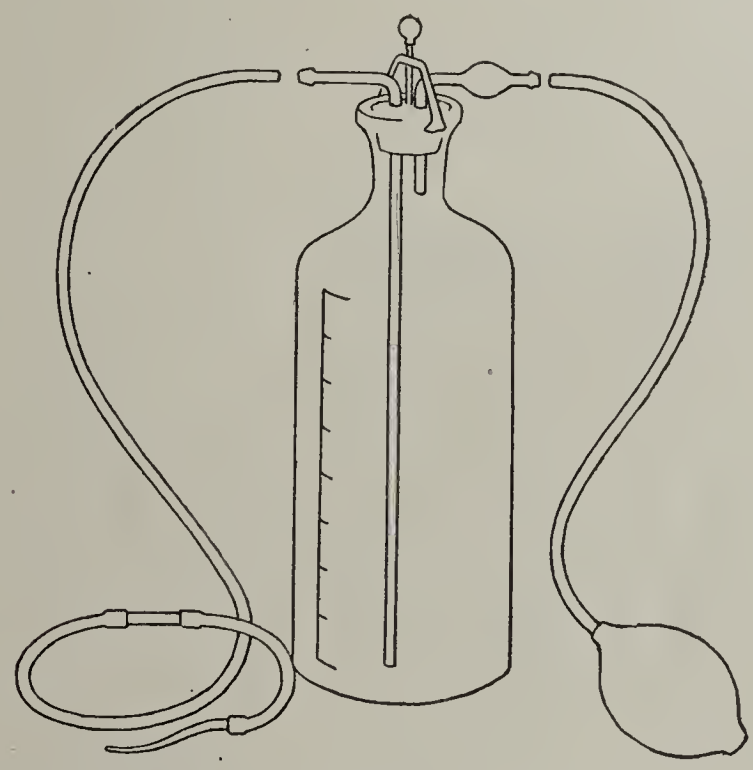


Fig. 6.—Pressure-bottle apparatus for injecting solution into vein.

Perhaps that shown in Figure 2, with a cannula replacing the catheter and minus the thermometer and the insert *F*, is the simplest available form. The side tubulation with the rounded bottom or a glass bulb insert filled with glass wool (Fig. 3) will make it almost impossible, if care is used, to inject any sediment that may accidentally appear in the injection-fluid. The rate of inflow must be slow, and is conveniently regulated by gravity. The pressure-bottle arrangement shown in Figure 6 possesses some advantages over the apparatus just referred to. No special comment is necessary regarding its use, and I need not in this day emphasize the necessity of having all rubber tubes, etc., perfectly sterilized by boiling in distilled water.

The faults of the apparatus shown in Figure 6 are that it possesses no arrangement for keeping the solution at body-temperature, and that we do not know in as accurate a manner as we desire the exact rate and the exact pressure at which the sodium chlorid-sodium carbonate solution is entering our patient at any moment.

6. In my book on nephritis, and in a paper or two, I have cautioned against the use of excessive heat in sterilizing these carbonate solutions. The caution I find was scarcely necessary, for at the ordinary temperatures and pressures at which such sterilization is carried out, the carbonate is not decomposed.

To meet these difficulties, the very useful apparatus shown in Figure 7 was devised by Edmund M. Baehr. We have here again the same glass pressure-bottle already shown in Figure 6, but this is surrounded by a copper water-jacket by means of which the injection fluid may be kept at body-temperature or a little above it. The thermometer registers the temperature existing in the jacket, and as the temperature of the injection-fluid falls on its way into the patient, it is advantageously kept from 3 to 5 degrees above the temperature at which we wish to deliver the solution into the patient. The rubber bulb shown in Figure 6 is advantageously replaced in the apparatus shown in Figure 7 by a metallic pump; a mercury manometer, inserted as indicated in the drawing, allows one to know at all times the exact pressure obtaining in the pressure-bottle.

The solution should always be injected slowly into the circulation so that it may mix with the blood, and at as even a rate as possible. Not over from 30 to 40 c.c. should be injected per minute. By testing out the apparatus before making the injection it is easy to note just how much pressure is necessary to accomplish this. As the pressure in the larger veins is almost nil, from 30 to 40 mm. of mercury-pressure usually suffice, and one need never run above 50 mm. if a cannula or needle of proper diameter is chosen. If the solution is given to a patient who for any reason has to maintain an upright position, it is well to remember that in such a case the arm must be comfortably supported in as horizontal a position as possible in order not to have to work against a considerable hydrostatic pressure in the veins. The pressure and the oscillations of the mercury-column indicate every moment whether the solution is flowing in properly or not.

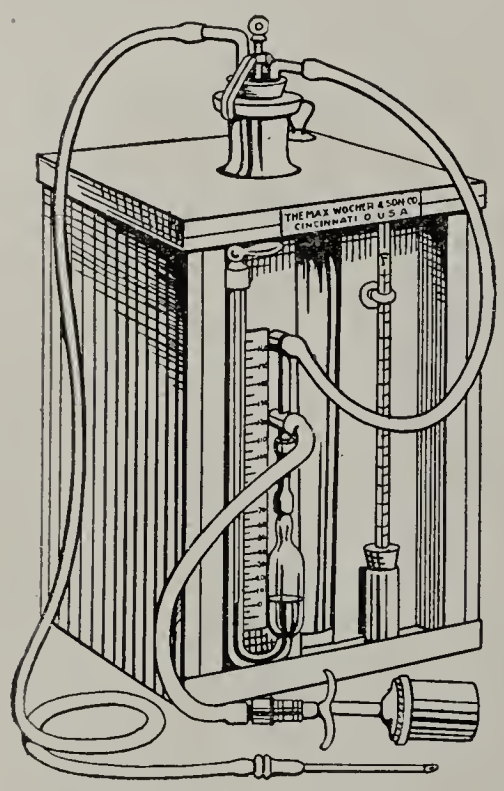



Fig. 7.—Apparatus for keeping solution at body-temperature.

*The Quantity and Time-Interval of the Salt-Alkali Injections.*—It is necessary to say now how much of the solution may be injected at one time and how often the injection may be repeated. In any case of suppression or in a case with convulsions, persistent vomiting or other alarming symptoms, from 1,800 to 2,000 c.c. of the solution should be given for the first dose. In the case of a child I give a proportionate dose obtained by dividing the child's weight by that of a small adult. A child of 30 kg. (66 pounds) is given half the dose of a man weighing 60 kg., etc. The repetition of the injection and the amount given subsequently must then be determined by the condition of the patient. If within two or three hours urine begins to come and the convulsions stop, or if the sensorium clears or the headache and eye-symptoms improve, enough has been given for the time being.

If the patient is awake, he is likely to complain of thirst during the injection. It is best not to let him satisfy his thirst immediately for the reasons that I have already discussed. If the redevelopment of some prominent symptom indicates that the patient is relapsing into his previous state, then a second injection of 1 or even 2 liters of solution may be given six, twelve, or twenty-four hours after the first injection. Closer rules than this can hardly be given. If the patient improves for a number of hours after the first injection, and then goes down again, repeat the injection at this time. From 500 to 1,500 c.c. in any twenty-four hours after the first injection is certainly safe.

If the suppression of urine is not absolute, then it is a useful guide as to the amount of alkali and salt that may be urged on the patient. It is safe to give alkali, and it should be given until the urine is *persistently* neutral or slightly alkaline to litmus. For self-evident reasons, it is possible for the urine to be alkaline immediately after an intravenous injection, even when the acid content of the body generally is still abnormally high. Not until the urine is persistently neutral, therefore, can we say that we have really succeeded in getting an adequate amount of alkali into the patient.

Various observers have commented on the large quantity of fluid that is injected intravenously in clinical cases of nephritis and allied conditions. I have injected as high as 4 liters (4 quarts) in twenty-four hours. Some clinicians have for various reasons remonstrated that this is dangerous, chiefly on mechanical grounds, and because this "throws work on the heart." In so far as the elimination of water from the body costs energy, this is to a limited extent true, but only to a very limited extent, as I have previously insisted. Physiologists know that the volume of circulating blood can be more than doubled without appreciable effect. Counting the blood in the human being as one thirteenth the body-weight, it is therefore entirely safe to inject a liter of fluid for every 13 kg. (about 28½ pounds) of body-weight; but as I have pointed out elsewhere,[7] this is a safe figure if blood, in other words water in combination with a colloid, is injected. Only such remains in the blood-vessels. When the water is injected "free," as in a salt solution, this rapidly leaves the blood-vessels, and so the amount of this that may be safely injected lies still higher. What I have said here is still largely true even when we deal with sclerosed blood-vessels, though to allow for the diminished elasticity of the blood-vessels in such cases a slower injection or injection of a less amount at more frequent intervals, as the judgment of the operator may dictate, may advantageously replace the single large injections.

About one in every three patients injected with alkaline hypertonic salt solution develops some reaction. At times he develops a chill which, however, does not last long, or he has a slight rise in temperature. Once I found sugar in the urine. It will be noticed that these findings are similar to those observed after intravenous injections of salvarsan and other medicaments. European authors have laid stress on the distilled water employed in making up the solutions, maintaining that bacterial products are present in old distilled water. For this reason I have always urged the use of freshly distilled water, but even then I have seen these reactions.

7. Fischer, M. H.: Edema, New York, 1910, p. 184; Nephritis, New York, 1912, p. 193; Kolloid-chem. Beihefte, 1911, ii, 304 (see Note 1). Hogan and Fischer: Kolloid-chem. Beihefte, 1912, iii, 385.

I next attributed the effect to the action of the alkali on the red blood-corpuscles, and a resulting hemolysis. This, however, can only be a small part of it, for one of the worst reactions I ever saw occurred in a woman to whom I gave a concentrated solution of neutral salt only. To explain the findings—which are now being studied on laboratory animals—I have come to the tentative conclusion that two things are active: first, a shrinking of the red blood-corpuscles which makes these less able to carry oxygen; second, a more important direct action of the salt and alkali on the medulla. The latter effect, I think, leads to the vasomotor disturbance in the skin which we call a chill, to the consequent retention of heat that accounts for the rise in temperature, and to the appearance of sugar in the urine, as Bock and Hoffmann[8] found many years ago when rabbits were perfused with sodium chlorid solutions. How to avoid these effects is not yet entirely clear to me. The rules that I have formulated for my own guidance call for the use of freshly distilled water and as slow an injection as is conveniently possible. It is undoubtedly better to give in place of single large intravenous injections several smaller ones separated by intervals of time which allow the salt and alkali to diffuse into the body-tissues, but unfortunately the necessity of opening into more than one vein and the critical condition which we are usually asked to meet does not always allow of this. Before, throughout and after the injection the patient is carefully protected from muscular exertion, and the possibility of a chill is guarded against by extra blankets, hot-water bags, etc. If complete muscular and mental relaxation is not easily obtained, a *small* dose of codein, heroin or morphin may be used.

## CLINICAL RESULTS AND COMMENT

In the light of the considerations in the earlier paragraphs of this paper it will not surprise any one that the acuter forms of nephritis which we observe after various intoxications are usually easily relieved by giving alkali and salt in sufficient concentration. While at first sight it seems rather strange that a woman in a pregnancy-intoxication with little or no urine, with great quantities of albumin and casts, with constant headache and nausea, with partial blindness, with convulsions and coma perhaps, ceases her convulsions, comes out of her coma, says that her headache and nausea are better and shows an improvement in the urinary output within a few hours after an intravenous injection of an alkaline hypertonic salt solution, there is really nothing strange about it. If I am correct in maintaining that these various signs and symptoms represent from the side of various organs the same series of colloidal changes which in the kidney are called nephritis, and if I have correctly analyzed these colloidal changes as being of the nature that are induced through an abnormal production or accumulation of acid in these various organs (in its turn all brought about by the same poison circulating through all the organs of the body), then it is to be expected that the alkali and salt which will relieve the signs and symptoms referable to one of these organs must also relieve those referable to any other.

It is obvious that on such a basis an anesthesia-nephritis must be easily relieved when alkali and salt are introduced into the body. During an anesthesia we introduce into the body a poison which interferes with the normal oxidation chemistry in nearly all the cells; and that we have an abnormal production and accumulation of acid in the body following this is attested to not only by the thirst of which the patient complains, but by the accelerated breathing and heart-beat, the abnormally high acid (hydrogen ion) content of post-anesthetic urine, and the appearance in it of such "acidosis" products as acetone, diacetic acid, lactic acid, etc. As soon as we stop administering the anesthetic the patient begins to exhale this; therefore, in a comparatively short time the intoxication responsible for the abnormal production and accumulation of acid in the body disappears.

The patient also usually succeeds in oxidizing the acid products resulting from his intoxication, so that it is the usual thing to see a patient bear his anesthesia without bad after-effects. Sometimes, however, he is not so successful in overcoming the effects of his anesthesia, and then if his intoxication evidences itself chiefly by symptoms referable to his kidneys, we say he has a post-operative nephritis. If it should happen to involve his liver particularly, we say he has a "postoperative jaundice," "chloroform liver," etc. If now we administer alkali and salt, the alkali neutralizes the abnormal acids present, and the increased salt concentration reduces the hydration-capacity of his swollen kidney-colloids and other body-colloids. If the injury to them has not been too great (or technically, if the colloidal changes have not become "irreversible"), these measures quickly restore his kidneys (and other involved organs) to a more normal state. As the body-colloids shrink, "free" water becomes available for urine. This shrinking in the kidney assures this organ a better blood-supply and the kidney-cells themselves are also once more enabled to resume their work. Once we have obtained this result, a recurrence need scarcely be feared, for the original toxin (the anesthetic) has by this time disappeared from the body and the relief obtained is permanent.

If we write the names of other toxic agents in the place of "anesthetic," we can imagine what happens in the nephritides that we encounter in any of the acute infections, and in the various other acute intoxications which we know to be associated with the development of nephritis. Here again natural physiologic processes take care of the great majority of cases, but when they do not we may again be able to give relief.

For self-evident reasons our prognosis grows worse and our efforts need to be greater when the intoxication is prolonged or is of a less removable type. We encounter this situation in protracted infections, in acute infections that leave behind toxins that stick with particular firmness to the kidney-cells (scarlet fever?) and in the prolonged intoxications resulting from phosphorus and the heavy metals. Not alone do some of these produce irreversible colloidal changes (necrosis) in the cells of the kidney from the start—changes, therefore, which can never be "cured" by any therapeutic procedure—but, even when such is not the case, in these prolonged intoxications the interference with the normal oxidation chemistry of the kidney-cells is of a more lasting character. Here our therapy also must be more persistent. Therefore in the nephritides following the administration of mercury or arsenic, in those accompanying acute and chronic infections, and in those of pregnant women, a single dose of alkali and salt may do no more than give temporary relief. We must meet the intoxication as long as it persists, and only as the nature

8. Bock and Hoffmann: Arch. f. (Anat. u.) Physiol., 1871. Fischer, M. H.: Univ. of California Publications in Physiology, 1903, i, 77; *ibid.*, 1904, i, 87; Arch. f. d. ges. Physiol. (Pflüger's), 1904, cvi, 80; *ibid.*, 1905, cix, 1.

of the intoxication permits of this, or our skill is equal to the occasion, can we hope for good results.

We move from the protracted case of nephritis which is the result of a lasting intoxication of some kind by imperceptible steps over into the chronic nephritides. As soon as we discuss the chronic nephritides we find that we have to distinguish between those which represent a mere continuation of what was once a more acute process (the chronic parenchymatous nephritides, the secondarily contracted kidneys) and those which are chronic from the start, as in the type generally known as chronic interstitial nephritis (primarily contracted kidney) associated with changes in the cardiovascular system. Evidently if my views are correct, the nephritis which continues because of a protracted intoxication needs equally protracted treatment with alkali, salt and water. It has seemed to me that such a procedure yields good, and at times unexpectedly good results; but of this each must convince himself, for it is impossible, except as one works these things out for himself, adequately to meet the eternal argument that what has happened in such cases would have happened anyway.

Especially is it difficult to meet such an argument when we deal with the chronic interstitial types of nephritis associated with cardiovascular disease. One can foresee from the start that this type of nephritis offers the least possible chance of being markedly benefited by an alkali-salt-water therapy, and in its final stage none at all. I have emphasized this repeatedly, and were it not for the fact that it is on this very type of case that some of my critics have based their arguments, it would scarcely be necessary to refer again to some self-evident facts. How much and what can we do for such cases?

The primary change in chronic interstitial nephritis associated with vascular disease is not nephritis but vascular disease. Every experimental fact and all physiologic reasoning bear this out.[9] In consequence of the vascular disease, one piece after another of the kidney suffers destruction. These pieces as they degenerate show the morphologic evidences of "parenchymatous nephritis," and corresponding with these destructive lesions we find traces of albumin and a few casts in the urine. This process may go on for years without being noticed by the patient, for the healthy kidney-tissue between the areas of nephritis is able to carry on the necessary functions of excretion. Such a patient can get along easily with one-fourth of his total kidney-substance, and is more likely first to be made aware of his condition in a life-insurance office than in that of a physician whom he has himself sought; and if we make the diagnosis, his blood-pressure and the evident changes in his heart and blood-vessels are what lead to a correct estimate of the significance of his albumin and casts.

If we but remember that the blood-vessel disease is the primary thing, then we get also a correct estimate of the significance of the changes in distant organs—changes considered by most as consequences of chronic interstitial nephritis. An "albuminuric retinitis," a glaucoma, persistent headaches, even the uremic convulsions and coma occurring in these cases, are the same thing in the retina, the eye or the brain which in the kidney we call chronic nephritis. The hemorrhage into and swelling of the retina, the swelling of the eye with its clouding of the clear media, and the edema of the brain are analogous to the hemorrhage, the clouding and the swelling of smaller or larger areas of the kidney affected with chronic interstitial nephritis. That which is common to both is disease of the blood-vessels; and as this blood-vessel disease cannot be and is not materially influenced by the injection of alkali, salt and water, this therapeutic procedure can be of little or no use in this type of disease. The only cases in which it can be of service are those in which the blood-vessel disease is in itself not wholly responsible for the observed changes, but other temporarily active factors have been or are also responsible in bringing about the clinical picture.

An illustration of this is offered by the "exacerbations" which we note clinically in the cardiovascular types of chronic interstitial nephritis. Cardiac dilatation, an anesthetic, an alcoholic debauch, hard muscular work or starvation will do to the cardiovascular kidney what they do to a normal kidney, in which case these effects are added to those already produced in this organ by the irremovable blood-vessel disease. The cardiovascular (focal) parenchymatous nephritis becomes a diffuse nephritis, and clinically, a normal water output with few casts and little albumin gives way to a lowered output with many casts and much albumin. Alkali and salt relieve the consequences of such added factors, but blood-vessel changes that permanently interfere with the blood-supply (especially end-arteries) to a portion or all of an organ, are not relieved thus.

If the simple argument that I have outlined will be borne in mind, it will help to a better understanding of what may be expected and what cannot be expected from the use of alkali, salt and water in the chronic types of nephritis. The final picture of such cases is all too often not that of pure nephritis, but one complicated by a failing heart. When a heart from any cause whatsoever drops below the lowest level of efficiency necessary to maintain a proper circulation, and has no remnants of recuperative powers left in it, alkali and salt cannot supply them.[10]

A detailed account of the clinical histories of a number of nephritics treated by the method herein described is given not only in my book but elsewhere.[11] These have been commented on in various ways—to some they "read like the cures of the nostrum venders,"[12] to others the patients would have recovered anyway; some believe the whole procedure valueless, some believe it distinctly harmful; one group accepts what I have written as essentially true. In the dilemma I can only advise the objective thinker in medicine to reject my views and in treating his patient first exhaust other approved methods. If by any chance he should feel that his patient is going to die, then he may turn to an alkaline hypertonic salt solution. If the patient dies, the expected will merely have happened. If the patient lives, it proves nothing, but it may encourage repetition of the experiment. And this, I feel, is all that is necessary.

9. For a discussion, see Fischer, M. H.: Edema, New York, 1910, p. 192. Nephritis, New York, 1912, pp. 56 and 94.

10. This is the type of case chosen by Joseph L. Miller (Am. Jour. Med. Sc., 1912, clxiv, 8; Clinical Experience in the Drug Treatment of Edema, abstr., The Journal A. M. A., June 22, 1912, p. 1972), on which to test out the value of a salt-alkali therapy. Aside from the fact that his "'Fisher' solution" had a composition all his own, his results were entirely predictable. According to his own statement the majority of his patients were nephritics with permanently decompensated hearts. Naturally alkali and salt could not produce a diuresis when the mechanism for water secretion was about gone. Only heart and respiratory stimulants, such as caffein and its derivatives, drugs in other words which gave these hearts a last kick and temporarily assured a better oxygen supply to the kidney- and body-tissues generally, gave a temporary "diuresis." It was not necessary to be a believer in any of the colloidal notions of water absorption to foresee all this, for we have known since 1860 that an inadequate circulation will not allow even a normal kidney to secrete urine.

11. Fischer, M. H.: Nephritis, New York, 1912, p. 160; Tr. Assn., Am. Phys., 1912.

12. Review of Fischer's "Nephritis," Arch. Int. Med., May, 1912, p. 637.

# ACUTE POSTERIOR GANGLIONITIS

## SIMULATING SURGICAL CONDITIONS IN THE ABDOMEN

LAWRENCE LITCHFIELD, M.D.

PITTSBURGH

Herpes zoster is the eruption, the peripheral manifestation, of acute posterior ganglionitis. During the symposium on acute anterior poliomyelitis, at the recent International Congress on Hygiene and Demography in Washington, frequent reference was made to the analogy between the disease under discussion and herpes zoster, in their prodromal symptoms, their self-limited course, occasional epidemic character, evidence of contagiousness in some cases, and the usual immunity to second attacks. Russo,[1] Fuchs, Hutchinson, Hybord and others, furthermore, have described cases of herpes zoster accompanied by paralyses. Whether or not the epidemic, sporadic, traumatic and secondary forms of herpes zoster are etiologically identical has not yet been determined, nor does it at present concern us.

The following description of the symptomatology of acute posterior ganglionitis, gathered from my own observations and from various articles and reported cases, is calculated to show at a glance ample justification for the title of this article.

An attack of acute posterior ganglionitis may be preceded by a prodromal period extending over several days, marked by restlessness, general malaise, anorexia, digestive disturbance and colicky pains; or an attack of sharply localized pain may have occurred in the same locality a week or more before the pain which is followed by the characteristic eruption. The real onset of the disease may be signalized by the occurrence of a sudden, severe, more or less sharply localized pain, which may arouse the patient out of a sound sleep at night and has been described as sharp, shooting or lancinating. This may be accompanied or preceded by chilliness, shivering or slight rigors, general muscular pains, and a slight rise of temperature—100.5 in an adult or 102 in a child—nausea or vomiting, local tenderness, and moderate leukocytosis (13,000 to 18,000, chiefly polymorphonuclear, although the eosinophils may share in the increase). The only records of leukocyte counts in this disease which I have been able to find have been made after the appearance of the eruption, but it is fair to assume that leukocytosis often exists in the preeruptive stage. Acute cases may be accompanied by retention of urine and feces. In one case reported by Sabrazés and Mathis,[2] the pain appeared suddenly in the right hypochondrium after an unusual effort. This severe and sharply localized pain and tenderness may precede, by as much as five days, the appearance of the characteristic eruption over the same area. Now let the corresponding ganglia be affected and we may have the pain and tenderness occurring over the appendix, the gall-bladder, pancreas or ureter, radiating to the scrotum or labia majora.

Savill[3] says the neuralgia which accompanies or follows herpes is one of the rarer causes of severe abdominal pains without collapse.

Cabot[4] credits herpes zoster with causing lumbar pains as frequently as all of the renal affections combined.

My attention was first attracted to this interesting question by the following case:

1. Russo, V.: Gazz. d. osp. e d. clin., July 20, 1911, No. 87.
2. Sabrazés and Mathis: Rev. de méd., 1901, p. 251.
3. Savill, T. D.: System of Clinical Medicine, Ed. 2, London, Edward Arnold, 1909, p. 257.
4. Cabot, R.: Differential Diagnosis, Philadelphia, Saunders Co., Ed. 1, table op., p 78.

CASE 1.—Mrs. J. K., widow, aged 45. First seen Dec. 24, 1907. Very severe pain over the course of the left ureter for several days, with severe exacerbations at night, bad enough to keep her awake—not exactly colicky, but waves of pain. Pain not influenced by taking food, bowel movements or urination. Vaginal and rectal examinations negative. Tenderness elicited, on deep pressure, over the region of the left ureter and nowhere else.

Radiograms were at once taken, and owing to the apparent urgency of the case, Dr. Boggs very kindly went to his laboratory on Christmas morning to develop the plates, which were negative. On the afternoon of the 25th a characteristic rash of herpes zoster appeared over the site of the previous pain and tenderness. A leukocyte count had been ordered but not yet made.

In October, 1912, I saw, through the kindness of Dr. George H. Vaux, the following case:

CASE 2.—Mrs. A. P., aged 70. First seen by me Oct. 2, 1912. My opinion was sought as to the advisability of immediate operation. She was taken sick September 25, with severe pain across upper part of abdomen, which kept her awake most of night. Pain was not so severe during following day, but very severe again at night, with considerable chilling ("teeth did not chatter"); temperature 101.

September 26 and 27, abdominal distention and September 28 still considerable abdominal pain; didn't complain particularly of nausea, but vomited egg and toast.

September 29, somnolent condition. Clear when aroused, but immediately went to sleep again. Turpentine stupes, applied for abdominal distention, left redness in the right hypochondriac region. Bowels kept open with calomel, etc., from the start.

October 1, slight signs of old infection at right pulmonary apex; gallstones diagnosed and immediate operation recommended by a consulting surgeon.

October 2, abdomen much distended, no vomiting, no severe pain since Sept. 28. Systolic pressure 95, pulse 80. Well-marked area of herpes zoster in the right hypochondriac and right subscapular regions. The rash which first appeared along the right hypochondrium was attributed to strong mustard plasters or turpentine stupes which had been used for pain and meteorism, and it was only when a characteristic herpetic eruption was discovered in the same segment posteriorly that the true nature of the case was recognized. Close inspection of the anterior patches of herpes then disclosed the cauliflower-like aggregation of tiny vesicles, which, if noticed earlier, would have excluded the idea of a burn.

Marinacci[5] reports a case of herpes zoster in which intense pain across the lower abdomen, with marked tenderness in the hypogastrium and in both iliac fossae, fever, small frequent pulse, persistent vomiting and hiccough, with the face drawn and changed by suffering, strongly suggested a peritonitis, but bladder and intestines continued to function normally. Had they been inhibited, as they might have been by the ganglionitis, the picture of peritonitis would have been strikingly complete. There was no muscular rigidity, and of course no peritoneal effusion.

I have heard indirectly of several cases of herpes zoster in which the first diagnosis was appendicitis.

For months after an attack of acute posterior ganglionitis there may be localized hyperesthesia or hyperalgesia, or visceral neuralgias. Hence, in considering the possible causes of abdominal pain, scars and a history of recent herpes should be carefully sought.

Head[6] mentions the fact that cases of herpes zoster in the preeruptive stage have been admitted to the London hospitals as pleurisy or pneumonia.

5. Marinacci, S.: Riv. osp., Rome, 1912, ii, 393.
6. Head, Henry: System of Medicine, Albutt and Rolleston, ed. 1910, vii, 470.

I can find no record of leukocyte counts in this preeruptive stage. Nor does a study of medical literature[7] since 1885 (as represented in the "Index-Catalogue of the Library of the Surgeon-General" and the *Index Medicus*) reveal any other reference to this possible source of diagnostic error. On the other hand, several articles have appeared during the past few years showing a probable etiologic relation between visceral lesions—trauma, nephritis, hydronephrosis, etc.—and certain cases of herpes zoster, therefore the appearance of an herpetic eruption does not by any means exclude renal colic or other visceral conditions, which may even stand in causal relation to the ganglionitis. Under these circumstances the segmental zone in which the herpes appears may give information as to the organ involved.

Rosenbaum[8] reports that a patient of his with renal colic, followed by herpes zoster, described the pain of the former as deep interior and colic-like as contrasted with a superficial pain and burning of the zoster. The character of the pain, however, cannot be depended on in making the diagnosis.

Head states that when the tenth dorsal segment is affected with simple herpes zoster the testicle does not become tender as it does when the tenth dorsal segmental area becomes hyperalgesic as a result of renal calculus.

We should be particularly on our guard against mistaking an acute posterior ganglionitis, in the preeruptive stage, for a condition demanding surgical intervention in all patients with diseases which are especially liable to be complicated by herpes zoster, such as tabes, general paralysis, tuberculosis, psoriasis, and possibly all patients who are taking arsenic.

5431 Fifth Avenue.

7. Among this literature the following references are cited as of interest: Bittorf, A.: Herpes Zoster and Kidney Colic, Deutsch. med. Wchnschr., Feb. 16, 1911; abstr. THE JOURNAL A. M. A., March 25, 1911, p. 933. Kanera: Deutsch. med. Wchnschr., 1911, No. 37, p. 638. Knowles, F. C.: Pennsylvania Med. Jour., May, 1912, p. 615. Krotoszyner, M.: THE JOURNAL A. M. A., Sept. 9, 1911, p. 900. Rosenberg, E.: Kidney Colic and Herpes Zoster, Deutsch. med. Wchnschr., April 27, 1911; abstr. THE JOURNAL A. M. A., June 30, 1911, p. 1694. Stein, J.: Prag. med. Wchnschr., 1911, xxxvi, 330. Taylor, F.: Guy's Hospital Reports, London, 1896, lii, 37.

8. Rosenbaum: Deutsch. med. Wchnschr., June 15, 1911, No. 24.

## A COMPARISON BETWEEN ZOSTER OF THE FACE AND THAT OF THE LEG

AS SHOWN IN TWO CASES RECENTLY OBSERVED

DOUGLASS W. MONTGOMERY, M.D.

AND

GEORGE D. CULVER, M.D.

SAN FRANCISCO

The anatomic basis of zoster is an inflammation of the ganglion on the sensory root of a cranial or spinal nerve. This ganglionitis gives rise to trophic disturbances in the emerging or efferent nerve that cause the characteristic, grouped vesicular eruption. As for the cause of the ganglionitis, in the vast majority of instances it undoubtedly is a micro-organism, but this point need not be dwelt on here, except so far as it helps in the elucidation of the present comparison.

The symptoms common to zoster in any situation are:

1. The almost constant occurrence of neuralgia of the nerve, the cutaneous distribution of which is about to be the seat of the eruption. This neuralgia may precede the eruption, sometimes by a considerable time, or it may be coincident with the cutaneous outbreak. Sometimes this symptom is entirely absent.

2. A characteristic vesicular eruption, often grouped, and often plainly showing, by its distribution, its dependence on the cutaneous branches of a sensory nerve. Even the individual lesions carry the mark of their trophoneurotic origin, as the contents of the fresh ones are sterile, and their shape is conical with the point of the cone directed inward.[1]

3. The eruption is almost always unilateral, and these symptoms of unilaterality, the grouping and the linear distribution of the lesions, and the brilliant jewel-like appearance of the vesicles, are sufficient to make a positive diagnosis.

4. The eruption is self-limited, and one attack usually grants immunity against the occurrence of future attacks.

The eruption of zoster, no matter where it occurs, is so characteristic as almost always to permit of an instantaneous diagnosis; nevertheless the differences in the comportment of a zoster eruption that occurs on the fifth nerve, especially its two upper branches, and that which occurs on any of the spinal nerves, are so constant and marked as to clearly show each difference is due to some equally constant cause. These differences are the points that we especially wish to emphasize in this paper, and to make them more emphatic we report the following recently observed cases:

CASE 1.—A man about 50 years of age consulted us Oct. 17, 1911, in regard to a vesiculopapular eruption on a reddened base that had appeared the day before on the outer surface of the lower third of the left leg. As possibly contributory to the appearance of the eruption he related the following: October 5, he slipped on the sidewalk, falling backward, but not completely, as he caught himself on his hands. October 8, after a long walk, he felt an uneasiness in the leg. During the day of October 12 the leg felt a little sore in an indefinite way and that night he suffered severe pain. The pain persisted and October 16 the eruption broke out. There was one large group of vesicles and two smaller ones, which were only fairly characteristic. The vesicles, however, did not look like those of neurotic eczema, as they were larger. The papules were also larger than we would expect in this disease, and there was no itchiness. The fact that there were two distinct groups and that the attack was preceded and accompanied by severe pain excluded herpes simplex. The pain appeared to start in the ankle bend and radiated upward on the outer surfaces of the leg and thigh to the hip. Three days later these groups were characteristically and beautifully vesicular, and on the sole there had developed two other typical groups, one of them in the instep, consisting of four vesicles, and the other, also of four vesicles, behind the ball of the great toe. All these groups were strung along the distribution of the peroneus. They were undoubtedly the eruption of herpes zoster. The eruption pursued the usual course, and in two weeks the skin had assumed its normal appearance. The pain endured longer, and for some time the left lower extremity was very sensitive to cold.

Zoster below the knee is very rare, and zoster of the foot or sole is exceedingly rare indeed, but its rarity is not the chief point that we wished to dwell on in this paper. We wish to draw attention to the long-continued neuralgia that preceded the eruption and to the mildness of the eruption. We believe the neuralgia to represent the disturbance to the nerve axis as the virus crept up the fine, accompanying, lymphatic vessels, and that the antitoxin, generated during this long journey, modified the ganglionitis that ensued when the virus attained the ganglion, and that the mild zoster eruption was an

1. Hoffmann, Erich, and Frieboes, W.: Histopathologie des Herpes Zoster, Arch. f. Derm. u. Syph., May, 1912, cxiii, 443.

indication of the mildness of this ganglionitis. In fact, we believe that many of these cases of centripetal zoster infections never give rise to the zoster eruptions at all, but only to neuralgia. The fact that these infections are never diagnosed as zoster unless the eruption occurs we believe to be one of the reasons why herpes zoster is so rare on the lower extremities. The infections are either cut short by their self-limitation before they arrive at the ganglion or, even if they do arrive, the ganglionitis is too slight to give rise to the characteristic trophoneurotic eruption.

The preceding ran a classic, uncomplicated course as a zoster of a spinal nerve, and differed from the ordinary case in no way except in its position. The following case also ran a classic course for zoster of the first branch of the trigeminus. The only unusual features about it were paralysis of a motor nerve and a subsequent glaucoma. Even the paralysis, as we shall see later, is a well known association, and the consideration of the glaucoma in its relationship with zoster must be deferred to another paper.

CASE 2.—H. H., aged 51, noticed an eruption on the forehead on May 26, 1912, which on June 1, when he sought relief, consisted of red blotches occupying the area supplied by the supra-orbital branch of the left ophthalmic nerve. It was sharply limited at the median line of the forehead, and extended back to the vertex and down into the left temporal region. The left preauricular, submaxillary and some of the cervical lymph-nodes were swollen. The left eye was watery and a little sensitive to light. Pain had not preceded the eruption, but it was now present, and was increasing in severity. At this time, however, neither the character of the pain nor the appearance of the eruption portended a severe zoster. Two days later the eruption had extended down the left side of the nose, and thereafter was characteristically erythematopapular and vesicular throughout. Severe sticking pain and intense discomfort developed, and the whole picture indicated an intense neuritis and ganglionitis. For relief opiates were required. The vesicles were seated on a deep inflammatory base, and on breaking developed into steep-edged ulcers that healed by scarring. These deep, steep-edged, flat-bottomed scars were most thickly strewn on the forehead, but were not entirely confined to this situation, as there was later found conjunctival scarring, and scars also supervened on the left side of the nose.

June 22 the patient was unable to lift the left upper eyelid, and when the lids were forced open the swollen, injected conjunctiva bulged out into the palpebral slit. This caused excruciating pain. Two weeks later it was possible to raise the eyelid slightly, evidently by the action of the occipitofrontalis muscle. Two months after the onset the patient was referred to Dr. K. Pischel. His examination showed the presence of fine maculae corneae as the result of small erosions, which alone sufficiently explained the continued soreness of the lids and the sensitiveness to light. The left pupil reacted slightly to light, but the photophobia still prevented sight tests being made. Pain was still present, but the general condition of the patient was greatly improved. He was still unable to raise the eyelid except with the aid of the occipitofrontalis muscle. August 8 the patient was able to lift the eyelid quite perceptibly showing a definite return of function of the levator palpebrae superioris. He still complained of neuralgic pains, and a feeling of pressure at a point over the parietal bone on the left side. There was another sensitive point to the left of the nose tip, and one about the middle of the external surface of the nose, and one on a line between the nose and cheek. He also complained of some sensitiveness within the left nostril.

This patient's troubles were not, however, by any means finished. Dec. 24, 1912, he developed glaucoma and a superficial corneal ulcer of the left eye with accompanying hypopyon that yielded, under Dr. Pischel's management, to paracentesis.

In this instance of zoster there was involvement of both a sensory and a motor nerve. The sensory nerve involved supplies the conjunctiva and one of the branches of the motor nerve involved supplies the levator palpebrae. A neurotropic virus entering the conjunctiva would easily attain the ophthalmic branch of the fifth nerve, and it would also be in close proximity to the terminal branches of the levator palpebrae superioris that here reaches far over into the lid. By running back along the sensory nerves the virus would give rise to the trophic symptoms we call zoster, and by running back along the motor nerve and influencing its motor center the paralysis is also rationally explained.

The idea that the virus may run along the nerves in zoster is not new, but the investigators whom we know to have taken this view have thought of the virus as first attaining the ganglion through the blood and then running out from the ganglion along the nerve. Hoffmann and Frieboes[1] have mentioned this as a possibility, and Hewlett, in order to explain the occasional coincident paralysis, thought that possibly the virus ran centrifugally from the ganglion along the sensory nerve and then through neighboring or communicating branches back up along the motor nerves to the motor center involved.[2]

The question of the proximity of the nerve terminals to the surface is a most interesting one in zoster. The sensory nerve terminals from their very nature lie near the surface, and therefore we have more zoster infections of these than of the motor nerves, that lie deeper. Some motor nerve terminals, however, such as those supplying the muscles moving the eyeball and the muscles of the face lie almost as near the surface as the sensory nerve terminals, and these muscles, supplied by these superficially situated motor nerves, are the very ones most subject to paralysis in zoster. In Hunt's statistics of 158 cases of paralysis accompanying zoster, twenty-four were of the ocular muscles and eighty were of muscles supplied by the facial nerve.[3] That is to say, 64.82 per cent. of all the paralyses, as collected by Hunt, were of these two sets of superficially situated motor nerves.

The severity of the trophic disturbances accompanying zoster of the ophthalmic branch of the fifth nerve is well known; so well known, in fact, that a unilateral grouped scarring of the forehead leads an experienced clinician to infer immediately that it is from zoster. Scarring is less frequent in the region supplied by the superior maxillary branch, and we have never seen it of the inferior maxillary branch. That destructive panophthalmitis is not also a frequent consequence in zoster of the ophthalmic branch of the fifth nerve is probably due to the fact that the ciliary ganglion, not the gasserian ganglion, is the trophic center for the interior of the eye. The probable reason for the severity of the inflammation of the gasserian ganglion and the corresponding severity of the trophic disturbances lies in the short distance the virus has to travel in order to reach it. In this short distance not enough antitoxin is produced to mitigate the severity of the ganglionitis, and in this respect there is a marked contrast between zoster of the leg and foot, in which the virus has to make such a long journey before reaching the ganglion, and zoster of the ophthalmic branch of the trigeminus, in which the distance to the ganglion is so much shorter.

2. Hewlett, Albion Walter: Motor Complications of Herpes Zoster, California State Jour. Med., April, 1906.

3. Hunt, J. Ramsay: The Paralytic Complications of Herpes Zoster of the Cephalic Extremity, THE JOURNAL A. M. A., Oct. 30, 1910, p. 1456.

In comparing herpes zoster of the lower extremity with that of the trigeminus we find that the latter is much more frequent, its trophic manifestations are much more severe and, as we have seen, it is much more liable to be accompanied by paralysis of the muscles of the affected region. These differences are best explained by considering herpes zoster a centripetal disease. In the two cases here reported as direct contrasts, there was in the one involving the lower extremity a long-continued pre-eruptive neuralgia which we also regard as further evidence of the truth of our hypothesis.

Besides these contrasts in the comportment of zoster of these two regions one of the most striking peculiarities of the disease, wherever it occurs, is its unilaterality, and comprehension of the mechanism of this characteristic is also facilitated by the same theory. Admitting, for example, that the virus may infect both conjunctivae simultaneously, yet in one it is almost sure to find a readier entrance into the nerve terminals than in the other, and the more fortunate infection will succeed in attaining the ganglion first, and therefore will cause the characteristic eruption before the other has time to develop.

That the virus travels from the periphery toward the center seems to us to furnish the only reasonable explanation of the clinical facts enumerated above. The question of the primary lesion, the door of entrance of the virus, then arises. There are on the skin, and mucous membranes of the eye, nose, and mouth many opportunities for a virus to enter. The primary lesion may be insignificant and, from the very nature of the disease, may be long healed over by the time the trophic symptoms occur that we are used to considering as the entire phenomena of the disease. This disappearance of the primary lesion before the main phenomena of the disease appear is not limited to zoster.

323 Geary Street.

## TREATMENT OF SUPERFICIAL NEW GROWTHS BY PURE RADIUM BROMID

FRANCIS H. WILLIAMS, M.D.*
BOSTON
AND
SAMUEL W. ELLSWORTH, M.D.
QUINCY, MASS.

Until the cause of cancer is discovered and a better remedy for it is found, the discriminating practitioner will employ the best means at his disposal, according to the case to be treated, whether it be operation, caustics, x-rays, or some form of radio-activity. No one of these is adapted to all patients, nor always to all stages of the disease in the same patient. Surgery is necessary under some conditions and the roentgen-ray, or the much safer radium, is preferable under others. Our object now, however, is to draw the attention of the profession in this country to the beneficent results obtained from radium in private practice and at the radium clinic (which was started in 1903 at the Boston City Hospital) when this remedy is employed in suitable cases of skin cancer and in sufficient amount and strength. Experience is, of course, necessary. Without it there is danger of doing harm or failing to do good through lack of knowledge.

In the early days of its use the healing action of radium on superficial or other forms of cancer was doubted by many, and not unnaturally, as it seemed almost miraculous that it should have any power over a disease for which the chief remedy had been the knife, an admission in a way that there was no remedy. Later many accepted the fact that radium was temporarily efficient in some of the superficial cancers, but they questioned the permanency of the results obtained.

TABLE 1.—RESULTS, JAN. 1, 1911, IN 181 CASES OF SKIN CANCER IN WHICH THE TREATMENT WAS BEGUN BEFORE DEC. 31, 1909

| Site | Total | Healed | Not Healed | Under Treatment | Discon. Treatment |
|---|---|---|---|---|---|
| Lip | 23 | 19 | 1 | 0 | 3 |
| Eyelid | 19 | 13 | 0 | 1 | 5* |
| Nose | 45 | 40 | 2† | 1 | 2 |
| Face | 68 | 59 | 4 | 1 | 4‡ |
| Ear | 8 | 6 | 0 | 0 | 2 |
| Neck | 4 | 4 | 0 | 0 | 0 |
| Hand | 6 | 6 | 0 | 0 | 0 |
| Inside lower lip | 1 | 1 | 0 | 0 | 0 |
| Auditory canal | 1 | 1 | 0 | 0 | 0 |
| Scalp | 3 | 3 | 0 | 0 | 0 |
| Nose and orbit | 1 | 1 | 0 | 0 | 0 |
| Nose, cheek and breast | 1 | 1 | 0 | 0 | 0 |
| Nose, lip and ear | 1 | 0 | 0 | 0 | 1 |
| | 181 | 154 | 7 | 3 | 17§ |

* In one case treatment was continued so long without healing that operation was advised and done.
† One patient not healed by x-rays or radium. Attendance too irregular.
‡ One patient died of "acute indigestion" while under treatment.
§ Of the seventeen who discontinued treatment, nine were improving.

TABLE 2.—DURATION OF HEALING OF 154 CASES ON JAN. 1, 1911

| Years | Number Healed | Number Recurred | Number Died | Total |
|---|---|---|---|---|
| Less than 1 | 21 | .. | .. | ... |
| 1-2 | 47 | .. | .. | ... |
| 2-3 | 19 | .. | .. | ... |
| 3-4 | 18 | .. | .. | ... |
| 4-5 | 3 | .. | .. | ... |
| 5-6 | 20 | . | .. | ... |
| 6.7 | 4 | .. | .. | ... |
| 7 or more | 3 | .. | .. | ... |
| | 135 | 16 | 3 | 154 |

Table 1 and illustrative cases show that if patients come early for treatment most of the superficial skin cancers will heal under radium. The permanency of the results is indicated in Table 2.

The cases of skin cancer here presented are consecutive, with the exception of five which have been omitted because they were beyond the reach of any remedy, and for which radium was used as a palliative only. The ages of the patients varied from 24 to 91 years.

Of the sixteen patients among whom there were recurrences, one died of another disease during treatment, two healed under further treatment, six were under treatment, three discontinued treatment, three were advised to have operation, and one delayed coming for further treatment until it was too late for radium to be of service. The three deaths occurred prior to January 1, 1911, from some other disease. In three of the 154 cases it was necessary to resort to an operation following the radium treatment; on the other hand, there were fifteen cases in which operation failed and after which radium was successfully employed, and several of these had had more than one operation.

* Papers have been presented on this subject from time to time, and articles published, as follows: Williams, F. H.: Some of the Physical Properties and Medical Uses of Radium Salts; with Report of Forty-Two Cases, Treated by Pure Radium Bromid (read at the meeting of the Boston Society of Medical Sciences, Dec. 15, 1903), Med. News, New York, Feb. 6, 1904; A Comparison Between the Medical Uses of the X-Rays and the Rays from the Salts of Radium (read at the annual meeting of the Boston Society for Medical Improvement, Jan. 18, 1904), Boston Med. and Surg. Jour., Feb. 25, 1904; Use of Radium in Some Diseases of the Eye, Boston Med. and Surg. Jour., May 26, 1904; Early Treatment of Some Superficial Cancers, Especially Epitheliomas, by Pure Radium Bromid rather than Operation or X-Rays (presented, with a demonstration of more than twenty patients, at the Surgical Section of the Massachusetts Medical Society, June 9, 1908), Medical Communications of the Massachusetts Med. Soc., 1908, xxi, 261, and THE JOURNAL A. M. A., Sept. 12, 1908, p. 894.

The cases given in the tables do not show the best results that could be obtained by radium if only those most adapted to its use had been chosen. January 1, 1913, an attempt was made to get reports from these patients, but they were so scattered that it was not possible to get a sufficient number to make it advisable to change this table. So far as obtained, the reports were very favorable.

It would make this paper too long to give the record of all these patients, therefore it has seemed better to give illustrative cases, which naturally fall into groups. Some of these cases are not included in the tables, as they came for treatment after Jan. 1, 1911.

GROUP I

CASE 1.—Mr. F., aged 49. Characteristic epithelioma on mucous membrane of lower lip, 1 cm. by 1.5 cm., a raised ulcerated surface with induration 1 cm. deep. Healed in four weeks with ten applications of radium. The induration began to diminish three days after the first application. The ulceration promptly became less indolent, and after five applications a narrow, slightly contracted circle of healed scar tissue began to appear around the edge, and the induration had disappeared. Still healed Jan. 1, 1913, five years later.

CASE 2.—Mr. M., aged 56. Epithelioma on mucous membrane of lower lip, 1 cm. by 3.5 cm. Healed in one month with seven applications of radium. Still healed, Jan. 1, 1913, five years later.



Effects of radium treatment in some small skin cancers.

GROUP I.—Small epitheliomas which had not been operated on or treated by caustics or x-rays, in which the glands were not implicated, and for which radium was the only treatment.

GROUP II.—New growths about the eye, the site of which made operation difficult, as it might be a serious matter to remove any considerable portion of the lid.

GROUP III.—Cases for which other treatment, such as operation, x-rays, caustics, iodin, etc., had been resorted to first, and therefore treatment by radium usually extended over a longer period than in Group I, in some cases success being reached only after very persistent treatment.

GROUP IV.—Cases in which epithelioma was too deep to be classed as superficial and too extensive to give radium its best opportunity, but for which other treatment had failed or the site made operation undesirable.

GROUP V.—Cases in which no treatment could bring about healing and for which radium was used simply to retard the growth or to keep the patient from the blank and impassable wall of hopelessness to shorten the period of despair.

CASE 3.—Mr. G., aged 65. Epithelioma of nose, 1 cm. in diameter, of from two or three years' duration. Healed after five applications. Still healed, Jan. 1, 1913, five years later.

CASE 4.—Mr. L., aged 68. Epithelioma on mucous membrane of left side of lip, of from three to four years' duration. Healed after three applications. Died as the result of an accident at sea.

CASE 5.—Miss W., aged 70. Epithelioma of forehead. Ulceration about 4 cm. in diameter, in part covered by a crust. Healed in three months with fourteen applications. Remained healed up to the time of her death, one and one-half years later.

GROUP II

CASE 6.—Mr. D., aged 50. Epithelioma, 1 cm. in diameter, above inner canthus of left eye. Improvement was continuous from the beginning of radium treatment. No pain or irritation. Healed in seven weeks with eleven applications. Still healed, Jan. 1, 1913, five years later.

CASE 7.—Mr. McL. Epithelioma of lower lid of right eye, 1 cm. long, raised. Operation in 1909; recurrence in six weeks. Healed after fifteen applications of radium. Still healed, Jan. 1, 1913, three years later. (Not included in the table.)

CASE 8.—Miss B., aged about 50. New growth on the upper lid, which measured 1 cm. horizontally and 1.5 cm. vertically. This was indurated and raised above the surface about 2 mm. The growth had begun six years previously, then grew more rapidly, and was operated on. Just two months after the operation it returned and was larger than it had been at any time. This has improved promptly under radium, and disappeared after thirteen applications. (Not included in the table.)

GROUP III

CASE 9.—Mr. T. Growth on the cheek which was operated on, but recurred in six months and grew rapidly. It was then treated with caustics twice and healed in the center, leaving blisters outside, but recurred again in four or five weeks, and began to discharge and again grew rapidly until it was 2 cm. in diameter. Further operation was advised and the patient was told that it must be extensive and would cause paralysis on that side of the face. He declined operation, was treated by radium and the growth disappeared. This patient also had two new growths on the other side of the face, one about 6 mm. and the other about 12 mm. in diameter, which had not been treated in any way, and these yielded to radium in twelve applications. (Not included in the table.)

CASE 10.—Mr. F., aged 45. Indurated area 1.5 cm. wide and 1.5 cm. long, beginning at the outer canthus of the eye and extending on to the temple and cheek. Central portion covered with a crust. Eleven years previously he broke the skin near the outer portion of the left eye, had erysipelas, and there was an area which did not heal well. Operation was done and since then he has had various kinds of treatment—x-rays, electric needle, etc.—for one and one-half years, but no treatment for the past six months. This promptly began to heal under radium and has now only a very small spot of induration left. (Not included in the table.)

GROUP IV

CASE 11.—Mr. R., aged 86. Growth on the back of the hand near the wrist, which had been operated on twice and recurred twice. When first seen it was a raised, granulating surface, about 4 cm. in diameter, with an indurated base of larger area. The case did not seem to be a very encouraging one for radium treatment, and had not operation failed twice, this remedy would not then have been considered for a moment, but under the circumstances there seemed nothing else to be done. It proved most satisfactory; the induration disappeared, healing took place, and remained permanent up to the death of the patient from old age, a year and a half later.

CASE 12.—Miss G., aged 83. Epithelioma of face, which she thinks began forty years ago. It had grown rapidly of late, involved the left cheek, and so much of the upper lip on that side that only a narrow strip remained and it seemed as if in a few days this might ulcerate across and leave the ends hanging. The diseased area, exposing a considerable portion of bones in the central deeper portion was a disagreeable ulcerating surface, so large that it seemed hopeless to attempt to treat it by radium, but the patient was unwilling to have operation, which would necessarily have been very extensive if it had, under the circumstances, been advisable. Under radium the ulceration has nearly healed and the edges of the large opening have puckered together, as if drawn by a purse-string, so that the upper lip is now perfectly presentable, and the opening above, between the cheek and the nose, so small and the former hideous appearance so improved that the patient would not be disturbing to others. This case is not included in the table, but is mentioned as being a good example of this group. She is still under treatment. The epithelioma has not yet wholly healed, but the patient is no longer in a pitiable condition or shocking in appearance, and the outlook is now favorable.

The tables and illustrative cases demonstrate the efficiency of a proper quantity of pure radium bromid for superficial skin cancers, especially in the early stages, both as to healing and permanency of results, when it is the first and only treatment employed, and its usefulness even when handicapped by being employed after a recurrence following operation or operations, or after the use of caustics or the x-rays.

For the treatment of these cases 120 mg. of pure radium bromid have been at our disposal and more than 20 gm. of weaker preparations but, as a rule, 50 mg. of pure radium bromid in a capsule with a mica cover, placed in a lead container with a long handle have been employed. From the beginning screens or filters of aluminum of varying thickness have been used when it was desirable to absorb some of the less penetrating rays in order that they might not reach the patient. Not more than two applications should be made a week, and the duration may vary from one or two to ten minutes, according to the extent and depth of the disease, the radium being moved about so that all parts are reached. In some cases the time of application may be extended to half an hour or even more, if the area is of considerable size, but, of course, this does not apply to the early cases. It is very difficult to state how many applications will be necessary in a given case. Now and then two or three are sufficient, but more frequently ten to fifteen are required, and sometimes twenty or more; but when patients learn to come early the latter numbers can probably be reduced. A more vigorous use of radium, that is, the lengthening of each treatment, would also lessen the number required, but this might involve the risk of over-exposure. We have preferred to feel our way with the safer method. In short, no definite rules as to duration and number of applications can be laid down to cover all cases; experience and judgment are the best guides. As with other efficient remedies, success may follow the use of radium in the hands of one practitioner and failure in those of another.

Improvement usually takes place after two or three applications of radium, thus indicating that the treatment is likely to be successful. The initial improvement may consist simply in the arrest of the growth and in signs of drying up, or in a freer discharge. If there has been discomfort or pain, it is usually relieved by the radium, and sometimes within an hour or two. Also, in some cases there is striking improvement in the patient's general condition. If radium as an initial remedy, in sufficient quantity and suitably employed, does not bring about marked improvement within three or four weeks, it would, as a rule, be better to choose some other method, but this is seldom necessary if the case is at all a proper one for treatment by radium. If, however, this remedy is unsuccessful, the delay thus caused is not sufficient to be detrimental to the patient. When radium is used after recurrence following operation, or other treatment, a longer time is usually required to cause a disappearance of the new growth than when it is the primary remedy. Rapidly growing and discharging new growths respond to radium more quickly than those of an indolent type. If one of the latter kind is healing very slowly, a different treatment may be considered, but if the cosmetic effects are in question or an operation has been done and a recurrence taken place, persistence with radium may be wiser.

In cases which do not yield to radium it is well to bear in mind that the disease may be of syphilitic origin and to try specific treatment.

If a patient is otherwise diseased, or is of low vitality, radium is handicapped. Failure in the following case may have been due to the kidney trouble, or because the radium was not used with sufficient vigor.

CASE 13.—Mr. J., aged 58. Epithelioma of the lip of two years' duration (not included in the table). Patient suffering from a serious kidney trouble and warned that under these circumstances radium might not be successful. Treatment by this remedy at first brought about some improvement, but it came more slowly than is usual in ordinary cases and when, after continued treatment, the growth did not heal, operation was advised and done. It is too soon to say what the result of the operation will be.

Those who have been operated on for cancer, even of the breast, should be seen at stated intervals, and if there is any sign of recurrence, such as spots of induration in or near the scar, they should be treated by radium, as in some cases, at least, it has been found more efficient than any other treatment we have used in checking a recurrence of this character.

Judging by the number of persons with small new growths that we have successfully treated with radium after recurrences following an operation, this remedy has the advantage in many cases. Recurrences occur after any method of treatment, but we believe less frequently after radium than after operation. Should they occur after the use of radium, experience thus far shows that, as a rule, they yield to further treatment by this remedy.

Sometimes it is feared that treating a cancer in one place may cause its appearance elsewhere, but so far as we have observed, this has not happened in any of the patients suitable for radium treatment.

### LYMPH-NODES, TONGUE, MOUTH, TONSILS

When the lymph-nodes are involved, no time should be lost by using radium from the outside. For this purpose and in this way it is unsuitable. We have not had much experience with new growths in the mouth, tongue or tonsils, but so far as it has gone radium has not healed them permanently. To be of service the treatment must be begun in a very early stage, and as patients are not aware of the seriousness of the disease, they delay seeking advice until the growth has become too extensive to be materially benefited by radium.

There is no danger from radium in the hands of those who understand its use and it has a great advantage over the x-rays in that the output of its radiations is uniform in amount and quality, whereas that from an x-ray tube may be very uneven as regards both of these. This possible variability of output is one reason that injury has resulted from the use of the x-rays.

Our experience of the last nine to ten years demonstrates that radium should be used in the treatment of early skin cancers, especially if the new growth is on the eyelid, as operation might leave the patient with a lid so small or so large that it would harass him through life. The cosmetic results are excellent and the application painless. For the latter reason the patient is not led to a perhaps serious or even fatal delay, as may be the case when a dreaded operation is in question. Radium will also cause some growths to heal that are extensive and even inoperable and, while these show its power and efficiency, every endeavor, of course, should be made to prevent the occurrence of larger growths by using radium early. In the treatment of early skin cancers radium finds a great opportunity. It is important that physicians and surgeons should realize the value of this remedy. Recently one of us reported to the physician who had sent a patient for radium treatment that the growth had disappeared after two applications. The physician was gratified, as he had had misgivings in recommending radium to his patient and difficulty in getting her to consent to it after a surgeon had strongly advocated operation.

Skin lesions should not be neglected; though they may lie dormant for a time, they may on the other hand, if left untreated, lead to serious trouble by being irritated, or from some other cause. Many surgeons advocate operation for any skin lesion which might even be suspected of being or becoming malignant, but as many of these small lesions heal under radium, this painless remedy should be used first. If unsuccessful and operation becomes necessary, the delay will not injure the patient.

### KELOIDS

Our experience with keloids shows that radium is an excellent remedy for them if used in season. All those of moderate size which we have treated have done well, though in some cases operation and other forms of treatment had been tried first without success.

Radium is also of value in other skin diseases, such as eczema, birthmarks, warty growths, psoriasis and the like.

### CONCLUSIONS

1. The application of pure radium bromid in sufficient amount, properly used, is a harmless, painless and efficient method of treating early superficial new growths. Radium is well adapted to cancers of the face, as the cosmetic results are excellent, and particularly to the eyelids, where operation may offer special difficulties and disadvantages. With proper care there is no danger to the eye.

2. Operation is still considered to-day the method of choice in early skin cancers by most practitioners, but the results obtained here and abroad show, we believe, that radium should be used first in early cases and operation reserved for such as are not readily controlled by it.

3. Radium is more successful when it is the first treatment employed than when it is used after operation, x-rays, or other forms of treatment, although even under these circumstances it does well.

4. The number of treatments required in some cases is from two or three to ten, while in others more than twenty are needed. Improvement usually takes place after two or three applications of the radium.

5. Many people dread the knife, even for a simple operation, and fearing surgical interference will be advised, delay coming for treatment, thus lessening the chances of recovery. Radium is free from dread, as its action is painless.

6. The analgesic action of radium is noteworthy.

7. For keloids, unless extensive, radium is by far the best treatment known to us.

8. Where radium is obtainable, it would be well to use it for skin lesions of small area which do not heal readily under simple applications.

9. All powerful remedies have dangers, but they can be avoided if care is taken. During the seventeen years the x-rays have been used at the Boston City Hospital no patient has been burned, nor have any untoward results occurred in about ten years during which radium has been employed there.

505 Beacon Street.

# A METHOD OF BONE-PLATING*

CARL E. BLACK, A.M., M.D.
JACKSONVILLE, ILL.

A study of the work of Mr. Lane and his followers and a comparison of it with that of Lambotte[1] and his followers, will convince one that the last word has not been said on retaining the fragments in the operative treatment of fractures.



Fig. 1.—Clamp for holding bone fragments in position while plate is applied. It is purposely designed not to hold the plate under the clamp.

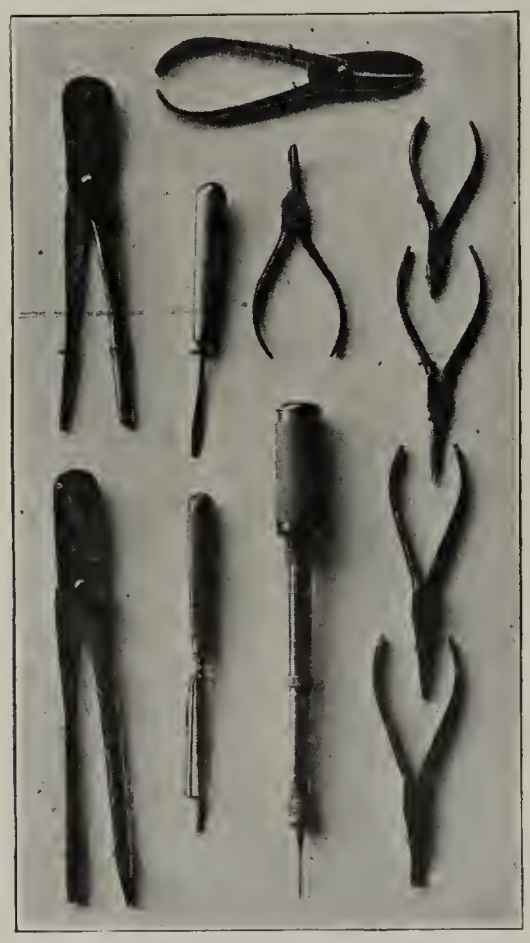


Fig. 2.—Tools purchased in the hardware store used in experimental bone plating and also in a number of cases at the operating-table.

While I cannot claim an extended experience, the cases in which I have operated have impressed me with two points: first, the necessity of providing myself at all times with as full an assortment of plates as if I had a large accident clinic, and second, the fact that the ordinary plates have too much bulk and are too heavy.

In support of the latter statement I quote the following sentence from Mr. Lane:[2] "The chief obstacle that has to be overcome in many cases is the approximation of the skin incision and their retention in accurate apposition."

I venture to present a plan of bone-plating which is new so far as I know. I have not yet had sufficient experience to present conclusions but offer it as a suggestion for trial.

In dealing with fractures the object to be attained is correct apposition. This includes several important points. The normal length and correct contour must be maintained. Fragments may have to be held in position and the companion bone or the neighboring joint may have to be dealt with. It may be fairly assumed that no one plan is equally well adapted to all cases and that any plan may have to be modified to meet the requirements of each case.

Proper tools have not yet been developed. Most of those on the market are altogether too heavy and cumbersome for rapid and accurate work. Awkward and unwieldy instruments interfere with asepsis. We need to study the clockmaker, the locksmith and the cabinetmaker and their equipments. Either might make a better "bone surgeon" than the average general surgeon had he the aseptic technic. Unfortunately for the mechanics of the work, asepsis is of first importance.

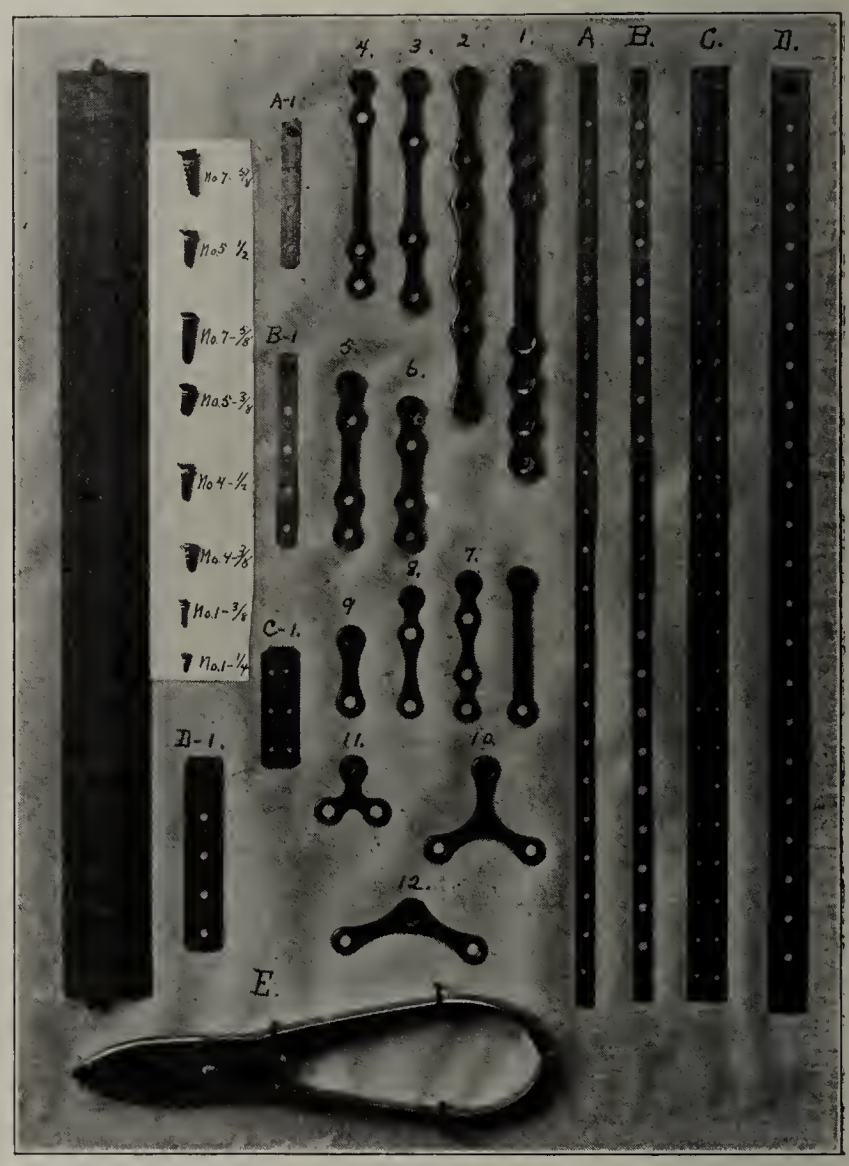



Fig. 3.—Lane's plates and screws of various sizes and steel ribbon proposed. Nos. 1 to 10, Lane's plates in various sizes. No. 5 to No. 7 screws used for Lane's plates. No. 1 and No. 4, screws in two sizes, ¼-inch and ⅜-inch. A, B, C, D, steel ribbon in two sizes punched for No. 1 and No. 4 screws. A and B are ¼-inch wide and 1/128-inch thick; C and D are ⅜-inch wide and 1/64-inch thick. A-1, B-1, C-1, D-1, plates made at operating-table from steel ribbon. E, shears for cutting steel ribbon.

Every operator has experienced difficulty in retaining the fragments in proper apposition while the plate is being applied. In order to overcome this difficulty the bone-holding clamp illustrated in Figure 1 was devised. It consists of several pairs of blades, each blade having two fingers. These are of several sizes and widths according to the bone to be plated as well as the size and shape of the bone at the site of the fracture. The

* Read at the Twenty-Second Annual Meeting of the Western Surgical Association at Cincinnati, Dec. 21, 1912.

1. Lambotte: L'Intervention opératoire dans les fractures, Lamertin, Brussels, 1907, p. 45.

2. Lane: Lancet, London, Nov. 4, 1911, clxxxi, No. 4601.

blades are freely movable in the handle and adjust themselves to the contour of the bone. It is purposely designed not to hold the plates under the clamp but to permit the application of the plates between the blades of the clamp. Ample room has been left for this purpose.

Many of the instruments on the market for bone-plating are poorly adapted to the work. I have had far more satisfaction with certain tools which I have purchased in the shops. Some of these are illustrated in Figure 2. All have been used both at the operating-table and in experimental bone-plating, and they suggest needed modifications in our armamentarium. These consist of two pairs of plumbers' pliers, which make excellent bone-holding forceps; two locksmiths' screw-drivers, one with a screw-holding device; one Yankee drill which can be worked quickly and accurately with one hand; five pairs of small machinists' pliers, which are useful for many purposes, including adapting the plates to the contour of the bone, removing spiculae and holding small bones and fragments; and a locksmith's metal shears used at the operating-table for making the plate the desired length or shape. These tools could be improved by an instrument-maker but should not be modified so as to lose their mechanical adaptability.



Fig. 4.—Front view. Illustrations of experiments in contour bone-plating with steel ribbon ¼-inch wide and 1/128-inch thick, carrying No. 1 ¼-inch screws.

I cannot subscribe to the dictum of Lane[3] that "In the vast majority of cases I prefer to use as long and as strong a steel plate as possible, carrying as many screws as space permits."

The average plate sold in the shops is altogether too bulky, being made to depend on its bending or breaking strength for success. After a certain point the strength of the plate is only what the screw will hold in the bone. The bones are a system of supporting levers with reinforcement at the points of strain and are not designed to depend simply on their bending or breaking strength. The plating of a fracture, which is only a temporary device, should be done on the same plan, and should have the least bulk consistent with providing the support and meeting the strain required during the period of healing. The plan I suggest might be called "contour" plating in contradistinction to direct plating, which relies on the breaking strength of the plate. If the plate is applied in the direction of the strain by which the fragments are likely to be displaced a light plate and screw can be used.

In trying to carry out this principle I have used untempered clock-spring steel of various thicknesses and widths. Tentatively I have adopted two sizes. These metal strips are illustrated in Figure 3 and may be compared with the Lane plates which are generally used for the same purpose. The ruler at the side of the illustration gives the reader the comparative length and size. *A, B, C* and *D* illustrate the strips of steel ribbon that I use. The first (*A*) is a steel ribbon ¼ inch in width, 1/128 inch thick and 12 inches long with holes for No. 1 screws placed ½ inch from center to center. The second (*B*) is of the same dimensions, but is punched with holes for No. 4 screws placed as in *A*. The third (*C*) is a steel ribbon ⅜ inch wide, 1/64 inch thick and 12 inches long, punched with a double row of holes for No. 1 screws placed likewise ½ inch from center to center. The two rows of holes in this strip are 3/16 of an inch apart. This strip provides for a large number of small screws where the bone is fragile or fragmentary. The fourth strip (*D*) is of the same length and breadth and thickness as the third but has holes for one row of No. 4 screws placed as in the others, ½ inch from center to center. It is important to have all the holes exactly the same distance apart so that in special cases several



Fig. 5.—Fragments separated. Illustrations of experiments in contour bone-plating with steel ribbon ¼-inch wide and 1/128-inch thick, carrying No. 1 ¼-inch screws.

3. Lane: Lancet, London, June 12, 1909.

thicknesses of plate may be used, although in actual work at the operating-table I have rarely found this necessary. I use only two numbers and two lengths of screws, namely, No. 1 screws ¼ inch long and ⅜ inch long, and No. 4 screws of same lengths. These two sizes and lengths I find ample for all cases. The metal shears (*E*) are used for cutting the strips in any desired length. This is done at the operating-table. Plates prepared in this way are illustrated by *A*-1, *B*-1, *C*-1 and *D*-1 (Fig. 3).

The advantages which suggest themselves for this method are that plates may be adapted to accurately fit any contour at the operating-table and that these may be made as long or as thick as may be desired. Usually the narrowest and thinnest plates placed on both sides of the bone in a direction to meet the greatest strain which will be applied by muscular action will meet every indication.



Fig. 6.—Fracture of middle of humerus. Man aged 40 years. Retained by two ¼-inch ribbon plates, 1/128-inch thick with No. 1 screws ¼-inch long.

Before applying this plan at the operating-table I made numerous experiments on various bones to test the strength of these bits of steel ribbon put on with the small screws. A few of these are illustrated by several artificial fractures in the human femur and two tibiae and a sheep's femur as shown in Figures 4 and 5. The two pictures show the front and sides of each bone and, finally, the separated fragments. These were selected to show the ribbon plates in several positions and directions according to contour and position. The sheep's femur was used to test the strength of No. 1 screws in fresh bone. These illustrations show what is meant by contour plating in contradistinction to direct plating as practiced by Lane and others. If one can judge by the force which these bones will withstand the thin plate would seem to be sufficient. The real strength is in the screws and if one plate is placed opposite another, or a single plate in a position and direction to meet the strain, instead of a bending strain there is a pull put on the plate. In other words, we follow the principle of the lever and can secure from one or more narrow thin steel ribbons more strength than from twenty times the weight of steel in one large plate so placed as to depend on its bending or breaking strength. The plan is especially adapted to torsion fractures in which the ribbon can be so placed as to overcome the



Fig. 7.—Fracture of humerus. Boy aged 6 years. Retained by ¼-inch steel ribbon and ¼-inch No. 1 screws. Note length of screws in the bone.



Fig. 8.—Compound fracture of tibia. Man aged 64 years. Retained by two ¼-inch steel ribbons and ¼-inch and ⅜-inch No. 4 screws.

twisting strain. In this way the screw is enabled to give a maximum of efficiency, or rather we make a small screw and a light plate furnish more strength than a heavy plate and a large screw would furnish under direct strain.

The smallest plate sold in the market is three to six times as thick as the thin steel ribbon here shown; the heaviest is twenty times as thick and the screws are in proportion. It is useless to have the screws extend

beyond the dense bone. Most of those used in plating are too long. The dense screw-holding bone is rarely found more than ¼ inch thiek and it will not average more than ⅛ ineh.

I have seleeted a few illustrations from cases in whieh I have recently used the ribbon plates at the operating-table. The legends under Figures 6, 7 and 8 explain sufficiently actual cases of fracture in which the steel ribbon plate has been applied at the operating-table as described in the first part of this paper.

SUMMARY

By using these thin steel ribbons the space for the accumulation of blood and serum is comparatively small and infection less likely; the periosteum can be more nearly approximated; the remaining foreign body is from three to ten times less; the fascia and skin can be carefully approximated without the least diffieulty.

---

## AN OPERATION FOR VENTROSUSPENSION BY THE ROUND LIGAMENTS

HAROLD NEUHOF, M.D.
NEW YORK

The most widely practiced operation for the cure of retroflexion and retroversion of the uterus is Olshausen's ventrosuspension by the round ligaments. This procedure has been found satisfaetory in many hundreds of instances and may be termed the standard operation for the eondition under consideration. From time to time, nevertheless, cases have been deseribed in whieh acute intestinal obstruetion has resulted from the bands that are the direct outeome of Olshausen's operation.[1] Indeed, the originator of the method has himself reported sueh an instance; it is surprising that intestinal obstruetion has not been more frequently encountered or, perhaps, more frequently reeorded. There are two additional objections to Olshausen's procedure: (1) It has been followed by recurrence of the malposition of the uterus in a few instanees beeause the bands became exeessively elongated; (2) the deep epigastric vessels have been injured during the operation (when the suspension suture traverses the abdominal wall). The ehief objection to the operation in my mind, however, is that the deliberate construction of an intra-abdominal band is an unsurgieal prineiple both in theory and in praetiee. I believe that this objection is obviated by the following teehnie:

After the abdomen has been opened through the usual median ineision and the neeessary treatment of the pelvic organs has been carried out, the uterus is grasped and is held at whatever level one desires to suspend it. The region in which one round ligament leaves the abdominal cavity is exposed by retraeting upward on that side of the wound. A catgut suture is then begun at the internal abdominal ring by passing the needle through the ligament and the adjoining parietal peritoneum. The suture is continued by alternately grasping the round ligament and the parietal peritoneum, with the overlying transversalis fascia. The suture is eontinued to within a short distanee of the uterine horn and is here ended. The needle should take broad grasps of both the round ligament and the parietal peritoneum, with adjoining transversalis fascia, as illustrated in the diagram. To avoid atrophy it is essential that the suture pass through and not around the round ligament. After the suspension of one round ligament has been completed, the opposite side is treated in the same manner. The abdominal wound is closed in the usual way, the parietal peritoneum being preferably sutured by the everting stiteh suggested by S. Wiener and myself in order to avoid omental adhesions.[2]

This operation has been performed in only a few instances and has been found simple of exeeution. It was first earried out about four years ago; the patient was recently examined and presented a movable uterus in good anterior position. A second patient passed through a normal pregnaney following the operation and subsequent examination demonstrated that the uterus remained in the anterior position. Another

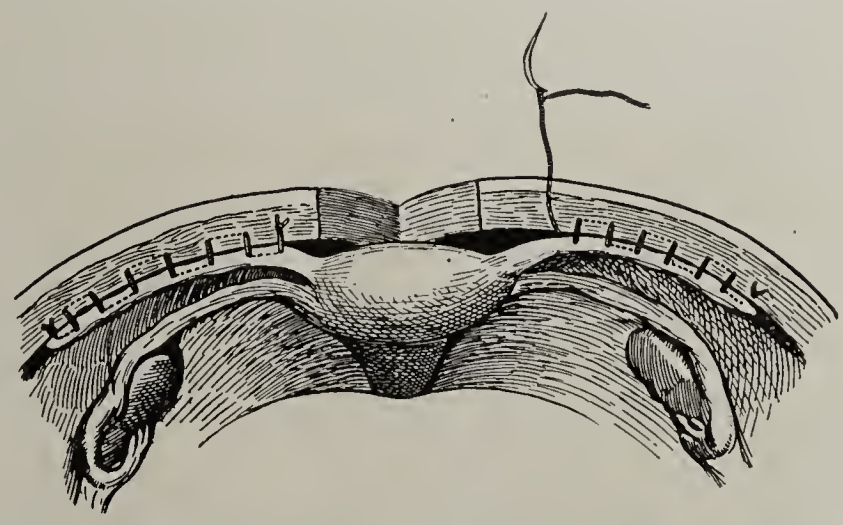


Fig. 1.—Diagram to illustrate the method of passing the suspension sutures.

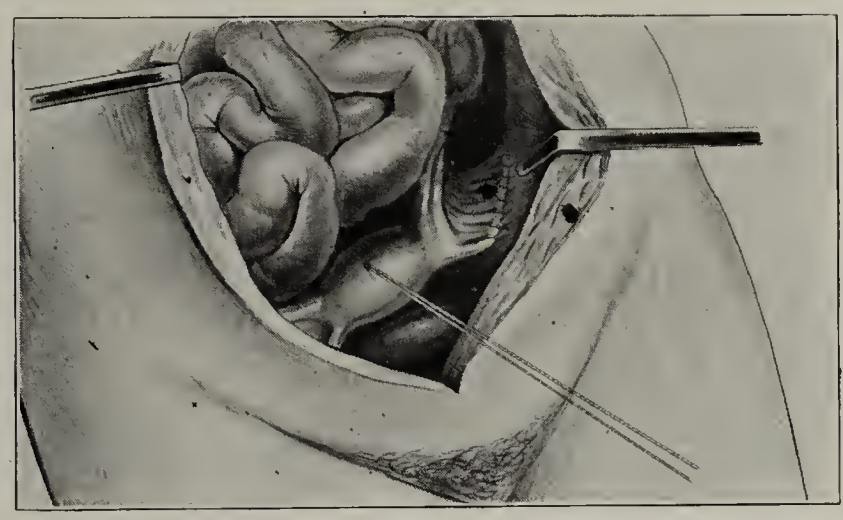


Fig. 2.—Illustration of the operation of suspension by the round ligaments made from a cadaver. The suture is incorrectly shown; it should be passed through and not around the ligament.

patient was subjected to a laparotomy for a different abdominal condition ten months following ventrosuspension by the above-described teehnie and occasion was taken to examine the field. The uterus was found in normal position and freely movable. On eaeh side (the left side could be more thoroughly inspected) the round ligament was suspended from the anterior abdominal wall by a narrow sheet, averaging one quarter inch of peritoneum, in whieh gaps were not to be found. The round ligaments were quite normal in appearance.

The advantages that have been claimed for this method of ventrosuspension would appear to warrant a more extended application of the technie in order to determine whether or not these elaims are justified.

1275 Madison Avenue.

1. Some case reports are to be found in Treves' monograph on Intestinal Obstruction; Veit's Handbuch der Gynäkologie, Vol. I; and Guggisberg: Incarceration of the Intestine after Ventrofixation of the Uterus, Zentralbl. f. Gynäk., Sept. 24, 1910, p. 1257.

2. Neuhof, H., and Wiener, S.: Experiments on Omental Adhesions, Surg., Gynec. and Obst., April, 1910.

## Special Articles

### TYPHOID IN THE LARGE CITIES OF THE UNITED STATES

There were fifty cities of over 100,000 population in the United States in 1910. Over 22 per cent. of the whole population of the country lives in these cities and in addition a large suburban and satellite population is influenced by the health conditions of the neighboring metropolis. It is safe to say that more than one quarter of the population of this country is directly concerned in the prevalence of typhoid fever in our large cities. Since the modes of causation and methods of prevention of typhoid are better understood than is the case with some other infectious diseases, it has seemed worth while to present facts showing the actual conditions together with data indicating the recent trend in the typhoid death-rate.

The large cities may be divided conveniently into five groups:

1. Eight cities with a population over 500,000.
2. Ten with a population from 300,000 to 500,000.
3. Ten from 200,000 to 300,000.
4. Twelve from 125,000 to 200,000.
5. Eleven[1] from 100,000 to 125,000.

The data may be presented in tabular form. In compiling and calculating the figures for these tables, city records of deaths have been used, and the population has been estimated by the arithmetical method used by the Census Bureau.

TABLE 1.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 1 (POPULATION OVER 500,000)*

| | Deaths from Typhoid per 100,000 Population 1912 | 1911 | Average 1906-1910 |
|---|---|---|---|
| Cleveland | 5.9 | 14.7 | 16.5 (5) |
| Chicago | 7.5 | 10.8 | 15.5 (2) |
| Boston | 8.1 | 9.3 | 16.0 (3) |
| New York | 9.8 | 11.1 | 13.8 (1) |
| St. Louis | 10.4 | 15.4 | 16.1 (4) |
| Philadelphia | 12.5 | 14.1 | 42.1 (7) |
| Pittsburgh | 12.7 | 25.8 | 74.3 (8) |
| Baltimore | 23.9 | 27.2 | 34.6 (6) |

* The figures in parentheses in the last column of this and the following tables give the relative standings in death-rate, 1906-1910, of the cities in the group.

The most striking fact with respect to the group of our eight largest cities (Table 1) is the great reduction that has occurred in the typhoid rate in Philadelphia and Pittsburgh. Both of these cities, as is well known, have recently installed sand filters for their water-supplies, and the low typhoid rates in 1911 and 1912 as compared with preceding years must be attributed chiefly to the diminution in the amount of water-borne typhoid. Part of Pittsburgh (the north side) is not yet supplied with filtered water. In the "Pittsburgh filtered-water district," with a population of about 410,000, the typhoid rate in 1912 was only 5.9. The case of Cleveland is also noteworthy. The Cleveland water-supply is at present more or less exposed to contamination with the city's own sewage, although opinion differs as to the exact degree of danger.[2] In 1912 the water supplied to Cleveland was treated with hypochlorite, and a significant drop in typhoid fever was recorded. The water-supplies of Chicago, Boston and New York have remained essentially unchanged during the period covered by these figures. Whether the considerable reduction in the typhoid rate in these cities shown in 1911 and 1912 is due to an increase in the consumption of heated milk as suggested by one writer[3] is worthy of consideration.

Baltimore at present stands practically alone in this group with a typhoid rate nearly twice as high as that of any other city. Even in Baltimore, however, marked improvement seems to have taken place following the treatment of the water-supply with hypochlorite beginning January, 1911. In 1912 the typhoid rate was the lowest in the sanitary history of the city.[4]

Altogether, if we except Baltimore, there is reason for some satisfaction over the typhoid situation in the group of our largest cities. Reasonably steady improvement in the typhoid death-rate is shown in nearly all cases, and in the last two years there has been an approximation in several instances to the rate in some European cities that have long been held up as a model. Cleveland, Chicago and Boston all had a lower typhoid rate in 1912 than the London average for 1901-1905 (8.5).

Without exception the typhoid average for all the cities in this group was lower in 1911-1912 than in the five years 1906-1910.

TABLE 2.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 2 (POPULATION FROM 300,000 TO 500,000)

| | Deaths from Typhoid per 100,000 Population 1912 | 1911 | Average 1906-1910 |
|---|---|---|---|
| Newark, N. J. | 7.1 | 10.3 | 14.6 ( 1) |
| Cincinnati | 7.5 | 11.7 | 30.0 ( 7) |
| Buffalo, N. Y. | 11.4 | 25.1 | 22.8 ( 3) |
| Minneapolis | 11.5 | 11.6 | 32.2 ( 8) |
| New Orleans | 14.0 | 30.7 | 35.6 ( 9) |
| San Francisco | 14.1 | 15.6 | 27.3 ( 6) |
| Los Angeles | 14.6 | 12.6 | 19.0 ( 2) |
| Detroit | 17.1 | 15.6 | 23.4 ( 4) |
| Washington, D. C. | 21.2 | 20.9 | 36.9 (10) |
| Milwaukee, Wis. | 25.3 | 19.3 | 27.0 ( 5) |

The marked improvement in the water-supply of Cincinnati is reflected in the lowered death-rate from typhoid fever in that city for 1911 and 1912. In fact, the reduction is far greater than appears from these figures (Table 2) since the rates for 1908 (18.8), 1909 (12.8) and 1910 (5.7) fall in the pure-water period and are much below the rates for 1906 (68.5) and 1907 (44.5). Minneapolis, also, shows in its lowered death-rate the probable effect of the use of hypochlorite on the city water-supply. THE JOURNAL has already described in some detail the situation in Detroit[5] and Milwaukee.[6] Little change seems to have taken place in typhoid conditions in either city since the investigation by the representatives of THE JOURNAL in 1910. Detroit, as well as Milwaukee, should take action in respect to its water-supply. In 1896-1900 Milwaukee and Detroit had the lowest typhoid rates in this group of cities; now their relative position is among the worst. They may well contrast their typhoid-fever death-rates with those of the lake cities that have pure water-supplies.

1. Hartford, Conn., is included in this group; the population in 1910 was 98,915, but it is thought now to have passed the 100,000 mark.

2. Jackson, D. D.: Report on Sanitary Condition of the Cleveland Water-Supply, May 25, 1912; Jackson, G. S., and Perkins, R. G.: Typhoid in Cleveland in 1911, Cleveland Med. Jour, 1912, xi, 816.

3. Jordan, E. O.: The Case for Pasteurization, THE JOURNAL A. M. A., Oct. 19, 1912, p. 1450.

4. Ford: Johns Hopkins Hosp. Bull., 1911, xxii, 53; ibid., p. 351; ibid., 1913, xxiv, 108. Ford and Watson: Ibid., 1912, xxiii, 275. Stokes: Bull. Med. and Chir. Fac., Maryland, 1912, v, 73.

5. Typhoid in Detroit, special article, THE JOURNAL A. M. A., Oct. 8, 1910, p. 1284.

6. Typhoid in Milwaukee, and the Water-Supply, special article, THE JOURNAL A. M. A., July 16, 1910, p. 211.

The exhaustive and prolonged investigation of typhoid conditions in the national capital is too well known to our readers to need discussion here.[7] Whatever the cause may be, the decline in typhoid fever in Washington since 1906 is noteworthy. The low rate reported by New Orleans in 1912 is interesting.

All the cities in Group 2, like those in Group 1, show a lower typhoid average for 1911-1912 than for 1906-1910.

TABLE 3.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 3 (POPULATION FROM 200,000 TO 300,000)

| | Deaths from Typhoid per 100,000 Population | | Average |
|---|---|---|---|
| | 1912 | 1911 | 1906-1910 |
| Seattle, Wash. | 7.4 | 9.4 | 25.2 ( 6) |
| Jersey City, N. J. | 7.5 | 6.2 | 12.6 ( 2) |
| St. Paul, Minn. | 10.2 | 10.0 | 18.0 ( 4) |
| Providence, R. I. | 10.3 | 12.2 | 14.3 ( 3) |
| Rochester, N. Y. | 11.8 | 10.3 | 12.4 ( 1) |
| Kansas City, Mo. | 12.8 | 23.7 | 35.6 ( 9) |
| Denver | 13.0 | 17.6 | 35.5 ( 8) |
| Portland, Ore. | 16.9 | 17.8 | 23.3 ( 5) |
| Indianapolis | 18.3 | 26.2 | 30.4 ( 7) |
| Louisville, Ky. | 18.9 | 25.6 | 52.6 (10) |

Marked improvement in typhoid-fever rates is shown by every city in Group 3 (Table 3). The rates for 1912 are in every case below 20, the only group of which this can be said. Especially noteworthy is the case of Louisville, where the typhoid rate has fallen steadily since 1907, a circumstance that may be attributed largely, if not solely, to the improvement of the public water-supply.

TABLE 4.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 4 (POPULATION FROM 125,000 TO 200,000)*

| | Deaths from Typhoid per 100,000 Population | | Average |
|---|---|---|---|
| | 1912 | 1911 | 1906-1910 |
| Paterson, N. J. | 4.6 | 21.2 | 19.3 ( 3) |
| Worcester, Mass. | 6.6 | 6.7 | 11.8 ( 1) |
| Scranton, Pa. | 8.7 | 12.0 | 31.4 ( 6) |
| Oakland, Cal. | 9.0 | 12.6 | 21.5 ( 4) |
| Richmond, Va. | 16.2 | 17.4 | 34.0 ( 7) |
| Syracuse, N. Y. | 16.8 | 15.7 | 15.7 ( 2) |
| Columbus, Ohio | 20.2 | 13.8 | 40.0 (10) |
| New Haven, Conn. | 24.5 | 23.4 | 30.8 ( 5) |
| Toledo, Ohio | 33.0 | 22.6 | 37.4 ( 9) |
| Atlanta, Ga. | 35.2 | 55.8 | 58.5 (11) |
| Memphis, Tenn. | 56.2 | 61.2 | 35.3 ( 8) |

* No reply was received from Birmingham, Ala.

Group 4 (Table 4) comprises several cities with very low and several with very high rates. Two cities (Syracuse and Memphis) have a higher average for 1911-1912 than for 1906-1910. Memphis has the unenviable distinction of maintaining for the past two years the highest rate from typhoid fever of any large city in the United States. The question may be asked why the Syracuse typhoid rate has remained stationary or even slightly increased while nearly every other large city in the country has shown a reduction.

Attention is also especially directed to New Haven by these figures. The typhoid rate in this city has been excessive for the last seven years. In 1912 only six large cities in the country, some of them with notoriously bad water-supplies, had a higher typhoid rate than New Haven. The position of this city is rendered more conspicuous by the fact that it is in a section of the country where low typhoid rates prevail. Eight other New England cities are included in our tabulation. All of these have a lower typhoid rate than New Haven, and five of them have a rate under 10 (New Haven, 1912= 24.5). What's the matter with New Haven?

The citizens of Toledo may perhaps ask themselves why the typhoid rate in that city in 1912 should be five times as great as the rate in Cleveland. A rate of 33 in a Northern city would seem to call for drastic measures.

On the other side may be mentioned such very encouraging conditions as apparently exist in Worcester, Mass., where a very low typhoid rate has been maintained for two consecutive years, and the remarkable improvement that has been brought about in Richmond, Va.

TABLE 5.—DEATH-RATES FROM TYPHOID IN CITIES OF GROUP 5 (POPULATION FROM 100,000 TO 125,000)

| | Deaths from Typhoid per 100,000 Population | | Average |
|---|---|---|---|
| | 1912 | 1911 | 1906-1910 |
| Cambridge, Mass. | 2.8 | 4.7 | 9.8 ( 1) |
| Bridgeport, Conn. | 7.4 | 3.8 | 10.2 ( 2) |
| Lowell, Mass. | 9.2 | 6.5 | 13.9 ( 4) |
| Hartford, Conn. | 12.7 | 19.8 | 18.9 ( 6) |
| Omaha, Neb. | 13.2 | 45.1 | 40.8 ( 8) |
| Spokane, Wash. | 16.9 | 38.5 | 50.4 ( 9) |
| Albany, N. Y. | 17.7 | 17.8 | 17.5 ( 5) |
| Fall River, Mass. | 18.8 | 15.8 | 12.5 ( 3) |
| Nashville, Tenn. | 30.1 | 52.0 | 61.2 (10) |
| Grand Rapids, Mich. | 34.0 | 26.1 | 29.7 ( 7) |
| Dayton, Ohio | * | 18.3 | 22.4 |

* No answer received from health department.

Three cities in Group 5 (Grand Rapids, Fall River and Albany) show no improvement in their typhoid rates for 1911 and 1912 over the preceding five years (Table 5). In view of the general trend of typhoid-fever rates in this country this should cause some searching of heart among the inhabitants of the last two cities named. Grand Rapids has until lately presented the familiar case of an increasing water-supply pollution, but the new water-purification plant just installed should improve the condition in that city very materially. The situation in Albany, which obtains its supply from the dangerously polluted Hudson River, but is provided with a well-constructed and well-operated sand-filter plant, has attracted comment from sanitarians. Some observers have expressed the suspicion that while the filter greatly reduced, it did not altogether remove the danger of water-borne infection. The question cannot be discussed here, but the failure of typhoid in Albany to decline as it is doing elsewhere gives food for thought. Cambridge, Mass., has the lowest typhoid average for 1911-1912 of any city in the country, thus keeping the place it held in 1906-1910.

The only cities with a higher average typhoid rate in 1911-1912 than in 1906-1910 are Memphis, Tenn., Syracuse, N. Y., Grand Rapids, Mich., Fall River, Mass., and Albany, N. Y.

Cities with an average typhoid death-rate in 1911-1912 *below 10* are Cambridge, Mass., Bridgeport, Conn., Worcester, Mass., Jersey City, N. J., Lowell, Mass., Seattle, Wash., Boston, Newark, N. J., Chicago and Cincinnati.

But one city in the whole fifty-one (Cambridge, Mass.), had an average below 10 for the five years 1906-1910.

7. Rosenau, Lumsden and Kastle: Report on the Origin and Prevalence of Typhoid in the District of Columbia, Bull. Hyg. Lab., U. S. P. H. Service, Nos. 35, 44, 52 and 78.

**"New Diseases" Not so Rare as Generally Supposed.**—Family jaundice is a condition which has only been described within the last ten years or so, but, like many diseases which are believed to be rare, when once it comes to be generally recognized it will probably be found to be not so rare as was supposed.—Robert Hutchison, in *Clin. Jour.*

# BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(*Continued from page 1622*)

## VI

### INOCULATION INTERVAL

The interval between inoculations is also important, but hard and fast rules regarding it do not hold in practice. A too frequent repetition of a bacterial vaccine, especially in a large dose, tends toward a "cumulative negative phase," a state with clinical evidences of retrogression. Too rare inoculations, especially with small doses, fail to achieve the sustained high tide of immunity, thus resulting in slight or merely temporary clinical improvement.

*Negative-Phase Reinoculation.* — One rule derived from studies of the opsonic index has attained almost axiomatic importance. This is never to reinoculate during the negative phase. Vital as it is, this injunction seems largely to have escaped the attention of physicians using stock vaccines. Cases occur in which bacterial vaccines in amounts sufficient to arouse marked local reaction are inoculated at intervals of one, two or three days; and to make matters worse it often happens that these depressing and cumulative inoculations are made in one restricted injection-site. Weeks or even months may be required for Nature to compensate for the damage inflicted on the immunizing mechanism by such heedless practice.

*Average Inoculation-Intervals.*—In treating subacute and chronic infections, intervals of from five to ten days have been found to serve successfully. In acute infections, particularly if moderate doses of vaccine are used, some repeat the inoculation in from two to five days, believing that the positive phase is of short duration, and that a relapse will occur if the doses are spaced too far apart.

*Cessation of Treatment.*—Rarely a single dose of bacterial vaccine appears to render further treatment superfluous. It is not prudent, however, to rely on such a possibility in rapidly progressing localized infections, but assurance should be made doubly sure by repeating several times the dose of vaccine which appears to have elicited the satisfactory response. Even if these additional inoculations are not imperatively required, they provide harmless insurance against relapses, or reinfections which may convert an acute case, promising at the start, into a lingering chronic one. After prolonged treatment in chronic infections, especially as improvement reaches a maximum, the inoculation interval may be gradually lengthened so that treatment is not abruptly terminated.

*Irrational Dosage.*—Some radical departures in the matter of dosage and spacing have recently been advocated. One of these is the employment of serially increasing doses like the plan adopted by some workers for tuberculin therapy. Another is to shorten the inoculation-interval, to begin with small doses and quickly step up to larger amounts. These innovations are positively condemned by the consensus of expert opinion. They represent some of the blind gropings for success which argue against empiric-vaccine therapy with stock vaccines. If the practitioner is sufficiently skilled to prepare and use the right vaccine and to adjust the dose and inoculation interval of this vaccine exactly, no change is necessary. In fact, it would be prejudicial to success were the dose regularly increased or diminished, or the interval shortened. Accordingly too much emphasis cannot be placed on warning physicians relatively unskilled in practical vaccine therapy to avoid any scheme of dosage which calls for inoculations at short intervals with increasing doses of killed bacteria.

### VACCINES IN ACUTE INFECTIONS

Bacterial vaccines were originally used only in chronic and subacute infections, and theoretically this limitation is justified. Accordingly it has come to pass that many excellent authorities prohibit the employment of vaccine therapy in acute infections. The danger of overturning the delicate balance in acute infections by imposing a negative phase is assigned as a reason for this prohibition, and, as has already been stated, this objection should never be ignored in the critical stages of severe general infections in case one is ever so venturesome as to undertake the treatment of such conditions with vaccines. But there are a goodly number of successful specialists in vaccine therapy who bring forth impressive testimony to show that one may go to extremes and deny the benefits of vaccine therapy to promising cases by excluding from its scope all the acute infections. These authorities produce clinical and experimental data favoring autogenous vaccine therapy in acute localized infections, particularly the traumatic wound infections and the sepsis of the puerperium. The astonishingly prompt improvement of both local and general conditions which follows the inoculation of a correctly graduated dose of autogenous vaccine in acute cellulitis, phlegmon or puerperal fever has been observed and recorded by a sufficient number of competent workers to justify its further trial. Such trials should, however, be confined to experts, and the tyro in vaccine therapy should studiously avoid the treatment of acute generalized infections with bacterial vaccines, especially with those of commerce, and if the treatment of acute localized infections is undertaken the utmost caution should be exercised.

### UNTOWARD EFFECTS OF VACCINES

With uncontaminated bacterial vaccines in proper dose skilfully administered, direct harm is most uncommon, if, indeed, it ever occurs. Such accidents as have happened may be assigned to the following causes:

*Excessive Dosage.*—The harm attending the cumulative negative phase in subacute and chronic infections as induced by too large doses of vaccine, or by a correct dose repeated at too frequent intervals, has already been described. Besides this there is the danger of causing a sharp and possibly disastrous negative phase in the course of an acute infection like septicemia or pneumonia. Theoretically, at least, this is a possibility not to be disregarded. At the critical stage in such an acute disease, when the natural forces of immunization are hanging in the balance, it is conceivable that the depression of a marked negative phase induced by a bacterial inoculation may be the deciding factor against recovery. In practice it is extremely difficult to appraise this situation and to decide the delicate question as to whether the vaccine administered at the crisis of such an illness contributed to the unfavorable issue. In any event the possibility should be kept in mind and guarded against by endeavoring to avoid bacterial inoculations in acute infections when clinical evidence points to an impending

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

crisis. When a state of overwhelming infection is plainly indicated, inoculations should be strictly avoided since they will inevitably fail, and such failure tends to the discredit of vaccine therapy as a whole, particularly to the lay mind.

*Contamination.*—Bacterial vaccines may become contaminated during manufacture, as will be shown in a succeeding section. The risk in using such a vaccine is obvious and depends on the nature of the contaminating agent. There is also to be considered the contamination incidental to the manipulations of inoculation, as by imperfectly sterilized syringe, careless handling of the vaccine, or carelessness during the injection. The consequences of these manipulative errors usually are inflammatory indurations at the injection site, sometimes eventuating in abscess.

*Allergy.*—The phenomena of anaphylactic reaction are encountered as a rare event in the course of a series of bacterial inoculations. This reaction may be localized at the site of a previous inoculation which becomes temporarily swollen and irritated. More marked hypersensibility is shown by erythematous or other skin eruptions usually accompanied by itching; in still less frequent instances the acute angioneurotic symptoms of a serum anaphylaxis with transient or more persistent urticaria have been noted. There is, however, no record of fatal anaphylactic shock following the inoculation of bacterial vaccines.

## COMMERCIAL STOCK VACCINES

Two particular factors serve to account for the incredible rapidity with which vaccine therapy has evolved from a specialized to a widely generalized pursuit; the pioneer paving of the way by the therapeutic serums, and the commercial exploitation of the new field.

Antidiphtheric serum was the first therapeutic biologic product to obtain general adoption by physicians, but its experimental and developmental stages were slow as compared with vaccine therapy. Difficulties attending its production were such as to take it out of the hands of the individual physician and to call for the facilities of a special institution. Federal, state or municipal agencies proving only partially adequate to meet the situation, the rise of private commercial antitoxin laboratories followed. The commercial manufacture is, however, under efficient control. Rigid biologic standards for therapeutic effectiveness have been established, and are enforced by federal inspection and license. The clinical indications for the use of antidiphtheric serum are usually clear, and the results of its administration specific. Accordingly, the manufacture of this serum can be centralized and its clinical employment can be entrusted safely to the whole profession.

But the centralized commercial manufacture and wide usage of bacterial vaccines have no justification as compared with antidiphtheric and other antiserums. Bacterial vaccines can, and preferably should, be made by the individual physician. There is nothing complicated or expensive in the process, and it is difficult to make sure of a proper control of the product in any other way. They have no standards of therapeutic effectiveness like the antitoxic units of antidiphtheric and antitetanic serums. Consequently the federal license can convey no guarantee of potency for any of the marketed bacterial vaccines. The physician who employs stock vaccines is obliged to trust a number of outside workers for the purity and efficiency of his remedy. Moreover, with few exceptions, there are no specific symptomatic indications for the clinical use of stock vaccines; nor are there any certain assurances of specific therapeutic effect. The bacteriologic culture test is the logical antecedent of bacterial therapy, and the physician who avails himself of this aid has prepared the way for the use of a correct corresponding vaccine, or better still, for the autogenous one.

*Superiority of Personally Prepared Autogenous Vaccines.*—The advantages of autogenous vaccine therapy are most certainly to be secured when all steps in the preparation and use of the vaccine are pursued by the practitioner treating the case or by some one with whom he is in close personal touch. If the exigencies of the situation are such that the practitioner must send his morbid material to some distant laboratory for identification of the bacteria and the preparation of the vaccines, there is little advantage in autogenous as compared with stock vaccines. It follows that autogenous vaccines should be made and used at first hand, their employment being based on the possession by the clinician of sufficient skill and experience.

## PRESENT CONDITIONS UNSATISFACTORY

The situation as it now exists was foreseen by Wright, who several years ago warned against promiscuous vaccine therapy, and who defined the immunizator as one who had, by long preliminary training in bacteriology, immunology and clinical medicine, qualified himself to undertake the new development in medical practice. A protest against indiscriminate vaccine therapy was also voiced by Adami, who advised that the method be confined to those younger medical men whose laboratory training had prepared them to undertake and master it. Notwithstanding this sound advice, we are to-day confronted with a state of affairs totally disregardful of it, and ascribable in the main to commercial exploitation. To consider in detail the unsatisfactory features arising from such exploitation is now in order.

## MISLEADING THERAPEUTIC CLAIMS

Bacterial therapy, even in the hands of its most skilled practitioners, is by no means an assuredly successful method of treating infections, and failures multiply as practitioners are less competent and are thus forced to rely on outside aid in the preparation of the remedial agents. It is natural that the manufacturers should stimulate an attitude of therapeutic optimism and minimize the drawbacks. Therefore, it has come about that in order to promote the sale of stock bacterial vaccines manufacturers have exaggerated the claims for their therapeutic effectiveness, at times to the point of the ridiculous, or even to the utterly preposterous.

One has but to review the advertising literature of any of the firms marketing stock vaccines to find misleading, overdrawn or entirely unfounded statements of curative virtues. To discuss these assertions in detail would exceed the limits of the present articles, and only a few of the more flagrant examples can be chosen.

*(To be continued)*

---

**Necessity of Vital Statistics.**—The earnest, intelligent health officer relies on statistics for an understanding of his field. A tax-collector cannot discharge his duties unless he knows the address of every debtor. A police bureau cannot protect society unless it knows the character and haunts of the degenerates. A health officer cannot execute the law for the protection of society's health unless he knows the haunts and habits of disease. For this he must look to vital statistics.—Dr. William H. Allen.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, MAY 31, 1913

## THE LAXATIVE ACTION OF SULPHATES

Various theories have been formulated in regard to the mode of action of those drugs which are familiarly known as laxatives or purgatives. Broadly speaking, they may be considered to behave in one of two ways: either they promote the motor functions of the bowel, and as the result of the heightened peristalsis cause the normally fluid contents of the intestine to be propelled to the rectum before the usual degree of concentration by absorption of water has taken place; or by some mechanism or other they permit a dilution of the intestinal contents whereby the latter remain more or less liquid or voluminous. In either case the end-effect is the same; for an undue accumulation of fluid masses in the intestine, whatever their origin may be, tends to bring about a vigorous reflex peristalsis whereby the bowel becomes emptied.

There is no longer any doubt that the various types of purgative agents have unlike modes of action. The uncertainty regarding the mechanism by which the purgation is ultimately accomplished has involved the so-called saline laxatives in particular and has long been a source of much speculation and experiment. The theories have oscillated between what may be termed purely physical (or physicochemical) and physiologic points of view, the intestinal membrane exhibiting something more than a merely passive rôle in the physiologic hypotheses. Without entering into the historic details of the subject we may recall that the earliest explanations postulated an osmotic exchange of fluid into the lumen of the intestine to dilute the concentrated solutions of salts ingested as laxatives. Buehheim showed that this was not sufficient to account for the fluidity acquired by the intestinal contents. He pointed out that the typical effect of the laxative sulphates, for example, is independent of the concentration of their solutions, and insisted that inasmuch as the sulphates are poorly absorbed from the intestine they retain the solvent in the interior of the bowel. Increased transudation has been called on to explain the increased fluidity of the intestinal contents following the use of the saline products; but more significant is the view championed particularly by Brieger and Hay, whereby the sulphates are assumed to provoke an unusually abundant secretion of intestinal juice into the bowel. From time to time the investigation of the possibilities here presented has been renewed, new methods of research being applied as the progress of science suggested them. In illustration of this the introduction of the Roentgen-ray procedure for following the motor behavior of the alimentary tract and the newer successful devices for observing the activity of isolated loops of the intestine *in vitro* may be cited.

The idea that the sulphates may act directly on the motor activities of the intestine has not yet been entirely abandoned. J. B. MacCallum believed that sulphates increase the irritability of the local nervous mechanism of the intestine so that its contents may act as a vigorous stimulus to peristaltic action. In this event subcutaneous injections of a soluble sulphate which would thus reach the intestinal wall by way of the circulation might be expected to perform the laxative functions as well as or better than the oral administration. This, however, is not so; for the parenteral administration of Epsom or Glauber's salts is more than likely to be followed by constipation. Yet the hypothesis of heightened peristalsis has had even more recent support.[1]

In the pharmacologic institute of Professor Kionka at Jena, Dr. Cobet[2] has lately taken up the problem of saline laxatives again. His interest has centered in the tenability of the hypotheses as to the rôle of osmosis, diffusion, secretion and deficient absorption, respectively, in the explanation of how magnesium sulphate (Epsom salt) maintains the essential fluidity of the intestinal contents which leads to purgation. The result of this experimental investigation has been to emphasize the vigorous secretion of intestinal juice into the bowel under the stimulus of the sulphate; it is this, according to Cobet, rather than simple diffusion currents which accounts for the inrush of liquid. The chlorid present in the secretion discharged into the bowel may be reabsorbed at lower levels of the intestine; but the water is largely retained within the lumen by the poorly absorbable sulphates. Reabsorption of fluid does not take place until the introduced sulphate solution has become greatly diluted. Accordingly if sulphate solutions of low concentration are administered orally, their volume must be decidedly large because the fluid becomes partly absorbed under such conditions.

It has been asserted that the presence of chlorids promotes the laxative effects of the sulphates. Cobet's experiments give a partial support to the contention; for they show that in the presence of hypertonic solutions, sodium chlorid in concentrations up to 0.6 per cent. is practically not absorbed at all in the upper portions of the intestine. Thus it may replace an equivalent amount of refractory Epsom salt or supplement it.

1. Tyrode: The Mode of Action of Some Purgative Salts, Arch. internat. de pharmacol., 1910, xx, 205.

2. Cobet, Rudolf: Ueber die Resorption von Magnesiumsulfatlösungen im Dünndarm und die Wirkungsweise der salinischen Abführmittel, Arch. f. d. ges. Physiol., 1913, cl, 325.

The laxative action of the sulphates is further promoted by the vigorous secretion of mucus which they occasion. The intestinal surface becomes, as it were, more smooth and pliant, and the progression of the contents of the bowel is thereby facilitated.

## TYPHOID IN THE UNITED STATES

We have been so accustomed in this country to regard the typhoid rates in our large cities as deplorably and inexcusably high that the facts recorded in a special article in this issue will come as a surprise to many of our readers. Collection and tabulation of these data have been prompted by the conviction that the actual typhoid conditions in American cities should be widely known both as an encouragement to those municipalities that have inaugurated comprehensive reforms in water-supply and sewage-disposal, and as an incentive to those still halting by the wayside. Perhaps the most significant fact is that in the last six or eight years a revolutionary improvement has been brought about in the water-supply of many large cities. Common fairness demands that in such cases as wide publicity be given to the present satisfactory condition as was given to the discreditable situation of a decade ago. It should be a matter of national pride that Philadelphia and Pittsburgh, for example, now have excellent public water-supplies and that the danger of contracting typhoid fever in those cities is relatively slight.

The data we have gathered emphasize strongly the need of insistence on a pure or purified water-supply as the first and most important step in a national campaign against typhoid fever. In practically all cases improvement in the character of a water-supply has been followed by a great, often a remarkable, typhoid diminution, as witness Cincinnati, Pittsburgh and Minneapolis. In nearly every city also in which the drinking-water has been good throughout the period covered by these figures, typhoid has been steadily declining. This is perhaps just what would be expected from the cumulative decrease in the number of carriers and consequent lessening in the opportunity for contact infection and food contamination. Every case prevented narrows the circle of infection. The prevention of thousands of cases, as at Pittsburgh and Philadelphia, avoids the formation of several scores of permanent typhoid carriers who might help to disseminate the disease throughout the country or remain for years to plague the community that produced them. However important the direct question of water-supply may be, this other factor should not be overlooked.

Another possible—indeed, probable—factor in the striking diminution in typhoid now going on in American cities is the rapidly increasing use of pasteurized milk. Sanitarians should closely study this phase of the typhoid problem more closely.

Whatever the underlying sources may be, it is gratifying to see that we are in a fair way to lose our national preeminence in typhoid mortality. The rapidity with which the change is taking place is surprising to even the best-informed of us. THE JOURNAL proposes each year to print a tabulation similar to that appearing in this issue with the hope of suggesting or accelerating further improvement. Typhoid fever does not belong in civilized communities; it is not a disease that American civilization can tolerate. It must go.

## THE EFFECTS OF HIGH-FREQUENCY CURRENTS

With increasing knowledge as to the properties and manifestations of the electric current, the application of this form of energy in medicine ought to be put on a firmer basis of scientific certainty. Electric apparatus and electric treatment have now found a wide-spread use in practice. The critical observer and the conscientious physician are often at a loss to know what are the explicable features of electrotherapy, where the borderline between empiricism and rational procedure lies, and how "psychic" effects or quackery are to be distinguished from real and defensible phenomena. The exorbitant claims and the unbelievable results which have been associated with the medical uses of electricity need to be sifted and exposed before the eyes of the mystified initiate. The properties of electricity deserve to be clearly defined, and their appropriate uses succinctly outlined and interpreted.

Although it has long been known that the human body can be subjected to electric currents of high tension and high frequency without other effects than those attributable to the temperature manifestations induced thereby, extravagant claims are even now occasionally heard. For example, it has lately been stated that a few "treatments" with currents of from 1 to 3 amperes sufficed to increase the weight of an individual 14 kilograms. One might assume, on the face of such information, that the energy introduced in the form of the current had spared a corresponding amount of the body's store; but it has been calculated[1] that if such an increase of body-weight were in the form of fat, to supply the gain would require 260 daily treatments of two hours each, furnishing a daily current-energy equivalent to from 300 to 500 calories. On the other hand, it has been maintained that special modes of application of high-frequency currents may induce a loss of two pounds in a single treatment of half an hour's duration. This is equivalent to a loss of 9,000 calories in the form of fat. Such are some of the extreme claims on record.

Durig and Grau[1] have conducted a careful investigation of the influence of alternating currents of high tension and frequency on metabolism and other functions of the human body. The chief experimental difficulty is encountered in furnishing electrodes of sufficient surface to prevent harmful local heat effects where the current is applied. Success attended the liberal distribution

1. Durig, A., and Grau, A.: Der Energieumsatz bei der Diathermie, Biochem. Ztschr., 1913, xlviii, 480.

of tinfoil over the limbs for this purpose, so that high-frequency currents of 1.9 amperes at 180 volts were transmitted to the body for twenty minutes, and in one case 1.8 amperes at 176 volts for two and one-half hours. The maximal contribution of energy in this way was 627 calories — the equivalent of nearly one-third the daily requirement of man at rest. The effect of this treatment was solely that of the heat manifestations. There was a rise in temperature, leading to increased frequency of the pulse and profuse perspiration. Metabolism was maintained within the bounds of what may be expected from comparable increases in temperature brought about in other ways. There was no alteration of the oxidative functions of the organism; there was neither storage nor undue waste of energy. When one bears in mind that the heat effects of the prolonged transmission of the current may be marked, leading to a distinct rise of temperature, it is not surprising to note a dilatation of the peripheral blood-vessels or of the kidney vessels with a consequent effect on the urinary secretion. These phenomena are in no strict sense peculiar manifestations of the use of electricity. They are the results of heat.

High-frequency currents have been credited with a germicidal influence on the body. Durig and Grau have considered this possibility also. It is not difficult to destroy microorganisms as a result of the high temperature which can be induced in mediums through which the currents pass. It is nothing short of dangerous, however, to attempt the destruction of these lower forms in this way in the body tissues; for, inasmuch as we are dealing with a pure heat effect and not a specific electric influence, the difference between the lethal temperature of the tissue to be preserved and the organism to be destroyed is too small to encourage efforts along this line.

Studies of the foregoing sort serve to distinguish the mystic from the obvious effects of certain forms of electric energy. It is always a grateful experience to be emancipated from bonds of uncertainty.

---

## THE ELIMINATION OF MERCURY

The distribution and physiologic fate of compounds which are widely used in medicine, though perhaps secondary in importance to their pharmacologic performances, are yet deserving of careful attention. What occurs in the organism as the result of the introduction of drugs, be it curative or detrimental, is frequently in no small measure dependent on the course which they pursue in traversing the body and the channels which they follow in the process of elimination. Even with so widely used remedies as the compounds of mercury there are gaps in our knowledge which could be filled with profit for the understanding of the mode of action of this potent element. In one country inunctions are used by preference; in another internal therapy finds the most ardent advocates; elsewhere it is the intramuscular or intravenous administration of the diverse available mercurial products that meets with widest approval. The formulation of a rational judgment in respect to the conflicting merits will depend somewhat on the facts in respect to the actual absorption, transport and excretion of mercury under the various conditions and forms of administration that are practiced. The quantitative estimation of mercury in the tissues and excreta calls for refined chemical technic and analytic experience—hence the comparative paucity of reliable data.

Newer contributions by Dr. Buchtala[1] of Graz add important facts in this field. It has been asserted that after certain forms of mercury inunctions the entry of the element is in reality in volatile form through the respiratory tract. It is now apparent, however, that even after the use of non-volatile mercury salts the element is absorbed through the skin, which is attested by an excretion of mercury by the kidneys in quantities up to 1 or 2 mg. per day. After intramuscular administration of either soluble or insoluble compounds of mercury the daily elimination reaches decidedly higher figures—up to 5 mg. and over after the dosage employed in Buchtala's cases. This means, without doubt, that the concentration in the tissues and fluids is also greater; and from a purely theoretical point of view it might seem pharmacologically advantageous to have the effective agent present in greater abundance. It is by no means decided yet whether the mercury acts directly as an agent destructive to the infectious organisms which it is intended to combat, or whether the influence is an indirect one exerted in stimulating the body toward greater antitoxic effort.

Of especial practical prominence is the contention that the kidney cannot excrete more than 10 mg. of mercury per day without liability to damage. Renal irritation and albuminuria are prominent symptoms. The question is thereby raised whether the injection of masses of insoluble mercury compounds under the skin to serve as depots for slow solution is an entirely safe procedure. This certainly is the case only when an unduly rapid solution and transport of the mercury will assuredly not ensue. In the light of what has been said the method is at best a questionable one and is discountenanced in certain quarters.

The use of iodids in conjunction with mercurial treatment in the medication of syphilis is believed to be attended with favorable consequences. The newer investigations have shown that after the simultaneous use of these drugs there is a tendency toward a lowered output of mercury in the urine. The real significance of this finding is not yet apparent. Possibly the formation of insoluble compounds of mercury and iodin or of soluble but little ionized mercury-iodin compounds will furnish an explanation of the delay in the excretion.

1. Buchtala, H.: Ueber das Verhalten des Quecksilbers gegenüber dem menschlichen und auch tierischen Organismus bei den üblichen therapeutischen Applikationsarten, Ztschr. f. physiol. Chem., 1913, lxxxiii, 249.

Animal experiments show that the path of elimination for mercury is not solely by way of the kidneys: The bowel may also participate in the excretory function, quite in harmony with what is observed in the case of various other elements.

## CHINESE DRUGS AND MEDICAL ADVERTISING

The therapeutic ways of those nations that have not yet been introduced to the scientific medicine taught and practiced by our medical schools are always of interest. Not infrequently the empiric procedures which are handed down from one generation to the next carry with them an element of value which modern investigation has discovered and justified on the basis of accurate tests. In this manner various drugs have found their way into the practice of to-day and retained a place for themselves, though perhaps not always in the crude form in which they were originally exhibited before the era of isolated chemical "principles." History furnishes abundant examples of drugs or plant products with reputed and attested curative virtues that were recognized long before experimental pharmacology reached even an incipient stage.

Professor Santesson, the pharmacologist of the Carolingian Medicochemical Institute at Stockholm, in Sweden, has furnished some interesting notes on a somewhat unique Chinese "medicine" which he obtained through authentic sources from the East.[1] It is reputed to have a strong digitalis-like action. The description of the container itself indicates a degree of artistic ingenuity scarcely equaled by our own purveyors of drugs with mystic potency. The miniature urn and carton, the highly colored silk and paper wrappers, all add to the impression of something with dignified efficiency. The product itself consisted of minute black grains, emitting a faint odor of musk. The chemical and pharmacologic investigation, though not exhaustive, indicated the presence of a glucosid of the digitalis group, presumably like strophanthin, as the chief component of the granules. The reputed potency and the toxicity of the preparation are thereby explained.

A translation of the "advertising literature" (in Chinese) which accompanied the package is worthy of repetition. It reads:

> The "Look Zung" pill may be used for infective wounds; epidemic cases of sore throat; ulcers of the throat and diphtheria; diseases of the breast; and in all cases in which no liquid (like tea or soup) can be taken. The use of ten of these pills, dissolved in boiling water and slowly swallowed, invariably effects a specific cure. In serious cases repeat the dose.
>
> The pill also cures boils, abscesses and carbuncles; cancer of the stomach and intestines; cancer of the breast; and all kinds of inflammation and poisoning.
>
> Further, in children suffering from dangerous cases of croup and laryngismus stridulus, ten of these pills, dissolved in boiling water and taken, will give immediate relief.
>
> It is indeed impossible to mention all the specific uses of this pill.

1. Santesson, C. G.: Ein chinesisches Medikament, Skandin. Arch. f. Physiol., 1913, xxix, 37.

Obviously this descriptive circular gives little clue as to the composition or specific value of the product—which leads the Swedish investigator to remark that the Chinese appear to be quite as expert in the extravagances of medical advertising as are any European or American firms.

## THE BACTERIAL EXAMINATION OF WATER

Much interest has been aroused in the report of the committee that prepared the latest edition of "Standard Methods of Water Analysis."[1] We have already referred[2] to the wide-spread criticism of the 37-degree bacterial count. Chamot[3] has recently taken up the whole subject in a broader way, and has made a number of suggestions that will appeal to those analysts who have feared lest the bacterial examination of water might be degenerating into an unintelligent routine procedure.

The ease with which colony counts may be made and gas formation in sugar broth determined has tended to emphasize the accumulation of data rather than their interpretation. Comparative results have often been considered quite as much from the point of view of method-testing as from that of the actual conditions that they reveal. That we have still much to learn about the "permissible limit" of *Bacillus coli* numbers, about varieties of *B. coli,* about the significance of gas-producing bacteria, about seasonal conditions and many other matters, no experienced observer can doubt. As pointed out by Chamot, it is hardly in accord with the scientific spirit to limit ourselves to any one or to any half dozen methods in attempting to solve the problems of water bacteriology.

The specific case of the gelatin plate is a pertinent one. It is true that the bacteriologist who is familiar with gelatin-plate results can often obtain significant information about the character and history of a water better by this means than by any other. We are certainly not justified in omitting any expedient that can throw light on a doubtful case.

One cardinal principle of water analysis needs to be kept constantly in mind, namely, the fact that the bacterial condition of a water at the time of its examination does not necessarily give any information about its liability to pollution, past or present. In two recent instances known to us, public water-supplies were pronounced by analysts innocent of causing extensive typhoid fever outbreaks, but the epidemiologic investigations that followed showed the water to be unquestionably responsible. It cannot be emphasized too strongly that the absence or great scarcity of *B. coli* in a public water-supply at a given time does not mean that *B. coli* and even typhoid bacilli were not abundant in that supply two weeks before.

In the discussion of the "Standard Methods" now going on and in the revision sure to follow, the fact

1. Am. Pub. Health Assn., New York, 1912.
2. Standard Methods of Water Analysis, Current Comment, THE JOURNAL A. M. A., Feb. 1, 1913, p. 374.
3. Chamot: Am. Jour. Pub. Health, 1913, iii, 371.

should not be lost sight of that the object of the bacterial examination of water is not merely to determine the condition of the water at the time the examination is made, but to obtain all the information possible about the character of the water, and especially to discover as far as possible the probabilities and possibilities of future danger in using water drawn from a given source. All the information derived from local inspection, from bacterial examination and from chemical examination will not be too much in many cases to draw on in passing judgment. If our aim is to form an opinion about a water source, common sense and scientific prudence alike will demand that that opinion be based on a study of all available data.

## EVIDENCES OF ARSENICAL POISONING

When death by poison is suspected, the court of inquiry is usually satisfied with proof of the presence in the body of a substance which is capable of producing the lethal outcome in a manner such as that in which the victim is known to have died. Sometimes there is an additional demand that the presence of a fatal dose of the poison shall be demonstrated. It rarely happens that a complete and exhaustive chemical analysis is called for in judicial investigations, since such examinations are lengthy and expensive and frequently would furnish little of added value from the point of view of the prosecution. As a result comparatively few facts compiled from actual human fatalities are available in respect to the distribution of poisons. A few organs such as the stomach, liver or kidneys are commonly subjected to analysis; but beyond this, little attention is paid to the relative content of the poison in the different parts. In fact, the materials saved at autopsy are frequently bottled up in a single container and sent to the chemist without any further thought of distinctions or differentiations. This is true despite the fact that the importance of studying the distribution of the poison in medicolegal cases has long been emphasized. Such a procedure calls for the cooperation of physician, chemist and perhaps lawyer as well; but it is likely to furnish results of practical importance with respect to knowledge of the mode of introduction of the poison; its nature, the possibility of post-mortem imbibition, of chronic versus acute intoxication, and other factors that may be of moment in establishing innocence or criminal guilt. Indeed, it has been said by a competent toxicologist that it is as much the chemist's duty to trace out the relative and absolute distribution of poison in the body of the deceased as it is to determine the nature and quantity of the poison in the stomach.

These comments apply with special force to arsenic. Although this substance no longer enjoys the distinction of being a popular poison as it did a generation ago, it is still occasionally encountered as an agent of acute intoxication in medicolegal practice. One of the foremost problems which always arise in connection with this poison is the determination of whether it was actually introduced into the body before death. Post-mortem introduction, and even cadaveric imbibition of poisons must always be kept in mind as a theoretical possibility, although the old, long-prevalent idea of the absorption of arsenic from the soil is no longer seriously considered.

Chittenden long ago[1] pointed out that the presence of arsenic in the brain, even if it be only in traces, is an indication amounting almost to proof positive of the ante-mortem character of the poison. Numerous facts lend their aid in arriving at a conclusion on this point. By no ordinary measures, such as those to which criminals would be likely to resort, could arsenic be introduced into the body after death and be carried by the ordinary processes of diffusion to a point so remote from the central portions of the body. Extensive migration of arsenic may be stopped by its fixation by conversion into an insoluble sulphid, and the unusual distribution would add a further clue as to the unphysiologic introduction. The absence of arsenic in the brain, on the other hand, in no wise proves that the poison was not taken prior to death.

Professor Ekeley of the University of Colorado has had an opportunity to investigate the organs of a person known to have died from arsenical poisoning. The findings which he has just placed on record[2] show that by far the greater part of the arsenic was taken up by the liver and kidneys. Only a trace found its way into the spinal cord, but the brain contained a small amount. The facts here reported are of peculiar value because the material was all obtained in good condition from a cadaver of known history, and they confirm the important contention of Chittenden cited above.

One still finds mention, in the text-books, of the antiquated belief that the bodies of persons poisoned with arsenic remain undecomposed a remarkably long time and may tend to become mummified.[3] In other words, these cadavers are said to desiccate rather than decompose. This alleged occurrence has been proposed as evidence of arsenical poisoning. It is certain, however, that mummification can occur in the absence of any arsenical factor; and Ekeley's record makes it equally certain, if further proof were needed, that cadavers from undoubted cases of arsenical poisoning may early show an advanced state of moist decomposition. As added evidence of what the elements working in the ground can do it is interesting to note Ekeley's finding that the soil which had been very near to the casket showed marked traces of arsenic, while that a little removed was almost arsenic-free.

1. Chittenden, R. H.: The Distribution of Arsenic in a Human Body, Am. Chem. Jour., 1883, v, 1; The Significance of the Absorption and Elimination of Poisons in Medicolegal Cases, Medicolegal Jour., 1884.

2. Ekeley, J. B.: The Distribution of Ante-Mortem Administered Arsenic in the Human Cadaver, Jour. Am. Chem. Soc., 1913, xxxv, 483.

3. Compare Kunkel, A. J.: Handbuch der Toxikologie, p. 267.

# Current Comment

## IN LINE AGAINST FAKERY

*Detroit Saturday Night*, a virile Michigan weekly, has joined the campaign against fakery. It has studied the field, has gathered facts about frauds at its very door, and now presents its opinions of them in a fashion that is terse, direct and sure. Using, naturally enough, and with courteous acknowledgment, THE JOURNAL'S exposés and investigations, as bases for some of its articles, the Detroit paper offers "stories" that grip the interest even of those already familiar with the facts. Its charges are neither loose and vague nor purposely generalized to evade reprisal. If any reprisal were possible, *Detroit Saturday Night* would have known it ere now; for its reports have all the explicitness that names, places, analyses and figures can ensure, and its vocabulary includes the most vigorous terms. It knows, furthermore, the meaning of a testimonial and a death certificate side by side! But the real effect does not depend merely on crisp sentences and good headlines. The paper adorns its tale, but it also points a moral. It can ask embarrassing questions. For instance: If the claims of cure-alls be true, why do not papers carrying the advertisements of these cure-alls proclaim their worth in prominent news space? If Nature's Creation can cure tuberculosis, why continue the cost of tuberculosis hospitals and antituberculosis societies? Why spend from $10 to $25 for an Oxypathor, Oxydonor or any other "Oxy," when an empty tomato can will do you just as much good? As an outlet for the interest aroused, the paper has definite suggestions in line of legislation. A challenge to the state authorities to take action against local fraud; a plea in the name of humanity for a bill against fraudulent advertising—these, with definite facts concerning actual fakes, *Detroit Saturday Night* offers as part of its share in the effort to

> . . . help to save mankind
> Till public wrong be crumbled into dust.

## MORPHIN AND CONSTIPATION

The constipating effect of opium and morphin is a feature in the action of these drugs that has long been known to physicians, but the explanation or interpretation of its occurrence has not been so apparent. Undoubtedly, as so often happens when conflicting experiences and puzzling situations are involved, there is more than one factor at work to explain the ultimate phenomenon. The experiments of Magnus in particular have shown that a prominent feature in the action of morphin on the gastro-intestinal tract consists in the marked retardation of the discharge of contents from the stomach. As a result, the passage of food into the intestine is decidedly delayed, and consequently the ordinary stimuli for peristaltic activity in the intestine are decreased. The temporary inhibition of the secretion of the fluids pouring into the alimentary tract has also been reported. Despite the unquestionable importance of such retardations in leading to constipation, they scarcely seem adequate to explain entirely the familiar facts of clinical experience. The question is accordingly raised whether the opium products do not exercise some direct sedative influence on the lower bowel itself. It has been maintained by Padtberg, for example, that the vigorous peristalsis of the small and large intestine induced by colocynth can be checked by morphin. But even these suggestions of influences exerted on the lower bowel in addition to the undoubted effects on the stomach can scarcely account for the clinically recognized manifestations of constipation induced by the use of the opium alkaloids. Some other pharmacologic influence must be at work; accordingly it has been suggested that a diminution, or even occasional disappearance, of the reflexes of defecation[1] is brought about. This idea is supported by the observations, easily made on human subjects, that even when the feces are of semisolid consistency, and presumable occasion for their discharge manifests itself, the final act of defecation may be delayed for hours through the action of opium. The constipative manifestations of this drug are thus at length referred in some way to the very end of the gastro-intestinal apparatus.

## IN THE OPEN AT LAST

A bill has been introduced into the Illinois legislature by Mr. Hurburgh to regulate objectionable advertising. It is aimed specifically at the "lost-manhood" type of advertisement and makes such advertising a misdemeanor for which both the advertiser and the publisher may be punished. The bill has been favorably commented on by the decent newspapers of the state and has just passed the senate by a vote of 35 to 6. It is opposed, of course, by the quacks and those whose interests lie in that direction. Here is a circular letter sent out by a company that owes its fortune to careless and uncritical members of the medical profession. It is being sent to the druggists of the state of Illinois and deserves a careful reading:

> We respectfully call your attention to Illinois S. B. No. 481 by Mr. Hurburgh designed to stop the advertising and sale in Illinois of a large number of valuable remedies for the treatment of certain diseases. This Bill, *introduced by the doctors*, is occasioned by the fact that *the advertised remedies are equally as successful as the doctors in the treatment of the diseases named* and at infinitely less cost to the patient; thus depriving the doctors of what they consider their perquisites. There is no demand by the people for this legislation and it is only an entering wedge for *the doctor, who claims a monopoly of all healing* and would, if he could prevent the sale of all medicines except on a prescription furnished by him.
>
> This bill does not affect us, as we do not manufacture and have no interest in such remedies but we believe it should be opposed because it offers a precedent for worse legislation along the same lines.
>
> Trusting that you will write your Senators and Representatives at once, asking them to vote against legislation of this nature which will benefit only one class of individuals at the expense of the whole people, we remain
>
> Sincerely yours,
> THE ANTIKAMNIA CHEMICAL COMPANY.

We have italicized certain portions of this letter for the purpose of emphasizing the present attitude of the Antikamnia Chemical Company. This company, as we have already said, is an expensive monument to the poor

1. See Shapiro, N.: Ueber die Wirkung von Morphium, Opium und Pantopon auf die Bewegungen des Magen-Darm-Tractus des Menschen und des Tieres, Arch. f. d. ges. Physiol., 1913, cli, 65.

judgment of the medical profession and to the venality of a portion of the medical press. For a good many years, a certain proportion of the profession has not been able to satisfy itself that the Antikamnia Chemical Company was not only antagonistic to the ideals of medicine but also antagonistic to the profession itself. The letter we have just given should be sufficient to convince even the most charitable. By it the company places itself squarely on record, and by lining itself up with the "lost-manhood" quacks, it admits every allegation THE JOURNAL has made regarding it for the past ten years.

## LAZARUS AND DIVES

Despite much that has been said and written to the contrary, health conditions in American cities, as elsewhere in civilization, are improving, if diminished death-rates are a criterion. And yet health conditions in our great cities are not good enough to satisfy the humanitarian — at any rate those conditions which accompany or follow the gravest social and economic diseases of the body politic. At a recent woman's industrial exhibition were placards showing disease-engendering conditions: obviously insanitary sweat-shops, in which consumptives work on underwear, shirtwaists, bed- and table-linen, lace collars and other garments, to be sold on the bargain counter, and to be introduced with all their germ-content into other homes. A placard bore a doctor's statement: "I have found 182 families, 179 with contagious disease, doing this tenement work." Nicely bottled pecans are sold as titbits for the well-to-do; in this exhibition were photographs of a mother and two children in a squalid room cracking the nuts, one of the children facilitating the work by using its teeth. By such poor women and little children also (often illegally kept from school) are bristles put into hair-brushes, artificial flowers made and paper cigarette tubes rolled — and licked. One of the most melancholy aspects of our civilization is the pay for sweat-shop work: $1 a dozen for skilled work at gloves for which the retailer charges $3 a pair; 30 cents for four hours' crocheting of a hand-bag which sells for $1.50. In 204 inspected homes, 25 per cent. of the workers were between 5 and 10 years of age; nearly half were under 14; a fourth of the children worked five hours or more a day after school; three-fourths of these home-working families earned less than 10 cents an hour altogether. In the end, however, the consumer not infrequently must pay an awful price in sickness and in death for "bargains" prepared under such pitiless and often pestilent conditions. Well indeed has Dr. Solomon Solis-Cohen observed that "the poverty of Lazarus makes itself felt in the house of Dives"; yes, and his infections also!

## FRESH BREAD FORTY HOURS OLD

Bread kept under ordinary conditions rapidly becomes stale or dry, so that persons who do not fancy the staff of life in that particular physical state must have bread within a few hours after it is baked. A method of preventing bread from becoming stale would therefore be an epicurean and economic advantage; it would not only contribute to the gustatory requirements of the fastidious, but also prevent considerable loss to the baker and the consumer. Dr. J. R. Katz[1] of the University of Amsterdam is said to have stated that bread kept at either a low or a high temperature is preserved fresh for some days at least. In his experiment bread was kept absolutely fresh for more than forty hours at a temperature of 140 F. (60 C.). At a temperature of from 86 to 104 F. (30 to 40 C.), it became only half stale, and became fresh again at a temperature below freezing. Dr. Katz therefore recommends that bread be kept at a temperature of 122 F. (50 C.) and upward, which will keep the crumb fresh, while the crust will become soft by the absorption of moisture. If the bread is put back into the oven for a short time the water will be driven off from the crust and the bread will become crisp again. The bread may also be kept in cold-storage rooms at sufficiently low temperatures, when if the air is sufficiently dry the crust will remain hard and crisp, so that it will retain all the characteristics of new bread for a considerable time.

## CORRESPONDENCE SCHOOLS FOR NURSES

The idea of correspondence school instruction has had remarkable growth in recent years. For certain subjects, such as history and literature, it may be adequate, although even here it numbers among its disadvantages lack of the stimulus that comes from personal contact with the instructor and class. There are other branches, however, which can never be really taught by correspondence. Nursing, emphatically, is one of these. This is an age of practical methods, and there is no subject to which such methods should be more strictly applied than to that of nursing. A certain amount of theoretical knowledge can be gained from the text-book, such as the location of the different organs of the body and the names and uses of certain drugs — an exceedingly small part of a nurse's training. No one can learn to be a nurse by reading text-books or lesson sheets, or by hearing descriptions of methods of handling cases. The nurse must learn to recognize conditions by seeing them, to differentiate among symptoms by comparing them and to do by doing — all this not once but many times Many of the young women who plan to become nurses do not know these facts. They are led by the alluring advertisements in journals and magazines to take the course which promises to lead easily and cheaply to the desired end. They will be disappointed when they discover, after the completion of their courses with these correspondence schools, that they cannot register their diplomas, that they are not competent to act as nurses, that they will not have the standing of those practically trained, and that the physicians of standing in their communities will refuse to employ or recommend them. And yet the number of correspondence schools for nursing is increasing and the quality decreasing. The methods of some, perhaps, may be regarded as honorable, but there are few of these. The other kind is multiplying. The methods of one — the Rhode Island College of Nursing — we discussed in a recent issue.[2] Since then physi-

1. Scientific American, May 10, 1913.
2. The Doctor Again Picked Out for an Easy Mark, Current Comment, THE JOURNAL A. M. A., Feb. 22, 1913, p. 600.

cians who have been consulted by those desiring to take up nursing have written us concerning the National College of Nursing of Elmira, N. Y. This concern seems to have peculiarities of its own. It plans to make use of physicians as an advertising medium, and will do this by appointing physicians as "consultants and medical examiners." The circular letter to doctors says: "For each applicant examined by you and accepted by the school, we shall send you, from the first remittance received, a check for $5 as compensation for your examination or advice. If the applicant originates with you, we shall send you $10." There are other evidences which will compel even the most charitable to believe that such an institution is not conducted in accordance with the highest ideals. It is the duty of physicians to discourage those who contemplate taking a correspondence course in nursing. In the end women so taught will be a disappointment to themselves, an irritation to physicians and a danger to the public.

---

### NEWSPAPERS AND SUICIDE

A few days ago a Mr. Walker of Macon, Ga., mistaking it for a headache tablet, swallowed an antiseptic tablet containing 7 grains of bichlorid of mercury. The newspaper announcements said that he vomited soon afterward, and that his stomach was washed out. Hence the probability is that the man retained barely a fatal dose, and therefore lived longer than he would have lived had the full amount of mercury taken been retained. This case was not an unusual one. Although such accidents have occurred many times, this case was "featured" by the newspapers of the country day after day, and the idea conveyed that Mr. Walker was having a good time although knowing that he was going to die. Of course the "stories" were embellished to make good reading. As might have been expected, the suggestion has had its effect on despondent waverers, and suicides by this method are now being reported; in fact, before Mr. Walker had died a Chicago paper announced one. It is a pity that the sense of responsibility to the public is so little developed in the editors (or those responsible for the policy) of such papers as those that "featured" the Walker accident. One of our most prominent dailies recently published a cartoon ridiculing the federal senate "pure news bill" designed to prevent the publication of unwholesome news. The sensational press is doing its best to hasten the day of such legislation.

---

### THE LAY PRESS CORRECTLY CLASSIFIES FRIEDMANN

A poll of the press on the Friedmann commercialism is decidedly reassuring. There were not a few newspapers which, just after Friedmann arrived, criticized the physicians and the state laws for not freely granting him a license to practice, but the conservative course of conduct has been fully vindicated. Friedmann is now classified almost with unanimity as having fallen from grace. The Topeka (Kan.) *Capitol* calls the Friedmann deal "a surprising error in judgment." "While he may be a benefactor of humanity," says the St. Paul (Minn.) *Pioneer Press*, "he is primarily a benefactor of himself." "Friedmann has shown himself possessed of high commercial ability," remarks the New York *Call*. "He saw his opportunity, took it, and it is probable that he has got away with the money. The real worth of his discovery is important only to consumptives—and in mercantile affairs they do not count for anything except as consumers. And in this case, as in others, let the buyer beware." The Peoria (Ill.) *Star* says that "the general opinion is that Dr. Friedmann is a humbug." "Deplorable," exclaims the Pittsburgh (Pa.) *Press*. The Baltimore *Sun* comments on his "cold-bloodedness" and "willingness to make humanity a mere matter of traffic," while the Holland (Mich.) *Sentinel* wonders if Friedmann "is to end up as a patent-medicine man" and declares that "he has vindicated the skepticism of the ethical profession" and "has perpetrated a cruel hoax on the American public." Unkindest cut of all, the Scranton (Pa.) *Republican* recommends the issuance of a "fraud order directing the holding up of mail devoted to his business." We think that the average newspaper editor has sized the matter up very clearly.

---

## *Medical News*

### FLORIDA

**New State Association Officers.**—The fortieth annual meeting of the Florida Medical Association was held in Miami, May 13-15, and the following officers were elected: president, Dr. P. C. Perry, Jacksonville; vice-presidents, Drs. John G. Du Puis, Lemon City, J. C. Davis, Jr., Quincy, and W. S. Gramling, Miami; secretary-treasurer, Dr. J. D. Fernandez, Jacksonville (reelected), and librarian, Dr. W. S. Manning, Jacksonville. Orlando was selected as the place of meeting for next year.

### ILLINOIS

**New Officers.**—Henry County Medical Society in Kewanee, May 8: president, Dr. J. A. Gustafson, Orion; secretary-treasurer, Dr. G. H. Hoffman, Kewanee.

**Biology Building to be Erected.**—A fund of $100,000 is to be secured for the erection of a building at Rockford College in commemoration of Clara Barton, and for the endowment of a scholarship of biology and bacteriology in that institution.

**New Officers.**—Mercer County Medical Society at Aledo, May 13: president, Dr. R. H. Smith, Seaton; secretary-treasurer, Dr. A. N. Mackey, Aledo.——Grundy County Medical Association at Morris, May 13: president, Dr. C. D. Allison, South Wilmington.

**Award Made to Physician.**—In the case of Dr. R. M. Curtis, Marengo, against McHenry County, in which a sum in excess of $5,000 was claimed on account of service during a small-pox epidemic, the jury found in favor of the plaintiff, awarding him $1,500 for his services.

**Buys Site for Sanatorium.**—Dr. George W. Michell has purchased 100 acres of land at Prospect Heights, Peoria, from Dr. George A. Zeller, as a site for the new building of the Peoria Sanitarium. The new institution is to cost $50,000 and will be arranged on the cottage system.

**Hospital Notes.**—A tuberculosis sanatorium for La Salle County is to be erected on the county farm at a cost of $2,400.——The site for the municipal sanatorium for Rock Island has been abandoned on account of the opposition of the residents.——The new St. Joseph's Hospital, Aurora, was dedicated with impressive ceremonies, May 25. Bishop Muldoon of Rockford made the dedicatory address.

### Chicago

**Hospital Dedicated.**—The Sarah Morris Hospital for Children at Twenty-Ninth Street and Groveland Avenue, made possible by a bequest of $300,000 by Mrs. Sarah Morris, was dedicated May 25. A public reception was held between 2 and 6 p. m. The hospital has 125 beds for the care of sick

children, and, while primarily a free hospital, has accommodation for a limited number of pay patients.

**Personal.**—Dr. and Mrs. Thomas J. O'Malley, Dr. and Mrs. A. E. Lundgren and Dr. and Mrs. George de Tarnowsky have sailed for Europe.——Dr. Mortimer Frank has returned from Europe.——Dr. Julius Grinker has been appointed a member of the attending staff of Cook County Hospital in the department of nervous and mental diseases.——Dr. C. W. Imwall has been elected surgeon of the West Side Hospital.

## INDIANA

**New Officers.**—Eighth District Medical Society at Muncie, May 8: president, Dr. U. G. Poland, Muncie; secretary-treasurer, Dr. Fred McK. Ruby, Union City.——Lagrange County Medical Society at Lagrange: president, Dr. William H. Short, Lagrange; secretary, Dr. Alfred A. Wade, Howe.

**The Work Against Tuberculosis.**—At a meeting of the Fort Wayne Antituberculosis Society, May 3, Drs. George W. Gillie, E. M. Van Buskirk, Eric A. Crull and C. G. Beall were appointed a committee to formulate plans for the establishment of a tuberculosis camp on ground donated by the Allen County Board of Commissioners. The colony will be able to accommodate twenty patients.——The Elkhart County Antituberculosis Society at its recent meeting in Elkhart, decided to erect four cottages, two in Elkhart and two in Goshen, for tuberculosis patients. The cottages will be erected on the standard plans adopted by the State Society.——The new hospital of the Boehne Tuberculosis Farm, Evansville, was dedicated May 18. The hospital has four wards and ten private rooms and there are at present seventeen inmates.——The Tuberculosis Crusaders of Madison County have been incorporated by Dr. Etta Charles, Summitville; S. C. Norris, Anderson, and others.

## IOWA

**New Officers for Woman's Medical Society.**—At the sixteenth annual meeting of the State Society of Iowa Medical Women, held in Des Moines, May 6, Dr. Florence Sherbon, Colfax, was elected president; Dr. Jeanette F. Throckmorton, Chariton, first vice-president; Dr. G. T. Dulin, Sigourney, second vice president; Dr. Clara B. Whitmore, Cedar Rapids, secretary, and Dr. Grace F. H. Jerger, Waterloo, treasurer.

**State Society Meeting.**—At the sixty-second annual meeting of the Iowa State Medical Society held in Des Moines, May 7-9, the following officers were elected: president, Dr. Lee Wallace Dean, Iowa City; vice-president, Dr. S. A. Spilman, Ottumwa; delegate to the American Medical Association, Dr. J. C. Roekafellow, Des Moines; alternate, Dr. C. S. James, Centerville; trustee, Dr. G. N. Ryan, Des Moines; councilor, fifth district, Dr. G. E. Crawford, Cedar Rapids, and sixth district, Dr. H. C. Eschbach, Albia. Sioux City was chosen as the next place of meeting.

## MARYLAND

### Baltimore

**Lecture on Plague.**—Dr. C. W. Young, professor of pathology and bacteriology in the Peking China Union Medical College, lectured on the plague epidemic in Manchuria, May 18.

**Osler Translated into Chinese.**—Dr. Francis J. Hall, a member of the faculty of the Peking China Union Medical College, is preparing for publication the second Chinese edition of Osler's "Practice of Medicine."

**Brady Urologic Clinic.**—Plans of the James Buchanan Brady Urologic Clinic at Johns Hopkins Hospital call for a five-story brick building, accommodating sixty patients. It will be situated on the Monument Street site, next to the surgical building.

**New Building for Hospital.**—Ground will be broken July 1, on a lot adjoining the old South Baltimore Eye, Ear, Nose and Throat Hospital for the new building which will be fire proof, three stories and a basement in height, 63 by 83 feet, with a roof garden.

**Memorial to Billings.**—The Johns Hopkins Hospital Medical Club held a special meeting in memory of the late Dr. John S. Billings, May 26, at which addresses were made by Dr. William H. Welch, William S. Halstead and Winford Smith.

## MASSACHUSETTS

**Personal.**—Dr. Walter E. Fernald, superintendent of the State School for Feeble-Minded, Waverly, has been appointed head of the legislative commission to investigate the white-slave traffic.——Dr. L. G. Mead, Watertown, has been appointed contract surgeon at the Watertown Arsenal.

**Summer Graduate Course at Harvard.**—A summer graduate course in medicine at Harvard Medical School will begin June 1, extending to September 30. The monthly announcement shows that five hundred different courses, including almost every branch in the medical curriculum, are offered.

**New Officers.**—Bristol South District Medical Society at New Bedford; secretary-treasurer, Dr. A. B. Cushman, South Dartmouth; secretary-treasurer, Dr. A. J. Abbe, Fall River.——Franklin District Medical Society at Shelburne Falls, May 13: president, Dr. C. F. Canedy, Shelburne Falls; secretary-treasurer, Dr. Webster K. Clark, Greenfield.

**Hospital News.**—The Methodist Episcopal Church is planning to purchase the Attleboro Sanatorium. Subscriptions amounting to $35,000 have already been made and an active campaign is being carried on to secure the $81,000 additional required to complete the purchase.——The new Board of Health Hospital for Isolation Cases. The institution will be able to accommodate twenty-six patients.

## MISSOURI

**Sanatorium Site Offered.**—The Missouri Society for the Relief and Prevention of Tuberculosis has received an offer of forty acres of land in St. Louis County as a site for a sanatorium for children suffering from tuberculosis of the bones.

**New Officers.**—Linton District Medical Society at Mexico, May 6: president, Dr. J. Frank Harrison; secretary, Dr. Harry W. Gibbs, both of Mexico.——South West Missouri Medical Society at Springfield, May 8-9: president, Dr. A. H. Madry, Aurora; secretary, Dr. H. S. Hill, Springfield (reelected).——Jackson County Medical Society, eye, ear, nose and throat section, at Kansas City, May 8: chairman, Dr. Hal Foster; secretary, Dr. R. J. Curdy, both of Kansas City.

**Sanatorium Board Meets.**—The board of managers of the Missouri State Sanatorium for Tuberculosis, Mount Vernon, met May 10 and elected Dr. J. L. Eaton, Bismarck, president; Dr. C. T. Dusenbury, Monett, secretary; Dr. E. W. Schauffler, Kansas City, medical director; Dr. B. Hughes, Keytesville, superintendent and Dr. C. C. English, Mount Vernon, assistant superintendent. The board decided to begin at once the erection of the new building for which $35,000 was appropriated by the last legislature.

**Personal.**—Dr. C. L. Woolsey, Braymer, has been appointed assistant physician at State Hospital No. 2, St. Joseph.——Dr. John Stewart, formerly superintendent of the Missouri State Sanatorium for Tuberculosis, Mount Vernon, has accepted the superintendency of the Arkansas State Sanatorium for Incipient Tuberculosis, Booneville.——Dr. B. W. Harris, Georgetown, is reported to be critically ill with uremia.——Dr. E. E. Evans, Columbia, has been appointed superintendent at State Hospital No. 3, Fulton, vice Dr. D. E. Singleton, Fulton, who will locate in Keytesville.——Dr. George A. Still, Kirksville, sailed for Europe, May 1.

## MONTANA

**Personal.**—Dr. Edward F. Maginn, Butte, has been appointed a member of the State Board of Health, vice Dr. C. T. Pigot, Roundup, and Dr. Daniel J. Donohue, Glendive, has been reappointed a member.——Dr. James P. Aylen, Missoula, has been appointed general surgeon for the Northern Pacific system.

**New State Association Officers.**—At the thirty-fifth annual meeting of the Montana State Medical Association held in Great Falls, May 14-15, the following officers were elected: president, Dr. W. P. Mills, Missoula; vice-presidents, Drs. J. H. Irwin, Great Falls, E. G. Balsam, Billings, and S. A. Cooney, Helena; secretary, Dr. Herbert D. Kistler, Butte (reelected); treasurer, Dr. C. C. Wallin, Lewistown, and delegate to the American Medical Association, Dr. LeRoy Southmayd, Great Falls. Lewistown was selected as the place of meeting for 1914.

## NEBRASKA

**New Officers.**—Buffalo County Medical Society at Kearney May 3: president, Dr. H. S. Bell; secretary-treasurer, Dr. J. S Blanchard.

**Bridges in Charge.**—Dr. W. O. Bridges, dean of the Omaha Medical College, will hereafter have full charge of the institution in Omaha. Dean R. H. Wolcott will remain in Lincoln where he will have charge of the junior medical classes.

## NEW HAMPSHIRE

**State Society Meeting.**—At the twenty-second annual meeting of the New Hampshire Medical Society held in Concord, May 13-14, the following officers were elected: president, Dr. Abram W. Mitchell, Epping; vice-president, Dr. H. K. Faulkner, Keene; treasurer, Dr. Charles R. Walker, Concord, and delegate to the American Medical Association, Dr. Irving A. Watson, Concord.

## NEW JERSEY

**Reunion at State Society Meeting.**—There will be a reunion of graduates of the University of Pennsylvania at the new Hotel Monmouth, Spring Lake, June 10, on the occasion of the annual meeting of the Medical Society of New Jersey. Dr. Alexander McAlister, Camden, is president and Dr. Hyman I. Goldstein, Camden, secretary of the committee of arrangements.

**Personal.**—Dr. William J. Burd, Belvidere, is reported to be seriously ill from the effects of an overdose of antitetanic serum.——Dr. Vittorio Risicato, Morristown, fractured his skull in an automobile accident in Albany, May 9.——Dr. A. Jones, assistant physician at the New Jersey State Hospital for the Insane, Trenton, has resigned to accept a similar position at Bay View, Baltimore.——Dr. G. H. Balleray, Paterson, was the guest of honor at a dinner tendered by members of the Passaic County Medical Society, May 14.

## NEW YORK

**Typhus on Long Island.**—A case of typhus is reported at East Hampton, L. I., and the surgeon-general of the U. S. Public Health Service has been notified.

**Tuberculosis Hospital Nearly Ready.**—The Montgomery County Tuberculosis Hospital now being erected on the Hobbs Farm, just east of Amsterdam, will be ready for occupancy by the first of July.

**Urge Tuberculosis Hospital.**—The physicians of Rockland County are urging the necessity of a tuberculosis hospital for that county and have sent a petition to the board of supervisors recommending the erection of such a hospital and setting forth the need of such an institution in that county.

**New Officers.**—Albany County Medical Society at Albany, May 14: president, Dr. James F. Rooney; secretary, Dr. Frederick C. Conway, both of Albany.——Steuben County Medical Society, ninety-eighth annual meeting at Bath, May 13: president, Dr. Douglas H. Smith, Bath; secretary-treasurer, Dr. B. R. Wakemann, Hornell.

**Personal.**—Dr. James A. Hawley, Canandaigua, has retired after more than half a century of active practice.——Dr. Roswell Park, Buffalo, has returned from a visit to the Canal Zone.——Dr. Montgomery E. Leary has been placed in charge of the hospital and ambulance corps to be maintained during the Elks' Convention in Rochester.——Dr. Walter M. Litchfield, Salamanca, was seriously injured in a collision between his automobile and another car, near Elkdale, May 8.

### New York City

**New Officers.**—Flatbush Medical Society, May 9: president, Dr. Thomas B. Hegeman; treasurer, Dr. Morris W. Henry, both of Brooklyn.

**Half Million Wanted for Academy.**—A circular pamphlet has been issued by the New York Academy of Medicine setting forth the need of a new building for that body and appealing to the public to make it possible. The fellows of the Academy have pledged $124,000 toward the purchase, and the academy's equity in its real estate is valued at $376,000.

**For New Orthopedic Hospital.**—The New York Orthopedic Dispensary and Hospital has bought a site having a frontage of 145.11 feet on East Fifty-Eighth Street and of 87.11 feet on Fifty-Ninth Street on which it proposes to erect a new building. All property leases have been cancelled so that building operations may be begun at once.

**Chapel for Tuberculosis Patients.**—The Chapel of the Sacred Heart, in connection with the Antituberculosis Sanatorium on Blackwells Island, was dedicated by Cardinal Farley, May 18. The edifice has antiseptic provisions. Gauze curtains, hung in the confessionals, are to be changed every hour when confessions are held. The chapel has been erected at a cost of $75,000——The formal opening of new clinics of the Long Island Hospital took place at the Polhemus Memorial Clinic, May 20.

**Memorial Service.**—The annual memorial service for deceased members of the Medical Society of the County of Kings, was held in the Library Building, Brooklyn, May 18. The deceased members whose memory was honored were: Drs. Victor Seymour Pier, Herbert Cooper Rogers, William Frederick Dudley, William Frederick Rex, Edward Leroy Oatman, Robert Bradlee Welton, Keran O'Brien, Ernest Palmer, William Foster Ganster, Philip Hanson Hiss, Jr., John Davies Trezise, Algernon Thomas Bristow, Frank Little, James Tabor Burdick, John Wright Ostrander, Thomas Wilson Topham, Isaac Hull Platt, Henry George Small, William James Callan, William Arthur Little, Eugene Joseph Carolan, John Herman Droge and James Lester Carney.

**Another Organization to Fight Cancer.**—To start a campaign of publicity against cancer, delegates from various associations, the American Dermatological Association, the American Laryngological Association, the American Otological Association, the American Gynecological Society, etc., met recently at the Harvard Club and elected the following officers: president, George C. Clark, New York City; vice-presidents, Dr. Clement Cleveland, New York City; Dr. Lewis S. McMurtry, Louisville, Ky.; Dr. Edward Reynolds, Boston; Dr. Edward Martin, Philadelphia; Dr. Lewellys F. Barker, Baltimore; secretary, Thomas M. Debevoise, New York City. Other societies interested in cancer problems will be asked to take part in the campaign. The plan of the organization is to enlighten American women on cancer by articles in women's magazines and journals of nursing, by pamphlets distributed by nurses, social workers, physicians and women's clubs, by instruction in nurses' training schools and by lectures before women's clubs. This new organization seems therefore to cover the same ground as other preexisting bodies, in the formation of which some of the same delegates and associations have cooperated. A movement is already on foot to correlate or amalgamate all these bodies into one effective National Anti-Cancer League.

## NORTH CAROLINA

**Personal.**—Dr. T. F. Reynolds has been elected mayor of Canton.——Dr. Charles T. Nesbitt, Wilmington, has been elected chief of the combined city and county health departments.——Fire on April 28 destroyed a building in Newbern owned by Dr. Frank Hughes, with a loss estimated at $10,000. ——Dr. L. J. Picot, formerly superintendent of the Raleigh State Hospital, will resume practice in Littleton.

## NORTH DAKOTA

**State Tuberculosis Sanatorium.**—The State Board of Control of Penal and Charitable Institutions has recently inspected the State Tuberculosis Farm, Dunseith, which is almost ready to be turned over to the state. The sanatorium is ideally located and everything in excellent condition. Dr. John G. Lamont is superintendent of the institution.

**State Association Meeting.**—The twenty-sixth annual meeting of the North Dakota State Medical Association was held in Minot, May 7-8, and the following officers were elected: president, Dr. Murdock MacGregor, Fargo; vice-presidents, Drs. R. H. Beek, Lakota, Victor Hugo Stickney, Minot; secretary, Dr. H. J. Rowe, Casselton (reelected); treasurer, Dr. C. S. Crane, Grand Forks; councilors, Drs. L. B. Greene, Monango, G. F. Drew, Devils Lake, J. T. Newlove, Minot, and J. E. Countryman, Grafton; delegate to the American Medical Association, Dr. James Grassick, Grand Forks, and alternate, Dr. Blake M. Lancaster, Crosby.

## OHIO

**New Officers.**—Morrow County Medical Society at Mount Gilead, May 14: president, Dr. W. L. Case; secretary, Dr. T. P. Johnston, both of Mount Gilead.

**Fund for German Hospital.**—The cash receipts for the General Hospital, Cleveland, thus far amount to more than $38,000. The executive committee has purchased the property of the Home of the Friendless for $19,000, and the erection of a new building for nurses is to be commenced very soon.

**Personal.**—Dr. R. H. Bishop, Jr., chief of the tuberculosis bureau of the Cleveland Health Department and secretary of the local Antituberculosis League, has been appointed superintendent of the new Municipal Tuberculosis Sanatorium, Warrensville.——Dr. John R. Johnson, Lima, has succeeded Dr. J. W. Costolo as superintendent of the District Tuberculosis Sanatorium, Lima.——Dr. Frank Oakley, Cleveland, is studying in Berlin.

**University Accepts Medical School.**—An authentic report states that the Ohio State University has accepted the offer of the Starling-Ohio Medical College, making the latter an

integral part of the university as its medieal department. The present organization of the medieal school will be eontinued, however, during the present year. By this merger the Protestant and St. Franeis hospitals will be under the general supervision of the university.

### Cincinnati

**Gifts to Medical College.**—Mrs. Mary Emery has eontributed $125.000 to the Ohio-Miami Medieal College of the University of Cineinnati for the endowment of a ehair of pathology. A sum of about $80,000 from the estate of Dr. Franeis Brunning has also been reeeived by the university, the ineome of whieh will be used for the endowment of a seeond chair.

## OKLAHOMA

**New Officers for State Association.**—The Oklahoma State Medical Assoeiation held its annual meeting in Enid, May 13-15, and eleeted the following officers: president, Dr. J. M. Byrum, Shawnee; vice-presidents, Drs. LeRoy Long, McAlester, J. T. Slover, Sulphur, and J. H. Barnes, Enid; secretary, Dr. Claude A. Thompson, Muskogee (reelected), and delegate to the American Medieal Association, Dr. W. E. Wright, Tulsa. Guthrie was selected as the next plaee of meeting.

## PENNSYLVANIA

**Hospital Notes.**—A permit has been issued for the new addition to the Hamot Hospital, Erie, six stories, 45 by 144 feet, fire-proof and eosting $158,000.

**Honor Venerable Physician.**—The Susquehanna County Medical Soeiety in eonneetion with its meeting at Montrose, May 6, gave a banquet, eommemorative of the ninetieth birthday anniversary of Dr. Calvin C. Halsey, Montrose.

**Insanity Experts Meet.**—The semi-annual convention of the Assoeiation of Trustees and Superintendents of the Insane and Feeble-Minded of Pennsylvania, of whieh Dr. J. M. Murdoek, the superintendent at Polk, is president, met at the Rittersville Hospital, May 22. A symposium on maniae depressive insanity was held and addresses were made by the following men: Drs. C. R. McKinnis of Norristown; H. Mitehell, superintendent at Warren; Owen Copp and J. Allen Jaekson, of the Pennsylvania Hospital for the Insane at Philadelphia; H. B. Meredith, superintendent at Danville, and Henry W. Klopp, superintendent at Rittersville. Afterward the visitors were the guest of the board of trustees of Rittersville.

**Women Demand Clean Food.**—The women's elubs of Landowne have notified storekeepers that they must have elean shops and must protect food from dirt and flies. The Civie Club of Merion and the elub at Swarthmore are preparing for similar erusades. At Landowne, the work has been going on for the last two years, the first agitation being made against the bakers and dealers, foreing them to deliver bread in waxed paper. Committees were formed in the various elubs and visits made to the sourees of the town's food supply and 90 per eent. of the shops were found to make no provision against flies and dirt. Shops were even eleaned without covering food in any way.

**Personal.**—Dr. P. J. Eaton, Pittsburgh, was eleeted president of the Associated Harvard Clubs, May 24.——Dr. S. P. Mengel, Parsons, has been appointed a member of the Wilkes-Barre Hospital staff, vice Dr. Alexander Gray Fell, deceased.——Dr. James T. Williams has been appointed assoeiate surgeon on the staff of the Wilkes-Barre City Hospital.——Dr. Nathaniel Ross, Wilkes-Barre, has been eleeted grand eommander of the Knights of Malta of Pennsylvania.——Dr. Hugh Baker, Connellsville, who has been seriously ill with septieemia, due to an operation wound, is reported improving.——Drs. E. B. Edie, H. C. Hoffman and E. C. Sherriek have been appointed members of the staff of the Cottage State Hospital, Connellsville.——Dr. Harold L. Foss has been appointed surgeon in ehief of the George F. Geisinger Memorial Hospital, Danville.

**To Bar New Insane Patients from Blockley.**—Aeting on the adviee of City Solieitor Ryan, Dr. Joseph S. Neff, direetor of Publie Health and Charities, announeed on May 12, that no additional indigent insane patients will be reeeived at the Philadelphia General Hospital, which is overerowded, but that they will be committed to the Norristown State Hospital. This is the first step in the direction of foreing the state to assume its duties in providing for the insane. The lunaey committee has a rule that transfers to Norristown cannot be made without the eonsent of two members of that eommittee. City Solieitor Ryan deelares that the rule is invalid as it applies to the director of the department of health and charities, sinee the act of May 8, 1883, provides that the rules of the lunacy committee shall not be inconsistent with the aets of assembly. Seetion 10 of the aet of 1876 gives the guardians of the poor eomplete authority to eommit patients to Norristown. On May 21, six insane patients were sent to the Norristown Insane Asylum, under eommitments signed by Dr. Neff of the department of publie health and eharities. It was the first time that the director had exereised the power of eommitment sinee obtaining the adviee from City Solieitor Ryan. The asylum authorities reeognized the validity of the eommitment.

### Philadelphia

**Personal.**—Dr. C. N. Sturtevant was exonerated May 20, by a coroner's jury, of blame for eausing the death of a small boy, run down by his automobile on May 15.

**Physicians' Outing.**—The first annual outing and shad dinner of the South Braneh of the Philadelphia County Medieal Soeiety was held at Essington, May 23. Following the dinner, whieh was served in a pavilion overlooking the Delaware, an address was made by Dr. Hobart A. Hare.

**Phipps Institute Sold.**—On May 21, Jefferson Medieal College took title to the properties 236-8 Pine Street, oeeupied for several years by the Phipps Institute. They will be utilized as a ward for the treatment of tubereulosis; this new department is to be under the supervision of Dr. Thomas MeCrae.

**Gift for Research Fellowship in Medicine.**—At the monthly meeting of the board of trustees of the University of Pennsylvania, May 12, announcement was made of a gift of $10,000 by Stevens Heekscher to establish a fellowship in medieal researeh. The fellowship is to be a memorial to Mr. Heckscher's wife. The presentation was made through Dr. Alfred Stengel, professor of medieine.

**St. Agnes' Silver Jubilee.**—Arehbishop Prendergast and prominent Catholie elergymen took part in the impressive eelebration of the silver jubilee of St. Agnes' Hospital. The large ehapel was magnifieently deeorated with flowers and the altar gleamed with lighted eandles. The arehbishop presided at the high mass whieh began at 9 a. m., May 11. The hospital's visiting staff of physieians and surgeons, resident doctors and nurses were present.

**Alumnae to Meet.**—The Alumnae Assoeiation of the Woman's Medieal College of Pennsylvania, Philadelphia, will hold its thirty-eighth annual meeting at the eollege building, June 5-6, under the presideney of Dr. Eleanor C. Jones. The annual reception and dinner will be held at the Aeorn Club at 7:45 p. m., June 5. It will be presided over by Dr. Kate Campbell Hurd Mead, Middletown, Conn. Business sessions will be held in the mornings and on the last afternoon; elinies are to be given on both mornings at the women's hospitals, and seientific sessions will be held mornings and afternoons.

**City to Give Pasteurizing Course to Milk Dealers.**—On May 26, the department of health and eharities will inaugurate one of the most significant movements for the proteetion of the city's health, when it institutes a eourse of lessons in pasteurizing to be given to 125 milk dealers operating pasteurizing plants. It is the first time that the municipal laboratory has been used as a plaee for publie demonstration and it is the first time that the Bureau of Health has put its researeh at the eommand of eommereial men. The eourse of leetures and demonstrations will be held daily at 4 p. m. for eight days beginning May 26, at Room 715. City Hall, and invitations have been sent to more than 1.000 milk dealers.

**Baby Saving Shows.**—Besides the Baby Saving Show, under the auspiees of the Child Hygiene Association, which is now open daily at the Nieetown Boys' Club, Hunting Park Avenue and Clarissa Street, a series of elinics, arranged by the Children's Homeopathie Hospital, are held Tuesday afternoon at the St. Stephen's Methodist Chureh, Germantown. Two physieians and two nurses are present to teach mothers eare and feeding of babies, and a social visitor under the direetion of the doetors will see that instruetions are earried out. Also Gimbel Bros. have fitted up a room in their large department store, where a trained nurse instruets mothers in bathing and dressing babies.

**Pennsylvania Hospital Short of Funds.**—At the annual meeting of the contributors of the Pennsylvania Hospital, May 5, one of the trustees deelared the institution now has a deficit of $450,000, the hospital going $50,000 behind in its running expenses during the last year. In the main this is due to improvements made to the insane department in West Phil-

adelphia. West Philadelphia business men have formed a tentative organization, which has for one of its chief objects the removal of Kirkbride's Institution. In their annual reports, Mr. Rosengarten, trustee of the Pennsylvania Hospital and Owen Copp, superintendent of the insane department, advanced reasons why this department should not be removed. Since its organization, Kirkbride's has treated 18,000 patients, 700 of whom have been permanently cured and 4,000 helped so that they could return to their homes. During the past year, the Pennsylvania Hospital treated a total of 125,995 patients and there were 64,178 visits in the outpatient department.

## VERMONT

**State Board Election.**—At the annual election of the State Board of Health, Dr. C. S. Caverly, Rutland, was elected president, and Dr. F. T. Kidder, Woodstock, Burlington, treasurer. Dr. C. F. Dalton, Burlington, is secretary of the board and Dr. Henry D. Holton, Brattleboro, the other member.

**Mental Hygiene Conference.**—A mental hygiene exhibit and conference was held in Rutland, May 19-23, under the auspices of the National Committee for Mental Hygiene. The local committee was headed by Dr. Ray E. Smith, Rutland. In addition to the exhibit, which was open for twelve hours each day, there were public meetings held on Monday evening and the afternoons and evenings of Wednesday, Thursday and Friday, at which the protection of the mental health of the public; the raising of the standard of care for those threatened with or suffering from mental disorders; the promotion of the study of mental disorders; the dissemination of knowledge concerning their causes, treatment and prevention, the securing of reliable data regarding conditions and methods of dealing with mental disorders; the enlistment of the aid of the federal government and the coordination of existing agencies and the organization of state societies for mental hygiene, were discussed.

## WISCONSIN

**Personal.**—Dr. M. L. Henderson, Milwaukee, sailed for Europe, May 10.——Dr. J. H. Hogan has been elected president and Dr. Theodore G. Brehm, secretary of the Racine Board of Health.

**Medical Building for University.**—The special alumni committee on the needs of the Medical School of the University of Wisconsin has recommended the construction of a medical building to house the departments of physiology, physiologic chemistry, pharmacology, toxicology and bacteriology and the State Hygienic Laboratory, and also a student infirmary.

**Society Denounces Friedmann.**—The Medical Society of Milwaukee County at its semi-annual meeting May 8, endorsed by resolution the report of the committee on public policy and legislation of the society, which, after discussing the claims of Dr. Friedmann, stated that it was the consensus of opinion that Dr. Friedmann's conduct with respect to his treatment has been and still is unscientific, unethical and dishonorable. The resolutions were sent to the local newspapers and used by them.

## GENERAL

**Meeting of Connecticut Valley Physicians.**—At the annual meeting of the Connecticut Valley Medical Association held in Bellows Falls, Vt., May 13, Dr. H. K. Faulkner, Keene, N. H., was elected president; Dr. A. I. Miller, Brattleboro, Vt., vice-president, and Dr. J. Sutcliffe Hill, Bellows Falls, secretary-treasurer.

**Tuberculosis Association Secretaries' Meeting.**—At the annual dinner of the National Association of Secretaries of the Associations for the Study and Prevention of Tuberculosis held in Washington, May 9, Dr. R. H. Bishop, Jr., Cleveland, was elected president and George Nelbode, New York City, secretary-treasurer.

**Hygiene and Public Bath Association.**—The American Association for Promoting Hygiene and Public Baths met in annual session at Baltimore, May 13-15. Dr. Simon Baruch, New York City, was reelected president, Rev. Thomas M. Bedenkoph was elected vice-president and J. Leonard Mason, Newark, N. J., secretary.

**American Climatological Association.**—At its annual meeting in Washington, D. C., May 6-8, this association elected the following officers: president, Dr. James M. Anders, Philadelphia; vice-presidents, Drs. Lawrason Brown, Saranac Lake, and Will Howard Swan, Rochester, N. Y.; secretary and treasurer, Dr. Guy Hinsdale, Hot Springs, Va.

**Alumni at Minneapolis.**—Alumni associations wishing reunions at the meeting of the American Medical Association in Minneapolis, next month, are requested to notify Dr. E. K. Green, secretary of the local committee, 307 Reid Corner, Minneapolis, in regard to any arrangements desired, and what entertainment, if any, they intend to provide.

**Physicians' Study Tour of Europe.**—About seventy-five physicians intend to take a study tour in Europe, according to Dr. Richard Kovacs, 256 East Sixty-Ninth Street, New York City, secretary. The party will sail July 13, and will visit Paris, Munich, Dresden, Berlin, Bad Nauheim, Vienna, Carlsbad, Marienbad, Hamburg, Wiesbaden, Cologne, Brussels and Amsterdam, reaching London in time for the opening of the International Medical Congress, August 6.

**American Laryngological Association.**—At its annual meeting in Washington, D. C., May 5-7, this association elected the following officers: president, Dr. Thomas Hubbard, Toledo, Ohio; vice-presidents, Drs. Frederick E. Hopkins, Springfield, Mass., and George E. Shambaugh, Chicago; secretary, Dr. Harmon Smith, New York; treasurer, Dr. J. Payson Clark, Boston; librarian, Dr. Joseph H. Bryan, Washington, D. C.; member of council, Dr. George A. Leland, Boston.

**A Swindler Who Operates through the Medical Profession.**—A representative of the U. S. Post Office states that a number of money order blanks have been stolen in Southern California by one A. J. Baker, who obtains physicians' stationery and forges introductions to practitioners in other towns, requesting that treatment be continued along some particular line. This is paid for by a money order, and the physician identifies Baker later, enabling Baker to cash the stolen orders. In one town Baker secured $1,400, it is said. Baker also used ministers as the means of being identified. His voice is effeminate, and when talking he holds his head to one side, with his chin slightly projecting. He is well educated and is an accomplished pianist. He is 5 feet 7 inches in height, weight 125 pounds, is 35 but appears younger, has black hair, dark eyes, and the skin of the face is rough as if slightly pitted. He dresses well, often as a woman. He is fond of presenting himself for examination, relating a long story of his life. A warrant for his arrest has been issued for robbery and forgery. If seen he should be turned over to the nearest officer and H. B. Hall, Post Office Inspector in Charge, San Francisco, should be notified by wire, government rate, collect. In the Correspondence Department of this issue is a report of a successful prosecution of another man, following a warning notice in these columns.

**Infectious Diseases During May.**—Infectious diseases continued to be quite prevalent throughout the country during the whole of May without epidemics of large proportions. The number of cases, however, was less than during the previous month. A new focus of cerebrospinal meningitis appeared in Richland County, South Carolina. There were only a few cases. In many cities and towns it was necessary to close the schools on account of small-pox, measles, scarlet fever, whooping-cough and diphtheria, more in the way of prophylaxis than on account of a large number of cases. Probably the most serious situation during the month developed in Canton, Mass., where an epidemic of milk-borne septic sore throat occurred. The number affected was about 400 with 19 deaths. This disease was similar to the epidemics during 1911 and 1912 in Boston, Baltimore and Chicago and spread slightly to some of the surrounding communities. On account of tardy activity on the part of the local health board, the state officials at first took charge of the situation. Prompt action soon caused a subsidence of the epidemic. Experimental prophylactic vaccination of about 3,500 persons, including a number of members of the state legislature, with an antimeningitis vaccine in Austin, Texas, was reported on favorably by physicians connected with the State Board of Health, no cases having occurred among those vaccinated.

**Osteopaths and Death Certificates in New York.**—Until recently the Department of Health of New York City had a regulation that no transit permit should be granted for the removal or burial of any person who may have died in the city of New York, unless a certificate of death made out on a blank of the department was signed by a physician on whom had been conferred the degree of doctor of medicine. This excluded the osteopaths and they took steps to have this regulation modified. The Supreme Court of Kings County held that while the state had permitted the practice of osteopathy, it did not follow that one without any practice in surgery or experience in prescribing drugs was fully qualified to certify the cause of death, and that even though the theoretical education of the osteopath was of a standard sufficient to allow him to practice, his practice was restricted and that it

did not appear that he could make the tests by examination of blood and tissues by which alone many diseases could be detected. It was held that the sanitary code, although discriminatory, was not personal or arbitrary but was based on a limitation which the osteopath could be said to make for himself and deprived him of no right which he ought to exercise consistent with public safety. This decision was upheld by two of the higher courts. In 1912 the osteopathic society of the city of New York again requested that osteopaths be allowed to sign death certificates and on May 6, 1913, the sanitary code was so amended as to provide that certificates of death could be "signed by a physician who had been granted a license after a medical examination conducted by the New York State Board of Medical Examiners on questions prepared by the Board of Regents of the state." This means that osteopaths who have passed the state board examinations may sign death certificates, but the number who have up to the present passed such examinations includes only about a dozen osteopaths; others will not have such right. In the state of New York, outside of New York City, under special provision in favor of osteopaths who were actively engaged in practice on May 13, 1907, and who fulfilled certain requirements, not including the regular examination of the New York state authorities, they are permitted to sign death certificates.

## LONDON LETTER

*(From Our Regular Correspondent)*

London, May 10, 1913.

### The Seventeenth International Congress of Medicine

Some further particulars may be given with regard to the forthcoming International Congress of Medicine to be held in London in August. The president of the section of medicine is Sir William Osler. The meetings of the section will be held at the Royal Society of Medicine. The work will comprise (1) discussions, (2) selected papers, (3) a clinical museum and (4) demonstrations of clinical apparatus, etc. The following discussions have been arranged: August 7, "Clinical Aspects of Hemolysis," G. Banti, Florence, and F. Widal, Paris. August 8, "Correlations of the Organs of Internal Secretions and Their Disturbances" (jointly with the section of physiology), reporters, E. Gley, Paris, A. von Koranyi, Budapest, and Frederick Kraus, Berlin; Bernard, Carnot and Claude, Paris, Biedl and Falta, Vienna; Hedon, Montpellier, Meltzer, New York, and Ferrannini, Camerino, have intimated their intention of taking part in the discussion. August 9, "Pathology of Heart Failure," reporters, H. Vaquez, Paris, and H. F. von Wenckebach, Strasburg. August 11, "Diabetes," reporters, George Dock, St. Louis, and Karl von Noorden, Vienna. August 12, "Differentiation of the Diseases Included under Chronic Arthritis," reporters, L. F. Barker, Baltimore, and Friedrich von Müller, Munich. The afternoon sittings will be devoted to the reading and discussion of independent papers. Among many promised the following may be mentioned: "Treatment of Leukemia with Benzol," A. von Koranyi; "Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax," C. Saugman; "Insuffisances pluriglandulaires," H. Claude, Paris; "Der augenblickliche Stand der Diagnosis der Pancreas- Erkrankungen," F. Wohlgemuth, Berlin; "Chronic Bacterial Endocarditis, with a Series of Preparations Illustrating the Condition from the Pathological Museum, Mount Sinai Hospital, New York," E. Libman; "The Recognition of the Status Lymphaticus in Adults," Haven Emerson, New York; "Diagnosis and Treatment of Duodenal Ulcer," Max Einhorn, New York, and "A Modified Form (?) of Sporadic Typhus, Brill's Disease," Brill, New York. Demonstrations of clinical cases of special interest will be held in connection with the morning and afternoon meetings of the section, and a strong committee has been formed to bring together the best available material for this purpose. Facilities will also be given to any member of the section who wishes to demonstrate any new clinical apparatus or clinical method.

Sir Watson Cheyne will preside over the section of surgery and Mr. Robert Jones over the subsection of orthopedics. The meetings will be held in the Imperial College of Science. The following subjects are down for discussion: "The Operative Treatment of Malignant Disease of the Large Intestine, Excluding the Rectum," introduced by Bastianelli of Rome and Körte of Berlin; a discussion, conjointly with the section of neuropathology, on the "Treatment of Tumors of the Brain and the Indications for Operation," Bruns, Hanover, Harvey Cushing, Boston, von Eiselsberg, Vienna, and Howard Tooth; a discussion on the "Diagnosis and Treatment of Early Renal and Vesical Tuberculosis," jointly with the section of urology, introduced by Legueu, Paris, Rochet, Lyons, and Wildbolz, Berne; report on the "Surgery of the Arterial System," Matas, New Orleans, and Oppel, St. Petersburg; "Intrathoracic Surgery," on the last day of the congress, Sauerbruch, Zurich, and Tuffier.

### The Government Inquiry into Nostrums

At the last meeting of the parliamentary committee appointed to inquire into the sale and advertisement of proprietary medicines, Mr. Harrison, the accuracy of whose analyses in the volumes "Secret Remedies" and "More Secret Remedies," published by the British Medical Association, had been questioned by chemists representing nostrum proprietors (as reported in previous letters to The Journal), was recalled. He denied that a large proportion of his analyses referred to obscure nostrums which had very little sale. It had been stated that of 235 organic preparations in the British Pharmacopeia only 44 could be ascertained by chemical analysis. There were only 160 separate and distinct vegetable drugs in the pharmacopeia. In 84 cases the constituents could be determined by chemical or physical means or a combination of the two; in 13 cases the drugs were of little or no therapeutic activity; in 28 the drugs could not be completely identified though it might be ascertained that they were one of three or four, and in 26 the drugs would probably not be detected. In his previous evidence he had insisted on the limitations as to what an analyst could do. The analysts representing the proprietors had claimed to have found ingredients which he had not, but in almost every case they had been told of the presence of those ingredients. Moreover, samples varied; Beecham and Steedman had admitted altering their formulas. Powell's balsam and Winslow's syrup once contained morphin but did not now. Apart from deliberate alteration there were variations due to careless compounding.

### Antivivisectionists Lose Suit for Libel

For some years Miss Lind-af-Hageby, a Swedish woman domiciled in England, has been the leader of the antivivisectionists, a position previously occupied by Mr. Stephen Coleridge, who frequently was involved in legal quarrels with prominent scientific men. Miss Hageby is well known as the author of "The Shambles of Science," in which vivisection is denounced in the usual lurid fashion of the antivivisectionists. She has now distinguished herself by conducting personally in the courts the longest action that has ever been brought by a woman. She claimed damages for libel against the *Pall Mall Gazette* and Dr. Saleeby, a well-known medical journalist of the popular type. Dr. Saleeby wrote in the *Gazette* about the exhibition of the antivivisection league in their shop in Picadilly, where a dog is represented as tied down to a board and undergoing torture at the hands of vivisectionists. In the article in question he referred to "the systematic campaign of falsehood without which the antivivisection societies could not exist," and cited this window as an illustration of "the unscrupulous mendacity of their hirelings." He pointed out that there was no indication given that the animal on the board was chloroformed and asked what point there would be in the exhibition if that fact were known.

Miss Lind, the plaintiff, as the honorary secretary of the antivivisection league, brought the action for libel, and not only did she conduct her own case for the twenty-three days which the trial lasted, but she made a most eloquent though unconvincing address. The long duration of the trial was partly due to the fact that the judge allowed her much more latitude than he would have allowed a lawyer. She therefore introduced much irrelevant matter. For the defendant several prominent physicians and pathologists were called to show that anesthetics were used in vivisection experiments. The judge, Mr. Justice Bucknill, in summing up told the jury that it was a question of fact and not a religious question or question of sentiment. The charges made by Dr. Saleeby were said to amount to this—that the plaintiff had untruthfully with her associates carried on a campaign against vivisection. She had undoubtedly been a hard worker in a very laudable cause; he could not help admiring the vigor with which she had fought the battle. She was a lady of marvelous power, able to stand in court day after day, showing no sign of fatigue, not losing her temper, and able to cross-examine as well as any lawyer. But it was her duty to be truthful. If they thought that Dr. Saleeby wrote facts which had been proved, then he would be entitled to the verdict. The jury returned a verdict in his favor.

### The National Insurance Act

Much discontent has arisen in connection with the working of the insurance act in consequence of the enormous number of persons which some popular physicians have on their lists, many more than they can attend to properly. At present there is no limit whatever as to the number. An insured person can select any physician he likes on the panel subject to the physician's consent. On the London panel the following figures show the enormous numbers which some doctors have: Three have from 5,000 to 7,000; three from 4,000 to 5,000; twenty from 3,000 to 4,000; eighty from 2,000 to 3,000, and ninety-three from 1,500 to 2,000. Mr. Rocklif, secretary of the Joint Committee of Approved Societies, representing over seven million insured persons, has brought the matter before the London Insurance Committee. He considers that the crying necessity for a limit on the number of patients a doctor may undertake is proved by countless letters which he has received complaining of patients having to wait for hours in physicians' offices and then getting hurried, inadequate treatment. In one case the insurance committee received three certificates from the same doctor showing that the patient was suffering from a different disease each week. The examination had been so hurried that the diagnosis was altered each time. Another difficulty is in the refusal of physicians to see insured persons on Sundays. The income derived by the physician with so many patients is large; thus for 7,000 persons he receives $12,500 a year, and in addition has his private practice. It must be remembered, however, that with such a large practice the physician keeps one or more assistants. Another complaint is that physicians with these large practices frequently keep three or four lock-up offices, each of which they visit for an hour or two daily, but where it is impossible for the insured to receive attendance at any other time than the specified hours and at night.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, May 13, 1913.

### The Proposed Revision of the Law on the Insane

The law of 1838 with regard to the insane, which is at present in force, has been for a long time the subject of violent criticism especially in the lay press. A bill revising this law has been passed by the Chamber of Deputies, and is now before the Senate. One of our most authoritative psychiatrists, Gilbert Ballet, does not believe that it constitutes a step forward. May 6 he made before the Académie de médecine a well-founded criticism of the law. According to public opinion, the law of 1838 lends itself to the arbitrary immuring of patients. Legislators have desired above all things to render impossible these arbitrary sequestrations. Accordingly the bill multiplies vexatious formalities with the sole purpose of preventing the unlikely hazard of an unjustified internment of sane persons, by deciding that every case of removal to an asylum ought to be made by judicial process. The bill aggravates instead of ameliorating the lot of the insane. Ballet also protested against the provisions of the bill for strict judicial oversight of patients cared for in their families or placed in foreign establishments. Ballet believes that it is necessary to distinguish three classes of insane: (1) criminals who have committed a crime or misdemeanor under the influence of their disease; (2) the more or less apparently lucid insane who protest continually, formally and coherently against confinement, and (3) those—most numerous of all—who do not protest against confinement or who protest only accidentally as do certain patients in ordinary hospitals, whom, however, no one has any scruples about retaining there when their health demands. The insane of the first two groups, who are the exception, should not be deprived of their liberty without judicial procedure. Ballet protests against the application of such a vexatious measure to patients of the third group, who constitute at least 80 per cent. of the insane. These should be treated like ordinary patients in asylums or sanatoriums which may be entered freely, but which should be strictly supervised, in order to avoid possible abuses, by a commission composed of a magistrate and a physician making regular, frequent and effective visits. Except for the first two classes, Ballet would allow more liberty than under the law of 1853, while the bill calls for more restraint.

### Medical Students and the Three-Year Period of Service

L'Association des professeurs des Ecoles de médecine et de pharmacie decided at the last general assembly to send to the ministers of public instruction and of war, resolutions as to the desirability of making use of the special training of students in medicine and pharmacy as far as possible and as soon as possible during their term of military service.

### Measures Against Opium

M. Felix Chautemps, deputy from Savoy, has introduced into the Chamber of Deputies a bill forbidding the sale of opium. He shows that many naval officers and colonial official functionaries, as well as many other persons of both sexes are now smoking opium in France and in the colonies. The danger is great, not merely for the victims of this pernicious habit, but also for the nation which expects important public service from them. Accordingly, by this bill, the sale and circulation of opium, morphin, cocain and all analogous substances except as needed for chemistry and pharmacy, are absolutely forbidden in France and French colonies. Infraction of the law, especially of smoking opium in public or private, is to be punished by imprisonment of from two to six months. Accomplices in whatever degree in the sale, circulation or use of opium are subjected to the same penalties.

### Medical Secrecy and Industrial Accidents

Is it contrary to the principle of professional secrecy for the physician who cares for a victim of an industrial accident to give information to the employer's physician authorized according to the law to verify the patient's condition in order to avoid unnecessary expense? This question came up in a case before the Cour de cassation which decided that the patient's physician violates professional secrecy if he gives information to his colleague, the employer's physician, with regard to the disease of the victim of industrial accident. On the other hand, the employer's physician commits no violation of professional secrecy in disclosing to his employer, that is, the patient's employer, the information he has received.

### Dangers from Dry Shampoos

The question has been raised as to whether or not proprietary lotions for cleaning the hair by what is sometimes called the "dry shampoo" method are innocuous and free from dangers to the health of persons who use them. [Fatal cases of poisoning from carbon tetrachlorid in "dry shampoos" were referred to in the London Letters, July 31, Aug. 28, and Nov. 13, 1909.—ED.] The matter was brought before the Conseil d'hygiène publique et de salubrité du département de la Seine by the prefect of police, who had his attention drawn to this subject by a letter from Dr. Levassort, who reported the following case:

A woman aged 30, on returning home after a trip, wished to clean her hair by the so-called dry method. She went into her dressing-room, which was rather small and was heated by a radiator which raised the temperature rapidly. After pouring into a basin about two-thirds of the shampoo liquid, she leaned over in order that her hair might fall into the basin. Swiftly overcome by the fumes, she fell backward and lay unconscious for ten minutes, when the maid happened to come in. The patient was put to bed and did not regain consciousness until three hours later, during two of which she presented continuous nervous crises with cries and uncontrollable movements which frightened the family. At this time Dr. Levassort saw her. She was colorless, had an intense headache, suffered nausea and was in a state of hebetude. This continued several days, and for three or four weeks the patient remained in an indescribable condition with mucous pallor and general anemia.

What prompted Dr. Levassort to bring this question before the Conseil d'hygiène was the report from several hairdressers whom he interrogated that their customers when having the hair cleaned are often uneasy and are sometimes made ill. When the substance was analyzed in the municipal laboratory, it was found to be composed of carbon tetrachlorid, not inflammable, though impure, and containing about 5 per cent. of carbon disulphid. Inhalation of the fumes of carbon tetrachlorid causes severe symptoms, and there has even been a death from this cause. The dangers of carbon tetrachlorid are increased when the substance is impure and contains carbon disulphid as in this antiseptic lotion. Carbon tetrachlorid when pure is quite expensive. When impure it costs less but is more dangerous to handle.

Dr. Duguet, who was charged with the presentation of the report on this question, after having consulted a number of dermatologists, among whom were Drs. Jacquet, Thibierge, Darier, Brocq, Hallopeau and Sabouraud, concluded that it is expedient and to the interest of public health not to let so

dangerous a substance get into the hands of the public or even of hairdressers, and proposed that its sale be stopped. Duguet's conclusions were adopted by the Conseil d'hygiène.

### Epidemic of Typhoid Caused by a Mistake in Piping Water

For the past two weeks there has been an epidemic of typhoid in Paris. During the past week this disease caused 17 deaths in place of the usual 4, and the number of new cases reported was 78 in place of 34, the average. The matter was investigated and it was found that this epidemic began on the premises of the Faculté de médecine on the occasion of the recent international congress of physical education. While the exposition annexed to the congress was being prepared on the premises of the Faculté, a workman charged with repairing and completing branches to the water conduits in this place by mistake connected a pipe for drinking water to a conduit of water from the Seine. This mistake has been corrected but the unfortunate affair teaches a lesson. Pipes containing spring water and raw river water should be placed at a distance from one another and those containing Seine water should be plainly marked in order to prevent any mistake, since Paris has a sufficient supply of spring water to render the use of river water unnecessary excepting for sprinkling and for cleaning.

### The Binding Nature of Medical Secrecy

A tradesman asked damages of 5,000 francs ($1,000) in a civil court in the Seine on the ground that a Paris physician had betrayed a professional secret. The court had to decide an interesting and delicate question: whether a physician might differentiate between diseases of a secret or nonsecret character, or whether the rule of professional secrecy is binding in all cases. The court ruled as follows:

Except in those instances specified by law in the interest of public health, a medical secret should be strictly guarded, no matter what the disease is for which the practitioner is called.

The physician should not arbitrarily consider certain diseases secret and others not. This distinction does not rest with him. Some circumstance might transform a disease considered comparatively harmless into just the opposite.

The physician should not be the judge of the expediency of giving information which might have serious consequences for the person involved.

For the dignity of the medical profession as well as for those who place themselves under the care of physicians, secrecy should be observed rigorously not only as to the nature of the disease but also as to the circumstances accompanying professional visits.

Therefore the court held that in giving, without the consent of the patient and her husband, a certificate enumerating the number of consultations and telling the nature of the ailment treated, the defendant had made an error. Judging, however, that the matter divulged in this instance, although of a nature to produce injury, had caused but little, the court awarded damages of only 1 franc.

## BERLIN LETTER

*(From Our Regular Correspondent)*

Berlin, April 25, 1913.

### Personal

Professor Strasburger of Breslau has accepted the position of director of the newly established medical policlinic and therapeutic course at Frankfort-on-the-Main, which are to be considered a department of the proposed university.

Dr. Wolff of Strasburg, professor extraordinary of dermatology, has been appointed regular professor. With this change the number of regular professorships for dermatology is increased. Apparently the positions of professors extraordinary for dermatology also in other Prussian universities will gradually be replaced by regular professorships.

Professor Kaiserling of Berlin has accepted the appointment as successor of Professor Henke at the Cologne institute of pathology.

Professor von Dungern of Heidelberg has been appointed director of the newly established institute for experimental cancer research at Hamburg-Eppendorf.

Professor Bardenheuer will soon retire from his position as instructor of surgery at the Cologne academy for practical medicine and as director of the hospital (*Bürgerspital*).

Professor Dürck of Munich has declined the call to the Cologne academy for practical medicine.

### Sixth International Congress on Physiotherapy

*(Concluded from page 1651)*

#### INDIVIDUALIZED DIETS IN INSTITUTIONS

A. Schmidt of Halle discussed the rational establishment of diet kitchens in hospitals and sanatoriums. It is not consistent with the principle of the individual nourishment of patients to centralize the kitchen arrangements in hospitals as commonly done at the present day. The reckoning of income plays an essential part in the matter, and also too few schematic forms of diet are employed. Schmidt summed up his experience in the clinics at Halle. The manual preparation of foods is important and therefore reliable kitchen help and naturally the best raw material must be available. The selection of patients who are to receive a special diet must be left to the physician in charge. In Halle the diet kitchen provides (1) a milk-vegetable food diet with salt; (2) a milk-vegetable diet poor in salt; (3) an albumin-fat diet with vegetables poor in carbohydrates; (4) an albumin-fat diet with sugar but without vegetables and potatoes; (5) a mixed protective diet, and (6) a liquid gruel diet. In addition there are individual forms. The excess expense of the diet kitchen amounts to 1 cent per patient per day. Of German sanatoriums only a third furnish a mixed diet, while the rest prefer a vegetarian diet and one-tenth have a special diet kitchen.

#### DIET IN GOUT

Minkowski of Breslau discussed the dietetic treatment of gout. A satisfactory theory of gout has recently been established by the fact that the origin of uric acid has been recognized in the purin compounds contained in the cell nuclei. The later physical investigations on the solubility of uric acid, particularly its colloidal form, and the exact succession of metabolic processes on which the origin and further fate of uric acid depend, will serve to solve many enigmas in this question. Gout consists in a retention of urates in the tissues and blood, accompanied by a diminished excretion of uric acid. The fundamental principle of the diet is to limit the supply of the purin bodies. But an individual adaptation of the dietetic directions to the severity and character of the particular case is quite necessary. A foodstuff forms the more uric acid the richer it is in cell nuclei. The foodstuff richest in the nuclei is thymus tissue, which contains ten times as much purin bodies as meat and a hundred times as much as milk. Eggs and caviar, bread, potatoes and rice are practically purin-free, while legumes contain as much purin as meat. Beer is extraordinarily rich in purin material, which comes from the yeast and contains in 1 liter as much uric acid as 100 gm. meat. Tea and coffee are free from uric acid.

Garod of London discussed the same subject. He prefers a diet poor in purins to one rich in purins, but would not recommend purin-free diet, as it cannot be taken for a long time without harm. In general he doubts the practical success of dietetic treatment of gout. He would prefer in the case of gouty patients to regulate the amount of foodstuff not only by calories but also by the amount of nitrogen.

### German Convention on Internal Medicine

#### VACCINATION AGAINST DIPHTHERIA

The most important event during the Kongress für innere Medizin, held at Wiesbaden April 18-22, under the presidency of Professor Penzoldt, was the report of von Behring and several of his collaborators on a new prophylactic against diphtheria. As is known, the immunity conferred by diphtheria antitoxin lasts only a few weeks. For this reason, as well as on account of the danger of anaphylaxis which may result from repeated injections of the serum, antitoxin has heretofore been comparatively little used in prophylaxis. According to von Behring, the new preventive will immunize for several months at least. The remedy is not obtained by the passage through animals (horses), but it consists of a mixture of toxin and antitoxin, which is injected directly into man. More detailed information as to the investigations of von Behring, which have aroused the greatest interest, will appear in one of the next issues of the *Deutsche medizinische Wochenschrift* and in French in the *Semaine médicale*.

From the rest of the great amount of material presented at this congress I will mention only the most important communications.

#### FEVER AND ITS TREATMENT

Meyer of Vienna explained the regulation of heat by the existence of two centers—a heat center and a cold center. Fever he attributed to an increased irritability of the heat

center with a simultaneous inhibition of the cold center. In fever the irritability of the heat-regulating mechanism is increased so that the application of external cold, or the use of antipyretics, produces an abnormally prolonged reduction of temperature. In general, fever may be considered a useful protective reaction, but if very intense it may be injurious and must be checked. Von Krehl of Heidelberg took the same view with reference to the origin of fever, and concluded that metabolism in fever was qualitatively the same as in a normal person with deficient nutriment. The source of heat is in the muscles and the large abdominal glands. Changes in the excretion of sugar in diabetics with fever indicate that the sympathetic nervous system plays a rôle in the process of heat regulation. This influence is exerted by means of chemical agents produced by the ductless glands under the stimulation of the nerves. Special nervous influences acting on the abdominal glands may increase the cell metabolism.

In treatment of fever the diet is of special importance. Proteins should be used in moderate quantities and carbohydrates in large amounts, as they are most readily taken by patients with poor appetite and leave the stomach rapidly. The technic of the diet for fever patients is of the greatest importance. The administration of abundant food in diseases with long-continued fever is an important advance. The hydrotherapy of fever is important, but is limited to certain cases and conditions. In the use of antipyretics a sedative influence on the heat center is more important than the reduction of the temperature. To reduce the temperature at any price often leads to unpleasant side-effects, and it is a bad habit to resort to an antipyretic for the reduction of every rise of temperature. In the treatment of typhoid with pyramidon in small doses, Krehl has seen good results, but extreme caution is imperative.

### RELATIONS BETWEEN ANAPHYLAXIS AND FEVER

In connection with the addresses on fever, Schittenhelm of Königsberg discussed the relation between anaphylaxis and fever. He described the ordinary symptoms of anaphylaxis. The temperature changes in anaphylaxis can be produced artificially; with small doses it is possible to produce fever with very high temperature and further by graduated reinjections to produce artificially various types of fever. For the explanation of these phenomena it is assumed that when albumin is introduced without passing the intestinal canal it is split up by specific ferments in the blood-vessels, so that poisonous products of decomposition occur. The poisonous character of such products is never so great, however, that it can alone explain the severe picture of anaphylaxis. Neither is it possible to produce evidence that a single poison arises from the decomposition of all albumins. Anaphylaxis has been called in to explain certain features of infectious diseases, the symptoms of fever and other conditions, and it has been assumed that a single poison is produced from all forms of bacterial albumin as well as from albumins of other sources. Many facts are opposed to this view. It must be assumed that there are numerous fever toxins which for the most part are produced from albumins. Physical processes, variations in the colloidal equilibrium of the blood and of the tissue fluids are also given as explanations of anaphylaxis; these alone may produce pathologic phenomena such as are seen in anaphylaxis. In this way fever and a fall of temperature may be produced.

Many other papers and an extensive discussion on this subject brought out numerous theoretical and practical points. Von Müller of Munich and Kraus of Berlin opposed the view of Krehl that in the origin of fever an increased decomposition of albumin is not involved. Kraus based his objection especially on the new experiments of Hirsch who has reported that in anaphylatoxic fever—in contrast with the fever of infection—the metabolism may be even subnormal. In fever from trypanosomes there occurs after a long time a marked increase in the metabolism of albumin and fat, and the fever temperature is not at all influenced, though the metabolism is, by quinin.

Bauer of Innsbruck reported a fall of temperature in a case of tumor of the pineal gland, and he was able to produce a lowering of temperature by the injection of extracts from the pineal gland.

Singer of Vienna was able to secure very favorable influence on the fever of tuberculous patients by injections of small doses of colloidal copper into the blood.

Jaksch of Prague warned against baths in typhoid. He recommends rubbing and opposes the use of antipyretics and of alcohol in this disease.

### DIGESTION TRACED BY VITAL STAINING

The discussion of diseases of the digestive organs was opened with an address by Goldmann of Freiburg, on the processes of digestion as shown by vital staining. By vital staining is meant a method of injection in which the staining fluid is injected under the skin of living animals or into the circulation, and in which the combination and fixation of the stain and its behavior in the cells can be followed. By this method, which has been developed for the nervous system by Ehrlich, conclusions can be drawn as to the functioning of the cells. Goldmann, who has done good service in the development of vital staining, injected various stains in various ways into animals, from the frog to the ape, and investigated their behavior with reference to the cells of the digestive tract in order to obtain an insight into the course of digestion.

He directed his attention especially to certain cells occurring free in the structure of the intestinal villi and the connective tissue of the mucous membrane, the rôle of which in digestion has long been known. He conducted his research under various conditions of feeding and included in its scope not only the gastro-intestinal tract but also its auxiliary structures, like the omentum, the lymph-nodes, the spleen and the liver.

For these investigations small animals, as frogs, rats, etc., are best suited. In a rat at the height of digestion, the various sections of the intestinal canal are completely different in their behavior. The esophagus is nearly without color, the cardia portion of the stomach also appears colorless, and the pylorus which contains glands is deeply stained. The staining extends to the duodenum and to the upper part of the small intestine, but diminishes in this and becomes intense again in the neighborhood of the cecum and in the upper large intestine. The variations in staining depend on the number of a certain sort of vital staining-cells. These cells have a great power of movement, so that they are chemotactic; that is, they can be readily attracted and are characterized as so-called phagocytes. These cells are found most frequently in the network of the mucous membrane of the digestive tract. They are constantly moving about so that no layer of the intestine is free from them. In starvation they are found to be very rare. These migratory phagocytes do not come from the blood or from the wall of the intestine; their principal place of formation seems to be the omentum. They are found also in the spleen and the lymph-nodes. The process of digestion consists in these cells entering the intestinal wall laden with products of digestion which they give up to the intestinal villi and leaving the intestinal wall again as empty cells. Moreover, the lymph-nodes placed behind the stomach, the cecum and the omentum also take part in the process, as the cells are met in these organs, mostly filled with red blood-cells; they are also found in the spleen.

It has been believed hitherto that a destruction of blood-cells which are weakened with age takes place only in the spleen. Now it is shown that there become free in this process important substances which are taken up by the phagocytes and play an important rôle in the absorption of nutriment. The digestive process is connected with a cell reaction occurring in the mucous membrane, characterized by the appearance of the so-called migrating phagocytes. They have also been found in other conditions. A rat infected with trichina showed these cells in great masses on the individual trichina capsules; and in a case of peritoneal cancer in a mouse they were found in the neighborhood of the tumor, while the intestine was free. The cancer had drawn the cells away from the intestine to itself. From this investigation it appears that the organism protects itself against the entrance of substances foreign to the body, blood and cells, and endeavors to convert them into suitable substances. The lecture was supplemented by the statement of Friedrich of Königsberg who had studied the conditions in the thorax, pleura and the lungs by similar experiments.

*(To be continued)*

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, May 10, 1913.

### Changes in the Organization of the Vienna Clinics

A number of important changes will take place shortly in the Vienna clinics. The second internal clinic, which was managed formerly by von Neusser, will be taken over by Ortner, and the present fourth clinic (Chvostek) will be called the third, while the fourth clinical chair will be discontinued, as there is not sufficient material at disposal for teaching purposes in four clinics. Thus we shall have only the three clinics: von Noorden's (who also will soon go away from Vienna), Ortner's and Chvostek's. The wards occupied by the third medical clinic will be devoted to the use of a new, third surgical clinic. This new institute will be devoted to

elementary teaching of surgery and will be controlled by the two existing surgical clinics (von Eiselsberg's and Hochenegg's). Part of the accident cases and first-aid cases will also be sent to this institute. The lectures in the third surgical clinic will be delivered not by ordinary professors, but by the assistants of the two clinics. Negotiations are also being entered on between the senate of the university and several eminent men in Germany and Austria as to the successorship in von Noorden's clinic. As this famous scientist has given due notice that he will terminate his stay in Vienna with the end of the summer term of 1913, the question is a pressing one.

### Alcohol in the Austro-Hungarian Army

The present unsettled political conditions in Europe have resulted in a large number of soldiers being kept in readiness for more than half a year, and the provisions for hygienic welfare of several hundred thousand men are being put to a crucial test just now. A fact worthy of notice is the nearly complete absence of alcohol from the regimen or daily bill of fare of the soldiers on the frontier. The water-supply in that country being none too good, care has been taken to instruct the soldiers in this respect, and they are being constantly told that the old statement, "bad water is made innocuous by alcohol," is a dangerous misrepresentation. It has also been ascertained that whenever a period of endurance was required of the soldiers those who took no alcohol were much more fit for work than the other men. Only when a rapid but short strain was necessary a little alcohol might be beneficial or at least harmless. In mountain climbing, the consumption of alcoholic beverages was distinctly detrimental to the accuracy of stepping. The effect of sweetened liquid (sweet tea, coffee, milk or sweet mild wine) was very gratifying. The wine mentioned here is the black Italian or Turkish wine, with a very low percentage of alcohol. But even this beverage was disallowed when longer exercises were taken. The experiences obtained by the army authorities will no doubt lead to a complete elimination of alcohol as "war rations" except as a stimulant and for purely therapeutic measures, although here also experience speaks at least not in favor of an addition of alcohol for pneumonia, typhoid and general debility. It is also noted that total abstainers form a negligible fraction among those soldiers who have to be punished for disorderly conduct, breach of discipline or other minor offenses of a military nature, although total abstention is frequent now in the rank and file of the army. In the anti-alcohol movement in Europe, our army is one of the leaders.

## Marriages

OLIVER WENDELL HOLMES MITCHELL, M.W., Columbia, Mo., to Miss Pauline Preston Settle of Springfield, Mo., at Lancaster, Mo., May 15.

HENRY BENJAMIN TREAKLE, M.D., Matthews County, Va., to Mrs. Sadie B. Moriarty at Gwynn's, Matthews County, Va., May 12.

ERNEST A. GUYTON, M.D., Eau Claire, Wis., to Miss Goldie Hopkins of Trempealeau, Wis., at St. Paul, Minn., April 26.

WILLIAM MORGAN SMITH, M.D., Alexandria, Va., to Mrs. Annie Staunton Murphy Cox of Washington, May 14.

NATHANIEL GRAHAM ALCOCK, M.D., Pueblo, Colo., to Miss Marjory Bates of Yankton, S. Dak., May 7.

RAYMOND BARTLETT MORRIS, M.D., Olean, N. Y., to Miss Mary L. Parrish at Baltimore, May 14.

JAMES P. CALDWELL, JR., M.D., Marble, Minn., to Miss Sylvester at Plainview, Minn., May 14.

EDWARD SMITH BLAINE, M.D., Milwaukee, to Miss Edith Walters Packer of Chicago, May 26.

FLAVIUS O. PLUNKETT, M.D., Lynchburg, Va., to Miss Ruth Lewis at Lauderdale, Va., May 12.

DEO P. MATTHEWSON, M.D., Bath, N. Y., to Miss Lucy Sweet of Towanda, Pa., May 13.

JAMES W. CRAIG, M.D., to Miss Florence Mac Bramble, both of Vinita, Okla., May 7.

FRANK AMBROSE LAGORIO, M.D., to Miss Ella A. Triner, both of Chicago, May 20.

JOHN R. SMITH, M.D., Douglas, Ga., to Miss Emma Wofford of Atlanta, May 13.

## Deaths

**Elmore S. Allbee, M.D.** Albany (N. Y.) Medical College, 1870; a member of the American Medical Association; for ten years health officer of Rockingham County, N. H., and Bellows Falls, Vt.; a very capable and efficient official; a practitioner of Bellows Falls, Vt., since 1875, with a large family and consultation practice in that part of Vermont and New Hampshire adjacent to Bellows Falls; a practitioner held in most affectionate regard by his patients and professional brethren; died at his home in Bellows Falls, May 14, from pneumonia, aged 65.

**Samuel Ross McCready, M.D.** Western Reserve University, Cleveland, Ohio, 1888; of Leetonia, Ohio; a member of the American Medical Association; health officer of Columbiana County and city physician of Leetonia; aged 57; while driving his automobile in Leetonia, May 14, was caught by a rope which was stretched across the street and thrown from his machine, breaking his neck.

**James Harvey Manown, M.D.** Jefferson Medical College, 1844; a charter member of the West Virginia State Medical Association; surgeon of the Fourteenth West Virginia Volunteer Infantry during the Civil War; physician in charge of the Weston (Va.) State Hospital from 1885 to 1890; died at his home in Kingwood, W. Va., March 20, from senile debility, aged 91.

**James B. Olmsted, M.D.** Pulte Medical College, Cincinnati, 1881; of Portland, Ore.; supreme medical director of the United Artisans, who was seized with a cerebral hemorrhage on a Northern Pacific train between Ellensburg and North Yakima, Wash., three weeks before; died in St. Elizabeth's Hospital, North Yakima, May 18, from a second hemorrhage, aged 56.

**Emery Wendell Foster, M.D.** John A. Creighton Medical College, Omaha, Neb., 1902; formerly of Worland, Wyo.; a member of the Wyoming State Medical Society; died in his apartments in Omaha, May 12, from the combined effects of atropin, hyoscin and morphin, believed to have been self-administered with suicidal intent, aged 37.

**Robert Franklin Raines, M.D.** St. Louis College of Physicians and Surgeons, 1897; a member of the Nebraska State Medical Association and formerly a member of the American Medical Association; commissioner of insanity, coroner, and county physician of Webster County; died at his home in Red Cloud, April 20, from erysipelas, aged 44.

**Henry N. Keener, M.D.** Homeopathic Medical College of Missouri, St. Louis, 1868; formerly secretary of the State Board of Health of Missouri and a hospital steward during the Civil War; for a time city physician of Springfield, Ill., and later coroner of Bureau County, Ill.; died at his home in St. Joseph, Mo., May 12, aged 71.

**David Franklin Stone, M.D.** University of Toronto, Ont., 1870; a member of the American Medical Association; for many years a member of the staff of Mercy Hospital, Bay City, Mich.; at one time president of the Lapeer County School Board; died at his home in Bay City, May 18, from heart disease, aged 70.

**Duke Williamson Hunter, M.D.** Jefferson Medical College, 1854; of Kansas City; a pioneer physician of Kansas City and major surgeon of the Sixth Missouri Infantry, C. S. Army, during the Civil War; died at the home of his daughter in Kansas City, April 22, from the effects of a fracture of the hip, aged 80.

**William Cowan Carson, M.D.** University of Maryland, Baltimore, 1856; an academic graduate of Princeton College in 1853; died at his home in Port Deposit, Md., May 14, aged 80.

**Michael Francis Joseph Crowley, M.D.** New York University, New York City, 1890; died at his home in New York City, May 14.

**Albert Eben Miller, M.D.** University of Pennsylvania, Philadelphia, 1864; of Needham, Mass.; a member of the Massachusetts Medical Society and Boston Gynecological Society; professor of physiology in the College of Physicians and Surgeons, Boston; died at East Orleans, Mass., April 21, aged 79.

**John William Kyger, M.D.** University of Virginia, Charlottesville, 1868; a member of the Missouri State Medical Association and professor of pediatrics in the Medical Department of the University of Kansas; died at his home in Kansas City, Mo., May 5, from cerebral hemorrhage, aged 64.

**Franklin Benjamin Gottschalk, M.D.** Northwestern University Medical School, 1894; a member of the Illinois State Medical Society; formerly professor of electro-therapeutics in Jenner Medical College; died at his home in Chicago, May 22, from septicemia, following a wound of the foot, aged 45.

**Wilson John Rugh, M.D.** Columbus (Ohio) Medical College, 1877; of Pittsburgh; a member of the American Medical Association; supreme treasurer and past supreme commander of the Knights of Malta of the Continent; died in the West Penn Hospital, Pittsburgh, May 10, aged 64.

**Herbert Edward Balmain Dickson, M.D.** L.R.C.P. Ireland, 1886; L. R. C. S. Edinburgh, 1889; formerly a member of the staff of the Royal Ophthalmic Hospital, London; a specialist on diseases of the eye with office in Chicago; died at his home in Hinsdale, Ill., May 15, aged 49.

**David Engelman, M.D.** Jefferson Medical College, 1864; a member of the Medical Society of the State of Pennsylvania; formerly president of the State Board of Health; twice a member of the legislature and once state senator; died at his home in Easton, May 14, aged 77.

**William C. Hamilton, M.D.** University of Paris, France, 1860; surgeon in the Confederate Service during the Civil War; a practitioner of Chicago until 1879 and thereafter a practitioner of Topeka, Kan.; died at his home in that city, May 11, from paralysis, aged 74.

**Theodore Wing Peers, M.D.** University of Michigan, Ann Arbor, 1885; emeritus professor of diseases of children in Kansas Medical College, Topeka; a member of the Kansas Medical Society; died at his home in Topeka, May 12, from cerebral hemorrhage, aged 56.

**Mathias A. T. Hoffmann, M.D.** Wisconsin College of Physicians and Surgeons, Milwaukee, 1901; of Campbellsport, Wis., aged 34; was struck by a train and instantly killed May 18, while crossing the Northwestern tracks near Campbellsport in his automobile, aged 34.

**George W. Haile, M.D.** Medical College of Ohio, Cincinnati, 1866; a member of the Academy of Medicine of Cincinnati; died at the Good Samaritan Hospital Annex, Cincinnati, April 23, from double pneumonia, complicating diabetes of long standing, aged 67.

**William E. McDivitt, M.D.** Sioux City (Ia.) College of Medicine, 1905; a member of the Nebraska State Medical Association; died at Magdalena, Mex., May 20, while en route in an automobile from Southern California, to his home in McCook, Neb., aged 34.

**Richard Francis Murphy, M.D.** New York University, New York City, 1889; a specialist on diseases of the nose and throat and physician to the Actors' Fund of America; died at his home in New York City, May 10, from cerebral hemorrhage, aged 51.

**Edward B. Belknap, M.D.** University of Buffalo, N. Y., 1892; a member of the Medical Society of the State of New York; for twenty years a practitioner of Wyoming County; died in the Rochester (N. Y.) General Hospital, May 12, from nephritis, aged 46.

**Joseph Manuel Delaterga, M.D.** Long Island College Hospital, Brooklyn, 1882; a surgeon in the United States Volunteer Service in Cuba during the Spanish-American War, and a practitioner of New York City; died at the Brooklyn Hospital, May 7.

**Bennett P. Windsor, M.D.** John A. Creighton Medical College, Omaha, 1896; mayor of Mount Auburn, Ill.; was shot in a political feud, May 16, and died in St. John's Hospital, Springfield May 17, from the effects of his wound, aged 38.

**Ernest Newton Shepard, M.D.** Jefferson Medical College, 1895; a member of the American Medical Association; visiting physician and surgeon to the Bradford County (Pa.) Almshouse, died at his home in Burlington, April 26, aged 42.

**Ernest P. Bixby, M.D.** New York Homeopathic Medical College, New York City, 1897; of Barre, Mass.; formerly assistant physician at the Massachusetts State Sanatorium; died in Canyon City, Colo., March 24, from tuberculosis, aged 39.

**Thomas Henry Heffernan, M.D.** Northwestern University Medical School, 1896; a member of the American Medical Association and a prominent practitioner of Dubuque, Iowa; died at his home, May 8, from diabetes, aged 45.

**Wyatt Stephen Oates, M.D.** Atlanta, Ga., 1876; who for many years devoted himself to real estate interests, rather than to the practice of medicine; died at his home in Headland, Ala., April 12, from cerebral hemorrhage, aged 61.

**Alrick T. Payne, M.D.** Medical College of Ohio, Cincinnati, 1875; one of the oldest practitioners of Terre Haute, Ind.; coroner of Vigo County from 1894 to 1898; died at the home of his daughter in Terre Haute, May 12.

**Edgerton Haskell Hart, M.D.** New York University, New York City, 1892; a medical missionary of the Methodist Episcopal Board in China; died at his station in Wu Hu, April 14, from typhus fever, aged 45.

**John Adam Conrad, M.D.** Long Island College Hospital, Brooklyn, 1867; formerly a member of the Pennsylvania State Legislature; was found dead in his office in Robesonia, Pa., May 14, from heart disease, aged 70.

**Simon Alexander Kemp, M.D.** University of Pennsylvania, Philadelphia, 1866; one of the coroners of Sullivan County; died suddenly at his home in Callicoon Depot, N. Y., May 5, from cerebral hemorrhage, aged 66.

**William Irby Hall, M.D.** University of Virginia, Charlottesville, 1893; of North Tazewell, Va.; who had been in Florida during the winter in search of health; died in a sanatorium at Coshocton, Ohio, May 4, aged 45.

**John Latimer Short, M.D.** University Medical College, Kansas City, Mo., 1885; oculist and aurist to Grace Hospital, Versailles, Mo.; died at his home in Rolla, Mo., May 12, from cerebral hemorrhage, aged 59.

**John Per Gustaf Björkman, M.D.** University of Upsala, Sweden, 1887; Eclectic Medical College of the City of New York, 1890; died at his home in Racine, Wis., April 28, from diabetic gangrene, aged 59.

**Robert Stephens Hunt, M.D.** University of Nashville, Tenn., 1900; a member of the State Medical Association of Texas; a prominent practitioner of Rogers, Tex.; died in Temple, Tex., May 8, aged 44.

**Francis Winfield Stiles, M.D.** Cleveland University of Medicine and Surgery, 1852; formerly of Suffolk, Va.; died at his home in DeFuniak Springs, Pa., March 19, from cerebral hemorrhage, aged 86.

**Charles Frederick Wocher, M.D.** Medical College of Ohio, Cincinnati, 1891; a well-known physician and druggist of Cincinnati; died at his home, May 15, from pneumonia, aged 56.

**George Gordon Wilcox, M.D.** Rush Medical College, 1882; a member of the American Medical Association; local surgeon at Seneca, Ill., for the Rock Island system; died about May 11, aged 63.

**Charles Weckslin, M.D.** Eclectic Medical College of the City of New York, 1907; Long Island College Hospital, Brooklyn, 1909; died at his home in Brooklyn, May 4.

**John W. Covert, M.D.** Cleveland University of Medicine and Surgery, 1879; a veteran of the Civil War; died at his home in New Castle, Pa., about May 18, aged 75.

**Benjamin Franklin Brown, M.D.** Ohio Medical University, Columbus, 1896; died suddenly at his home in Shawnee, Ohio, May 13, from heart disease, aged 45.

**Jesse Williams Henry, M.D.** Georgetown University, Washington, D. C., 1866; died at his home in Brooklyn, N. Y., May 16, from senile debility, aged 84.

**Thomas T. Bonner, M.D.** Memphis Hospital Medical College, 1888; a member of the Mississippi State Medical Association; died at his home in Tupelo, May 10.

**Edward William Carhart, M.D.** Albany (N.Y.) Medical College, 1898; died at his home in Brooklyn, May 15, from fatty degeneration of the heart, aged 56.

**J. W. McMullen,** (license, Indiana, 1897); a practitioner of Warren County for thirty-eight years; died at his home in Pine Village, May 7, aged 62.

**Almon James Ryan, M.D.** Rush Medical College, 1875; a physician and druggist of York, Neb.; died at his home in that place, May 12, aged 60.

**Joseph Warren Cobb, M.D.** Eclectic Medical Institute, Cincinnati, 1853; died at his home in Wichita, Kan., April 3, from senile debility, aged 85.

**Henry Luther Miller, M.D.** Atlanta (Ga.) Medical College, 1894; died at his home in Hampton, Fla., April 26, from pneumonia, aged 46.

**Charles C. Prichard, M.D.** University of Louisville, Ky., 1884; died at his home in Harrisonburg, La., April 29, aged 58

**Peter A. Sheley, M.D.** Medical College of Ohio, Cincinnati, 1876; died at his home in Louisville, May 12, aged 62.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## BANNERMAN'S INTRAVENOUS SOLUTION

### A Nostrum First Exploited as a Consumption Cure—Now as a Cure-all

Veterinary medicine, apparently, does not present the opportunities for quackery that are to be found in the treatment of human beings. The probable reason for this is that live stock is valuable and its owners are not willing to take chances. Human life is cheap, and the protection it is accorded, small. These facts may explain why veterinarians with quackish tendencies go into the "consumption-cure" business. In this connection our readers will recall Eckman's Alterative, a fraudulent consumption cure put on the market by a veterinarian, and Yonkerman's Tubereulozyne, another equally fraudulent consumption cure, put out by a horse doctor.

Bannerman's Intravenous Solution is said to be the "discovery" of William Bannerman of Chicago. Bannerman is a veterinarian who claims to have "spent over twenty years in the experimental field, among the lower animals, where he found all the different diseases that man is heir to." "My fight," he declares, "was to cure the great white plague" and at last he found, so he says, "a remedy that may be instrumental in driving from the land the dreaded White Plague."

When first advertised it was known as "Bannerman's Tubercular Solution"; later, as "Bannerman's Germicidal Solution," and more recently it has been exploited as a cure-all under the name "Intravenous Solution." Being a veterinarian, Bannerman hired a licensed physician for his "secretary and medical director." To fill this position he employed for some time a man who seems to have been connected with a "diseases-of-men" outfit and who furnished Bannerman with testimonials in the form of "clinical reports."

Bannerman sells not only his "Intravenous Solution," but also an "Internal Solution." Here are some of the claims made for his nostrums: the crudest of "patent-medicine" exploiters surely never made more outrageously false ones. The spelling, punctuation and composition are original with Bannerman:

> "The Bannerman medicines are positive blood builders and germ destroyers, they regulate your bowels, drives away that Catarrh, increases your weight and energy."
>
> "They stop the cough, loosen the phlegm, throw off the mucous and make expectoration easy, stops your night sweats, reduces your fever, increases your strength restores your appetite, overcomes that weak, tired, depressed feeling."
>
> "Pneumonia a dreaded disease, will succumb to our treatment six hours after the first injection and this holds good in tuberculosis, anemia, bright's, diabetes, rheumatism in fact any disease caused by a lowered resistance."

In 1910, Bannerman published what purported to be the result of "scientific research" done by a "skilled bacteriologist and pathologist"—H. M. Eisler. This "research work" was said to have been done at the "Practitioner's Laboratory," which had for its pathologist "H. M. Eisler, M.D., Ph.D.," and for its "consulting diagnostician," Henry R. Harrower, M.D. The value of a report emanating from this laboratory will be better appraised when it is known that "Dr." H. M. Eisler had offices in the same suite as Bannerman and that he exploited the "Intravenous Solution" in his illegal and unqualified "practice."[1]

Henry R. Harrower also had offices in the same suite with the Bannerman concern, prepared advertising "copy" for Bannerman and in addition wrote and was able to get published in a medical journal — the *International Journal of Surgery* — what purported to be a report of a case of puerperal sepsis "successfully treated" by the Bannerman Solution. He also acted as a "demonstrator" for the Bannerman product in "boosting" the stuff in the eastern states. At the same time, Harrower was publishing two pseudomedical journals which, of course, obtained their share of the Bannerman advertising. Such an arrangement must have been a highly satisfactory one for everybody concerned—except the public and the medical profession.

What is the composition of this product which has been variously known as a "germicidal solution," a "tubercular solution" and an "intravenous solution"? Nobody knows except Bannerman and it is doubtful whether he knows. In 1910, Bannerman published the following "formula":

> Each fluid dram of Bannerman's Intravenous Solution represents:
> Acid Salicylic, gr. 8 1/20.
> Hydrargyrum Albuminate, gr. 1/20.
> Creosote, min. 1/20.
> Acid Carbolic, traces.
> Guaiacol, traces.
> Calcium Carbonate.
> Sodium Chlorid.
> Iron.
> Excipients, Solvents, etc.

Of course this "formula" means nothing. No quantities are given for the calcium carbonate, sodium chlorid or iron, nor is any intimation given as to the form in which the iron is used. This, as we said, was in 1910. In 1911, the published "formula" was different. It was then—and still is—given as follows:

> Each 10 c.c. of Bannerman's Solution contains:
> Acid Salicylic, 2 grs.
> Hydrargyrum Albuminate, 1/9 gr.
> Ferrum, 4¼ grs.
> Sodium Chlorid, 6 1/5 grs.
> Calcium Carbonate, 2 grs.
> Phenol Group, 1/25 gr.

In 1910, the average dose recommended was a fluidram (about 4 c.c.); in 1911, the average dose recommended was 2½ fluidrams (10 c.c.). It will be noticed that the amount of salicylic acid in the dose recommended in 1910 is ten times as great as that in the dose recommended in 1911; and the amount of the "phenol group" in the dose recommended in 1910 is more than three times as large as that in the dose recommended in 1911. Incidentally, Bannerman does not explain how he succeeds in dissolving 2 grains of a practically insoluble substance—calcium carbonate—in 10 c.c. of liquid.

Thinking physicians who have received the Bannerman literature and read the "formula" have naturally wondered what form of iron is used in the preparation. This is of especial interest from the fact that the exploiters claim to give 4¼ grains of "iron" to the dose. One physician took the trouble to write to the Bannerman concern and ask point-blank about the mysterious "Ferrum" in the "Intravenous Solution." In a letter in which he vibrated dizzily between the first and third persons, Bannerman replied:

> "I claim nothing new in it [the Intravenous Solution] save the iron and one other article. We give our formula and proportions, but the writer has spent many years in producing a form of iron which is congenial to the blood, and the secret is the way of combining these elements which produces the results which we are having from it.
>
> "He has no comment whatever to make on the iron other than to say this. It is not made out of pig iron, horseshoe nails or

1. To leave the main story for a moment: H. M. Eisler writes M.D. after his name. So far as our records show he is not a graduate of any medical college; certain it is he is not, and never has been, licensed to practice medicine in the state of Illinois. Yet H. M. Eisler has admitted under oath that in 1911 he was treating—"with drugs and medicines"—a consumptive in the city of Chicago. He used, according to the victim's relatives, the Bannerman Intravenous Solution. Instead of being benefited by Eisler's "treatment," the patient steadily grew worse and finally died. Eisler claimed that the consumptive's brother agreed to pay for the treatment and, as a matter of fact, did pay $180. Finding that the patient was becoming worse, the brother refused to pay more, whereupon Eisler brought suit for the balance of the $400, which he claimed was due him. The man who was sued declared under oath that Eisler had agreed to cure his brother and instead of so doing, the treatment had proved "improper and harmful to the patient and the patient became worse under said treatment." The jury unanimously agreed with the defendant. The result was, Eisler not only failed to get the balance of the $400 but had to pay the costs in the case.

any iron of this kind. It is an entirely new discovery, which I know you would not want me to divulge, and which I could not do and would not do . . . This Intravenous Injection is like the great God-Head, three in one and one in three. I cannot take one from it neither can I add one to it . . .

". . . the blood digests the food and carries the food to make up the different elements of man. It is the alpha and omega of all diseases. . . ."

Members of the medical profession who are using the Bannerman nostrum will doubtless be relieved to learn that they are not loading up their patients with "pig iron, horseshoe nails or any iron of this kind." This relief may be tempered by the knowledge that they still do not know just what drugs their patients are getting.

In another letter, Wm. Bannerman & Co. give physicians this remarkable information:

"Doctor, as you know there are just two elements to man—the blood and the spirit. The blood digests the food and carries it away to make up the different parts of the body."

And a little later, in the same letter, the profession is told that Bannerman's Intravenous Solution:

". . . will increase the number of red blood-cells, regulate the whites . . ."

How the leukocytes are to be "regulated" is not explained but possibly this problem is such an elementary one to a veterinary of Bannerman's capabilities that he thinks it unnecessary to go into detail. P. B. Thatcher, M.D., who, with E. J. Hackney, M.D., is exploiting the Bannerman product in Philadelphia and vicinity, refers to Bannerman as:

"The chemist whose master mind worked this hitherto unsolvable problem out to a successful conclusion. . . ."

"Regulating" white blood-corpuscles in individuals composed of two elements—"blood and spirit"—may be a trivial thing for "master-mind" chemists, but to the average physician it appears no mean task. We are assured it can be done, however, with the Bannerman product, "$3.00 per ounce f. o. b. Chicago." In Philadelphia it sells for $5.00 an ounce.

Seriously, however, the fact that preparations of this kind, exploited as this is, should be used by any members of our profession, is well-nigh unbelievable. Happily there are very few physicians, we believe, who are so blind to their responsibilities to their patients as to use such a nostrum or who are so ignorant or thoughtless as to be influenced by the advertisements of such a concern. Possibly the following quotations, portions of which we have italicized, may be a partial explanation for its use in some instances:

"It is a treatment that can only be given by a physician, and *it is a paying, profitable treatment.*"

"Our solution can only be administered by a physician and *it will increase his practice and remuneration.*"

"They [the patients] realize that the injection is going directly into the blood *and pay up accordingly.*"

To summarize, here are the facts regarding the Bannerman product:

1. It is put on the market by a man who is neither a physician nor a pharmacist and whose only claim to medical knowledge is that of being a veterinarian.
2. It was first exploited as a cure for consumption and has been known by the various names, "Tubercular Solution." "Germicidal Solution" and "Intravenous Solution." It is now sold as a cure-all.
3. Its composition is secret.
4. A fake formula is published that is meaningless to physicians and absurd to chemists.
5. The claims made for it are both false and fraudulent.
6. It is, in short, a product whose use appeals chiefly to cupidity and ignorance.

## A WORLD-WIDE MOVEMENT

### Views of the Nostrum Evil on Opposite Sides of the Globe

How wide-spread and general is the movement against the nostrum evil as it affects the public both directly and via the medical profession, the following quotations from journals arriving in the same week's mail, will show. The first, from the *Australasian Medical Gazette*, is a statement made by Dr. Newman in his presidential address at a recent meeting of the Geelong (Victoria, Australia) Division of the British Medical Association:

"Side by side with the legitimate advances in the practice of medicine and surgery one cannot help noticing some methods of procedure open to criticism. We are always railing at the crass stupidity and unlimited credulity of people in general—how they are all like sheep, easily led, following every quack in droves and swallowing each newly-advertised cure-all with avidity; and yet we, as a profession, are tarred with the same brush. We are just as easily led, just as sheepish, just as easily carried away by clever advertising. Witness the advent of the innumerable proprietary medicines and preparations. How we read the trade advertisements about their wonderful qualities, how we all 'have a go' at ordering them on the strength of those advertisements, then discard them to have 'another go' at the next puffed-up drug! And the worst of it is that the more level-headed have, in self-defense, to swim with the tide, for if they do not their patients soon come to think them behind the times and transfer their patronage to some one else whom they believe to be up to date."

And this, from a report in the London *Times* of the Chancellor's Budget when read to the House of Commons:

"There is a substantial drop in medicine labels. (Laughter.) This is due to the fact that the sale of patent medicines fell off—(cheers)—largely and quite suddenly, owing to the Insurance Act—(cheers)—and, perhaps, partly to the revelations of the Committee which is sitting, which have shown what the ingredients of some of the more popular of these medicines are. (Laughter)."

# Correspondence

### A New Method of Treating Neuralgia of the Trigeminus by the Injection of Alcohol into the Gasserian Ganglion

*To the Editor:*—In THE JOURNAL, May 3, 1913, p. 1354, Dr. Julius Grinker gives credit to Dr. Härtel of Berlin for working out a method for injecting the gasserian ganglion. In 1900 Schlösser began experiments to devise a method of direct injection of the ganglion; and in 1907 (*München. med. Wchnschr.*, April 30), he published a method which, so far as I can judge, is identical with Härtel's.

I desire to call attention to the intrabuccal method of injecting the gasserian ganglion described by Ostwalt. After experimenting with both methods on cadavers, I preferred decidedly the Ostwalt or intrabuccal route. I have injected the gasserian ganglion in the living subject sixteen times. Three patients were injected with alcohol for neuralgia, and in thirteen patients 0.5 per cent. of novocain was injected to produce anesthesia for the performance of surgical operations. In two other patients I failed to reach the ganglion either by the intrabuccal or extrabuccal method. One of these patients was a child aged 9, the other a man of 70. Among sixteen cadavers I found a man of probably 40, whose foramina were so deformed as to render it impossible to reach the ganglia by the mouth or cheek method.

I am enthusiastic over the method for anesthesia, especially for resections of the upper jaw, sinus operations and operations involving the eye and orbit. I have done one craniectomy with this method of anesthesia. I have used from 1 to 2 drams of the novocain solution, injecting a little as soon as the nerve trunk is reached with the needle; the remainder is injected after the foramen is entered.

Success with this method depends largely on a close study of types and anatomic variations of individual skulls. The combined width of the superior maxillary bones, the direction of the auditory canals and the prominence of the malar processes are especially to be noted. I believe that it is well to introduce the needle a little higher than the estimated position

of the foramen for three reasons. 1. If the needle does not enter the foramen it will be blocked by the great wing of the sphenoid. 2. It is sometimes possible to follow the under surface of the great wing and feel one's way into the foramen. 3. When the foramen is entered with the needle in the high position, its point, after passing through the ganglion, is blocked by the anterior surface of the petrous portion of the temporal bone. When the needle is introduced at too low a point, and its direction is consequently more vertical than would be necessary with a higher insertion, the needle, if inserted too far, may pass over the petrous portion of the temporal bone into the superior petrosal sinus or brain.

John G. Sheldon, M.D., Kansas City, Mo.

[Dr. Sheldon's statement concerning the priority of Schlösser was referred to Dr. Grinker, who replies:]

*To the Editor:*—In Schlösser's report on the treatment of trigeminus neuralgia by means of alcohol injections into the *branches* of the trigeminus nerve, made before the Congress für innere Medizin, held in Wiesbaden in 1907, an account of which was published in the *Münchener medizinische Wochenschrift*, April 30 of the same year, the following occurs:

"To reach the inferior maxillary nerve, I introduce my fingers into the patient's mouth, feeling for the inner end of the large wing of the sphenoid. I then pierce the cheek with a blunt stout needle, reaching the oral cavity a little below the previously introduced finger, and then I gradually work up toward the base of the skull until the inferior maxillary nerve is reached. The previously filled syringe is then attached and 0.5 gm. alcohol injected. After a short interval another 0.5 to 1 gm. of alcohol is injected."

In these directions, which are rather indefinite for any one else to follow, no landmarks being given, nor any other guide except the finger, Schlösser gives a method of injecting the *third branch* of the trigeminus—not of the *gasserian ganglion*. Härtel's merit consists in having given us an *extrabuccal* method of reaching the gasserian ganglion directly. Any one who wishes can find not only the foramen ovale, but also the situation of the ganglion which is in the same line with it, provided he follows Härtel's explicit directions. I cannot see how the correspondent can consider these methods identical, when one is a route to the branch as it leaves the base of the skull, the other a direct entrance into the skull through the foramen ovale, with a view of injecting a structure lying beyond it. Julius Grinker, M.D., Chicago.

### Tariff on Surgical Instruments

*To the Editor:*—In The Journal, April 26, 1913, p. 1322, are some resolutions in which the tariff on surgical instruments is incorrectly stated. Instead of 50 per cent. it is 45 per cent. and the tariff on instruments in rough, instead of 15 per cent., is 30 per cent. It may also be of interest to know that the new tariff pending in Congress fixes the duty on surgical instruments at 25 per cent., whether they are finished or unfinished.

G. P. Pilling & Son Company,
per C. J. Pilling, President.

[Comment.—The resolutions referred to were passed by the Jefferson County (Ky.) Medical Society, and we call this matter to their attention as well as to the attention of other societies which may take action on the subject.

In The Journal, May 3, 1913, p. 1382, is a comparison of the present law with the Underwood bill now pending in Congress. Although this article does not refer to the resolutions of the previous issue, in effect it corrects the error which the county society made.—Ed.]

### A Useful Pharmacopeia

*To the Editor:*—Dr. Osborne's recent article (A Last Plea for a Useful Pharmacopeia, The Journal, May 10, 1913, p. 1427) has interested me greatly. It is a shame that inert drugs still find a place in the Pharmacopeia. I urged their omission at the last Pharmacopeial Convention and frequently before that, and I am glad to note that their number is diminishing in the recent editions of the Pharmacopeia. What is of more importance, however, is the retention of multiple preparations of many drugs when they are not needed; their use by medical men should be discouraged by their omission from the Pharmacopeia. For instance, three or four preparations of iron or of cinchona are as good as all that are included in the Pharmacopeia. It certainly is possible to determine which are therapeutically and pharmaceutically the best for prescription in solution or in pill or capsule and possibly for hypodermic administration. Let us encourage the use of these best preparations and discourage the use of others. As Dr. Osborne writes, the omission of a drug from the Pharmacopeia does not prevent its use although it may discourage its employment. This was evidently the view taken by medical societies and their committees which studied the subject before the last Pharmacopeial Convention was held.

Unfortunately, the medical men elected to that convention did not attend it so generally as they should, and therefore the pharmacists who were present again kept control of the making of the Pharmacopeia.

The scope of the Pharmacopeia should be decided by medical men, and pharmacists should decide how preparations are to be made.

I wish that the revision now under way had been made on this plan. N. S. Davis, M.D., Chicago.

### The First Street-Railway Ambulance-Car

*To the Editor:*—In the *Scientific American*, April 5, 1913, p. 316, in the description of a street-car ambulance for Bahia, Brazil, the statement is made that "not until the present time has there been manufactured a conveyance for the transportation of hospital patients over the street-car tracks of any city."

That South American may not be given credit which rightly belongs to our own country I wish to point out that in December, 1894, an ambulance-car which I originated while health commissioner of St. Louis went into service. Descriptions of the car appeared in several publications at the time.

George Homan, M.D., St. Louis.

### Swindler Maynard Brought to Bay

*To the Editor:*—Last fall (Oct. 5, 1912, p. 1303) you published an announcement for me concerning a $50 reward offered for information regarding a fugitive from justice, one Maynard, who had fleeced a lot of physicians and others during the spring of 1912 and then had absconded in June. The clippings which I enclose show the details of his arrest and fight to prevent just punishment. Before the days of The Journal such a fellow would probably have plied his trade for years. Here is an important use for The Journal. Our officers of the law had almost given up hope of finding him when I told them I felt sure that I could locate him with your help. Just a few days after your announcement that this man was wanted, a member of the Association telegraphed our sheriff from Lincoln, Neb., that Maynard was there, and this led to his arrest and punishment. Maynard's offenses were in collecting old accounts for merchants, doctors and lawyers and then disappearing without making returns on the collections to the merchants to whom an accounting was due. When found in Nebraska, he was presumably operating the same game. He resisted extradition, appealed to the Supreme Court and made considerable trouble before he could be taken from Nebraska to Michigan. He was finally sentenced to a term of three years in prison.

M. R. Morden, M.D., Adrian, Mich.

[Comment.—The Journal is glad to have been of service in this instance. In the General News Department of this issue is an announcement concerning another man wanted for swindling. Perhaps our readers can help in this case also.—Ed.]

### Corrosive Sublimate Poisoning by Means of Antiseptic Tablets.

*To the Editor:*—Cases of poisoning by corrosive sublimate were in the past comparatively rare, but in view of the sensational statements in the Walker case it is probable that there will be more cases of mercuric poisoning, suicidal or accidental, by these easily obtained articles. Therefore the publication of a few facts and also theories may not be out of place.

Since the newspaper reports appeared we have had two cases of poisoning by antiseptic tablets ($HgCl_2$) in our city. One patient died; the other was given calx sulphurata and the outcome has not yet been settled.

The general antidote appears to be white of egg, and it is of this we wish to speak first. It is true that on adding egg-albumin to a solution of corrosive sublimate the albuminate of mercury is formed, but the compound is not entirely insoluble in the gastric juice; further, the hydrochloric acid set free adds to the acidity of the gastric juice. Antiseptic tablets all contain citric acid, added to overcome the hardness and alkalinity of many waters. This further increases the solubility of the mercury albuminate or prevents the union of the mercuric base with the protein body. This can readily be proved by taking some egg-albumin, adding an equal part of water and shaking and dividing into two portions. To one add solution of mercuric chlorid and to the other artificial gastric juice (0.2 hydrochloric acid) about 1:4 and some solution made by dissolving an antiseptic tablet in water, and note the difference in the appearance of the precipitates.

Is mercuric albuminate non-toxic when rendered alkaline by the intestinal juices? This question seems out of place, but must be considered when the material leaves the stomach and enters the intestines.

Mercuric compounds are acknowledged to be toxic even in small doses; mercurous compounds can be tolerated in much larger doses; hydrogen sulphid reduces mercuric to mercurous, whether the conditions are acid or alkaline, even in the presence of citric acid, a substance which inhibits many chemical reactions. Calcium sulphid (calx sulphurata, U. S. P.), 1 gm. of which is capable of reducing 2.31 gm. of mercuric chlorid, hydrogen sulphid water, natural or artificial, which can be tolerated by the stomach, and enemas of which may be administered without serious danger, will all act in this manner, first reducing the mercuric chlorid to mercurous chlorid and further to mercurous sulphid.

On such grounds it would seem that the sulphids are the logical antidote for mercuric poisoning. Much work will have to be done on this, and we would not have published the unfinished work had not this matter been brought so prominently before the public by the press in the recent Walker case.

EDWARD H. HAYWARD, M.D., Detroit,
Director, Board of Health Laboratory.
W. H. ALLEN, PH.G., Detroit,
Dean, Pharmacy Department, D. T. Inst.

## *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### WHY VACCINES INSTEAD OF SERUMS ARE GIVEN IN INFECTIONS

*To the Editor:*—In chronic infection, for example, rheumatoid arthritis following infection from any focus, the infection is combated by the tissues of the body in the production of antibodies for the purpose of neutralizing the toxin. A vaccine is given—why not a serum? Surely there are enough toxins in the patient to be a constant maximal stimulant in the production of all the antibodies that can possibly be made. Accepting this, how can a vaccine be of any value in stimulating the production of more antibodies when it is producing its maximal amount, and why does it not overwhelm the system with toxins? A serum contains these antibodies; why not add them to the blood? R. C. B.

ANSWER.—Infections are roughly divisible into two classes: In the first class a true toxemia is produced which is met by the organism with the production of antitoxin. In these diseases the principal disturbances are caused by secretory toxic products which stimulate the formation of antitoxins. The main diseases of this kind are tetanus and diphtheria. In the second class reactions are produced by the proteins of the bacteria themselves, which call forth antibodies like the agglutinins, opsonins, bactericidal substances, etc. Infections of the first class are properly treated by antitoxins as in the case of diphtheria and tetanus. As a general rule, the other infections need immunizing bodies which as yet, at any rate, cannot be obtained regularly in therapeutic serums. To combat these infections an active immunity is necessary. In the chronic infections the bacteria are usually confined to a local focus from which toxic and other substances with antigenic powers reach the blood, but often not in sufficient quantity to excite the production of an active immunity. In such cases, if some of the bacterial substances be injected either into the subcutaneous tissue or into the blood, the organism is roused to the production of an active immunity which does not readily occur in response to the soluble substances which reach the blood from the infected focus. In other words, it is believed that there are not enough "toxins in the patient to be a constant maximal stimulant in the production of all the antibodies that can possibly be made."

### TECHNIC OF ABDERHALDEN'S SERODIAGNOSIS FOR DEMENTIA PRAECOX

*To the Editor:*—I am very anxious to get a copy in English of Abderhalden's technic for serodiagnosis of dementia praecox. Where can I obtain it? R. R. IVEY, M.D., Tuscaloosa, Ala.

ANSWER.—The technic of Abderhalden's serodiagnosis for dementia praecox as worked out by A. Fauser is published in the *Deutsche medizinische Wochenschrift*, Dec. 26, 1912, and is based on the method of diagnosis for pregnancy. The technic of this method is published at some length in the April, 1913, number of *Surgery, Gynecology and Obstetrics.*

The essential of the method is the determination in the dialysate of the products of digestion of proteins. In pregnancy the serum contains ferments capable of digesting placenta or fetal products. These are therefore mixed, after thorough washing, with the serum and subjected to dialysis. If the dialysate shows the presence of products of digestion of proteins, the test is positive. In the test for dementia praecox the author used pulped-up testicles with some serums, on the theory that the affection is connected in some way with the presence of incompletely digested products from the sexual organs. In other cases he used brain tissues in the same way.

### EXOSTOSIS OF OS CALCIS

*To the Editor:*—Please give me information regarding the surgical treatment of exostoses and "spines" occurring on the os calcis and causing painful and tender feet. Also give references to literature. It seems that this subject is badly neglected in our modern surgical text-books.

FREDERICK LONG, M.D., Bakersfield, Cal.

ANSWER.—Operation is always demanded in these cases to effect a cure. The incision (straight or curved) is made on the inner side of the foot, close to the sole and over the exostosis. The affected portion of the bone is exposed by dissection and the spur is removed with a chisel. The wound is closed without drainage.

Following are references to the literature:

French, H.: Exostosis of Os Calcis, *Practitioner,* London, July, 1910.
Griffith, J. D.: Osteophytes of Os Calcis, *Am. Jour. Orthop. Surg.,* February, 1911.
Davidson, A. J.: Exostoses of Os Calcis, *Therap. Gaz.,* April, 1911.
Colvin, A. R.: Bursae and Exostoses (Spurs of Os Calcis), *St. Paul Med. Jour.,* September, 1911.
Berry, J. M.: Exostosis of Os Calcis, *Albany Med. Ann.,* October, 1911.
Meisenbach, R. O.: Pathogenesis of Spur Formation on Os Calcis, *Am. Jour. Orthop. Surg.,* February, 1912.
Sever, J. W.: Apophysitis of Os Calcis, *New York Med. Jour.,* May 18, 1912.

### POSTGRADUATE WORK ABROAD

*To the Editor:*—Can you give me information regarding study abroad? I want to know what courses are to be had in Berlin or Vienna and whether or not a knowledge of the language is essential. ROBERT B. STEWART, M.D., Topeka, Kan.

ANSWER.—These questions are fully answered in THE JOURNAL, April 12, 1913, pp. 1175-77, and at greater length in a reprint, a copy of which will be sent on receipt of 10 cents.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

IOWA: Capitol Building, Des Moines, June 2-4; State University, Iowa City, June 5-7. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Armory, Louisville, June 3-5. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 5-7. Sec., Dr. A. B. Brown, 108 Baronne St., P. O. Box 1060.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Pathological Laboratory State University, Minneapolis, June 3. Sec., Dr. Thomas McDavitt, Lowry Bldg., St. Paul.

MISSISSIPPI: Capitol Bldg., Jackson, June 3-4. Sec., Dr. E. H. Galloway.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House.

PENNSYLVANIA: Harrisburg, Philadelphia and Pittsburgh, June 23-25. Sec., Mr. Nathan C. Schaeffer, Department of Public Instruction, Harrisburg.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Capitol Bldg., Austin, June 24-26. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

## Colorado April Report

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written examination held at Denver, April 1, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 5 passed and 2 failed, including one osteopath. Thirteen candidates were licensed on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

| PASSED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| University of Colorado | (1911) 82.8; (1912) | 78.1, 81.7 |
| Louisville Medical College | (1894) | 75.3 |
| Non-graduate | | 86.6 |

| FAILED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| Nagasaki Medical School, Japan | (1906) | 31.9 |

| LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS<br>College | Year Grad. | State Licenses |
|---|---|---|
| Georgetown University | (1911) | Dist. Colum. |
| Rush Medical College | (1903) Illinois; (1912) | Kansas |
| Northwestern University Medical School | (1911) (1912) | Illinois |
| Keokuk Medical College | (1895) | Iowa |
| Johns Hopkins University | (1909) | Oregon |
| University of Michigan, Dept. of Med. and Surg. | (1903) (1911) | Illinois; Michigan |
| Marion-Sims College of Medicine | (1898) | Illinois |
| University of Buffalo | (1890) | Illinois |
| University and Bellevue Hospital Med. College | (1903) | New York |
| Western Pennsylvania Medical School | (1891) | Ohio |

The following questions were asked:

### ANATOMY

1. Describe the upper end of the tibia. 2. Name the bones of the carpus and describe one of them. 3. Describe the temporomaxillary articulation. 4. Name the muscles attached to the radius. 5. Give the origin, insertion and nerve supply of the following muscles: masseter; tensor vaginae femoris; diaphragm; soleus; sternomastoid. 6. What spinal nerves enter into the formation of the anterior crural nerve and what muscles does it supply? 7. Give a brief description of a cross-section of the spinal cord in the cervical region. 8. What are the relations of the right kidney? 9. Name the valves of the heart and describe one of them. 10. Describe the prostate gland.

### PHYSIOLOGY

1. What purpose is served by the valves in the veins, and where are they most generally placed? 2. (*a*) Describe respiration and what keeps it going. (*b*) What is its object? Define complemental, reserve and residual air. 3. Describe the location at which the different heart sounds can be heard the plainest and tell what produces each sound. 4. Why does the normal temperature of the body remain the same during cold and warm weather? 5. What are the principal morbid effects of division of the fifth cranial nerve? 6. Give the origin, shape, size and functions of the white corpuscles. 7. What are starches, how, when and where digested and carried into the circulation? 8. Distinguish serous from mucous membrane, give example of each. 9. Describe the construction of the eye, and give the physiology of vision. 10. Mention the various methods of eliminating waste products of the body.

### CHEMISTRY

1. Define and give examples of (*a*) organic chemistry; (*b*) inorganic chemistry. 2. Give the formula, preparation, and a test for nitrate of silver. 3. Give the sources of oxygen, and its relation to combustion and to life. 4. What are aldehyds? Give their properties and principal derivatives. 5. Give the general properties of alkaloids. 6. Give an explanation of the formation of ammonia in the urine. 7. Give two chemical tests for blood. 8. Define bilirubin, with test for its presence. 9. Give test for excess of hydrochloric acid in gastric contents. 10. How is an excess of urates determined?

### PATHOLOGY

1. Give a description of adenocarcinoma under the microscope. 2. Describe *Bacillus diphtheriae*. 3. Exclusive of changes in the intestine, what is the morbid anatomy of typhoid fever? 4. What conditions result from disease of the pituitary body? 5. Name some of the common fluids used for hardening tissues preparatory to section, with the strength ordinarily used. 6. Describe the phenomenon known as inflammation. 7. Give the morbid anatomy of acute endocarditis. 8. Describe the morbid anatomy of acute lobar pneumonia. 9. Discuss the cause of death from burns. 10. Discuss anaphylaxis.

### SURGERY

1. Describe the fractures of the elbow and the method of examination. 2. Give the symptoms and diagnosis of fracture of the surgical neck of the humerus. 3. Give the symptoms and complications of fracture of ribs. 4. Define toxemia, septicemia and pyemia. 5. Give the symptoms and causes of a subphrenic abscess. 6. Give the symptoms and diagnosis of tuberculous arthritis. 7. Give the symptoms and etiology of varicose veins. 8. What are the causes and symptoms of acute intestinal obstruction? 9. Describe the symptoms of abscess of the liver. 10. Discuss benign and malignant tumors of the breast.

### OBSTETRICS

1. Name possible sources of puerperal hemorrhage and treatment of each. 2. What would lead you to suspect extra-uterine pregnancy? 3. In breech presentation describe the different methods of delivering the after-coming head. 4. You are called on to take care of a woman in labor; describe how you would proceed to sterilize your own person. 5. Give symptoms of ruptnre of the uterus. 6. How may you prevent perineal lacerations? 7. Outline treatment for the prevention of ophthalmia neonatorum. 8. Write two pages on the preventive treatment of eclampsia. 9. Give the treatment of eclampsia. 10. Give the mechanism of L. O. A.

### TOXICOLOGY

1. If you were called in to a case with the following symptoms what would be your diagnosis as to cause? Immediate loss of muscular power; giddiness, person staggers and falls to the ground; respiration hurried and gasping; pupils dilated and insensible to light; eyes glassy and protruding; extremities cold, and sometimes convulsions; breathing performed in sobs; face pallid; jaws spasmodically closed; frothing at the mouth; death occurs by violent convulsions. 2. Having thus diagnosed the above case, what would be your treatment if you saw case before death? 3. What do you understand by neurotic poisons? Explain. 4. What are the symptoms? 5. Give symptoms of poisoning by chloral hydrate. 6. Treatment and post-mortem appearances. 7. Give symptoms of one asphyxiated by burning charcoal. 8. Give post-mortem appearances. 9. Give symptoms of one poisoned by oxalic acid. 10. Give treatment of one poisoned by oxalic acid.

### SYMPTOMATOLOGY

1. Describe vesicular breathing; contrast it with bronchial breathing; tell where each may be heard in health; what is the significance of bronchial breathing in an area in which vesicular breathing is normal? 2. What are the causes, symptoms and signs of purulent pleurisy? 3. Name the animal parasites of man, and tell what symptoms they cause and how their presence is proved. 4. What are the causes of hematemesis? How is it distinguished from hemoptysis? 5. Describe the symptoms and complications of scarlet fever. 6. Give the symptoms, complications and diagnosis of cerebrospinal fever. 7. What is natural immunity? Acquired immunity? Discuss the nature of immunity. 8. Give the symptoms of arthritis deformans. 9. What are the causes, symptoms and physical signs of dilatation of the stomach? 10. What is the symptomatology of acute endocarditis?

# Book Notices

GUIDE TO MIDWIFERY. By David Berry Hart, M.D., F.R.C.P.E., Lecturer on Midwifery, School of the Royal Colleges, Edinburgh. Cloth. Price, $6 net. Pp. 765, with 268 illustrations. New York: Rebman Company, 1912.

The plan of this book differs from that usually followed in text-books for students or general practitioners. The work is divided into two parts. The material ordinarily used in obstetric teaching occupies most of the first part. In the second part are elucidations of difficult points and summaries of new operations and of views and theories which might distract the reader, especially a novice, in a first study of a subject.

The author says that the weak point in many hard-working students is that they know the verbal and not the actual. The volume has been prepared partly with the idea of overcoming this fault. Hence the various subjects are treated briefly and succinctly. The chapters are short but numerous, the text is clear, and the paragraphs are introduced by bold-faced type. The necessary facts of obstetrics are presented in a first series of twenty chapters. These include such fundamental topics as the bony pelvis, topographic anatomy, menstruation, ovulation, the changes occurring in the pregnant uterus and the development of the embryo, placentation, the symptoms and signs of pregnancy and its differential diagnosis, normal labor in its various phases, and its management. Breech, occipito-posterior and face presentations are classified as borderland cases, as is also multiple conception.

The pathology of pregnancy occupies eight chapters and includes ectopic gestation and the pathology of the placenta and its membranes. Abnormal labor is particularly well presented for so brief a text from the point of view of three etiologic factors: faults of the uterus, of the child and of the elastic structures and bony pelvis. Operative obstetrics is presented with respect to the most recent technical advances. The final chapters in this portion of the work are devoted to the puerperium and its pathology, with some space given to the infant and natural and artificial methods of feeding. As intimated the second part is unique.

An interesting chapter here is that on "Evolution in Obstetrics," in which Darwinism, Weissmannism and Mendelism are discussed in relation to practical points. The various theories of eclampsia are likewise excellently presented. The author expresses the opinion that theoretically a book on midwifery is better without illustrations at all, the student having access to laboratory and museum. This not being practicable, he has interspersed his text with excellent drawings, many reproductions of the masterpieces of Zweifel, Bumm and Nagel. A bibliography, not complete but giving all most modern references, is found at the end of the volume. Altogether, this new text is another concrete expression in classic form and characteristic racial brevity of the Edinburgh school of midwifery.

GLYCOSURIA AND ALLIED CONDITIONS. By P. J. Cammidge, M.D. Cloth. Price, $4.50 net. Pp. 467. New York: Longmans, Green & Co., 1913.

Two facts are impressed on one in examining a modern work on diabetes like Cammidge's comprehensive work. The first is the complexity of the chemical problem involved in the etiology, diagnosis and treatment of glycosuria. As the author states, glycosuria is essentially a chemical problem, and hence he approaches it primarily from the chemical side. A large section is devoted to a study of the nature of the carbohydrates and the tests, both qualitative and quantitative, by which the presence and degree of glycosuria are recognized. This section occupies 120 pages.

The other striking fact is the disappearance of distinctions between the milder forms of glycosuria and the severer forms usually classed as diabetes. The one grades into the other by such insensible degrees that a common pathogenesis and common principles of treatment may be applied to all cases. The chemical consideration of the subject is very thorough, and is followed by an account of experimental glycosuria and the milder forms of transient glycosuria. The relation of glycosuria to internal secretion receives the attention which it deserves from the results of recent investigations.

Persistent glycosuria, or diabetes proper, forms the largest section of the book. The author seems to adhere to the theory that glycosuria is due to the access of a superabundance of sugar to the blood, as maintained by von Noorden and others, rather than to a deficient power of utilizing the sugar supplied. This necessitates abandoning the view that diabetes is a distinct disease, and looking at it as a symptom-complex which may be brought about by various agencies.

Naturally, from his previous studies, the author's interest is largely centered in the relation of the pancreas to diabetes, and he gives much space to the methods of diagnosing disease of the pancreas, in which his "pancreatic reaction" figures quite prominently. By this means he has examined the urine in 168 cases of diabetes and obtained a positive result, indicating that the disease was due to a lesion of the pancreas, in 72 per cent.

The dietetic treatment is constructed on the usual lines, good directions being given for the ascertaining of tolerance and the regulation of the proportions of protein, carbohydrates, etc. The author very properly warns against accepting without careful investigation the claims made for the various diabetic flours and breads on the market. Rather more credence is given to the claims made for pancreatin, taka-diastase, papain, etc., than the evidence seems to warrant.

Drug treatment receives a somewhat extended notice without advocacy of any particular remedy. The author suggests that the varying success which results from the employment of such a variety of drugs confirms the view that diabetes is not a disease, but a series of symptoms which may arise from a variety of causes.

The book closes with chapters discussing the appearance of other forms of sugar in the urine, the nature of alkaptonuria and diabetes insipidus, and an appendix giving the general properties and reaction of the sugars and related substances.

The book forms one of the most comprehensive treatises on this very important subject.

THE INTERNAL SECRETORY ORGANS: Their Physiology and Pathology. By Prof. Dr. Artur Biedl, with an Introductory Preface by Leonard Williams, M.D., M.R.C.P. Translated by Linda Forster. Cloth. Price, $6 net. Pp. 586. New York: William Wood & Co., 1913.

The subject of the internal secretions is not only one of the most interesting but also one of the most important subjects in modern medicine. The complex animal body is not simply an agglomeration of organs working independently of each other, but the functions of all the organs are related and correlated for the benefit of the whole. This regulation of function is brought about primarily by the so-called internal secretions which are themselves the products of certain organs. The great importance of these internal secretions is constantly becoming more apparent with the growth of our knowledge concerning them; and while little more than a beginning has been made, sufficient is known to show that it is impossible for any physician to be abreast of the times who is not familiar with the work done along this line. The author of this book has long been foremost in work and thought in this interesting field. The entire subject of the internal secretions is comprehensively discussed from the points of view of the physiologist the pathologist and the therapeutist. The internist and the surgeon alike will find much of the greatest value in a careful study of this work. The translation into English has been well done, retaining the strict meaning of the original German without harshness of expression.

THE TREATMENT OF INFANTILE PARALYSIS. By Oskar Vulpius, M.D., Professor Extraordinary at the University of Heidelberg. Translated by Alan H. Todd, M.B., B.S., B.Sc. (Lond.), House Surgeon, Guy's Hospital. With Introduction by J. Jackson Clarke, M.B., (Lond.), F.R.C.S. Cloth. Price, $4 net. Pp. 318, with 243 illustrations. New York: William Wood & Co., 1912.

This is the largest and most complete treatise in English on infantile paralysis. It will be of interest to the general surgeon as well as to the orthopedic surgeon, since its chief aim is to describe and illustrate the surgical treatment of the deform-

ities due to anterior poliomyelitis. Twelve pages are devoted to apparatus, and 253 to the surgery of paralysis. The book is abundantly illustrated from the author's extensive material, and his views are clearly and forcibly expressed. Many Americans will disagree with certain of his opinions, as, for instance, that a transplanted tendon should almost invariably be attached to the paralyzed tendon whose function it is to assume (Lange and his followers holding that attachments to periosteum or bone are more logical and successful); or, again, that neuroplasty should be performed in suitable cases six months after the onset of the paralysis; or that arthrodesis of the ankle may properly be performed in children as young as 8 years. The author also believes that partition of function is possible; that, for example, the gastrocnemius may be split longitudinally into two separate muscles, either of which will be capable of acting as a dorsal flexor of the foot if properly attached, while the other half remains a plantar flexor.

Thirty-two pages are devoted to nerve transplantation, with the conclusion that as yet the results are too uncertain for its employment in any but exceptional cases. Artificial silk ligaments, boiled in corrosive sublimate, as used extensively by Lange and many others, are not advocated by Vulpius with any degree of warmth. His criticism of Whitman's operation for pes calcaneocavus is not competent, since ankylosis is neither produced nor desired in this operation. It is perhaps to be regretted that the actual operative technic of some of the author's procedures is not shown in greater detail by photograph or diagram and by more minute description. The book is well produced, and is to be recommended highly to those interested in this kind of surgery.

Diet and Hygiene in Diseases of the Skin. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Cloth. Price, $2 net. Pp. 194. New York: Paul B. Hoeber, 1913.

The average practitioner is fairly well prepared to treat diseases of the skin with up-to-date methods so far as applications go. The important theme in medicine to-day is prevention, and many an obstinate skin affection can be eradicated only by the removal of some underlying systemic condition partly through medicine and oftener through diet and hygiene. As a treatise on this subject, Dr. Bulkley's book will be welcomed. It is clear, sane, helpful. It represents his careful observation, study and deduction. The details of special diet and the tables will be of practical service, and the bibliography will aid those who wish to read further.

Diabetes: Its Pathologic Physiology. By John J. R. Macleod, M.B., Ch.B., D.P.H., Professor of Physiology, Western Reserve University, Cleveland. Cloth. Price, $3 net. Pp. 224. New York: Longmans, Green & Co., 1913.

This is a contribution to the theory of diabetes from the chemical and experimental side which aims to put clearly before the reader the source of the sugar of the blood and the manner in which it is produced and destroyed. The methods of chemical analysis are well described and the action of the nervous system, of the ductless glands and particularly the process of glycogenesis, are described. The probable cause of hyperglycemia and the occurrence and explanation of the formation of sugar from fats and proteins (glyconeogenesis) are discussed. While the book is excellent in its sphere, it must be noted that no discussion of the symptoms or treatment of diabetes is attempted.

The Medical Diseases of Children. By T. R. C. Whipham, M.A., M.D., M.R.C.P., Physician to the Evelina Hospital for Sick Children. London Medical Publications. Cloth. Price, $3.75. Pp. 417, with 67 illustrations. New York: Oxford University Press, 1912.

This is an interesting presentation, in rather condensed form, of information on the medical side of the diseases of children. In a brief work for easy and frequent consultation, one would particularly desire helpful suggestions in the way of management and treatment. In this respect one is liable to be disappointed with the volume. It is well printed and abundantly illustrated, but poorly bound.

# Medicolegal

## Liability under Contract to Furnish Services of a Particular Surgeon in Case Left to His Assistant

*(McDaniel vs. United Railways Co. of St. Louis (Mo.), 148 S. W. R. 464)*

The St. Louis Court of Appeals affirms a judgment for the plaintiff for damages from an alleged breach of contract made for the defendant by its claim agent to furnish the plaintiff the services of a certain surgeon possessing peculiar skill and ability for the treatment of her injury, which was received through the negligence of the defendant. The court holds, too, that the contract could be proved by oral evidence notwithstanding a contemporaneous writing between the parties remotely touching on the subject-matter.

The court was not impressed with the argument that a verdict should have been directed for the defendant because it appeared that it furnished the services of the promised surgeon, who occasionally visited the room in which the plaintiff was confined in the hospital. The court says that this argument involved the idea that the contract was one which might be performed by another surgeon in the promised one's employ. It appeared that though the plaintiff had suffered an intrascapular fracture of the surgical neck of the femur, which is a most difficult injury to successfully treat, the promised surgeon at no time assumed personal charge of the case. Instead, a young physician in his employ, who had been in practice but three years, attempted to set the bone and adjust and maintain a Hodgen splint in proper position. It was not enough that the promised surgeon dropped into the plaintiff's room frequently while she was confined in bed and inquired as to how she felt, and on several occasions laid hold of the rope passing from the ceiling by which the plaintiff's foot was suspended, and on one occasion passed his hand over the plaintiff's hip in near proximity to the fractured bone. There can be no doubt that there are undertakings in which one party contracts for the personal services of another for his skill, knowledge and experience. When, therefore, it appears the contract stipulates that the services shall be rendered by some particular person, possessing peculiar knowledge and skill with respect to the undertaking, because of the peculiar knowledge, skill and experience of such person, it implies the services are to be personally rendered and that the performance may not be delegated to another. It was competent for the jury to find that the contract required the defendant to furnish the plaintiff with the personal services of the promised surgeon, and not his inexperienced assistant, in an endeavor to bring the ends of the fractured femur in apposition, adjusting the Hodgen splint and the subsequent treatment thereabout.

Nor does the court agree with the contention that though the promised surgeon did not personally perform the duties, in compliance with the obligation which the defendant assumed in the contract, the plaintiff was nevertheless precluded from a right of recovery as for a breach because she accepted the services of his assistant as and for compliance therewith. In those cases where such principle properly obtains there always appears the element of voluntary acceptance. Every precept of natural justice repelled the suggestion that the facts here in judgment invited the application of that principle, to the end of denying the right of recovery as a conclusion of law. It may have been proper enough to submit this theory to a jury for a finding thereon to the effect that the defendant had discharged the contract, if it be found that plaintiff had voluntarily accepted the services of the assistant, instead of the promised surgeon, as a full compliance therewith. But no such issue was framed in the case by instructions, and it is certain that the court may not declare such a result as a conclusion of law. It appeared that the plaintiff was on her back, confined in a hospital of the defendant's choosing, with a fracture of the femur, and her limb suspended in a sling attached to the ceiling. The proof was that she suffered intense pain through-

out the entire period and was entirely helpless. She inquired several times for the promised surgeon and was assured that she was all right. Certainly she was not competent to judge as to whether or not her fractured bone was properly set and the process of healing going forward, and, no doubt, she supposed proper treatment was had and obtained throughout. It would be a harsh judgment indeed to assert, as a conclusion of law on these facts, that the plaintiff's right of recovery was precluded for the reason that she voluntarily accepted the substituted services of the assistant for those to be performed by the promised surgeon.

Neither could it be held that a verdict should have been directed for the defendant because the damages sued for were so uncertain of ascertainment as to enter the realm of mere conjecture. This argument furnished the court a subject for much reflection and considerable anxiety as to a proper solution of the question presented. In considering it, however, it should be remembered that the requirement that the damages must not be uncertain is satisfied by a reasonable certainty in this respect. In other words, it is sufficient if there be such certainty thereabout as satisfies the mind of a prudent and impartial person that the damages sued for may be traced as a reasonable probability to the breach of the contract. Then, too, the law, it has been well said, never insists on a higher degree of certainty than the nature of the case admits. In almost every case the damages to be measured are more or less uncertain, to a considerable degree; but the question of uncertainty presented here related to the cause of the damage rather than to uncertainty as to the measure or extent thereof. Therefore, if it might be said that the facts and circumstances in evidence were insufficient to suggest to a reasonably prudent, impartial man that the damages proved flowed as a reasonable probability from the defendant's breach of the contract, the argument was sound; otherwise, the question was one for the jury.

The court believes that it was competent for the jury to infer that, had the plaintiff been treated by the promised surgeon instead of the assistant, a proper union of the bone would have taken place, for, if the evidence on her part was to be believed, her health and condition were most favorable to such a result. And though it be true that in suits for the breach of contract the damages should be traceable to the breach and appear to flow from it as a reasonable probability, it is not essential that they be shown as a certainty to follow from that cause. It will suffice if enough appears in the case to enable the jury to reckon such a result from the common experiences of life through the application of that degree of sense usually possessed by an impartial man of ordinary prudence. The court, however, has been unable to find a case in point.

### Exhibitions of Person Where No Injuries Visible—Medical Works as Evidence

*(Landro vs. Great Northern Railway Co. (Minn.), 135 N. W. R. 991)*

The Supreme Court of Minnesota says that it is not to be understood as giving its approval to the exhibition of the plaintiff's person before the jury, and the experiment made to show the presence of symptoms claimed by his experts to indicate a dislocation or partial dislocation of the sacro-iliac joint, including groans by the plaintiff. It is within the discretion of the trial court to permit a plaintiff in a personal injury case to exhibit his injuries to the jury, in order to show their extent or to enable a surgeon to demonstrate their nature and character. It is also discretionary to permit tests and experiments in the presence of the jury in a proper case and under proper safeguards. But where there are no wounds, no injuries that can be seen by the jury, it is improper to permit the exhibition of the plaintiff's person for the purpose of conducting experiments to prove that he will cry out with pain, or that his muscles will grow rigid, when his legs are manipulated in a certain manner. It was a hotly disputed question whether the plaintiff had any "objective" symptoms; but it was quite clear that he had none that could be seen by the jury. Trial courts should always exercise this discretion with caution, and when it appears that the probable effect of the exhibition will be, not to instruct the jury as to the nature and extent of the injuries, but to excite their sympathies or inflame their passions, it should not be permitted.

Medical books, however celebrated their authors, are not admissible in evidence, because the author is not under oath and not subject to cross-examination. But, for the purpose of testing the qualifications as well as the credibility of an expert, it is generally held that when the witness has testified that the authorities support his view, he may be asked on cross-examination whether a medical work, admitted by him to be a standard authority, does not express a contrary view. And it is no objection to such cross-examination that incidentally the opinions of the author are thus brought before the jury. Theoretically the author's opinions are not substantive evidence, but are merely impeaching evidence.

## Society Proceedings

### COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Maine Medical Association, Portland, June 25-26.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Rhode Island Medical Society, Providence, June 5.
Washington State Medical Association, Everett, July 14.

### MEDICAL ASSOCIATION OF GEORGIA

*Annual Meeting, held in Savannah, April 16-18, 1913*

Under the presidency of DR. W. W. PILCHER, Warrenton.

#### Officers Elected

For a list of the newly elected officers see THE JOURNAL, May 3, p. 1368.

#### Treatment of Pneumonia

DR. J. W. PALMER, Ailey: Every case of pneumonia is a law unto itself. Certain symptoms in each case will call for special therapeutic measures. Do not give any more stimulants than necessary. If the heart does not respond to digitalis, use strychnin and epinephrin. Camphor should be used if there is restlessness or delirium. Be sure and keep the bowels open. For pain or cough, give morphin or codein, subcutaneously, but do not give cough mixtures. I have no confidence in venesection, or in the use of antipneumococcic serum or mixed vaccines. Sufficient ventilation and absolute quiet are absolutely necessary.

DISCUSSION

DR. DANIELS, Savannah: My experience has been that the best indication in the treatment of pneumonia is the blood-pressure. So long as this is 1 per cent. in millimeters, of the heart-beats per minute, the patient is doing well. The best stimulant of all is cold air. When the abdomen begins to get tympanitic and the patient has distressed breathing and bad heart-action, washing out the stomach with sodium bicarbonate solution will often give relief and tide the patient over a critical period.

DR. CLAUDE A. SMITH, Atlanta: My experience has led me to the conclusion that the old-fashioned fly-blister is the best counterirritant we can use. In the congestive stages, when there is a high-bounding pulse, there is nothing better than veratrum. Watch it closely, however, and when the pulse is reduced to about normal, withdraw it.

DR. MALCOLM L. CURRIE, Vidalia: The first thing needed in pneumonia is to stimulate the liver and open the bowels. For the nervous excitement, etc., I give a prescription containing small doses of tartar emetic and morphin, small doses of tincture of aconite and gelsemium, and ammonium carbo-

nate and chlorid, with syrup of wild cherry. I am not satisfied to treat a patient with pneumonia and not use blistering.

Dr. W. B. Hardman, Commerce: A blister seldom does much good in lobar pneumonia; in fact, I think that we are deceived concerning the good we do with our remedies. Most young patients—children and young adults—will recover if you do very little for them. Give plenty of rest, plenty of fresh air and keep them quiet.

Dr. L. C. Fisher, Atlanta: The one thing that has impressed me most in the treatment of ether pneumonia has been fresh air, together with care of the blood-pressure. When I have surgical pneumonia patients I put them on the roof-garden.

Dr. L. C. Allen, Hoschton: I do not approve of opium in pneumonia, as it locks up the secretions and causes nausea, producing paresis of the bowels. Besides, opium is decidedly a respiratory depressant; and in pneumonia we already have labored breathing.

Dr. H. H. McGee, Savannah: The best remedies, outside of food, are hot and cold water and fresh air. The intestinal tract should be kept open. I wish to protest against the use of depressants in pneumonia. The heart is burdened enough and it needs supportive treatment and not depression.

Dr. Stewart R. Roberts, Augusta: Gibson, in Edinburgh, said that as the patient gets worse, the blood-pressure becomes lower and the pulse-rate rises. In a young person of 20 years, with a strong, massive frame, I can conceive that a little aconite would help the patient, but only for a day or two. A little venesection might also help. To say, however, that in every case of pneumonia one should give aconite or resort to bleeding is not wise. If I had to choose between medicine and fresh air in a case of pneumonia, I would throw the medicine away and give the fresh air.

### Pasteur Treatment of Rabies

Dr. C. D. Greer, Atlanta: I have treated 1,107 cases, having personally administered at the laboratory the full course of treatment to about a third of the human patients, which necessitated giving over 7,500 hypodermic injections. Among these, only one abscess was produced. Out of these cases there have been only three deaths. In each instance the disease developed between the fourteenth and the seventeenth days of the treatment. The patients had severe face injuries, which are the most dangerous and those from which practically all the deaths result.

#### DISCUSSION

Dr. T. Byron King, Sandersville: If a wound is treated properly immediately after infection, is it absolutely necessary for the Pasteur treatment to be given?

Dr. J. G. Dean, Dawson: We have treated twelve cases of hydrophobia with serum obtained from the state fresh every day; but there is an impression prevailing among the people that the heads of the dogs suspected of having the disease have not been carefully examined by the State Laboratory, possibly because every dog whose head was sent there has been pronounced as having had hydrophobia.

Dr. Virgil O. Harvard, Arabi: Last year a dog in our town bit three or four other dogs before it ended its career. I sent its head to the State Laboratory and the next day received a telegram that Negri bodies had been found. I prevailed on the people to shut up the dogs that had been bitten by the first one. This was done and all remained well.

Dr. M. J. Johnson, Waycross: If after a child is bitten the question arises as to whether or not the dog is rabid, the dog should be properly caged and watched for ten days. If it finally becomes necessary to treat the patient we have still a sufficiently long time, as I understand it, in which to do so.

Dr. Claude A. Smith, Atlanta: I was associated for two years with the giving of the Pasteur treatment, and our patients came from all over the South, especially from Louisiana. At that time the Negri bodies were not known. I advocate having this treatment provided free in every state. In the attempt to answer the question, When does a dog have rabies? I inoculated dogs, cats and other animals with the material obtained from known cases of the disease; and I was impressed with the fact that no one could tell this by merely looking at the animal. Although all those inoculated developed the symptoms on the fourteenth day, one would often have to nag and worry the animals before they would attempt to bite. Dogs often have hydrophobia when the fact is not suspected, as they do not bite any one.

Dr. H. F. Harris, Atlanta: I am not the one to make the examinations personally in the State Laboratory, but my instructions have been—particularly in connection with the matter of rabies—that the examinations be made always in the most careful manner and as soon as possible. Our ability to determine the presence of rabies by the existence of Negri bodies or by any other means is limited. While it is believed to be the case that when the Negri bodies are found in the nerve-cells, rabies exists, instances are found in which these bodies are not obtained on examination, yet in which, if we take the brain substance and inoculate it into animals, these animals develop the disease. Therefore the presence of Negri bodies does not afford a final and definite diagnosis. There are but few things in medicine that are absolutely fast and fixed. A dog is not necessarily healthy because a person says that it is playful, and beyond a doubt the examination for Negri bodies, when positive, is of more value than the opinion of any person. As hydrophobia is a disease from which probably no one has ever recovered, it would be atrocious to examine the head of a dog and say that the animal was all right, and then have the unfortunate victim later develop the disease; therefore it is necessary for us, even in doubtful cases, to say that the diagnosis is positive. There is no harm done by this preventive treatment, and there is always the possibility of the saving of a life by its means.

### Chronic Nephritis: Dietetics and Treatment

Dr. R. F. Wheat, Amsterdam: All cases of nephritis are due to the production or accumulation of an abnormal substance that acts like an acid. Medication should be employed as needed. Confine the patient to bed in a recumbent position till the symptoms of edema and circulatory disturbances have disappeared. All measures should be avoided which cause marked fluctuations in the blood-pressure. I mention an absolutely milk diet only to condemn it in all cases in which the uremic symptoms are alarming. A salt-free diet causes the edema to decrease rapidly. Patients should not take over 35 ounces of fluids daily, if there is a tendency to dropsy. If the dropsy is very great, aspirate the fluid off from the peritoneal cavity.

### Rest in Nephritis

Dr. H. F. Harris, Atlanta: In complete rest, we require only half the nourishment we need when engaged in active exercise. The kidneys are probably rested to a corresponding degree with the amelioration of any irritation existing within them. In a number of cases, I have had very good results from treatment by means of long-continued rest. In the beginning an absolute milk diet is always advised; but later, six or eight raw eggs, without salt, may be given. This treatment usually lasts eighteen months. Patients may have all the water they wish. Drugs have but little place in this treatment which, if persisted in, will finally make the patients, to all intents and purposes, well.

#### DISCUSSION

Dr. W. R. Houston, Augusta: It is unwise to put more work on the kidneys than they can do; but, of course, if it can be shown that a milk diet is preferable, I am in favor of it. Musser of Philadelphia advised eighteen months in bed.

Dr. C. L. Williams, Columbus: During the past year I have had four or five cases of Bright's disease. The first patient was 65 years old. I put him on the rest cure and a liquid diet and gave him strontium lactate. After doses of from 45 to 60 grains of this drug for two or three days, he had no albumin in the urine and got up and went about. He

was greatly improved for several months by this treatment, but through carelessness in his diet, he developed uremia and died. I used strontium lactate in all these cases with good results.

DR. R. H. STOVALL, Macon: I wish to call attention to the need of care in the use of mercury in these kidney cases.

### The Criminal Insane

DR. E. M. GREEN, Milledgeville: A hospital for the insane should not be burdened with a number of criminals. Of forty-six criminal persons who were admitted to the state sanatorium since January, 1910, seven were not insane. The study of these cases suggests the possibility of predicating the class of crime which sufferers from certain psychoses are liable to commit.

DISCUSSION

DR. E. BATES BLOCK, Atlanta: The theory of insanity is too often used to obtain the release of some person accused of crime. It is a mistaken idea that the criminal insane should not be punished. People who are so insane that they want to kill others ought to be put in a place where they cannot do so, and yet not into ordinary asylums. We should have in every state a criminal insane asylum where the criminal insane would have to serve out their sentence the same as they would in a penitentiary, if they were not insane.

DR. J. W. MOBLEY, Milledgeville: The confinement of the criminal insane in hospitals for the insane, when no other provision is made for them, is wrong. They are a discordant element. We cannot control them as we do the other insane persons. Ninety per cent. of the criminal insane really know that they have committed a crime and are more or less amenable in the sight of the law. Then there are those who come to the asylum to pass over a period of time until the feeling against them in the community dies out. These are often not insane but have put in a plea of insanity to escape the punishment of some crime by the law. While nearly all criminals are defective, we cannot accept that as a reason for sending them to the state sanatorium.

### Treatment of Typhoid Hemorrhage

DR. THOMAS D. COLEMAN, Augusta: In typhoid hemorrhage a hypodermic of morphin is usually indicated. Attention should be directed to quieting peristalsis by withholding food and administering drugs which, in passing down the intestinal tract, tend to keep down fermentation and constrict bleeding vessels. After the danger of recurrence is passed, the ordinary typhoid diet may be resumed. I have used various preparations of the adrenals with satisfactory effect in constricting the blood-vessels. I have not been so successful with the use of gelatin and calcium chlorid alone in increasing the coagulability of the blood.

DISCUSSION

DR. L. C. ALLEN, Hoschton: In a number of cases I have had excellent results from the use of calcium chlorid in 10-grain doses every three hours.

DR. CLAUDE A. SMITH, Atlanta: Nothing has served me so well in the treatment of typhoid hemorrhage as the use of hypodermic injections of morphin and morphoid tincture of iodin, combined with ergot. It is of the utmost importance that we obviate every condition that has a tendency to irritate the bowels.

### Bacterial Vaccines in Acute and Chronic Affections

DR. LEWIS M. GAINS, Augusta: Judging from the experience which I have had with bacterial vaccines, I believe that the physician who does not use them in acute and chronic affections is not doing justice to either the patient or himself. Acute infections respond more readily to vaccines than do chronic, and surface infections than those in which the infecting agent has penetrated into the depths of the tissue. I have treated successfully with stock vaccines cases of erysipelas, common colds, typhoid and scarlet fever. I have had no trouble in regard to reactions following the administration of the vaccines. It is my firm belief that in vaccine therapy we have one of the strongest weapons against acute and chronic infections.

DISCUSSION

DR. C. W. GOULD, Atlanta: With regard to the use of streptococcus vaccines in erysipelas, I think that you could get even better results with the streptococcus serum. I know of at least two cases of erysipelas in which the patients did not recover after treatment with streptococcus vaccines, but who were cured by the streptococcus serum. I have given typhoid vaccines as a prophylactic measure for a fever of 102 F.

DR. E. G. BALLENGER, Atlanta: The polyvalent vaccine is of prime importance in gonorrheal conditions. The troublesome feature of gonorrhea is secondary infection. If we give the mixed vaccines during the acute condition, we are less likely to have troublesome mild chronic infection later.

---

## AMERICAN GYNECOLOGICAL SOCIETY

*Thirty-Eighth Annual Meeting, held at Washington, D. C., May 6-8, 1913*

The President, DR. HENRY C. COE, New York, in the Chair

### Officers Elected

The following officers were elected for the ensuing year: president, Dr. J. Whitridge Williams, Baltimore; vice-presidents, Dr. Thomas J. Watkins, Chicago, and Dr. Howard C. Taylor, New York; secretary, Dr. Leroy Broun, New York (reelected); treasurer, Dr. J. Wesley Bovee, Washington, D. C. Boston was selected as the place of the next annual meeting, in 1914.

### Uterine Inertia; Its Treatment

DR. GEORGE TUCKER HARRISON, Charlottesville, Va.: When the uterine muscle shows feebleness in the beginning of labor and during dilatation, this condition of atony is called primary uterine inertia. The cause may be either anatomic changes in the uterine muscle or disturbed innervation. Secondary inertia is a condition of exhaustion which comes on during the period of expulsion from various causes. Before rupture of the membranes in primary inertia there is no indication for active intervention. After rupture, if there is danger to life of the child from the discharge of liquor amnii, or the mother's life is imperiled from danger of septic infection, dilatation should be brought about by the metreurynter (rubber bag), and version followed by extraction. In secondary inertia, a too-protracted labor is dangerous to the mother and child, and active intervention is indicated; if the head is well down in the pelvis and resting on the perineum, application of the forceps is indicated. It has recently been proposed to perform cesarean section in certain cases of uterine inertia, especially in the interests of the mother. The obstetric resources at our command are amply adequate, and there is no indication for such operative procedure in inertia *per se*. In primary inertia, a combination of morphin, atropin and strychnin often has an excellent effect when given hypodermically. After dilatation pituitary extract has found favor with some obstetricians. The exact field of application awaits further investigation.

### Pituitary Extract in Uterine Inertia

DR. J. CLIFTON EDGAR, New York: I wish to report seventy cases, hospital and private. They include, in the first and second stages of labor, thirty-nine cases; immediately after the third stage, nineteen cases; in cesarean section, six cases, and for the induction of abortion, six cases. Ampules or vaporoles of the drug should alone be employed, as in my experience, constant results failed when the pituitary extract in bulk solution was used. For decided action, 0.4 gm. of the drug is usually called for, although in ordinary cases, with little obstruction, half that dose is sufficient. The effect lasts thirty minutes, and repetition of the dose is often called for. Intramuscular injection is usually satisfactory; causing no local reaction or pain. Further, no toxic symptoms were observed from the use of the drug even in maximum doses. Pituitary extract may be combined with ergot when the action of the

former fails, and with heart stimulants in shock cases, without compromising the actions of these drugs. Pituitary extract has no place in normal labor, the administration should be confined to instances of primary and secondary inertia, to post-partum hemorrhage and cesarean section, in the last as a substitute for ergot.

The drug produces strong intermittent uterine contractions, often prolonged for several minutes. We have never observed true continuous tetanic uterine contractions (tetanus uteri). Although theoretically the uterine contractions are intermittent, practically in the face of resistance, the contractions approach to the continuous in character and clinically must be so reckoned with. Full and even small doses of the drug in the first stage of labor have caused fatal compression of the fetus, premature separation of the placenta, and deep rupture of the cervix. In the first stage or when some obstruction exists in the second stage, I give small tentative doses of pituitary extract, not with complete delivery by means of the drug in view, but to bring the head within easy reach of a simple forceps operation. Seven of my thirty-nine patients were thus treated. Pituitary extract acted promptly and efficiently in most of my thirty-nine cases of inertia in the second and first stages. Its action was more positive in multiparas than in primiparas; it acted better at full term than in premature cases; also better in the second than first stage of labor, and when administered shortly after the spontaneous artificial rupture of the membranes.

In the eighteen cases in which the drug was used immediately after the third stage for post-partum hemorrhage due to inertia, the results were disappointing—so much so that I consider its action here most unreliable and not so positive as the ergot preparations.

In the eighteen post-partum cases there was no effect from the drug in two cases, it was necessary to use ergot in two instances, hot acetic acid douche in two more, and to pack the uterus in seven cases; only in the remaining six cases was good uterine contraction observed. In cesarean section no advantage was observed in pituitary extract over ergot, aside from the observation that the former acted more promptly and hence need not be administered so early in the operation. In induction of labor the drug failed to initiate contractions, but apparently initiated them after the use of gauze, the bougie or hydrostatic bag for inducing labor. I believe that the drug strengthened already existing contractions not yet apparent to patient or physician. For primary inertia in abortion cases, the results with the drug were disappointing. For atony of the bowel and bladder and as a galactagogue the results were negative. The dangers to mother and child in the indiscriminate administration of this drug for primary or secondary inertia of the first or second stages of labor must be reckoned with. Only a few of the thirty-nine cases of inertia were in the first stage of labor, and these are earlier cases. The remainder were of the second stage, or border-line cases just merging into the second stage.

I consider the use of the drug in the first stage a dangerous practice, liable to cause death or deep asphyxia of the fetus, separation of the placenta, uncalled-for laceration of the cervix and possible uterine rupture.

In the thirty-nine cases of inertia in the first and second stages, two and probably four stillbirths were due to the use of pituitary extract before full dilatation, and three instances of deep laceration of the cervix requiring suture to control the bleeding. I look on the use of pituitary extract before full dilatation or dilatability of the cervix as equivalent to the use of ergot at this time. In fact, it is probably more harmful than ergot, by reason of the more powerful contractions produced, and the uncertainty of its action. I have repeatedly observed prolonged tempestuous contractions, when the drug was given in the face of too much resistance, closely simulating tetanic contractions of the uterus (tetanus uteri). The action of the drug is most uncertain. One can never predict in a given case, either from the amount of the drug administered or from the character of inertia and the obstruction to be overcome, how powerfully the drug will act on the uterus. I have repeatedly observed both in private and in hospital practice 0.2 gm. of pituitary extract, half the usual dose commonly employed, produce such prolonged and powerful uterine contractions that uterine rupture was imminent and anesthesia was required to control the action of the drug on the uterus. In my opinion the drug should never be employed for inertia in any stage of labor, unless anesthesia is at hand for immediate use, and preparations complete for immediate operative delivery if necessary, to avoid uterine rupture. Finally, with due regard to its action and possible dangers, I consider pituitary extract a most valuable addition to our resources for the treatment of primary and secondary inertia.

### Under What Conditions Should Uterine Inertia Be Treated by Artificial Delivery?

Dr. Edwin B. Cragin, New York: Uterine inertia is of greater importance in the second stage of labor, especially if the membranes are ruptured and the pressure of the uterus comes directly on the child, than in the first stage, yet in several cesarean sections performed during a prolonged first case the presence of meconium in the liquor amnii and the marked slowing of the fetal heart prior to the operation have convinced me of danger to the fetus from uterine inertia even during the first stage of labor. Uterine inertia associated with fetal heart-sounds indicating danger to fetal life is one of the first types of inertia indicating artificial delivery. My plea is for studied, skilled, artificial assistance in the delivery before the mother and child are exposed to these dangers.

There is one condition not usually classed as uterine inertia to which I wish to call attention. It is the long delay which sometimes intervenes between the rupture of the membranes and the uterine contractions of the first stage of labor. Patients sometimes present themselves at the hospital with a history that the membranes ruptured three, four or even five days before labor began. An unfortunate experience several years ago in which the fetal heart ceased before the labor was completed, and a study of the temperature charts of a number of these cases, convinced me that in many particulars they resemble cases of uterine inertia during actual labor; that there is fetal danger from interference with fetal circulation from prolonged pressure and that maternal morbidity is common from sapremia if not from bacteriemia. For these reasons I have made it a rule in recent years both at the Sloane Hospital and in my private practice to introduce an elastic bag into the cervix if uterine contractions have not started at the end of twenty-four hours from the time of the rupture of the membranes. The elastic bag, as a rule, not only brings on uterine contractions, but lessens the further escape of the liquor amnii and the results, both fetal and maternal, have seemed to justify the procedure.

#### DISCUSSION

Dr. Edward P. Davis, Philadelphia: From the accumulated experience of the profession, it seems that pituitary extract comes into practical competition with strychnin, opium and ergot, and Dr. Edgar has given us a valuable hint as to the danger of the extract. We all recognize the fact that in many cases opium to the point of lessening nervous excitability and securing rest is of the greatest value in bringing about the development of the physiology of labor, and we are all aware of the frequent experience of the unexpected and rapid delivery of a multipara to whom we have given opium to secure rest, and how frequently the woman surprises herself and us most of all when we are caught napping; but certain it is that opium in the general experience of the profession is the one sedative which is a stimulant to the ganglion which controls the action of the uterus. It seems to me that the difference between strychnin and pituitary extract is that strychnin given in moderate doses is a physiologic stimulus to the ganglion supporting and maintaining uterine action, while pituitary extract is a matter of more brief and more stormy result, and hence is much more uncertain. I have not felt that I could substitute it for strychnin as a physiologic stimulant or aid in labor. The use of ergot should be carried out with great caution, and I still adhere to the belief that ergot should be given on the emptied uterus only, and that in cesarean section one may with advantage often lay aside ergot entirely. As an inducer and promoter of labor in connection with strychnin or pituitary extract, the dilating bag is of advantage over the

bougie in that it decidedly stimulates the mucous secretion of the cervix and is less apt to alter the mechanism of labor.

DR. JOHN O. POLAK, Brooklyn: No discussion of pituitary extract should go out without sounding a word of warning. I have had within the last three weeks a case of rupture of the uterus from its use. I have also seen within a month a woman who was thrown into such violent uterine contractions that anesthesia and morphin had to be used to control the spasm of the uterus; consequently from my experience, which is comparatively limited, only seventy-six cases, I have come to the conclusion that pituitary extract has little or no place in the first stage of labor, and that it is dangerous unless there is absolute knowledge of the nature of the pelvis, particularly in outlet, and in border-line contractions. Furthermore, in order to secure the best results from pituitary extract we should have a dilated or at least a dilatable cervix. It has no value in establishing uterine contraction—in emptying the uterus in cases of incomplete abortion. Another observation which I have made is that when it is used in the third stage of labor, secondary relaxation has been obtained in a sufficient number of cases to warn us that when used in the third stage it should be combined with ergot.

DR. HENRY T. BYFORD, Chicago: There is a mild form of inertia which in primiparas means a great deal, perhaps, in some cases, owing to general exhaustion from muscular exercise of the prolonged first stage, or want of rest and exhaustion of the nervous system. I have seen many cases in which there was inertia of the cervix. The patient has an irritable condition of the parts and will have if the first stage of labor is unusual in its length. At one time, when investigating the function of the membranes in labor with a view to preserving them, I was in the habit of giving opium frequently: in these cases the administration of opium will give rest, particularly as it acts in contrast to the advice so often given to women to go about and try to stimulate labor.

DR. WILLIAM E. STUDDIFORD, New York: My experience has been much the same as that of Dr. Edgar. The pituitary extract is so uncertain in its action in the first stage of labor and so apt to cause bad results in the cervix that the cervix should either be dilated fully or dilatable, which is, indeed, often the case; but when there is a positive diagnosis of no obstruction to rapid delivery, delivery can be brought about promptly. Therefore the question of diagnosis is important in the management of these cases as well as in the indications for treatment. An accurate diagnosis should be made before any line of treatment is followed out.

DR. J. CLARENCE WEBSTER, Chicago: In cases of uterine inertia associated with rigid or elongated cervix or hypertrophy of the cervix, the important measure of treatment is vaginal cesarean section, not abdominal cesarean section, unless there should be contraction of the pelvic outlet. My experience in use of pituitary extract harmonizes with that of Dr. Edgar, although I have not used it in so many cases as he has.

### The Infant Pulmotor: Its Use in Asphyxia Neonatorum

DR. HENRY D. FRY, Washington, D. C.: The introduction of the infant pulmotor into obstetric practice is so recent that I have not been able collect any statistics of the value of the apparatus. Certainly, it is vastly superior for resuscitation to the ordinary methods of artificial respiration. We have had no opportunity to test it in a serious form of asphyxia, the so-called asphyxia pallida, but in the livid form it has acted promptly and resuscitated the infant in about five minutes. Efforts to resuscitate the infant should not be abandoned as long as there is any heart action.

DISCUSSION

DR. J. C. EDGAR, New York: I believe that I had the first infant Draeger pulmotor that came to this country. At first I looked on the machine with more or less skepticism, thinking that it was more of a plaything than anything else; but after using it for some time I found that there was some value in it. The inspiratory force should not be run up to 25. I think that 10 or 12 cm. of force is sufficiently high. Although I have made no necropsies to prove it, I believe that there is some likelihood of rupture of vessels when we run the inspiratory force up to more than 10 or 12 cm.

DR. JOHN O. POLAK, Brooklyn: Can the pulmotor be attached to the ordinary oxygen tank in case of emergency?

DR. FRY: We have an extra attachment so that it can be put on an ordinary oxygen tank.

### Factors in the Formation of Skin Striations During Pregnancy

DR. FREDERICK J. TAUSSIG, St. Louis: Only thirteen out of sixty primiparas were free of skin striations. These occur most frequently at several points, and usually make their first appearance about the sixth or seventh month of gestation. In girls under 20 years of age, they are decidedly more pronounced and more frequently found than in older women. Obesity, particularly rapid increase in weight during pregnancy, predisposes to the formation of striae, especially those about the breast and thighs. Lack of abdominal support during pregnancy, as in those who wear no corsets, favors the formation of abdominal striae. On the other hand, the tense and inelastic skin in which such striae are found is to some extent a factor in subsequent abdominal relaxation. At any rate, abdominal muscular relaxation and abdominal skin striation go hand in hand. Perineal tears have apparently no relationship to skin striation. Finally, the persistent employment of proper skin massage will, in the great majority of cases, prevent the formation of the slightest skin striations.

### The Menace of Cancer

MR. FREDERICK HOFFMAN, Statistician of the Prudential Insurance Company of America: On the basis of trustworthy official data, it is safe to estimate the annual mortality from cancer in the United States as 75,000 and in the civilized world at half a million. The cancer death-rate in the United States is increasing at the rate of 2.5 per cent. per annum, and a corresponding increase is taking place practically throughout the civilized world. The average age of death of cancer in all forms is 59 years, or 60.4 years for males and 58.2 for females, respectively. Cancer is largely a disease of adult life, and of the total mortality from cancer, 90.7 per cent. were deaths at ages of 40 and over. The male cancer death-rate in the United States, ages 25 and over, has increased 29 per cent. during the last decade, and the female cancer death-rate has increased 23 per cent. On the basis of past experience, the distribution of cancer deaths in the United States during 1913 will be about as follows: cancer of the stomach and liver, 30,105; cancer of the female generative organs, 11,235; cancer of the rectum, intestines and peritoneum, 9,608; cancer of the breast, 6,817; cancer of the mouth, tongue, etc., 2,880; cancer of the skin, 2,670, and cancers of other organs and parts 11,685.

The cancer death-rate of large American cities has increased from 37.2 per hundred thousand of population during the five years ending with 1876, to 80.5 during the five years ending with 1911. The cancer death-rate of the city of New York has increased from 37.5 per hundred thousand of population during the three years ending with 1872, to 81.4 during the five years ending with 1912. The corresponding increase in the cancer death-rate of Philadelphia during the same period has been from 41.3 to 86.3. At ages of 60 and over in Massachusetts, the mortality from cancer of the external organs for males has increased from a rate of 65.1 during the five years ending with 1905, to 92.5 during the five years ending with 1910. The corresponding increase for females aged 60 and over has been from 85.6 to 122.3.

Aside from the observed increase in the mortality from cancer, there has been an increase in the mortality from biliary calculi in the registration area of the United States from 1.5 per hundred thousand of population in 1900, to 3.0 in 1911. All the facts available for the different sections of the country and the principal cities throughout the world sustain the conclusion that the menace of cancer is much more serious at present than it has been in the past. Since, as far as known, the disease is invariably fatal unless the cancer is removed in its entirety in the very early stages of the disease by operative treatment, it is obviously of the utmost importance that the elementary facts concerning cancer should be better known and understood than they are at present.

The only hope for the patient is the early possible recognition of the symptoms of cancer, when operative treatment is a comparatively easy matter, with a practical certainty of

success. Neglect, on the other hand, is absolutely certain to result in death. The cancer problem suggests the intelligent coordination of all possible agencies for the control of what has properly been called a national scourge, and the deliberate reduction of the death-rate of what is stated to be a preventable disease when subjected to early operative treatment. There is, therefore, urgent need for a national society for the study and prevention of cancer, and it is a gratifying fact that such a society is in course of formation.

### Dysmenorrhea Relieved by Nasal Treatment

Dr. Joseph Brettauer, New York: An experience of two and a half years with the nasal treatment of dysmenorrhea shows that in about one-half the number of cases so treated, the final results are favorable. In some cases the benefit is temporary, requiring another course of nasal treatment. In other instances the relief is prompt and permanent after three or four caustic applications to the nasal spots during a menstrual interval. I have treated sixty-six cases.

DISCUSSION

Dr. Emil Mayer, New York: Occasionally a young woman will come to my office with intranasal difficulty. Being interested in the question of painful menstruation, I elicit from some of them that they have suffered a great deal, and by treatment of the nasal conditions I am able to benefit them, so that my own statistics are more favorable than those of Dr. Brettauer, although I must say that he put his patients through a very severe test and did not accept my conclusions until he had seen the patients themselves. As to amenorrhea, I have had several young girls who did not menstruate at all for three or four months, but after applications to the nose, menstruation became established.

Dr. E. C. Dudley, Chicago: Should this cauterization treatment of the nose be used in all cases in which there are neither pelvic nor nasal lesions?

Dr. Henry T. Byford, Chicago: One of the chief objections I have to this method is the indefiniteness in regard to the kind of dysmenorrhea and the condition of the nose. As I understand, there has been no study made of the kind of dysmenorrhea to be helped. There are no lesions of the nose, except during the menstrual period, and they are usually regarded as a result, and not as a cause. When women have pain in the breasts every month, we do not treat the breasts, thinking that we shall cure any disturbance in the pelvis. There are many kinds of dysmenorrhea, one of which has not been described, namely, nervous dysmenorrhea. I am willing to concede that the treatment outlined by Dr. Brettauer will help patients who have this form of dysmenorrhea.

Dr. Robert C. Myles, New York: We find many cases in which the central nervous system seems to be in a state of aggravation or irritation as a result of serious local irritation in the nose, with phenomena occurring in other parts of the body; and when the irritation in the nose is relieved the other symptoms or phenomena disappear.

Dr. W. Gill Wylie, New York: After a long study of this subject I have come to the conclusion that in many of these cases the underlying cause is imperfect development of the lining membrane of the uterus. A peculiar case came under my observation not long ago. A mother brought her child to me. I asked her what the trouble was. She said that about the time of menstruation, or when it was approaching, her daughter could not appear in company, especially if there were gentlemen about, because suddenly her lips became so large and her face so red that she felt very uncomfortable and uneasy. On examination I found little or no abnormal changes in the vulva, except that the girl was not fully developed. I did not detect any gross disease, but I noticed that the secretions about the vulva became very profuse. I find that in women in whom a neurotic feeling develops or arises when the cervix uteri or the condition of the uterus is being examined, marked changes in the erectile tissue will be found.

Dr. Brettauer: In answer to Dr. Dudley's question, I should say by all means treat the nose in the absence of any pathologic condition in the nose and in the pelvis. I would do so as an experiment, as it can do no harm.

### The Conduct of Gynecologic and Obstetric Operations in the Presence of Acute Chronic Endocarditis

Dr. John Osborn Polak, Brooklyn: Pelvic conditions necessitating operation may be done after proper cardiac preparation. The cardiac symptoms, blood-pressure and the functional activity of the liver and kidneys are the only indexes of the time to operate. These patients should always be seen and treated in conjunction with a competent internist. The operation should be rapid, bloodless, and done under combined local and general anesthesia, morphin, novocain, ether and oxygen. The Trendelenburg posture should be used only until such time as the field may be isolated properly, when the patient may gently be lowered out of it. Phlebotomy should be done promptly on signs of right heart engorgement. Post-operative distention must be avoided. Morphin is the mainstay in therapeutics.

### Influence of Ectopic Pregnancy on the Blood-Supply of the Uterus

Dr. John A. Sampson, Albany, N. Y.: As a result of ectopic pregnancy the uterus is enlarged, as a result mainly of hyperemia and a thickening of the endometrium. The changes in the latter are similar to those found in the decidua vera of early uterine pregnancy, and apparently are due to its arterial invasion from the terminal branches of the radial artery. The venous spaces of the endometrium are dilated, and this dilatation is most marked in the superficial portion of the compact layer and at its junction with the spongy layer. The termination of the pregnancy is followed by involution of the uterus. The first step in the involution of the endometrium is seen in the greater dilatation of the venous spaces, probably on account of regressive changes in the stroma, and apparently dependent on a diminished supply of arterial blood. The arteries are less evident during involution of the uterus. The dilatation of the venous spaces is followed by the escape of venous blood in the tissues of the endometrium. If the superficial venous spaces of the compact layer give way, the blood will escape into the uterine cavity without the formation of a decidual cast. On the other hand, if the venous spaces at the junction of the compact and spongy layer give way, the extravasation of blood will occur mainly between these two layers, and the compact layer will be expelled as a decidual cast. In time the regressive changes cease and are followed by a reparative process which is apparently dependent on the restoration of the arterial supply of the endometrium. The involution following the termination of tubal pregnancy is very similar to that following uterine pregnancy, differing only in degree.

The uterine bleeding is of venous origin from the venous plexus of the endometrium due to regressive changes in the latter, apparently dependent on a diminished arterial supply. Muscular insufficiency may also contribute to this. The bleeding continues as long as the pregnancy (products of conception) interferes with the process of involution. It is probably analogous to the bleeding in subinvolution of the uterus due to an incomplete uterine abortion.

DISCUSSION

Dr. Hiram Vineberg, New York: I should like to ask Dr. Sampson how he would explain those cases of uterine hemorrhage, so far as symptoms go, that have occurred probably before the termination of pregnancy? The first symptom may be uterine hemorrhage. Perhaps a day or two later the woman may have an abdominal cramp showing that tubal gestation has taken place.

Dr. Sampson: In eleven cases of the series the uterus was retained when the opposite tube was examined, because the woman wished to have children. In every case I talked over the possibility of children before operating. I have followed the after-history in these eleven cases; five of the patients have not become pregnant although in two of them only a few months had elapsed since the operation. Two have borne children, two children in one case and one in the other; the patient who had one child subsequently had tubal pregnancy in the opposite side. Three have had miscarriages, although they asserted that they desired to have children. One had three miscarriages and the other two had one each. Another,

the sixth one, had tubal pregnancy in the opposite side, making two cases of repeated tubal pregnancy in the eleven cases in which at the time of operation the tube, which was the seat of a second ectopic gestation, was apparently normal, and was retained with the hope that the women would have a child subsequently. I have encountered two other cases of repeated ectopic pregnancy in which the first operation was done by another operator, so that I did not know the condition of the tube at that time. I am perfectly willing to preserve the tube and the possibility of future conception in every patient who desires to have children. On the other hand, if we find that the opposite tube is diseased, and especially if these women are fairly well advanced in years, that is, from 35 to 40, and have had their share of children, I think that we should in every way make these patients just as well as we possibly can for the rest of their lives, and save them all future trouble. I can see little use in leaving behind a uterus which may have been the seat of inflammatory trouble or adhesions about it as the result of operation if it is only going to cause trouble.

In regard to bleeding without pain, all but one of these patients gave a history of uterine bleeding at some time during the illness. In one case the bleeding preceded the pain for three or four weeks, and I cannot account for it unless it indicated that the termination of pregnancy had begun, and the bleeding between the gestation sac and the wall of the tube was not sufficient to give rise to any serious symptoms. In nearly every instance one ovary was preserved.

### The Relation Between the Blood-Pressure and the Prognosis in Abdominal Operations

DR. GEORGE W. CRILE, Cleveland: The relation between the blood-pressure and the prognosis in abdominal operation is based on two extremes, namely, an extremely low blood-pressure and an extremely high blood-pressure. Provided the heart is normal, we can now control the low-pressure phase by transfusion of blood, by mechanical means or by saline infusion. The high blood-pressure is far more difficult to control because it is difficult to control the factors that produce this condition. If there is cardiovascular disease due to infection or to lues, nitroglycerin may exert little control, although there is a type of cardiovascular disease that is controlled by nitroglycerin. It is not wise to reduce the blood-pressure by bleeding, and aside from nitroglycerin and hygienic measures, there are no other remedies. Therefore, as a matter of fact, the high blood-pressure is likely to be a more dangerous factor than is low blood-pressure. Whether the blood-pressure be abnormally high or abnormally low the patient is more apt to have complications such as thrombosis, emboli, pneumonia, nephritis and bronchitis; indeed, the abnormal pressure plays into the hands of the usual dangers and complications of abdominal operations. If operation be so performed that the nervous system will remain uninjured and the blood-pressure unaltered, then the maximum degree of safety would be reached. This I have found can be done on the principle of anoci-association.

### Studies in Blood-Pressure Before, During and After Operations Under Local and General Anesthesia

DR. JOSEPH C. BLOODGOOD, Baltimore: Even to-day, with better anesthesia and technic, we have a mortality, not from appendectomy or other simple operations, but from the graver operations such as resection of the stomach or colon and the more extensive operations for cancer or myoma of the uterus. At necropsy no infection of the wound, no break in the technic of the intestinal suture and no hemorrhage from the pelvic operation will be found, but still the patient dies. These patients die, as a rule, within forty-eight hours or three days with a gradual lowering of blood-pressure, a gradually increasing pulse and little or no fever, or they die of complications which in the healthy person are not serious. Patients die from anuria or complications of the kidney, heart and stomach, such as dilatation. This mortality has no relation to infection or faults in technic in the sense of hemorrhages, faulty suture of intestine leading to peritonitis, or incorrectness which will produce intestinal obstruction, but in the sense of death and shock or death from complications that are due to the shock of the operation. These complications are chiefly dilatation of the heart or stomach, and faulty kidney function.

In the last four or five years I have attempted to follow Dr. Crile's technic, and the most practical thing I can say to you is to do likewise in every case. My experience of three years shows that to develop the technic of anesthesia and operation and to give patients who are handicapped with an extraordinary operation the best opportunities for recovery, you must practice this newer technic in every case until you have it fully developed.

### The Conduct of Gynecologic Operations and of Pregnancy and Labor in Acute and Chronic Affections of the Heart

DR. J. CLARENCE WEBSTER, Chicago: Operations should be avoided in active or recent valvular diseases, dilatation or myocardial degeneration, except in conditions of extreme emergency. General anesthesia may greatly increase the risk by causing coughing, straining, vomiting and respiratory embarrassment. Slow administration with free admission of air or oxygen is necessary. Local anesthesia is of importance in these cases. In slight or well-compensated affections, regular methods of anesthesia should be employed. Women with heart disease should not become pregnant. If pregnancy occurs it is on the side of safety to advise early abortion, especially if there be recent acute disease of any variety, old or mitral disease or old lesion with failure in compensation. If the condition of a patient in labor is good, all strain and excitement should be avoided during the first stage, as in normal cases. It is advisable to avoid straining in the second stage by artificial delivery, forceps or turning under anesthesia. In the third stage it is best to separate the placenta manually, allowing some loss of blood. A woman at term with failure in compensation or embarrassed circulation probably has the best chance if delivered by vaginal or abdominal cesarean section.

### Treatment of Puerperal Thrombophlebitis

DR. PALMER FINDLEY, Omaha: The Trendelenburg operation is surgically correct in theory, but as a practical proposition it is a questionable procedure. The difficulties involved in the making of an accurate diagnosis before opening the abdomen are as yet insurmountable; furthermore, it is not possible to judge with accuracy the extent of the infection within the veins or elsewhere after the abdomen is open. We cannot rely on the sense of touch to locate with certainty the limits of a thrombus, nor can we judge with certainty the presence or absence of pus within the veins. Failure to find bacteria in the general circulation gives no absolute assurance of the localized character of the infection, nor can a physical examination of the lungs and other viscera exclude the possible presence of metastatic foci. It is in direct violence to our rules of practice to traumatize tissues in the immediate neighborhood of a virulent infection. In reviewing the reports of cases I have been seriously impressed with the boldness with which some operators violate this time-honored principle of surgery. If the infected veins are not dissected out have we not locked the thief in the stable when we do no more than ligate above the zone of the infection, and if we do dissect out the infected veins do we not incur serious hazards in the way of disseminating the infection? Furthermore, the risk of dislodging a thrombus in exploring the pelvic veins must be reckoned with. It is a physical impossibility to ligate all the veins leading from the genital organs, and unless all channels are blocked there can be no assurance of checkmating the infection. Among the ardent supporters of the operation are those who would ligate the lower end of the vena cava and both spermatic veins, maintaining that the collateral circulation can be depended on to reestablish the return circulation. Is this not an argument in favor of the contention that the venous channels leading from the infected uterus cannot be wholly controlled by ligatures? The physical resistance in all cases of puerperal infection is far below par, a fact which makes us cautious in adding further to the burdens of these patients. We may well rob them of the small amount of resistance which they possess. Little dependence can be placed on serums and vaccines in these cases. Whatever may be our views on the question of ligation of veins or on the administration of serums and vaccines, we are all agreed that the body resistance must be supported by fresh air and nourishing food.

### What Are the Best Methods of Educating American Women Concerning Cancer?

DR. FREDERICK J. TAUSSIG, St. Louis: It is almost impossible to have printed in a lay periodical intended for general distribution any article on so distasteful a subject as cancer of the uterus. The only way it can be done is to incorporate it in special paragraphs in a general article on cancer, referring to uterine cancer in such words as not to give offense. In spite of the wide circulation thus obtained through some of our women's magazines, I do not specially favor this method as its lack of directness tends to diminish its effectiveness. I would suggest an occasional article in the journals of nursing, besides the distribution of special leaflets giving concise information as to early symptoms. It is best for the doctor, the nurse or social workers to give the leaflets in person to the laity. Leaflets that supply the necessary information are more apt to be read if presented personally than they are if sent by mail. In my opinion, much can also be accomplished in the distribution of literature and pamphlets through the agency of women's clubs. There is a directness in knowledge acquired by word of mouth that ordinarily makes it better retained. Hence I believe that much can be accomplished by lectures and personal conversation that mere printed matter fails to bring about. The lectures may be given either directly to the laity, before women's clubs or social settlement organizations, or they may be given before groups of persons who would most frequently be called on for advice, such as nurses, midwives, teachers, social workers, ministers or druggists. I would recommend that special stress be laid on the early symptoms of breast and uterine cancer in the curriculum of all nurses' training-schools and all colleges of midwifery.

### Report of the Committee on Cancer

This committee, consisting of Drs. Howard C. Taylor, Frederick J. Taussig and Leroy Broun, reported that to accomplish these ends they are convinced that little can be done of lasting value excepting through an organized body, the sole purpose of which would be to conduct the needed campaign of education, of scientific assistance and the collection of data. They further believe that such a society should be of national scope, embracing all interested societies and organizations together with lay people throughout America. The work of this society should be carried on by a competent paid executive secretary and his office corps under the guidance of a central committee of surgeons to be appointed by its board of directors. The need of such an organization and the possible good to be accomplished through its labors was presented to certain public-spirited women of New York. Through their efforts and the hearty cooperation of the members of the American Gynecological Society, together with prominent surgeons and lay people, a meeting was held in New York. At this meeting the present needs and status of the cancer problem was presented in full before them.

At a later meeting of a committee on organization consisting of laymen appointed by this body, the sum of $5,000 was guaranteed toward the expense of such a society for the first year. The committee was authorized not only to make a statement to the American Gynecological Society of this guarantee, but also to present the following resolution:

*Resolved,* That we request the American Gynecological Society to present the matter to each of the branches of the said congress interested in the subject and ask each of such branches to appoint a committee of two or more members to cooperate with us in forming a national organization for educational and publicity work in the recognition and treatment of cancer, and that we meet with such committees as soon as may be after the meeting of the said Congress of Physicians and Surgeons to be held during the week beginning May 4, 1913.

The committee recommended the endorsement and the enthusiastic cooperation of the society in the formation of such a national body. The committee further recommended that the American Gynecological Society appoint committees of two each to present this resolution to such component societies of the congress as they may deem interested in this matter, with a request for their cooperation.

The resolution was adopted and the committee was appointed

# *Current Medical Literature*

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Medical Sciences, Philadelphia

*May, CXLV, No. 5, pp. 625-780*

1 *Nephritic Hypertension: Clinical and Experimental Studies. T. C. Janeway, New York.
2 Circulation in Arm of Man. A. W. Hewlett, Ann Arbor, Mich.
3 *Instance of Premature Beats Arising in Auriculoventricular Bundle of a Young Child. T. Lewis, London, England, and H. W. Allen, San Francisco.
4 Problem of Alien Insane. S. L. Dawes, Albany, N. Y.
5 *Combined Tuberculosis and Carcinoma of Stomach; Report of Case in which Partial Gastrectomy Was Performed. H. H. M. Lyle, New York.
6 Control of Rabies. H. Albert, Iowa City, Iowa.
7 *Metabolism in Pellagra. V. C. Myers and M. S. Fine, New York.
8 Acute Suppurative Lymphadenitis, Abdominal, Due to Diplostreptococcus: Autopsy. O. W. H. Mitchell, Columbia, Mo.
9 Occupational Brass Poisoning: Brass Founder's Ague. E. R. Hayhurst, Chicago.

**1. Nephritic Hypertension.**—The symptom of hypertension in renal disease, Janeway says, can arise in three ways: 1. Hypertension may arise through purely quantitative reduction of kidney substance below the factor of safety. It is difficult to conceive of this as other than a vascular hypertonus due to retained poisons of some kind. Its clinical paradigm is the hypertension accompanying bilateral ureter obstruction or the unfortunate surgical removal of the only functionating kidney. Possibly it is one factor which helps to produce hypertension in the contracted kidney.

2. Hypertension may arise in connection with the unknown intoxication which causes disturbances of the central nervous system and which we call uremia. This intoxication is not one of retention, in a strict sense, though it is most commonly present in those cases of advanced nephritis which manifest marked nitrogen retention. Clinically it is associated with severe acute nephritis, sometimes at its very onset, besides the subacute and chronic inflammatory affections of the kidney.

3. Hypertension may arise in primary irritability of the vasoconstricting mechanism from unknown, probably extrarenal causes, which lead eventually to arteriolar sclerosis. In this type the disease in the kidney is the sequence, not the cause, of the generalized vascular lesion. When it progresses to a condition of extreme atrophy, resulting in the true primary contracted kidney, a renal element may be added to the existing hypertension. In some cases arteriosclerosis of the larger vessels may spread peripherally and produce a similar form of disease. In these primary vascular diseases it is probable that eventual wide-spread narrowing of the arterial stream-bed in some cases produces a permanent organic increase in peripheral resistance.

**3. Premature Auriculoventricular Beats.**—An instance of premature contractions is described by Lewis and Allen occurring in a child aged 4½ years; the point of origin of the beats was probably to be located in the main stem of the auriculoventricular bundle.

**5. Tuberculosis and Carcinoma of Stomach.**—The interesting point in this rare case, beside the association of these two supposedly antagonistic lesions, is the sequence of the lesions. From the clinical and pathologic evidence it seems probable that the original lesion of the stomach was a tuberculous ulcer of the pylorus, secondary to possible old lesion of the right apex. From this tuberculous ulcer a diffuse carcinoma developed. Partial gastrectomy with gastrojejunostomy, according to Billroth's second method was done May 5, 1907. The portion removed included two inches of the duodenum, the pylorus and the stomach to the Hartmann-Mikulicz line, with the corresponding glands. The pathologic report was: diffuse carcinoma of the stomach; tuberculosis of submucosa.

The patient made an uneventful recovery and remained well and continued steadily at work for two years and two months.

He was admitted to the tuberculosis service, with the diagnosis of pulmonary tuberculosis, and developed what was supposed to be an acute intestinal obstruction from adhesions. Under local anesthesia an exploratory laparotomy was performed. On opening the abdomen considerable blood-tinged serum escaped. The intestines were equally distended; no mechanical obstruction was found. The visceral and parietal peritoneum were studded with numerous small tubercles. The condition was paralytic, not mechanical. The distention was relieved by the formation of a left inguinal colostomy. The operation afforded only temporary relief, as the patient died two days later. Necropsy showed pulmonary tuberculosis; miliary tuberculosis of peritoneum and of the intestinal coverings; carcinoma of the stomach; parenchymatous nephritis, and fatty degeneration.

7. **Metabolism in Pellagra.**—The ability of individuals suffering from pellagra to utilize the various foodstuffs as indicated by the authors' series of fifteen experiments appears to be only slightly if at all below the normal. The elimination of mineral and nitrogenous constituents in the urine is such as would be anticipated under the dietary and physical conditions of the individuals. A lowered physiologic efficiency is indicated by the low creatinin coefficients and the elimination of small amounts of creatin in the urine. The presence of a few hyaline casts in about 45 per cent. of the cases points to some possible irritation of the kidney.

Anacidity is a condition common in pellagra, found in eight of their fourteen cases. It is generally associated with an entire absence of pepsin, or with pepsin in only very minute quantities. Individuals suffering from pellagra show a marked indicanuria, which is excessive in the cases with gastric inefficiency. Though the ethereal sulphate hardly parallels the indoxyl-potassium sulphate, the quantities eliminated are much higher where anacidity exists and they furthermore hold a higher ratio to the inorganic sulphates. The feces contain decidedly abnormal amounts of indol and skatol, especially the latter. The presence of excessive amounts of indican in the urine, associated with a high elimination of ethereal sulphates, when considered in connection with the abnormal amounts of indol and skatol in the feces, points to some unusual bacterial conditions in the intestine. From the data at hand this putrefaction would appear to take place rather high up in the intestine.

## Annals of Ophthalmology, St. Louis

*April, XXII, No. 2, pp. 213-435*

10 Deficient Results in Experimental Findings Regarding Fluid Current of Eye. J. Kuschel, Luedenscheid, Germany.
11 Successful Proof of Intra-Ocular Fluid Current Based on Principle of Mechanical Adaptability. J. Kuschel, Luedenscheid, Germany.
12 Piece of Glass in Crystalline Lens, with Description of Eye Three Years and a Half After Accident. J. H. Claiborne, New York.
13 Early Fundus Signs of Arteriosclerosis. A. Greenwood, Boston.
14 Visual Disturbances Due to Diseases of Nasal Accessory Cavities. H. Moulton, Fort Smith, Ark.
15 Death After Cataract Operation. E. J. Bernstein, Kalamazoo, Mich.
16 Two Cases of Dermoid at Sclerocorneal Margin. B. Chance, Philadelphia.

## Archives of Internal Medicine, Chicago

*February, XI, No. 2, pp. 121-247*

17 *Effects of Experimental Chronic Passive Congestion on Renal Function. L. G. Rowntree, R. Fitz and J. T. Geraghty, Baltimore.
18 *Experimental Study of Poison Oak. E. Von Adelung, Oakland, Cal.
19 *Experimental Eosinophilia with Extract of Animal Parasite. W. W. Herrick, New York.
20 Critical Study of Case of Myiasis Due to Eristalis. M. C. Hall, Washington, D. C., and J. T. Muir, Colorado Springs, Colo.
21 Interpretation of Normal Electrocardiogram. J. A. E. Eyster and W. J. Meek, Madison, Wis.
22 Unsaturated Fatty Acid as Neurolytic Agent. H. M. Adler, Boston.

17. **Effects of Chronic Passive Congestion on Renal Function.**—The method utilized by the authors for the production of chronic passive congestion of the kidney consisted briefly of the application of constricting bands about the renal veins or about the vena cava above the entrance of the renal veins. The bands were obtained by cutting sections approximately 1 cm. in length from ordinary goudé catheters which were sterilized by boiling for a period of two or three minutes. The functional tests used in this connection were essentially five, e. g., phenolsulphonephthalein, lactose, salt, potassium iodid and water. A brief description of these various tests, together with the technic is given.

It was found that slight experimental chronic passive congestion of the kidney is characterized by (a) a normal quantity of urine which contains a trace of albumin, intermittently a few hyaline and granular casts and occasionally a few red blood-cells; (b) the functional capacity varies but little from normal, since phthalein, salt and potassium iodid may be all normally excreted, while lactose excretion is but slightly delayed. Moderate experimental passive congestion of the kidneys is characterized by (a) a fair amount of urine containing albumin, casts and frequently red blood-cells; (b) a total excretory capacity which is apparently not markedly decreased, since the phthalein excretion is usually normal. The excretion of salt is usually somewhat decreased, that of potassium iodid variable, that of lactose invariably delayed. Marked experimental chronic congestion of the kidneys is characterized by (a) very scanty amount of urine containing a large amount of albumin, casts and red blood-cells; (b) a much reduced functional capacity, since the phthalein, salt and lactose excretions are markedly delayed, as is also frequently that of iodid. Albuminuria is almost a constant accompaniment of experimental passive congestion, casts are usually present, and red blood-cells appear if the congestion is of any considerable degree. Lactose excretion is the first to become affected by increasing grades of chronic passive congestion; then the excretion of salt and iodid, and lastly, that of phthalein.

The phthalein test gives the most reliable information concerning the degree of renal insufficiency in experimental chronic passive congestion. Marked delay in the excretion of lactose, iodid and salt has, indeed, been encountered in animals showing a normal phthalein output. These animals were, however, apparently in good general condition, while subsequent events showed that they remained in good condition. On the other hand, a marked decrease in phthalein excretion has invariably been associated with the development of clinical manifestations, indicating renal inadequacy and followed by death. The phthalein test is, therefore, the test of greatest prognostic importance in chronic passive congestion. Lactose, while of least value in revealing the degree of involvement of renal function in experimental chronic passive congestion of the kidney, is of the greatest value in detecting its existence. It is, therefore, of these tests that of greatest diagnostic, but of least prognostic value.

The excretion of potassium iodid is usually prolonged in experimental chronic passive congestion of the kidney. The time of elimination of this drug is, however, so variable that the test proves practically valueless in this connection. The excretion of sodium chlorid is usually decreased where moderate or marked experimental passive congestion is present.

Partial obstruction to venous return through the renal vein is not invariably associated with decreased urinary secretion. In an apparently normal unanesthetized or anesthetized (chlorbutanol) animal which has partial occlusion of one renal vein only, more urine is sometimes excreted from the congested kidney, while the solids are excreted in greater concentration from the normal side. Where gradual progressive obstruction to the renal vein occurs, the development of a collateral circulation is of great importance in maintaining the functional capacity of the kidney since an efficient renal function may be encountered when the venous return from the kidney is entirely collateral. On the other hand, ligation of collateral vessels, simultaneously with a moderate degree of obstruction to the renal vein, usually results in renal inefficiency and death. An excessive flow of blood through the kidney simultaneously with an obstruction to its outflow may be followed by polyuria. Mild grades of experimental

chronic passive congestion are not associated with the accumulation of incoagulable nitrogen in the blood. Varying degrees of chronic passive congestion which are unassociated with nephritis are produced by the above-described procedures.

18. **Poison Oak.**—It was found by v. Adelung that the toxic principle of rhus, while non-volatile, can poison at a distance by means of mechanical carriers. It is not destroyed by subjection for one hour to 100 C., and is carried, potent, by the smoke from burning rhus plants. The dermatitis is purely a local affection, and is not spread by the blood or lymph, or by the serum of the blebs. The sweat reaction has no relation to susceptibility. Absolute immunity in man is improbable, and experimental immunity in animals is not yet demonstrated. A permanent aqueous suspension of the alcoholic solution of the toxin can be prepared and remains toxic; this is precipitated by salt. As much as 0.025 gm. toxin given intravenously in aqueous suspension to a 2,000 gm. rabbit does not kill, nor does as much as 0.03875 gm. given to a 280 gm. guinea-pig subcutaneously.

Inasmuch as animals cannot be killed by the pure toxin, it is impossible to demonstrate antitoxic effect by the serum of animals that have received repeated doses of the toxin. The Bordet-Gengou fixation reaction failed to demonstrate the presence of antibodies in the serums of animals so treated.

The simplest prophylactic measure against rhus poisoning, the authors state, is to wash well with soap and hot water as soon after exposure as possible. The protection of the skin by anointing with cotton-seed oil before exposure, and washing this off within a few hours with soap and water, renders prophylaxis fairly certain. The following remedies have therapeutic value: hot water, ichthyol, collodion, potassium permanganate, magnesium sulphate and tincture of iodin.

19. **Experimental Eosinophilia.**—The problems toward the solution of which Herrick attempted to contribute are as follows: 1. Whether eosinophilia of the blood could be produced experimentally by the use of an extract of *Ascaris lumbricoides*. 2. Under what conditions of administration of this extract such eosinophilia might be brought about. 3. Whether or not the substance influencing the eosinophils is a protein. 4. Whether such eosinaphil increase bears any relation to specific sensitization or anaphylaxis. Throughout the work the possible relation of these questions to the clinical problem of bronchial asthma has been constantly in mind.

The results of his study showed that a notable eosinophilia of the blood can be developed by the intraperitoneal injection of an aqueous extract of *Ascaris lumbricoides*. The substance causing such eosinophil increase is a protein. Previous sensitization is necessary to the development of this eosinophilia. It is impossible to produce such eosinophilia while the animals are immune to the extract. This eosinophilia may therefore be considered evidence of previous sensitization. Herrick suggests that there is a possible association of these facts with the problem of bronchial asthma.

### Arizona Medical Journal, Phoenix

*April, I, No. 4, pp. 1-51*

23 Operative Technic. W. Smith, Phoenix.
24 Chronic Constipation. E. C. Prentiss, El Paso, Texas.
25 Salvarsan, New Cure for Syphilis. N. D. Brayton, Phoenix.
26 *Malta Fever: Cases Occurring in Arizona. C. E. Yount and R. N. Looney, Prescott.
27 Foreign Bodies in Urethra with Report of Case. R. F. Palmer, Mesa.

26. **Malta Fever in Arizona.**—The authors report five cases of Malta fever occurring in Arizona during the past eighteen months. They believe that the Arizona goats will furnish a rich field to the scientific investigators of Malta fever. The first patient was a goat herder. In June, 1911, he had fever and malaise; could scarcely drag himself after the goats. Pain and aching in every bone, was feverish and thirsty, and drank more freely of water and fresh goat's milk, but still continued to herd the goats. During July the fever and aching were worse, so that he could not herd the goats, but got a light job as camp cook. Was chilly at times and had a profuse perspiration at nights. "Took to bed" August 4, but never remained in bed all day, was never delirious, had a good appetite and always got up for his meals. Usually chilly at night after profuse perspiration. Obstinate constipation from the first, but never noticed any bloating of bowels. This condition lasted about two months. Did not consult a physician, nearest one being fifty miles away. His friends diagnosed his disease as typhoid, but he states that he had had both typhoid and malaria, and this fever was different. During September he had no chills and sweatings, but was very weak and pale and had lost 15 pounds in weight. Had "rheumatism" in right hip, right leg, and both shoulders and constipation continued obstinate. October—no fever, chilly sensations or sweating, but "rheumatism" continued, constipation overcome by laxatives. About Feb. 4, 1912, right testicle began to swell, accompanied by slight chills and constant chilly sensations. February 22, right testicle swollen to about four times normal size and very tender to pressure. Temperature 102. Sterile needle and syringe used to drain off blood and serum from testicle. The specimen gave positive agglutination with the micrococcus melitensis. The second and third patients used goat's milk on cereals. The fourth patient used goat's milk on cereals and worked with the goats. The fifth patient drank goat's milk and assisted in herding the goats. All these patients were in some way connected with the goat-raising industry.

### Arkansas Medical Society Journal, Little Rock

*May, IX, No. 12, pp. 283-303*

28 Early Diagnosis of Tuberculosis and Its Management Among Poor. S. E. Thompson, El Dorado.
29 Significance of Urinalysis in Pregnancy. J. C. Cunningham, Little Rock.
30 Treachery of Typhoid. C. S. Pettus, Little Rock.
31 Pneumonia. G. A. Warren, Black Rock.

### Boston Medical and Surgical Journal

*May 15, CLXVIII, No. 20, pp. 713-748*

32 *Excretion of Formalin in Urine: Inquiry into Accuracy of Burnam's Test. G. G. Smith, Boston.
33 Serous and Suppurative Labyrinthitis; Differential Diagnosis. I. W. Voorhees, New York.
34 *Acute Angulation of Terminal Ileum as Cause of Intestinal Obstruction in Certain Cases of Acute Appendicitis. D. Cheever, Boston.
35 Use of Pituitary Extract in Surgical Shock. C. A. Hill, Pittsburgh.
36 *Artificially Dried Casein: Preliminary Investigation. H. L. Bowditch, Boston.

32. **Excretion of Formalin in Urine.**—Smith examined 213 specimens collected from fifty individuals, most of whom had normal kidneys. Positive tests were those which showed more than a mere trace of formaldehyd. One hundred and ten urines were positive. Of these 102 had a hydrogen ion concentration of 6.80 or more, that is, were truly acid. Eight had hydrogen ion concentrations of less than 7, that is, were truly alkaline. These were divided as follows: 7.10, two cases; 7.15, one case; 7.20 five cases. One hundred and three showed no formaldehyd. Of these eighty-two had hydrogen ion concentrations of 7.10 or less, that is, were alkaline. Four were neutral. Seventeen were acid, of the following hydrogen ion concentrations: 6.85, two cases; 6.70, three cases; 6.30, three cases; 6.15, one case; 5.85, two cases; 5.70, two cases; 5.50, one case.

From the work done with this drug, Smith has reached these conclusions as to dosage and output: Five grains of hexamethylenamin, although often sufficient to give a strong formaldehyd test, does not appear in the urine with enough regularity to warrant its routine use. Grains 7 is nearly always followed by good quantities of formaldehyd or hexamethylenamin lasting for from six to ten hours. Grains 10 every eight hours or grains 15 at 7 a. m. and 6 p. m. is the dose which Smith would recommend. The kidneys of chronic nephritis, to judge from a few observations, excrete hexamethylenamin much more slowly than do normal kidneys. One dose of grains 15 has given traces of formaldehyd in the urine for thirty-six hours. These urines are abnormally acid; formaldehyd has always been liberated.

In cases with persistently alkaline urine, Smith has tried to change the reaction by the use of various drugs. Sodium benzoate, grains 15 t.i.d. has had no appreciable effect; boric

acid, grains 10 t.i.d. was effectual in several cases, but some writers warn against its toxicity. Sodium acid phosphate given directly after meals in one-half to one teaspoonful doses seemed more efficient than the other two, but in one case its use had to be abandoned because of the resulting diarrhea. Among the fifty individuals whose urine Smith examined, there was only one (diverticulum of the bladder and pyonephrosis), in whose urine free formaldehyd was never detected.

Smith concludes:

1. Burnam's test for formaldehyd in urine is definitely positive when this substance is present in the strength of 1 part in 40,000 or more.
2. The urine should be examined as soon as possible after it has been voided. A negative test at one time does not prove that formaldehyd is never liberated.
3. From the evidence at hand Smith believes that formaldehyd is liberated from the hexamethylenamin by the acids of the urine, not by a specific function of the renal epithelium.
4. This process may take place in the kidney, but is continued in the bladder.
5. Litmus paper, as an indicator of the true acidity of the urine, was unreliable in about 25 per cent. of the cases examined.
6. The degree of acidity of urine, as measured in terms of its hydrogen ion concentration, showed in his cases a constant relation to its power to set free formaldehyd. The higher the acidity, the greater was this power.
7. The requisite amount of acidity, which is not great, is present in the majority of normal urines, and can be secured in almost all cases by the use of boric acid or sodium acid phosphate.
8. Smith disagrees with the statements of Burnam and L'Esperance that only 50 to 60 per cent. of individuals break up hexamethylamin. Examination of 213 specimens from fifty individuals showed that only in the urine of one case was formaldehyd never found.

34. **Intestinal Obstruction in Acute Appendicitis.**—In acute pelvic appendicitis, where the inflamed or gangrenous appendix has been torn from its bed on the lateral pelvic wall, from brim to floor, Cheever says the occurrence of the earliest symptoms of acute intestinal stasis, especially if appearing after an interval of a few days of normal convalescence, should lead to the assumption that there exists an acute angulation of the terminal ileum at the pelvic floor. After the elimination of ill-placed drains as a factor, at the earliest justifiable moment, the attack should be directed at that point by a secondary operation. If the patient's condition does not justify this, a better than forlorn hope is offered by ileostomy.

36. **Artificially Dried Casein.**—Bowditch has saved the casein curd that has previously been lost. The casein curd can be dried and made into stable, pure, soluble or insoluble powder. This powder may be used to increase the accuracy of administration of casein.

### Canadian Medical Association Journal, Toronto

*May, III, No. 5, pp. 355-449*

37 Surgical Treatment of Pendulous Abdomen. J. McKenty, Winnipeg.
38 Salvarsan in Treatment of Syphilitic Diseases of Central Nervous System. R. G. Armour, Toronto.
39 Milk and Meat Inspection. C. E. Edgett, Montreal.
40 Liposis Pancreatica. E. J. Mullally, Montreal.
41 Primary Malignant Neoplasm of Fallopian Tube. F. B. Gurd, Montreal.

### Cleveland Medical Journal

*April, XII, No. 4, pp. 233-320*

42 Dysmenorrhea. J. H. Carstens, Detroit.
43 *Toxic Dose of Salicylates According to Clinical Statistics. P. J. Hanzlik, Cleveland.
44 Effect of Successive Ligation of Renal Arteries on Nitrogen Balance. J. D. Pilcher, Cleveland.
45 Recent Advances in Treatment of Syphilis. H. N. Cole, Cleveland.
46 Conservative Surgical Methods in Operating for Stone in Kidney. W. E. Lower, Cleveland.
47 *Diagnosis of Cerebral Hemorrhage by Means of Lumbar Punctures. O. P. Bigelow, Cleveland.
48 Examination of Pelvic Organs in Doubtful Cases Through Vaginal Incision. H. Robb, Cleveland.
49 *Intestinal Absorption of Alcohol. P. J. Hanzlik, Cleveland.

43. **Toxic Dose of Salicylates.**—The clinical records of 400 patients extending over a period of about twelve years were examined by Hanzlik. The mean toxic doses of the different salicylates for males and females, respectively, were found to be as follows: 180 and 140 grains of the synthetic sodium salicylate; 200 and 135 grains of the "natural" sodium salicylate; 120 minims of the methyl salicylate or oil of gaultheria; 165 and 120 grains of acetysalicylic acid or aspirin; 100 and 83 grains of salicylosalicylic acid. The toxic doses of the different salicylates were found to be practically the same in various disease conditions of both sexes. In all conditions where there were three or mor cases, the toxic dose of the synthetic salicylate ranged between 150 and 220 grains for males; between 135 and 160 grains for females. Practically the same is true for the "natural" salicylate and methyl salicylate.

The therapeutic response (or clinical therapeutic result obtained after a toxic dose) in various diseased conditions does not modify the toxic dose of the synthetic salicylate. The therapeutically effective doses, just as the toxic doses, are somewhat smaller for females than for males. The therapeutic efficieney of the synthetic salicylate is greatest (82 per cent.) in acute rheumatic fever. Subacute rheumatism and other conditions are also relieved, often completely, but the percentage of complete successes is not nearly as great (41 to 53 per cent.) and the percentage of failures much higher (16 to 29 per cent.). In sciatica, no complete relief was obtained, but the majority (about 73 per cent.) of patients showed more or less relief. It was found that in males albuminuria was much more frequent (about 70 per cent.) in febrile than in afebrile conditions. This suggests strongly that the renal irritation is due to fever, rather than to the salicylate. The effect of repeated dosage in the same individual was also studied. It was found that the differences below and above the common range of 100 and 200 grains, respectively, cannot be attributed to the influence of age, sex, race and diseased conditions. The idiosyncrasy generally varies in the same person and is not influenced by previous salicylate medications. There was also no demonstrable habituation to the synthetic salicylate.

47. **Cerebral Hemorrhage.**—Bigelow found that cerebral hemorrhage can be detected by examination of the spinal fluid in perhaps 90 per cent. of cases if the examination be made within three weeks after the "stroke." For the first four days or so there is a cloudiness or bloodiness of the fluid of varying degree, depending on the amount of blood which has escaped. Then a color, due to hemoglobin, varying from light canary yellow to reddish-brown, appears and persists in some degree for about three weeks. After that time the only guide in the spinal fluid is a probable persistence for some time of a slightly elevated cell count and protein content.

49. **Intestinal Absorption of Alcohol.**—Hanzlik's present investigation deals with ethyl alcohol, i.e., ordinary grain alcohol. Definite quantities of alcohol of a known strength were injected into duplicate ligated loops of intestine of equal length (15 cm.), the absorption being allowed to continue for a given length of time under varying conditions. At the end of the given interval the loops were excised and the alcohol recovered from the contents and intestinal wall and its quantity deduced from the specific gravity. It was found that when approximately 10 per cent. alcohol is introduced into the intestinal tracts of dogs and cats in doses of 10 c.c. per kilo, there is an arrest of absorption at the end of half an hour after injection. This is independent of the percentage absorbed, which varies from 33 to 85 per cent., leaving from 15 to 67 per cent. of the alcohol unabsorbed. A comparatively slight and almost negligible absorption continues for one or two hours.

Hanzlik is convinced that the incomplete absorption of alcohol is not due to reexcretion, since the intestinal canal excretes a much smaller quantity (0 to 0.14 gm.) than that which remains in the intestine when absorption is arrested. There must, therefore, be an actual inhibition of absorption. This does not seem to be due to a strictly local action, for preliminary treatment of an intestinal loop with alcohol does not inhibit the absorption of subsequent portions of alcohol from the same loop. On the other hand, the absorption from the intestine is diminished 5 to 20 per cent. by intravenous injections of 10 per cent. alcohol. The effect, therefore,

seems to be systemic. It is not, however, due to changes in the systemic blood-pressure.

In addition the following facts were established: The absorption of alcohol differs for different individuals of the same species, but the average was practically the same in the different animals studied, i.e., cats and dogs. The same was true of phenol and sodium iodid. The extent of intestinal surface does not affect the absorption of alcohol. Phenol and iodid behaved in a similar manner. The absorption of alcohol is about the same for all divisions of the small intestines although slightly higher in the stomach and greatest in the colon. With phenol, the absorption was quantitatively identical for the stomach and intestine. In the case of the iodid the absorption was about a third less in the stomach and colon than in the small intestine. The absorption is scarcely influenced by the concentration of the alcohol, although a 10 per cent. solution of alcohol is absorbed slightly better than 5 and 50 per cent. solutions. Undiluted phenol was found to be absorbed a trifle better than a 5 per cent. solution.

With the sodium iodid, the 10 per cent. solution was absorbed best, while weaker solutions, i.e., 1, 2 and 5 per cent. solutions somewhat less. Necrotic agents, such as formaldehyd and concentrated phenol; and calcium chlorid, which diminishes the permeability of cells; and sodium fluorid, which acts as a protoplasmic poison, all diminish the absorption of alcohol. Agents which cause visible anemia tend to lessen the absorption, while those which cause visible hyperemia tend to increase it. Practically the same results were obtained with phenol and sodium iodid. After death the absorption of alcohol from the stomach and intestinal loops is comparatively good, averaging about 19.6 per cent. For phenol the post-mortem absorption averaged about 16 per cent.; for sodium iodid about 35 per cent.

### Kentucky Medical Journal, Bowling Green

*May 1, XI, No. 9, pp. 339-392*

50 Pellagra. J. G. Owsley, Lily.
51 Symptoms and Diagnosis of Pellagra. M. W. Steele, Corbin.
52 *Pellagra as Related to Insanity. W. E. Gardner, Lakeland.
53 *Pellagra as Public Health Problem. O. P. Nuckols, Pineville.
54 *Pellagra in Eastern Kentucky. J. H. Hendren, Cary.

52. Abstracted in The Journal, Nov. 30, 1912, p. 1998.

53 and 54. Abstracted in The Journal, Nov. 23, 1912, p. 1917.

### Maine Medical Association Journal, Portland

*May, III, No. 10, pp. 1311-1354*

55 Symptomatology and Clinical Types in General Paralysis. C. J. Hedin, West Pownal.
56 Symposium: Paresis, Etiology and Early Diagnosis. F. L. Hills, Bangor.
57 Laboratory Aids in Diagnosis of General Paralysis. H. E. Thompson, Bangor.

### Medical Record, New York

*May 17, LXXXIII, No. 20, pp. 875-920*

58 *Certain Elementary Concepts in Education Applied to Medicine. J. G. Adami, Montreal.
59 Prevention and Cure of Cancer. P. Syms, New York.
60 Surgical Treatment of Cancer of Esophagus. W. Meyer, New York.
61 Purification of New York Harbor. G. A. Soper, New York.
62 Cancer of Uterus. R. M. Rawls, New York.

58. **Elementary Concepts in Education Applied to Medicine.**—Medical education, Adami declares, is no longer a state matter only; it is one of interstate concern. In Canada there has been established for now many years a General Medical Council for the United Kingdom. That council registers all duly qualified medical men. And here is the significant fact: that council conducts no examinations. What it does is this: from time to time it sends to the various schools a small and select committee of two or three experts, men high in our profession. That committee reports on the quality of the instruction provided at those schools; it is present at the examinations and reports on their scope and efficiency, and according to the report given, so does the council as a body approve of the school, in which case its diploma is accepted as qualifying for registration, or disapprove of the school, in which case specific reasons are given, and the representatives of the school are afforded the opportunity to present their side of the case. Finally if the recommendations of the committee are supported by the council as a body, either the school has to modify its procedure forthwith in agreement with those recommendations, or it has to cease to exist. Certain common regulations are laid down as to length of curriculum, essential subjects for preliminary and professional training and so on, to which all schools must subscribe, but the final approval rests not on quantity but on quality of the education and examination afforded.

The time, it seems to Adami, is ripe for a similar procedure in the United States, for the appointment of a Federal Medical Council, subsidized by the government at Washington, and formed of representatives from all the states, a council which should appoint well-known leaders of the profession to act as committees or assessors, to visit, report on and make recommendations regarding the efficiency and deficiencies of the individual medical schools of this continent, the expenses of such inquisitions to be met by the schools visited. The Carnegie Foundation has prepared the way, but there is needed now, Adami continues, not a private but a national institution, an institution authorized not by the profession alone, by the American Medical Association, for example, but by the nation at large, which shall act authoritatively in these matters. He would say, let each state control and direct its own educational methods, but let the federal assessors test the results and make sure that they reach the desired standard of quality. If this be asking too much at the present moment, at least the State might take action, might appoint committees of inquisition to inquire and report on the quality of the instruction afforded and the examinations of the schools within its boundaries, and might accept the graduates of those schools without the present farce of an examination which does not educe the capacity of the examinee. Education is something beyond mere instruction; that we are every whit as much interested in the quality of the secondary school education as in medical education proper; that both in secondary and medical education there must be more elasticity, more freedom allowed for the individual school to control its own development; that sameness means not perfection but intellectual death.

### New Jersey Medical Society Journal, Orange

*May, IX, No. 12, pp. 599-652*

63 Short Spica in Treatment of Hip-Joint Disease. C. R. Keppler, New York.
64 Rest—Nature's Remedy. G. K. Dickinson, Jersey City.
65 Acne Vulgaris. C. J. Hailperin, Newark.

### New York Medical Journal

*May 17, XCVII, No. 20, pp. 1009-1060*

66 Venereal Diseases. H. M. Biggs, New York.
67 Dispensary Facilities for Treatment of Syphilis. H. F. Swift, New York.
68 Dispensary Treatment of Gonorrhea. E. L. Keyes, New York.
69 Hospital Accommodations for Treatment of Venereal Diseases. S. S. Goldwater, New York.
70 Relationship of Syphilis to Internal Medicine. W. T. Longcope, New York.
71 Hypertrophy of Prostate. J. H. Gleason, Manchester, N. H.
72 Gastro-Intestinal Therapy. J. N. Upshur, Richmond, Va.
73 Medical Experts and Expert Medical Testimony. H. M. Friedman, New York.
74 *Surgical Aspect of Gastric Ulcer. J. C. Kennedy, New York.
75 Neosalvarsan. O. L. Suggett, St. Louis.

74. **Gastric Ulcer.**—In his series of twenty-two operations on the stomach Kennedy performed four gastrojejunostomies for duodenal ulcers with no mortality. Eight gastrojejunostomies were done for gastric ulcer with one death; in this a viscious circle was formed and the patient refused further operative treatment until it was too late to remedy the defect. There were three excisions of chronic gastric ulcers; one situated in the posterior stomach wall, perforated, and adherent to the pancreas, in which a gastrojejunostomy was not done; another on the anterior gastric wall, perforated twenty-eight hours before the operation, and the patient, being thoroughly septic and exhausted, died the second day

following the operation. The third was a somewhat similar case.

Four operations were done for advanced cancer, where a partial gastrectomy could not be done and in which a posterior gastrojejunostomy was done, with the Murphy button as a palliative measure. One of the patients died, within two weeks, of exhaustion, due largely to his starved condition. The others lived from six to twenty-four months in far greater comfort and ease than if they had been fed on morphin. The best behaved of this last group lived a little over two years, eating three meals a day, and so far as carcinoma and its symptoms went, was progressing well when he died of pneumonia.

Gastrostomy was done in one case for cardiospasm, due to malignant disease of the cardiac orifice, death following in six weeks from an attack of acute Bright's disease coupled with exhaustion. In the second case of cardiospasm due to cicatricial contraction, the esophagus was dilated so that the patient could take food with very great comfort. This patient died of pneumonia several weeks after the treatment began. In one case of cancer of the pyloric end of the stomach involving the pylorus itself, a partial gastrectomy was done. In this case, which was almost unsuitable for this operation because of adhesions present—the middle colic artery was injured—the patient survived but a few days.

### Oklahoma State Medical Association Journal, Muskogee

*May, V, No. 12, pp. 525-568*

76 Acute Yellow Atrophy of Liver. W. E. Stewart, Norman.
77 Local Anesthesia in General Surgery. L. Watson, Oklahoma City.
78 Preventive Medicine or Conservation of Human Life. H. L. Wright, Hugo.
79 Obstetrics in Country. M. A. Warhurst, Sylvain.
80 Infective Inflammation of Hand. J. J. Dial, Muskogee.
81 Gastric Cancer. M. Smith, Oklahoma City.

### West Virginia Medical Journal, Wheeling

*May, VII, No. 11, pp. 361-398*

82 Child Welfare. S. L. Jepson, Wheeling.
83 Diagnosis in Children. O. M. Staats, Wheeling.
84 Diagnosis of Thoracic Lymph-Node Tuberculosis During Childhood. J. C. Abbott, Piedmont.
85 Hypertrophied Tonsils and Adenoids. O. M. Brooks, Moorefield.
86 Syphilis in Children. C. O'Grady, Charleston.
87 State Board of Health and Public School Sanitation. L. S. Brock, Morgantown.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*May 3, I, No. 2731, pp. 921-976*

1 *Present Evidence for and against Use of Tuberculin as Specific Cure. H. B. Shaw.
2 *Plea for Uniform Method of Treatment with Tuberculin. H. H. Thomson.
3 Prognosis in Pulmonary Tuberculosis: Results Obtained by Arneth's Method. J. B. H. Holroyd.
4 Epiglottic Suture: Its Value in Indirect Laryngoscopy. C. Horsford.
5 *Cheilotomy: Function-Restoring Operation in Crippling Traumatic Arthritis of Hip-Joint. W. S. Handley and C. P. Ball.
6 Case of Enteroliths. J. Anderson.
7 Removal of Intrathecal Tumor from Lumbar Region of Spinal Cord. J. M. Clarke and C. A. Morton.
8 *Classification of Tumors of Hypophysis. G. v. Bonin.

1. **Evidence for and against Tuberculin.**—Like all vaccine treatment, tuberculin in Shaw's opinion is certainly capable of effecting a change in the aspects of the disease. But, he says, it has never been proved experimentally that such changes are curative; the alleged curative changes can be explained on anaphylactic grounds.

2. **Uniform Method of Treatment with Tuberculin.**—It has generally been accepted that the method of treatment with tuberculin is the same at the dispensary as in the sanatorium, but this is not the case, says Thomson. In the sanatorium, patients are under constant medical supervision, and the amount of muscular and respiratory activity is regulated according to the requirements of each individual case. In the sanatorium, treatment by auto-inoculation takes the place of the preliminary course of treatment with exotoxic tuberculin at the dispensary. Excellent results are obtained in a sanatorium by a course of tuberculin containing both endotoxin and exotoxin administered when patients have ceased to react to the maximum amount of walking exercise and manual labor; in other words, when a certain degree of tolerance to exotoxin has been secured.

At the dispensary, on the other hand, the muscular and respiratory movements of the patient are not under intelligent control. The patient is liable to show sensitiveness to auto-inoculation with the exotoxin of the bacillus, hence a degree of tolerance sufficient to steady the temperature must first of all be produced by a course of treatment with exotoxic tuberculin. The method of administration and frequency of dosage are a source of no little diversity of opinion. In Thomson's experience the most efficient and permanently beneficial focal result is obtained by inoculating the patient once a week and by gradually increasing the dose without the production of any marked general or focal reaction, 99 F. being regarded as the danger zone. If the doses are rapidly increased and reaction is ignored a high degree of toxic tolerance may be obtained, but this is secured at the expense of tissue immunity, so that the last stage of the patient becomes worse than the first.

The following is the method of treatment with tuberculin which Thomson has adopted. At the dispensary: (a) A course of treatment with T. O. A. (exotoxic) until a certain degree of tolerance is produced. The following doses are given every eighth day:

0.00001 c.c., 0.00002 c.c., 0.00003 c.c., 0.00004 c.c. 0.00005 c.c., 0.000075 cc., 0.0001 c.c., 0.0002 c.c., 0.0003 c.c., 0.0004 c.c., 0.0005 c.c., 0.00075 c.c., 0.001 c.c.

(b) When the dose of 0.001 c.c. has been reached a course of treatment with new tuberculin W., both of which contain endotoxin and exotoxin of the human bacillus, is commenced in the following doses:

Immediately following the 0.001 c.c., T. O. A., 0.00005 c.c., 0.000075 c.c., 0.0001 c.c., 0.0002 c.c., 0.0003 c.c., 0.0004 c.c., 0.0004 c.c., 0.0005 c.c., 0.00075 c.c., 0.001 c.c., 0.002 c.c., 0.003 c.c., 0.004 c.c., 0.005 c.c., 0.0075 c.c., 0.01 c.c., 0.02 c.c., 0.03 c.c., 0.04 c.c., 0.05 c.c., 0.075 c.c., 0.1 c.c. This is the maximum dose, and it is repeated at gradually increasing intervals.

The above course of treatment applies to well-marked types of the disease with evidence of slight phases of recurring or persistent auto-inoculation. Thomson has not found it necessary or desirable to go above the maximum dose of 0.1 c.c of pure tuberculin.

In the sanatorium: In the sanatorium a course of treatment with exotoxic tuberculin is replaced in the majority of cases by treatment with induced auto-inoculation. The patient with an active tuberculous focus is thus led from a period of rest through the various stages of induced auto-inoculation to a full course of treatment with tuberculin containing both the endotoxin and exotoxin of the human bacillus. Part of this course will be commenced at the sanatorium, but it will usually be completed at the dispensary. Thomson recommends in the sanatorium a course of new tuberculin W. in the following doses:

0.00001 c.c., 0.00002 c.c., 0.00003 c.c., 0.00004 c.c., 0.00005 c.c., 0.000075 c.c., 0.0001 c.c., 0.0002 c.c., 0.0003 c.c., 0.0004 c.c., 0.0005 c.c., 0.00075 c.c., 0.001 c.c., 0.002 c.c., 0.003 c.c., 0.004 c.c., 0.005 c.c., 0.0075 c.c., 0.01 c.c., 0.02 c.c., 0.03 c.c., 0.04 c.c., 0.05 c.c., 0.75 c.c., 0.1 c.c. The maximum dose to be repeated at gradually increasing intervals.

5. **Cheilotomy.**—The operation employed by Handley and Ball in the treatment of chronic hypertrophic arthritis, especially if it be uniarticular and of traumatic origin, consists in opening the hip-joint and removing the cornice on the head of the femur, so far as it is accessible, by suitable bone-cutting instruments devised to work in a cramped space. On account of its technical difficulty the operation is somewhat prolonged, but in two instances cited shock has been absent and convalescence uneventful. The authors suggest the name

cheilotomy for this operation. They utter a word of warning against the indiscriminate application of the operation in unselected cases. For cases in which the constitutional or toxic element of osteoarthritis predominates, the method is obviously unsuited, and other methods of treatment, including the vaccine treatment, should always be tried. Nor should the operation be undertaken save under the best conditions, with ample assistance, with all possible aseptic precautions and with the essential preliminary of a good stereoscopic radiograph of the joint. The best and most suitable cases are probably those in which the medical and vaccine treatment has improved the patient in relation to his or her general health and in which the smaller joints (probably those most recently affected) have improved, but the one joint shows distinct osteitic changes as described.

8. **Classification of Tumors of Pituitary Body.**—A new scheme of classification based on the principle of histogenesis is given by v. Bonin.

I. Heterotopic Tumors.
  1. Tumors of the cranio-pharyngeal duct.
  2. Teratomas.
II. Homoiotopic Tumors.
  1. Epithelial tumors:
    (a) From anterior lobe { Chromophilc, Chromophobe, Combined } { Cubic cell adenoma, Round cell adenoma, Carcinoma }
    (b) From pars intermedia
  2. Tumors developed from connective tissue:
    (a) From anterior lobe and pars intermedia { Fibroma, Sarcoma }
    (b) From posterior lobe ..... Glioma
  3. Mixed tumors ..... Fibro-adenoma

## Clinical Journal, London

*April 16, XLII, No. 2, pp. 17-32*

9 Some Cervical Cysts of Congenital Origin. G. H. Edington.
10 Diagnostic Value of Sensory Changes in Diseases of Nervous System. H. Head.
11 Acquired Mental Defect. A. F. Tredgold.

*April 23, No. 3, pp. 33-48*

12 Contraction Ring as Cause of Dystocia. C. White.
13 Some Obscure Affections of Foot. A. H. Tubby.

*April 30, No. 4, pp. 49-64*

14 Vaccine Treatment of Septicemia. W. H. Wynn.
15 Diagnosis and Treatment of Scoliosis. E. Gillespie.

## Edinburgh Medical Journal

*May, X, No. 5, pp. 385-480*

16 Causation and Treatment of Deformities Following Anterior Poliomyelitis. B. P. Campbell.
17 Absence of Certain Mitral Murmurs in Mitral Disease. W. T. Ritchie.
18 *Multiple Myeloma: Report of Three Cases. T. Shennan.
19 General Paralysis of Insane: Its Prophylaxis and Treatment. G. M. Robertson.

18. **Multiple Myeloma.**—Multiple myeloma, Shennan states, appears to be a system disease of the hematopoietic apparatus, of malignant nature; blastomatoid rather than true blastoma. He believes it is questionable whether all the different varieties of myeloma described in the literature of the subject can be clearly differentiated from each other. He suggests that possibly the apparent differences are due to the variability of one cell type, and that the apparent metastases do not result from embolism of cells of the new formation in the marrow, but are due to simultaneous transformation of foci of hematopoietic tissue present in the organs or to direct local extension. Nothing definite or trustworthy is known with regard to the etiology of the disease. Shennan advocates that the nomenclature in common use clinically should be amended. The name myeloma should be either restricted so as to indicate only the disease for which it was introduced by Rustizky, and it should not be employed to designate all new formations in the interior of bone, including the myeloid or giant-celled sarcoma and other central sarcomas of bone, the cells of which are not derived from bone-marrow parenchyma; or, the term myeloma should be given up completely, seeing that the termination -oma suggests to many, tumor formation, and the term myelomatosis, which has been proposed, should be adopted generally in place of it, seeing that this term connotes a definite pathologic alteration, *sui generis*, of bone-marrow proper.

## Journal of Hygiene, London

*December, XII, pp. 207-402*

20 Reports on Plague Investigations in India.
21 Attempt to Separate Antigen from Nucleoprotein of Plague Bacillus by Filtration Through Gelatin. S. Rowland.
22 *Besredka's Method of Vaccination. S. Rowland.
23 *Relation of Pseudotubercle to Plague as Evidenced by Vaccination Experiments. S. Rowland.
24 *Mechanism of Plague Immunity. S. Rowland.
25 Onset and Duration of Immunity Consequent on Inoculation of Plague Nucleoprotein. S. Rowland.
26 *Opsonic Index in Plague Vaccination. R. S. Brooks.
27 *Preparation of Antitoxic Plague Serums. A. T. MacConkey.

22. **Besredka's Method of Vaccination.**—Experiments were undertaken by Rowland to determine the toxicity of a "whole" vaccine prepared according to Besredka's method and the amount of endotoxin that could be extracted from plague bacilli before and after soaking (sensitizing) in antiserum. No difference was discoverable between the lethal dose of the organism that had been soaked (sensitized) in antiplague serum and those that had been treated simply with salt solution. A slight apparent difference was noticed in favor of organisms that had been sensitized in normal horse serum. A repetition of this experiment showed no diminution of toxicity in the case of the bacilli treated with serum. From the second experiment, it is concluded that on sensitizing the plague bacillus in an antitoxic serum no permanent neutralization of the endotoxin takes place. The control experiment in which the bacilli were treated in salt solution showed that the effect of sensitizing in either anti or normal serum is *nil* as regards the amount of nucleoprotein or the toxicity of the nucleoprotein. Rowland is therefore unable to confirm Besredka's statement that sensitized organisms yield an atoxic vaccine, for the whole organisms after sensitization are just as toxic as before and no neutralization of the endotoxin takes place as the result of the sensitizing. As the immune serum neutralized the endotoxin after extraction from the bacilli he concludes that the antitoxin cannot enter the bodies of bacilli killed by heat.

The main experiments that led to the recognition of the normal amboceptor in the serum of normal horses were as follows: (1) 80,000,000 virulent living bacilli were added to 1 c.c. of fresh normal horse serum. The serum was kept at 37 C. No multiplication took place and at the end of twenty-four hours the serum was sterile. (2) 83,000,000 living virulent bacilli were added to 1 c.c. of the same serum as was used in the last experiment. The serum had been heated to 58 C. for one hour. Multiplication took place and followed the same curve when the numbers were plotted against time as the same number of bacilli inoculated into broth. (3) 10,000,000 living virulent bacilli were added to 1 c.c. of the same serum that had been heated. At the same time 0.04 c.c. of fresh normal rat serum was added to the tube. No multiplication took place and at the end of four hours only half a million bacilli were recognized. The growth and fate of living plague bacilli were traced in horse serum by direct microscopic observation. Specially constructed observation slides were used which, with a perfect method of dark ground illumination, permitted a record of the appearances of the living organisms and of their number.

23. **Pseudotubercle in Relation to Plague.**—Rowland summarizes his studies on this subject as follows: The plague bacillus is equally virulent for guinea-pigs and rats, but whereas it is easy by either the whole bacillus or the contained nucleoprotein soluble in saline to immunize the rat against plague it is almost impossible to immunize the guinea-pig, either by means of the bacillus or its nucleoprotein. The pseudotubercle bacillus is almost without pathogenicity for rats whereas the guinea-pig is susceptible to it. It is easy to immunize the guinea-pig against plague by means of the pseudotubercle bacillus; very difficult to immunize the rat. It was not found possible to immunize either the rat or the guinea-pig against plague by means of the nucleoprotein contained in the pseudotubercle bacillus. Whereas the nucleoprotein of the plague bacillus grown on broth agar is toxic for rats it is hardly so at all for guinea-pigs. The nucleoprotein obtained from the pseudo-tubercle bacillus is relatively

innocuous to either rats or guinea-pigs. Rowland converted the bacillus of plague which kills rats acutely into a bacillus which will hardly kill them at all and then without any of the postmortem signs of plague. On the other hand as regards guinea-pigs he has converted the acute killing bacillus into a chronic killing bacillus. The bacillus that was found in the culture of the plague bacillus in the nucleoprotein solution was indistinguishable from the typical pseudotubercle bacillus.

24. **Mechanism of Plague Immunity.**—Whatever the mechanism, says Rowland, the fact remains that the same toxin that is capable of provoking the formation of antitoxin in the horse is capable of neutralizing it in the immune serum of this animal, while when it is injected into rats it provokes an immunity to infection with the living organism, the essential features of which seem to be resident in the serum of this animal, and to be in turn capable of being neutralized by the endotoxin.

26. **Opsonic Index in Plague Vaccination.**—Brooks found that the substance which produces a rise in the opsonic index in immune plague serum is the nucleoprotein contained in the bodies of the bacilli. The washed bodies of the bacilli when used as a vaccine do not cause any increase in the opsonic index. Within limits, the larger the dose, the greater the opsonic response. A second dose of vaccine raises the index above the maximum of the first inoculation, even after the curve has fallen to its normal level. In the early stages, in rats, the opsonic response and the degree of protection aroused rise together. In human beings the maximum response is observed to be much later than in the case of laboratory rats, and the response in a series of previously vaccinated persons is somewhat greater than in a series of persons not previously vaccinated. The local and constitutional effects of nucleoprotein vaccination compare very favorably with those observed in other methods of protective inoculation.

27. **Preparation of Antitoxin Plague Serums.**—MacConkey succeeded in obtaining a plague antitoxin serum by means of injections of toxin obtained from the plague bacillus by Rowland's sulphate process. So far, however, the antitoxin value has not been high. The usual neutralizing power has been 300-400 rat M. L. D. (minimum lethal dose) per c.cm. and on only one occasion was the value of 750 M. L. D. reached. Plague serum retains its antitoxic properties for months unimpaired. Heating at 56 C. for half an hour on each of three successive days has no effect on the antitoxin. Plague antitoxin may be concentrated by the same process that is used for concentrating diphtheria antitoxin.

### Journal of Obstetrics and Gynecology of British Empire, London

*April, XXIII, No. 4, pp. 193-264*

28 Artificial Vagina. Various Operative Procedures for Correcting Atresia Vaginae. G. B. Marshall.
29 *Pseudo-Eclampsia with Two Illustrative Cases. I. Cerebral Tumor; II. Meningitis. H. Croom.
30 *Excretion of Amylolytic Ferments in Urine During Toxemias of Pregnancy. D. Corbett.

29. **Pseudo-Eclampsia.**—Croom reports two cases which closely and minutely simulated eclampsia, but in both of which cases the feature of toxic eclampsia, namely, urinary changes, was entirely absent. In one case there was a large tumor of the left anterior parietal region, fatty and catarrhal change in the kidneys and fatty degeneration of the liver and heart. Edema of the lungs was also present. The tumor reached to within half an inch of the anterior end of the left hemisphere and was situated opposite the superior middle and inferior frontal convolutions of the convex surface of the hemisphere, and opposite those parts of the marginal and callosal convolutions (on the inner surface) which lie above the anterior half of the corpus callosum. Essentially the tumor consisted of epithelium with a supporting stroma of connective-tissue. The points of interest mentioned in this case by Croom, apart from those giving rise to symptoms simulating eclampsia, are (1) the situation of the tumor in the brain in the anterior lobe, a region of the brain which has hitherto escaped the localization of function; (2) that a tumor of this consistence and size must have occupied that situation for a long time without giving rise to any symptoms at all. There was nothing to give the slightest inkling that the brain tissue was in any way involved. Symptoms such as squinting, irregularity of the pupils, and various paralyses were entirely absent. The second case was one of tuberculous meningitis.

30. **Amylolytic Ferments.**—Based on an examination of the ferment content of the urine, Corbett divides cases of eclampsia into main groups: 1. Primarily renal type—where the toxin has some special affinity for the renal epithelium—either following the typical albuminuria of pregnancy where the kidneys have been damaged for a comparatively long period, or as a more acute condition. Here, Corbett says, one may expect low readings, together with much albumin in the urine. The diastase value for the serum may exceed that of the urine. Whether there may be a relative increase in the ferment content of the serum or urine before eclampsia supervenes is not at present known. 2. Secondarily, renal type—where the damage to the kidneys is of less importance. There may be changes in the liver and possibly in the pancreas. The liver changes are shown by the presence of bile acids and leucin in the urine. There are also other evidences of disordered metabolism, such as the excretion of acetone and diacetic acid. Here during the eclamptic period there will be a large percentage of albumin in the urine together with high diastase values for the serum and urine. In the other rarer forms in which there is no albuminuria and in which there are no recognizable changes found in the kidneys postmortem, an examination of the diastase value of the urine might yield interesting results.

### Lancet, London

*May 3, I, No. 4679, pp. 1217-1284*

31 Birth Palsy: Subluxation of Shoulder-Joint in Infants and Children. H. A. T. Fairbank.
32 Case of Ankylostomiasis in Birmingham. R. Saundby.
33 Radium Emanation Therapy W. Engelmann.
34 Use of Tuberculin in Diagnosis and Treatment. J. F. Halls-Dally.
35 Treatment of Confirmed Cases of High Blood-Pressure. A. Mantle.
36 Protozoa-Like Structures in Blood in Case of Blackwater Fever. A. C. Coles.

### Sei-I-Kwai Medical Journal, Tokyo

*April, XXXII, No. 4, pp. 41-62*

37 Method of Increasing Body Weight. H. Sewaki.

### Annales de Gynécologie et d'Obstétrique, Paris

*April, XL, No. 4, pp. 193-256*

38 Specimen of Hydatidiform Mole Still in the Uterus. C. Sauvage.
39 *Cancer of Fallopian Tube. (Carcinome placentaire ou chorio-épithéliome malin de la trompe.) L. Bazy.

39. **Cancer of Fallopian Tube.**—Bazy's patient was a woman of 25 supposed to be at the seventh month of a pregnancy which had seemed normal at first but uncontrollable vomiting and cachexia had developed and the abdomen was enlarged only on one side. An operation revealed a placental carcinoma which had developed in the right tube. It was like a sponge, gorged with blood and bled at the slightest touch. The patient was unable to rally and died the next day. Bazy has found only eleven cases on record of placental cancer in a tube and none has been published before in France. These lesions throw light on the etiology of cancer, showing that there is no need for the intermediation of a parasite for the epithelium to acquire on occasion this power of anarchical growth. And there is nothing known which apparently provides the specific conditions to start this so effectually as an extra-uterine pregnancy. The only wonder is that cancer does not develop more frequently at the site of an extra-uterine pregnancy. In the eleven cases on record death followed soon after the operation in eight cases, and in three others the cancer was not found till after death. Cases of this kind confirm anew the necessity for treating extra-uterine pregnancy always as if it were already a manifestation of malignant disease, that is, by an immediate operation.

### Archives Générales de Médecine, Paris

*April, XCII, No. 4, pp. 293-384*

40 Mechanotherapy in Acute Pleurisy. (Le traitement mécanothérapeutique de certaines formes de pleurésie aigue) E. F. Cyriax.

41 Technic for Respiration Exercises. (L'emploi du spiromètre dans les manoeuvres de la méthode de l'exerciee physiologique de respiration.) G. Rosenthal.

### Archives des Maladies du Cœur, etc., Paris

*May, VI, No. 5, pp. 305-368*

42 Automatic Movements of the Ventricles with Fibrillation of the Auricles; Two Cases. (Deux eas d'automatie ventrieulaire avec fibrillation des oreillettes.) A. Souques and D. Routier.

43 *Hemorrhagic Diseases with Purpura. (Quatre variétés de maladies hémorragipares avec purpura.) E. Lenoble.

44 Viscosity of the Blood. (Etude physio-pathologique de la viscosité sanguine.) M. Lisbonne and J. Margarot. Commenced in No. 4 and continued.

43. **Purpura of Various Origins.**—In the first case the hemorrhagic purpura accompanied kidney disease, probably tuberculous, in a girl of 16. Under calcium chlorid and arsenic the hemorrhagic tendency subsided. In the second case a boy of 12 had what was evidently chronic purpura with large ecchymoses and absence of nucleated reds. The lungs, heart, spleen and liver were apparently normal. No benefit was realized from epinephrin, strychnin arseniate, or a single injection of 10 c.c. of peptone. The third patient was a physician of 54 with a history of dysentery and malaria, who for nine years had occasional attacks of jaundice and fever. During the last six years an orthostatic purpura developed. The general health was not impaired and the tendency to purpura kept up for several weeks and then subsided. Not much influence was apparent from the calcium chlorid taken. The fourth patient was a boy of 12 and the hemorrhagic tendency was evidently due to scorbutus from the child's peculiar diet as he refused ordinary food. Study of the blood in these cases confirms anew the assumption that purpura in some cases is a true disease of the blood, characterized by the lack of clotting, changes in the hematoblasts and the normoblast myeloid reaction. In addition to this true hemorrhagic purpura, there is an incomplete form affecting exclusively the blood-plasma, as in the last case described above.

### Bulletin de l'Académie de Médecine, Paris

*April 22, LXXVII, No. 15, pp. 303-344*

45 From the Seat of War. (Des enseignements de la guerre des Balkans.) E. Delorme. See Paris Letter, p. 1552.

46 The Menstrual and Intermenstrual Passive Congestion of Uterus and Ovaries. (Les vagues utéro-ovariennes. Les jours fatidiques de la femme. L'aspect protéiforme des lésions génitales.) Dastre and Stapfer.

### Journal de Médecine de Bordeaux

*April 20, XLIII, No. 16, pp. 243-256*

47 Pathogenesis of Hemolytic Jaundice. (Ictères acholuriques) E. Leuret.

*April 27, No. 17, pp. 257-272*

48 The Physician and Infant Welfare Work. (Le rôle de l'accoucheur dans la lutte contre la mortalité infantile.) Chambrelent.

49 Teeth at Birth. (Sur 3 cas de dents à la uaissance) P. Balard and C. Commes.

### Lyon Médical, Lyons

*April 13, XLV, No. 15, pp. 777-824*

50 Typhoid Spondylitis in Woman of 60; Recovery. M. Favre and L. Bovier.

51 Extraction of Pin Embedded in Bronchus. (Cas d'épingle enclavée dans la bifurcation bronchique du lobe inférieur droit. Extraction par bronchoscopie inférieure. Guérison.) Sargnon and Vignard.

*April 20, No. 16, pp. 825-880*

52 Tumor in Cerebellopontine Angle; Two Cases. E. Pallasse.

53 Radioscopy of Normal Stomach in Right Decubitus. A. J. de Beaujeu.

*April 27, No. 17, pp. 881-944*

54 Case of Total Aphasia. J. Froment and O. Monod.

55 *Advantages of Tincture of Iodin in Ophthalmology. Jacqueau.

55. **The Use of Iodin for the Eyes.**—Jacqueau finds that tincture of iodin is as invaluable an antiseptic in ophthalmology as in genuine surgery. There is no risk involved as the tissues of the eye bear it perfectly. One or two drops of cocain should be instilled beforehand to avoid pain, and the iodin applied directly to the seat of injury by means of a cotton pledget. It is particularly valuable in affections of the lids, in corneal ulcers and for preoperative and postoperative work on the eyeball. Many cases of injuries which are ordinarily sent to the specialist could be successfully treated by the general practitioner by the application of tincture of iodin. He has thus used it in thirty-seven cataract operations among others.

### Presse Médicale, Paris

*April 16, XXI, No. 31, pp. 305-312*

56 The Cerebrospinal Fluid in Syphilis. (Le liquide céphalorachidien dans la syphilis et la parasyphilis nerveuses.) H. Roger.

*April 19, No. 32, pp. 313-324*

57 Diatheses. (Le lymphatisme: Diathèse d'anaphylaxie-immunité.) J. Galup.

*April 23, No. 33, pp. 325-336*

58 Total Paralysis of the Muscles of the Leg; Deformity from Gravity. C. Ducroquet.

59 Improved Technic for Local Anesthesia for Extraction of Teeth. (L'eau oxygénée associée à la cocaine ou la novocaine—methode de Marmouget—pour l'extraction des dents) G. Mahé and F. Vanel.

*April 26, No. 34, pp. 337-348*

60 Evacuation of Submaxillary Abscess Through the Mouth. (L'ouverture buccale des abcès sous-maxillaires d'origine ganglionnaire.) H. Morestin.

61 *Permanent Weakness of the Pulse. (Syndrome hyposphyxique et insuffisanee pluriglandulaire.) A. Martinet.

62 Revival of Arrested Heart Action. (La reviviscence du coeur.) L. Lagane.

63 Advantages of Tape instead of Cord for Tying off the Pylorus. (Exclusion pylorique par ruban et non par lacet.) G. Parlavecchio.

61. **Weakness of the Pulse.**—Martinet has been studying hundreds of patients over periods of months and years to determine the connection between the viscosity of the blood and the blood-pressure. This has shown that with normal cardiovascular conditions the blood-pressure parallels the viscosity, that is, the individual has the blood-pressure of his viscosity so long as the cardiovascular apparatus is normal. When the viscosity is normal or below, if there is renal arteriosclerosis, for example, the blood-pressure will be high. On the other hand, if the viscosity is high while the blood-pressure is normal or low, the pulse will be weak. This hyposphyxia syndrome, as he calls the persisting weakness of the pulse, is characterized by a tendency to cold hands and feet, congestion in the liver, varices and various subjective cardiovascular disturbances. Closer study of forty-eight patients in this class revealed a number of symptoms suggesting insufficiency of certain of the ductless glands. He is inclined to regard the weakness of the pulse as the primary disturbance; the feeble cardiac impulse and the abnormally high viscosity of the blood impede the blood-supply and hence interfere with the nourishment of the glands, thus setting up a vicious circle. He remarks that this conception of a constitutional inherited, postinfectious or functional hyposphyxia plus pluriglandular insufficiency opens a new outlook for therapeutics.

### Revue de Médecine, Paris

*April, XXXIII, No. 4, pp. 251-352*

64 *Post-Apopleetie Amuesia. (Cas d'amnésie de fixation post-apoplectique. Autopsie.) H. Mabille aud A. Pitres.

65 Unreliability of Alleged Test for Differentiating Cortical and Subeortical Motor Aphasia. (L'épreuve de Proust-Lichtheim-Dejerine.) Monod.

66 *Associated Pneumocoecus Infection. (Pneumoeoccies associées.) M. Lafforgue.

67 Paralysis of the Bladder and Sudden Death in Pneumonia; Three Cases. Revillet.

64. **Postapoplectic Amnesia.**—A syphilitic, aged 34, had an apoplectic attack but after a few months he recovered almost completely both his power of motion and his mental faculties. While he was capable of recalling perfectly the events of his past life and of understanding and appreciating his present surroundings, he was absolutely unable to fix any new memories. After twenty years in the asylum he still always thought

he had entered it the same day and had no recollection of his daily life there. Death occurred twenty-three years after admission and autopsy showed two symmetrical areas of softening, one in each hemisphere in the midst of the white substance which forms the center of the prefrontal lobes. The prefrontal lobes being cut off from their anatomic connection with the occipital and sphenoidal lobes, impressions could not be fixed as memories though they could be clearly perceived. This is in accord with the experimental work done on the prefrontal lobes of monkeys.

66. **Associated Pneumococcus Infection.**—Lafforgue reviews the literature on pneumococcus infection secondary to other diseases, such as Bright's disease, cirrhosis of the liver, nephritic pericarditis and peritonitis, typhoid fever and tuberculosis. He describes from his own practice three cases of malaria with sudden attacks of pneumonia, in all of which pneumococci were demonstrated by blood-culture. Malaria seems to favor the development of a latent pneumococcus infection, either by the decreased phagocytic power of the leukocytes or on account of the favorable culture medium furnished by the hemoglobinemia. In malarial countries, pneumococcus infection should suggest examination for and treatment of malaria.

### Archiv für Gynaekologie, Berlin

*XCIX, No. 2, pp. 225-453. Last indexed March 15, 1913, p. 868*

68 Ductless Gland in Gravid Uterus. (Untersuehungen über die sogen. Glande endoerine myométriale.) L. Fraenkel.
69 Innervation of the Uterus. (Die Nerven der Gebärmutter.) J. Hoogkamer.
70 Scrology of Pregnaney Pyelitis; Eight Cases. (Serologiseles und kliniseles über Schwangerschaftspyelitis.) W Weibel.
71 Changes in Adrenals in Pregnancy and after Castration. (Veränderungen der Nebenniere bei Schwangerschaft und nach Kastration.) W. Kolde.
72 Baeteriologic Control of Asepsis in Gynecologic Laparotomies. W. Sigwart.
73 *Frank's Teehnic for Subcutaneous Symphysiotomy. E. Kehrer.
74 Multiple Primary Carcinoma of Female Genital Apparatus. H. Hauser.
75 Melanosarcomas of the Clitoris. E. Vogt.
76 *Obstetric-Gyneeologie Importanee of Tetany. E. Kehrer.
77 Prophylactic Treatmeat of Eclampsia. W. Stroganoff.

73. **Subcutaneous Symphysiotomy.**—Kehrer has applied Frank's technie in ten cases and found it remarkably simple and free from danger of injury of the bladder, vagina, urethra or other adjoining tissues with the one exception of the corpus cavernosum of the clitoris. This was injured in 60 per eent. of the cases and led to a hematoma and in 30 per eent. of the cases to thrombophlebitis in the leg. The maternal mortality in the 118 cases on record has been only 0.8 per cent., in contrast to the mortality of 4.1 per eent. in the 217 recorded cases of subcutaneous pubiotomy. All the children were safely delivered in the seventy-nine women who had borne children before; the technic is only exceptionally applicable to primiparae. The great advantage, he reiterates, of subcutaneous symphysiotomy is that it permits expectant treatment to be carried to the very farthest limit. Weakness of the labor pains does not seem to be a contra-indication to the operation. Its special field is with universally contracted, shallow pelves with a true conjugate down to 6.9 or 6.8 cm. A possibility of infection already installed need not contra-indicate it, but with suspicion or certainty of infection it is wiser to prefer the extraperitoneal eesarean section. Subcutaneous symphysiotomy by Frank's technic does not interfere with the gait later. If it were not for the occasional hematoma and thrombophlebitis the method would be ideal.

76. **Tetany from the Obstetric-Gynecologic Point of View.**—Kehrer gives the details of numerous cases of tetany in or following a pregnancy or gynecologie operation, including a number from his own experience. Study of the common features and of results of experimental research confirms the causal importance of calcium in the development of tetany and the importance of the parathyroids as controlling calcium metabolism. During pregnancy the calcium is drained from the mother to form the bones of the fetus and the drain continues during lactation. In 29 cases, plus 2 from his own experience, the tetany developed first during a pregnancy, no month predominating; in 25 cases it recurred during pregnancy; in 4 it developed during the pregnancy in women who had previously had tetany; in 7 during a pregnancy after an operation for goiter, and in 2 after a long preceding goiter operation; in 3 the tetany developed during delivery; in 22 it appeared during the puerperium or lactation; in 8 it recurred at this time, and in 3 plus 1 it developed during lactation in women who had previously had tetany. Not only maternity tetany but also the tetany of osteomalacia and rachitis can be readily explained by the losses of calcium resulting from insufficiency of the parathyroids.

Januszewska, who practices in Bosnia, has reported that she has encountered 3,500 cases of osteomalacia among 20,000 patients in the course of ten years, and in 328 cases tetany was combined with the osteomalacia. Schönborn has reported a case of osteomalacia terminating after six years in fatal tetany with cachexia in a woman addicted to morphin. Hemorrhages, loss of body fluids, injury of the parathyroids by compression or an operation—anything in this line may bring on tetany, and it is very important to recognize the predisposition to it and thus be able to ward it off in time with calcium chlorid. Kehrer makes a point of examining for symptoms suggesting tetany in all pregnant and puerperal women and after gynecologic operations, examining for Chvostek's sign and, if this proves positive, inquiring in regard to paresthesias in the hands, formication, muscular weakness or stiffness, and pains in the fingers during sewing or writing. When these are found he gives calcium chlorid in large doses, in accordance, he says, with the important discoveries in this line of Halsted and Crile. He does not hesitate to give daily 5 or 6 gm. to adults and 1 gm. to new-born infants. He prescribes it as calcium chlorid, 10 parts (always adding the chemical formula, $CaCl_2$, and the warning: "Not chlorinated lime or potassium chlorate"), with syrup of peppermint or raspberry, 30 or 40 parts, and distilled water to 150 parts. He used Moser's antitetany serum in one case with apparently good results and states that he is thus the first to try serotherapy in human tetany, and also the first to treat with calcium pregnancy and puerperal tetany and tetany in the new-born. It is possible, he adds, that the parathyroids may be influenced by taking advantage of the antagonism between them and the adrenals.

### Archiv für Verdauungs-Krankheiten, Berlin

*XIX, No. 2, pp. 121-262*

78 Mode of Aetion of Saline Purgatives. (Ueber die Verweildauer von Salzlösungen im Darme und die Wirkungsweise der salinisehen Abführmittel.) F. Best.
79 *Aeute Embolie Enteritis. C. Hart.
80 Inversion of the Visecra. (Zur Kasuistik des Situs inversus partialis abdominis.) C. Hart.
81 *Influence of Internal Treatment on Disturbance in Motor Funetioning of the Stomaeh. (Der Einfluss der inneren Behandlung auf die Motilitätsstörungen des Magens.) S. Kemp.
82 *Extra-Anal Method of Treating Hemorrhoids. J. Maybaumm.
83 *Duodenal Ulcer. V. Plitek.
84 Teehnic for Endoscopy. (Einfache Methode zur Feststellung der Ursaehe des Versagens der elektrisehen Beleuehtung eines Endoskops.) F. Ehrlieh.
85 Blotting-Paper Capillary Test for Acidity in Gastric Juice. (Ueber die sogen. Kapillaranalyse vom Magensaft naeh Dr. I. Holmgren.) K. Mattisson. Commeneed in No. 1.

79. **Acute Embolic Enteritis.**—Hart gives an illustrated description of a case of fatal embolism in the intestines following directly on a septic sore throat in a girl nearly 7. A short bacillus was cultivated from the heart blood. This case was encountered in 1908 and there was considerable discussion whether it was not a case of variola. Quite recently he has seen a second case of the kind, confirming the previous assumption of embolic trouble in the intestines. The second patient was a robust bank clerk of 24 who died in the course of an ulcerative tonsillitis, and the findings in the intestines were similar to those in the first patient. In neither did the lymphatic system appear to be involved. In both the appendix was intact. Hart has not been able to find any similar cases on record of embolic enteritis occurring in connection with septic sore throat and accompanied by emboli in the skin.

81. **Influence of Internal Treatment on Motor Functioning of the Stomach.**—Kemp extols the remarkable advantages of the Bourget-Faber test-meal for estimation of the motor functioning of the stomach. It consists of oatmeal gruel, eight stewed prunes, 50 gm. chopped veal with a teaspoonful of huckleberry sauce and 2 slices of bread and butter. This meal is evacuated from the stomach by the end of five hours in normal conditions, and it is peculiarly adapted to reveal any disturbance in motor functioning, much more so than any of the other test-meals in vogue. He tabulates the findings in twenty-three patients with gastric ulcer, twenty with ptosis and atony, eleven with gastritis and thirty-two with simple atony. When there was a large amount of the meal still present in the stomach the patient was tested again the sixth, eighth or twelfth hour after the meal until the extreme limit for evacuation was determined. The contents pumped out of the stomach with the rinsing water are set aside in a cylindrical glass and the amount of solid sediment after a few hours can be recorded in c.c.

He found that the motor functioning improved under the usual treatment for the above conditions, the improvement being marked and paralleling the subjective improvement except in the cases of gastritis; this seems to be more resistant to treatment. In sixty of the eighty-five cases the retention thus determined on commencing treatment had entirely ceased by the end of the course of treatment. This favorable result was obtained not only in the mild forms of retention but even in a number of cases in which nearly all the prunes were found in the stomach after twelve hours. He records the cases as R-VIII or R-V or R-XII, expressing by this the number of hours when there was still a large amount of the food retained in the stomach, following these figures with (50) or (185) or (20) to express the number of c.c. of solid particles in the stomach content in the cylindrical glass. Even slight disturbances in motor functioning are revealed by this test-meal. The clinical experiences related show that even extreme retention for twelve hours may yet prove amenable to internal treatment.

82. **Extra-Anal Non-Operative Treatment of Hemorrhoids.**—Maybaumm has been applying in fifteen cases the method which Boas introduced and systematized (described in THE JOURNAL March 9, 1912, p. 742). He regards it as essential progress in the treatment of hemorrhoids, especially for patients whose condition does not permit operative measures. For solitary nodules with a long pedicle it is preferable to all other methods of treatment. He advises it as a preliminary to any operation as it may render the latter unnecessary. The patients have to stay three or four days in bed and keep quiet for another week. By the end of the second week they are free to return to business. In four cases he found it impossible to apply the technic successfully as the nodules had such a broad base.

83. **Duodenal Ulcer.**—In sixteen of seventeen cases of gastric ulcer, Plitek found that the condition was much aggravated by exercise while in four of thirteen cases of duodenal ulcer the patients felt better under exercise; in the other nine the pains increased with movement. In the gastric-ulcer cases the temperature in the rectum was above normal in five and also in three of ten duodenal ulcer cases. He gives the particulars of the thirteen cases: all the patients were great coffee drinkers. During the attacks of pain, it was relieved by lying on the back in eight cases and by a squatting position in three cases. One patient found the pain was relieved by pressing the stomach region against the edge of the table. He did a gastro-enterostomy in ten cases. The results have been excellent in all although the interval since has not been over six months in some of the cases. One patient died with symptoms of ileus after seven months, and necropsy revealed a cord-like adhesion between the gastro-enterostomy and the root of the mesentery.

## Berliner klinische Wochenschrift

*April 21, L, No. 16, pp. 717-764*

86 Digitalis. (Digitalistherapie.) A. R. Cushney.
87 The Pulse at High Altitudes. (Wirkung des Hochgebirgsklimas auf die Pulsfrequenz.) E. Stern.
88 *The Prognosis in Valvular Disease. (Herzklappenfehler.) M. Heinrich.
89 *Disadvantages of Use of Scopolamin in Treatment of Morphin Addiction. F. H. Mueller.
90 *Tibialis Anticus Antagonistic Reflex. A. Piotrowski.
91 Accessory Passages in the Penis and Gonorrhea. (Ueber die accessorischen Gänge am Penis und ihre gonorrhoische Erkrankung.) Hübner.
92 *Temporary Sterilization by Walling Off the Ovary with the Broad Ligament. Blumberg.
93 Operative Correction of Deformity below the Knees. (Fall von operativ behandelter angeborener Missbildung der unteren Extremitäten.) S. Peltesohn.
94 Cancer Induced in Rats by Feeding with Nematodes. S. Löwenstein and J. Fibiger.

88. **The Prognosis of Valvular Disease.**—Heinrich comments on the more favorable prognosis in valvular disease which the course of time has brought. Benfey has reported five cases in which the patients lived to be 17, 20, 27, 42 and 69 years old while Cassel has reported three cases of complete recovery from mitral insufficiency in children, Gerhardt the case of a young carpenter, and Baginsky admits that valvular disease in children may completely subside. Heinrich quotes also Senator, Leyden and others who have reported cases of complete recovery from aortic disease in adults. In all these favorable cases of valvular disease in adults the patients were able to spare themselves physical efforts. He then reports the case of a woman of 54 who had aortic insufficiency left from acute articular rheumatism at 16. At the age of 24 she was demonstrated as a typical case of aortic insufficiency. At 34 she had to spend four weeks in the hospital on account of pericarditis, but during the twenty years since she has been in continued good health and working in hard domestic service. The heart shows the typical signs of insufficiency of the aortic valve, and it has thus lasted for thirty years without impairing the general health. Heinrich knows of only one instance of such long survival on record.

89. **Injury from Narcotics in Treatment of Morphin Addiction.**—Mueller protests against a recent work which advocates keeping the patients under the influence of scopolamin in curing them from morphin addiction. He insists that any narcotic is not only superfluous but often does great harm under these circumstances.

90. **The Anticus Reflex and Antagonistic Reflex.**—Piotrowski called attention to the reflex dorsal flexion and supination of the foot when the tibialis anticus is tapped as described in THE JOURNAL, Jan. 25, 1913, p. 326. Further study of this reflex has shown that with organic disease of the central nervous system it is liable to elicit also or solely an antagonistic plantar flexion of the foot or toes. He found this reflex pronounced in six of nineteen patients with organic disease of the central nervous system; twice it was accompanied by the anticus reflex. In four cases of multiple sclerosis there was plantar flexion of the foot to the right or left on tapping the tibialis anticus; also in a case of myelitis and in a case of vertebral disease. In one of the multiple sclerosis cases the disease was in its incipiency, and the antagonistic flexion was the only pathologic reflex to be elicited in the leg; this case shows that the phenomenon may be an early sign of organic trouble.

92. **Temporary Sterilization of Women.**—Blumberg has applied a technic in six cases which effectually prevents conception while at the same time normal conditions can be restored at any moment when desired. The ovary is buried in a pocket made for it by turning up over it that part of the broad ligament of the uterus between the fallopian tube and the ligament of the ovary, suturing the free edges of this ala vespertilionis to the rear of the uterus, leaving the tube free in the peritoneal cavity. As the ovary lies behind the broad ligament it is thus completely imprisoned. The ovary is freely movable in this pocket as only the edges of the broad ligament are sutured, and at any moment the sutures can be taken out and the ovary released. He has done the operation by the vaginal route to date. In his six patients thus operated on there has been no disturbance at any time since; menstruation continues the same as before the operation. The longest interval since has been two years.

### Correspondenz-Blatt für Schweizer Aerzte, Basel

*April 19, XLIII, No. 16, pp. 481-512*

93 Hospital Experience with Typhoid During Forty-Six Years. E. H. Burckhardt.
96 Hematuria Five to Ten Days after Sterilization of Skin with Benzine. (Benzin und Toilette.) C. Roux.

### Deutsches Archiv für klinische Medizin, Leipsic

*CX, Nos. 3-4, pp. 189-412. Last indexed May 18, p. 1501*

97 *Formation of New Blood at High Altitudes. (Höhenclima und Blutneubildung.) F. Laquer. (Blutbildung im Hochgebirge.) O. Cohnheim and O. H. Weber.
98 Tuberculosis and Calcium Metabolism. (Zur Lehre des Kalkstoffwechsels. I.) N. Voorhoeve.
99 Metabolism under Hypophysis Treatment. (Wirkung des Extraktes aus dem Infundibularteil der Glandula pituitaria unter pathologischen Verhältnissen.) A. Elfer.
100 Nutrient Enemas Containing Simple Digestion Fragments. (Ueber Nährklistiere mit Eiweissabbauprodukten und deren Einfluss auf den respiratorischen Stoffwechsel und die Wärmeproduktion.) P. Sehöpp.
101 Tolerance for Galactose Introdneed Directly into Portal Circulation. H. Wörner.
102 *Experimental Research on Intravenons Dosage of Diphtheria Antitoxin. (Wirksamkeit grosser Serumdosen bei der Diphtherievergiftnng.) C. Schöne.
103 Intravenous Administration of Strophanthin. (Beitrag zum Ausbau der intravenösen Strophanthintherapie.) O. Thorspeeken.
104 No Probable Connection Between Endemic Goiter and Radio-Activity of Drinking Water. (Beziehungen zwischen Kropfendemie und Radioaktivität.) E. Hesse.
105 High Lymphocytosis Connected with Infeetions. F. Marehand.
106 Addison's Disease. J Löwy.
107 The Energometer and Sphygmobolometer. (Neue Experimente zur dynamischen Pulsdiagnostik.) T. Christen.
108 Amount of Blood Expelled from Heart at Each Beat. (Zur Frage des Herzschlagvolumens.) O. Müller and K. Vöchting.

93. **Influence of Altitude on Blood Production.**—Laquer made a study of his blood for some weeks at a low altitude and then during four weeks at a height of about 9,000 feet. Both the red blood-count and the hemoglobin began to rise slowly during the second week and on the fifteenth day reached their maximum, the red cells having inereased 15 per cent. and the hemoglobin 16 per cent. After his return to the lowland the red eells deereased suddenly and the hemoglobin gradually down to their original level. Six dogs were bled until about half the blood volume was removed and then they were taken to the 9,000-foot altitude. The restoration of the normal blood-volume required sixteen days, while six dogs kept at the lower level required for this twenty-seven days, or 70 per cent. more. He is inclined to ascribe the blood-regenerating power to the low oxygen pressure.

Cohnheim and Weber in order to determine whether there is an actual increase in blood formation at high altitudes, examined repeatedly the blood of twenty-three men who had worked for fourteen years on the Jungfrau railroad at altitudes of from 9,000 to 11,000 feet. Both red cell count and hemoglobin were deeidedly increased over the normal for healthy men at lower levels. Tables are given showing their results. (See also Berlin Letter, p. 1554.)

103. **Large Doses of Antitoxin in Diphtheria.**—There has been much discussion as to the efficacy of large doses of antitoxin in the treatment of diphtheria, some authors maintaining not only that large doses were no more effective than moderate ones, but that they were positively harmful. Schöne concludes from a series of intravenous injections of antitoxin in guinea-pigs that very large doses have no harmful effects and that by their use many patients with severe infection can be saved that would die with smaller dosage, particularly if the antitoxin is not given early.

### Deutsche medizinische Wochenschrift, Berlin

*April 17, XXXIX, No. 16, pp. 729-776*

109 *Puerperal Inversion of the Uterns. W. Zangemeister.
110 *Tubercle Bacilli in the Blood Stream. (Tuberkelbazillen im strömenden Blut.) E. Fränkel.
111 Actlon of Sernm and Toxin Administered by the Rectum. G. Shibayama.
112 *Serum-Anaphylaxis. (Wiederholte Seruminjektionen und Ueberempfindlichkeit—Serumanaphylaxie.) M. Nemmser.
113 Experimental Cholesterinemia. (Die pathologischen Veränderungen innerer Organe bei experimenteller Cholesterinesterverfettnng.) N. Anitschkow.
114 Diaphragm Hernia? (Hernia diaphragmatiea oder einseitiger Zwerchfellhochstand?) Reuss.
115 Pectineal Hernia. (Entstehung der Hernia pectinea.) O. Harzbecker.
116 Injury from Old Novocain Solution. (Gewebsnekrose und arterielle Arrosionsblutung nach Anwendung alter Novokainlösungen zur Infiltrationsanästhesie.) v. Gaza.
117 Bacillary Fragments in Tuberculous Sputum. (Ueber "Splitter" im Sputum von Phthisikern.) A. Forbat.
118 The Fever with Mucous Colitis. (Die Febris intermittens perennis der Colitis mucosa.) M. Couto.

*April 24, No. 17, pp. 777-824*

119 Gangrene of the Lung. G. Trenpel.
120 Improved Technic for Diagnosis of Diphtheria. (Erfahrungen mit deu Tellnrnährböden bei der bakteriologischen Diphtheriediagnose.) W. Schürmann and E. Hajos.
121 Research on Thorium X. (Die Thorium X-Wirkung auf das Blutzellenleben.) Arneth. Commenced in No. 16.
122 Bacillus causing Multiform Erythema. (Zur Aetiologie des Erythema exsudativum multiforme.) K. Saisawa.
123 Sources of Error in Wassermann Reaction. (Ueber "eigenlösende" Eigenschaften des Meerschweinchenserums und dadurch bedingte Fehlerquellen der Wa. R.) A Zaloziecki and E. Jolowicz.
124 Moving Pictnres of the Heart. (Die kombinierte Herzröntgenkinematographie nnd Elektrokardiographie.) T. and F. Groedel.
125 "Human Aquariums." E. Holländer See Abstr. 93, p. 1037.

109. **Puerperal Inversion of the Uterus.**—Zangemeister comments on the extreme rarity and severity when it does occur of inversion of the uterus at ehildbirth. Thorn has compiled 620 cases reeorded in the last twenty-two years, in conneetion with childbirth in 543 cases, with myoma in seventy-nine, with other tumors in four and the inversion occurred without known cause in thirteen. The great danger is from shock and hemorrhage. The shock may prove fatal without much hemorrhage, and shock may occur even during reduction. Over 4 per cent. in 374 cases died exclusively from the shock and 5.9 per eent. from the immediate hemorrhage. No case of air embolism is known, and only 2 per cent. of the women sueeumbed to sepsis, directly eonnected with the inversion. The total mortality of reeent puerperal inversion is thus 15.8 per cent., but forty-six other women died from the indirect consequenees, pulmonary embolism or other cause. The inversion became spontaneously reduced in 3 per ecnt. of the 374 cases. Treatment should aim to eorrect the inversion and check the hemorrhage; the latter can be readily done by imitating nature's proeess of compressing the pedicle by muscular spasm or a ring of engorged vessels, like a paraphimosis. An elastic band can be passed around the base of the uterus as it lies in the vagina, and thus arrest the hemorrhage by compression just tight enough to accomplish this and no more; it should be removed as soon as possible. Done in this way all hemorrhage is arrested and there is no danger of gangrene. If the inversion is not complete, the vagina should be tamponed to arrest the hemorrhage, possibly suturing the vulva as a temporary expedient. It might be advisable to make the inversion complete and then treat it as above. He gives minute directions for reduction of the inverted uterus, the patient on her back with the pelvis raised. No instrument should be used; beginning near the orifice of one tube, with the tips of the fingers, bunched, the uterus is pushed in, funnel-shaped, gradually working the fingers farther in with counter-pressure from the rest of the hand. The great obstacle is the ring of constriction at the base. All should be done under general anesthesia.

Statistics have shown the surprising fact that the outeome is far better when the patient is allowed to reeover from the shock before attempting reduction. From the third to the twelfth hour after the inversion is thus the propitious time for reduetion. In 158 cases in which the reduction was attempted at onee it succeeded in only 76 per cent. of the cases; it failed in 24 per eent., and 23 per cent. of the patients died. When the reduction was not attempted until after from one to fourteen days, there were 40 per cent. failures and 20 per eent. deaths. On the other hand, when the reduction was not attempted until from one to twenty-four hours after the inversion it succeeded in all but 14 per cent. and there was no mortality. In the majority of eases the inversion was due to pulling on the placenta before it

had separated and while the uterus walls were relaxed, not in contraction. The inversion is much more liable to occur when the traction is straight downward, the placenta implanted on the fundus. Reduction is easier of course, the less there is to reduce, and consequently the placenta should be removed, but great care is necessary as the inverted uterus is easily injured. After separation of the placenta it is better to wait a while to allow the uterus to recuperate from the mechanical irritation. The colpeurynter is useful in the old cases but not in the recent, except possibly in place of tamponing the vagina in cases of incomplete inversion. Operative measures should be restricted to cases in which reduction has not been possible in the course of the first twelve hours.

110. **Tubercle Bacilli in the Blood-Stream.**—Fraenkel states that microscopic examination of the blood for tubercle bacilli is liable to prove misleading and that inoculation of animals is the only reliable criterion. Of the twenty-five persons he examined, only two gave positive results in the forty-two animal inoculations. One was a woman with advanced pulmonary tuberculosis, the other a man with chronic bronchitis, no tubercle bacilli in sputum or blood.

112. **No Anaphylaxis to Diphtheria Antitoxin.**—Nemmser states that no signs of anaphylaxis developed in the course of his extensive experience with preventive injection of antitoxin in four years at the St. Petersburg Hospital for Infectious Disease. He has been studying 3,000 case records of scarlet-fever patients, the rule being to make a preventive injection on reception of every scarlet-fever patient as secondary infection is so common; measles, diphtheria, erysipelas, or mumps developing in 1 per cent. of all cases. He found 1.002 records of cases in which more than two preventive doses of the serum had been injected, in some up to five. Serum exanthems developed in forty-two cases but never anything to indicate anaphylaxis as he retrospectively analyzes the cases.

### Medizinische Klinik, Berlin

*April 20, IX, No. 16, pp. 611-652*

126 *The Diet in Diabetes. C. v. Noorden.
127 Pathology of Breast-Fed Infants. (Ernährungs- und Entwicklungsstörungen beim Brustsäugling.) Friedmann.
128 *Surgery of the Prostate. (Ein Jahr Prostatachirurgie.) M. Wilms.
129 *Urobilinogen Reaction in the Urine Early in Scarlet Fever. (Urobilinogenreaktion im Harne Scharlachkranker.) C. Schelenz.
130 *Oxyuris Appendicitis. (Vorkommen der Oxyuris vermicularis im erkrankten exstirpierten Wurmfortsatze des Erwachsenen.) Rheindorf.
131 National Parks. (Ueber Naturschutz und Naturdenkmalpflege.) W. Wangerin.

126. **The Diet in Diabetes.**—At the recent International Physiotherapy Congress von Noorden discussed the principles for modern dietetic treatment of diabetes with exact details. In conclusion he emphasized that no other chronic disease is so much under our control as diabetes, aside from the unconditionally malignant and very far advanced cases. He deplores that it so often happens that systematic treatment is not considered necessary in the early stages, and much time is wasted and the disease allowed to progress to a severe form by inadequate measures. Some rely on courses of mineral waters at spas, trusting to them to bring absolution for the dietetic sins of the home life; some waste time and money on quacks, patent medicines, and the so-called antidiabetic specialties advertised in such profusion. At best, these proprietaries are harmless drugs sold with directions for strict regulation of the diet The proprietary medicine with its alleged miraculous powers is only the business appendix; the active factor is the regulation of the diet. The patient's physician may not have ventured to impose such stringent dietetic restrictions, but the quacks do not hesitate to insist on them, and with disastrous audacity in many cases. He reaffirms the importance of beginning an energetic individualizing dietetic treatment of diabetes in the early stages of the disease. This is the time when, according to the patient's regulation of his diet, all may yet be won and all may be lost. When this principle is universally recognized it will be appreciated that the prognosis of diabetes is much more favorable than that of any other chronic disease and we will rarely encounter it in a severe form.

128. **Prostatectomy.**—Wilms states that he has done perineal prostatectomy in forty-three cases without a fatality. He believes that in scarcely any surgical field has there been such improvement as in prostate operations in the last decade.

129. **Urobilinogen Reaction in the Urine in Scarlet Fever.**—Schelenz expatiates on the importance of the dimethylamidobenzaldehyd reaction in the urine as a very early sign of scarlet fever. He obtained a positive reaction almost constantly in the early cases. The negative findings which some have reported were probably due to the presence of formaldehyd in the urine from preceding hexamethylenamin medication. Hexamethylenamin does not always split off formaldehyd in the urine, and consequently some patients who had taken it gave a positive reaction to the test for urobilinogen, but as a rule when a patient has taken this drug the urine test is negative.

130. **Oxyuris Appendicitis.**—Rheindorf concludes from his study of thirteen cases of appendicitis in persons harboring the oxyuris that chronic discomfort in the appendix region in adults, especially sharp pains, increasing during exercise, should suggest the possibility of oxyuris infection. Even when no signs of the parasite are evident in the stool they should be given a course of treatment for the helminthiasis; it should be arrested at once if signs of acute febrile appendicitis develop. He urges examination of every appendix after removal to determine the presence of helminths.

### Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

*XXVI, No. 1, pp. 1-196. Last indexed April 5, p. 1115*

132 *Action of Pathologic Kidney on its Mate. (Experimentelles über die Einwirkung einer lädierten Niere auf die Niere der anderen Seite.) K. Isobe.
133 *Chronic Pancreatitis. A. Schmidt.
134 Fat Embolism Outside of the Lungs and its Causes. (Die Fettembolie des grossen Blutkreislaufes und ihre Ursachen.) C. Fromberg.
135 Megacolon. (Zur Diagnostik der Hirschsprungschen Krankheit.) L. Frank.
136 White Bile. (Zur Frage der Entstehung der sog. weissen Galle bei absolutem dauernden Choledochusverschluss.) J. Bertog.
137 *Blood Count in Appendicitis. (Die heutige Bewertung der Blutuntersuchungen bei der Appendicitis bzw. freien fortschreitenden appendicitischen Peritonitis.) W. Schultze.
138 Roentgenoscopy in Diagnosis of Duodenal Disease. (Die Leistungsfähigkeit der Radiologie in der Erkennung von Duodenalerkrankungen, besprochen auf Grund von Erfahrungen an 31 operierten Fällen.) C. Müller.
139 Abscess in Omentum Sac after Necrosis of the Pancreas. A. Bittorf.
140 Surgery of Tumors in the Cerebellopontine Angle. (Kleinhirnbrückenwinkeltumoren.) H. Marx.
141 Experimental Colon Bacillus Infection of the Urinary Organs. O. Hess.
142 *Modification of Digestive Processes after Operations on the Stomach. (Aenderungen in den Verdauungsprozessen nach Gastroduodenostomie und Gastrojejunostomie, and nach totaler Magenexstirpation.) W. F. Dagaew.

132. **Action of Pathologic Kidney on Its Mate.**—Isobe reports experimental research which apparently demonstrates that the products generated in the pathologic kidney are absorbed and exert a toxic action on the epithelium of the sound kidney when these products are eliminated through it; they may also injure the parenchyma. In case the products are not very toxic, the sound kidney responds merely with a tendency to hypertrophy. The research reported seems to indicate that the toxic action is felt by the kidney alone. The practical conclusion is that the pathologic kidney should be got rid of as soon as possible before the other kidney has been extensively damaged.

133. **Chronic Pancreatitis.**—Schmidt has encountered a number of cases of chronic pancreatitis, and he insists that uncomplicated chronic pancreatitis belongs to the internist, not to the surgeon, and that it responds well to treatment as a rule. He does not apply the alleged specific tests for pancreas functioning but relies on clinical observation and microscopic examination of the stools on his special test-diet. With merely functional disturbance the pancreas seems to suffer

more than with an organic lesion, the interference with digestion being more striking and severer than with a tumor, for instance, which arrests the functioning in a portion of the organ but leaves the rest practically intact for a long time. He describes in detail eight typical cases of chronic pancreatitis. In three the bulky and greasy stools suggested an affection of the pancreas interfering with the digestion of fat and meat and also to a slight extent with that of starch. The disturbance in pancreatic secretion was evidently responsible for the variable subjective phenomena from abnormal digestion and for the intermittent catarrh of the bowels manifested in diarrhea, colics, passage of mucus and occasional transiently high temperature. The large amounts of meat fibers which escaped digestion provided a good culture medium for putrefaction-inducing microbes and the undigested starch for fermentation microbes. Bile production and stomach functioning were apparently normal.

The affection began in one case with an attack of ileus, accompanied by brief jaundice, followed by a left pleural effusion, the whole probably an acute pancreatitis which subsided into a chronic phase. Another patient had had a severe hematemesis six years before and the stomach was drawn toward the right and was rather large, suggesting an ulcer in the pylorus or duodenum as the primary cause for the disturbances. In a fourth case a gall-stone affection became complicated with a transient disturbance in pancreas functioning, all symptoms subsiding under treatment of the gall-stone trouble. In case of achylia, the lack of the normal stimulus from the gastric juice leads in time to insufficiency of pancreatic digestion, and the functional trouble may finally entail chronic inflammation of the pancreas. Chronic disturbance in the stomach secretion must thus be reckoned with as a possible factor in chronic pancreatitis. Obstruction of the outlet of the pancreas may lead to isolated pancreatitis with a fatal outcome. In a case of this kind reported the digestive disturbances were remarkably slight but there was intense glucosuria. Still another factor in chronic pancreatitis is a primary cirrhosis of the organ. This generally entails rapid cachexia. In one such case a man of 57 had pain in the stomach region; the acidity of the stomach contents was high and there was a tendency to diarrhea. The stomach was not tender or enlarged but quantities of undigested meat fibers and fat were found in the stools and the patient grew rapidly very thin and feeble. There was no glucosuria at any time. Necropsy showed extensive cirrhosis of the pancreas with a few small abscesses; no stones anywhere. The whole trouble was restricted to the pancreas and ran its course within a year.

Treatment should be based on the findings in the stools on the test-diet, restricting the fat (no butter, cream, very little milk), and the most minute division of all the meat and egg eaten. Schmidt has found gelatin dishes extremely useful as gelatin makes but slight demands on pancreas functioning and gives very little occasion for putrefaction processes. Arrow-root, sago, fine bread, rice and mashed potato should be the main reliance; vegetables should be allowed only with control of their digestion by examination of the stools. In case of atony of the stomach, lavage in the morning may be indicated. A course of mineral waters is not needed for the pancreatitis but may be indicated in case of concomitant gall-stone trouble. It might be advisable in some cases, he adds, to supplement the above measures with pancreas preparations; they may help in some cases but they fail in others, according to his experience.

137. **The Blood Count in Appendicitis.**—Schultze regards the quantitative and qualitative blood count as extremely important, and he applies it at once as a routine measure in all cases of appendicitis. He depends on it in large degree for the prognosis, especially with progressive peritonitis. Here it affords exceptional insight into the case.

142. **The Digestion after Operations on the Stomach.**—Dagaew gives a detailed description of numerous experiments on dogs after gastroduodenostomy, gastrojejunostomy or total gastrectomy to determine the conditions in regard to digestion of various articles of food. The tables show that the animals utilized their food thereafter surprisingly well.

### Monatsschrift für Geburtshilfe und Gynäkologie

*April, XXXVII, No. 4, pp. 417-552*

143 *Uterine Hemorrhage. (Zur Lehre von der Aetiologie und Therapie der Uterusblutungen.) L. Hirsch.
144 Pubiotomy. (Zur Frage von der Hebosteotomie.) L. A. Kriwsky.
145 *Development of Prematurely Born Children. (Weiterentwicklung frühgeborener Kinder, mit. bes. Berücksichtigung späterer nervöser psychischer und intellektueller Störungen.) M. Wall.
146 Hemophilia in Women. A. Czyborra.
147 Roentgenotherapy or Vaporization in Treatment of Hemorrhagic Uterus Disease. H. Fuchs.
148 Repeated Tubal Pregnancy. (Wiederholte Tubargravidität.) M. Hirsch and E. Puppel.

143. **Etiology and Treatment of Uterine Hemorrhage.**—Hirsch believes that menorrhagia and metrorrhagia are caused not by variations in ovarian secretion but by decreased contractibility of the uterine musculature. He has therefore treated 200 patients by injection of ergot directly into the uterine wall. Excellent results were obtained, particularly in chronic metritis and preclimacteric hemorrhage. Naturally the treatment is contra-indicated in acute inflammatory conditions and new growths of the uterus and adnexa.

145. **The After-Life of Premature Infants.**—Wall's conclusions are based on a study of 691 cases. He finds that contrary to a frequently accepted belief, premature birth is not responsible for Little's disease, idiocy or imbecility. Prematurely-born infants develop, as a rule, into normal adults, though in their early years there is apt to be some retardation, manifested by delay in learning to walk and speak, and persistence of enuresis and night terrors. The severity and persistence of this retarded development depend on the size of the infant at birth, and the extent to which it has suffered after birth from poor care and lack of hygiene.

### Monatsschrift für Kinderheilkunde, Berlin

*XI, No. 12, pp. 621-682*

149 *Inexpensive Modification of Protein Milk. (Die kaseinfettangereicherte Kuhmilch als Dauer- und Heilnahrung.) P. Heim and M. K. John.
150 Anaphylaxis to Milk. H. Kleinschmidt.

149. **A New Milk Modification.**—Heim and John have used what they call casein-fat milk for the feeding of both healthy and dyspeptic infants. In 145 cases of dyspepsia it gave excellent results. They fed forty-five healthy infants with it from the age of two weeks to seven or eight months. All were evidently in as good condition as if they had been fed with mother's milk. The casein-fat milk is prepared by adding two teaspoonfuls of extract of rennet to two-thirds of a liter of cow's milk and heating it in hot water to 40 C. The coagulated milk is stirred up and poured in a fine sieve and the whey allowed to drain off. Two-thirds of a liter of hot water is added to the coagulated part and it is rubbed through the sieve. This process is repeated until the fluid has the consistency of milk and runs through the sieve without rubbing. It is then heated to not over 88 C. being stirred continuously to avoid coagulation of the casein. After heating, one-third liter of cow's milk, which has been heated, and 30 gm. Soxhlet's sugar is added and it is kept in the refrigerator until wanted. It has the advantage over albumin milk or protein milk of being cheaper, and it can be prepared at home by mothers of ordinary intelligence.

### Münchener medizinische Wochenschrift

*April 22, LX, No. 16, pp. 849-904*

151 *Increased Irritability of the Neuromuscular System in Pregnancy. (Ueber galvanische Nervenmuskelerregbarkeit in der Schwangerschaft und über Schwangerschaftstetanie.) L. Seitz.
152 *Constitutional Inferiority of the Connective Tissue. (Die allgemeine Asthenie des Bindegewebes in ihren Beziehungen zur Wundheilung und Narbenbildung.) K. Vogel.
153 *Extensive Exposure of Inoperable Gastric Cancer to Permit Roentgenotherapy. (Freilegung inoperabler Magenkarzinome zur Röntgenbestrahlung und die damit erzielten Erfolge.) H. Finsterer.
154 Seriodiagnostic Reactions Simulated by Means of Chemicals. (Ueber Erzeugung von Komplementbindungsreaktionen durch Zusatz von chemischen Substanzen zum normalen Serum.) E. Rominger.

155 Brow Presentations. (Behandlung der Vorderhauptslagen.) Lehle.
156 *Necessity for Removing Tonsil in Treating Tubereulous Lymph-Nodes in the Neck. (Halslymphdrüsentuberkulose in ihrer Beziehung zu den Tonsillen und zur Lunge.) E. Trautmann.
157 *Malignant Pemphigus Cured by Intravenous Injection of 20 c.c. Fresh Human Serum. G. Praetorius.
158 *Technic for Determining Blood Pressure. (Neue Apparate zur Messung des arteriellen Blutdrucks beim Menschen.) H. v. Recklinghausen. Commenced in No. 15.
159 Etiology of Beriberi. C. Eijkman.
160 No Scientific Basis for Phrenicotomy. (Die Beeinflussing von Lungenerkrankungen durch künstliche Lähmung des Zwerchfells. Phrenikotomie.) D. Hellin.

151. **Increased Electric Irritability in Pregnancy.**—Seitz states that tests of forty healthy young women and of seventy pregnant women showed increased irritability to galvanic stimulation during the last months of pregnancy. During the puerperium the excitability gradually subsided. None of the women showed signs indicating tetany or a latent tendency thereto but the electric findings indicated a subtetany. Among the women there were four with eclampsia and two of these showed this tendency while in the others the electric tests indicated normal conditions. Seitz remarks that pregnancy tetany is distinguished by unusual severity; about 6 per cent. of the women die. The respiratory muscles suffer more in pregnancy than under other conditions. In treatment he has found the best results from keeping the women in bed. Thyroid treatment had but a dubious effect and trials of parathyroid extract are still under way. He ascribes to a latent tendency to tetany the peculiar attacks of asthma with nausea and the tremor which occur in pregnant women. (He makes no mention of calcium as a possible treatment of the tetany. —See Abstr. 76 above.)

152. **Constitutional Inferiority of the Connective Tissue.**—Vogel has been studying for nine years the connection between various affections such as flat-foot, varices, pendulous belly, ptosis, etc., and tardy healing of wounds and tardy consolidation of fractures. His experiences show that these all have a common basis in a constitutional inferiority of the connective tissue. In sixty-two cases summarized this connection was unmistakable. For example, a man of 27 with fracture of the femur showed no signs of callus after four months. He had flat-foot, inguinal and femoral hernia, gastroptosis and scoliosis. A young woman with varices, hernia and flat-foot burned the calf of one leg and the wound did not heal over for seven months. A child of 9 had a rather small wound of the calf which showed no signs of healing over for several months and finally required transplantation of flaps; the child was pale and had a tendency to hernia and his parents had hernias, varices, hemorrhoids, or curvature of the spine. Vogel urges that greater attention should be paid to this constitutional inferiority of the connective tissue, or tissue asthenia, as it will be of great aid in prognosis and in estimating the advantages of operative measures. Patients belonging in this category should be kept in bed longer after an operation than others, and the operative wounds should be reenforced more carefully. A suture material should be selected that is not absorbed too soon, and all the factors to ensure smooth healing of the wounds and good cicatrization should be heeded with special care.

153. **Roentgenotherapy of Inoperable Cancers.**—Finsterer applies an extremely radical technic for exposing an inoperable cancer in the stomach to the Roentgen rays and reports excellent results. After the median laparotomy under local anesthesia, he makes a gastro-enterostomy as far to the left as possible and then cuts both rectus muscles across, two or three fingerbreadths above the umbilicus, carrying the incision down to the costal arch and thus making a wide opening in the abdomen which leaves the stomach, its omentum and the gastrocolic ligament amply exposed. He packs around them with gauze to induce formation of adhesions. Five or six days are generally enough for this. No tendency to peritonitis or prolapse developed in the seven cases in which he has applied this technic. Under local anesthesia resection may be possible in conditions which forbid general anesthesia. Roentgenotherapy may be usefully applied after resection with or without extensive exposure for the purpose. In inoperable cases this radical exposure should be done as a routine measure in place of an exploratory laparotomy, and the gastro-enterostomy should follow, made as far toward the fundus as possible, regardless of the permeability of the pylorus. If this technic is not applicable, jejunostomy should be done. This method of radical exposure permits successful treatment of even immovable carcinoma in the posterior wall of the stomach. To prevent a fistula, anything liable to injure the serosa of the stomach, suture or exploratory excision should be scrupulously avoided and the dosage of the rays should be mild, not over one or two H units. The Roentgen exposures should be kept up a long time, and possibly they may be effectually supplemented by chemical treatment.

156. **Tuberculous Lymph-Nodes in the Neck Infected from the Tonsil.**—Trautmann is convinced that the cervical lymph-nodes are infected through the mediation of the tonsils in many cases, and insists that the tonsil on that side at least should be removed as the first step in treatment. In one of the cases he reports the tonsils were apparently sound but tuberculous changes were found in them resembling those in the tuberculous lymph-nodes in the neck on the same side.

157. **Serotherapy of Pemphigus.**—In the case described a woman of 48 had suffered for two years from severe and constantly recurring pemphigus rebellious to all treatment, including salvarsan. She was emaciated to a skeleton, with fever and occasional delirium and diarrhea and had been unable to leave her room for two months when he made an intravenous injection of 20 c.c. of blood taken directly from the woman's husband. No attempt was made to defibrinate or centrifugate as the little operation had to be done in her home. No by-effects were observed, but the curative action was amazing. By the third day the manifestations of the disease began to subside and by the end of the week recovery was complete and she started on a journey the third week. There has not been the slightest sign of recurrence of symptoms during the nearly eight months to date. The skin over the entire body seems normal and the patient has gained 18 pounds in weight. No local measures were applied with the serotherapy.

158. **Improved Apparatus for Blood-Pressure Measurement.**—Recklinghausen gives an illustrated description of his improved cuff, tonometer and bulb contrivance which is much simpler, cheaper and takes up less room than his old apparatus with its pump. He describes in particular the device with which he ensures uniform action from the rubber bulb, transforming the jerky action of the bulb into an even force.

### Petersburger medizinische Zeitschrift

*April 28, XXXVIII, No. 8, pp. 93-102*

161 Treatment of Ankylosis of the Elbow. (Ueber Mobilisierung des ankylotischen Ellbogengelenks durch freie Periosttransplantation.) W. Greiffenhagen.
162 Physical Laws Regulating the Circulation. (Der Wasserumlauf im Blutgefässsystem und in den Geweben des Organismus.) B. Nikolaew.
163 *Biologic Importance of Phosphorus for Growing Organism and its Action on the Intracellular Ferments. M. S. Maslow.

163. **Biologic Importance of Phosphorus.**—Maslow reports extensive research on dogs carried out at the Institute for Experimental Medicine at St. Petersburg. A number of litters of puppies were fed with phosphorus in various forms or with food intentionally selected for its lack of phosphorus especially albumin-milk. The action of ferments was supervised with special interest and finally the phosphorus content of the various organs was determined. The results of the research sustain the assumption of the importance of phosphorus for normal ferment production and action. Also that animals are incapable of synthesizing organic phosphorus compounds. The practical conclusions are that phosphates should not be given for therapeutic purposes. Lecithin, on the other hand, answers the requirements for administration of phosphorus and activation of the ferments. Maslow declares that lecithin decisively established its usefulness as a readily assimilated form of phosphorus. When given with the food the organs showed a marked increase in their content of organic phosphorus and a slight increase in the inorganic.

### Virchows Archiv, Berlin

*April, CCXII, No. 1, pp. 1-160*

164 Research on Development of the Skull. II. (Das fötale Wachstum.) R. Thoma.
165 Defective Development of the Chest. (Zur formalen und kausalen Genese der Brustmuskel- und Brustdrüsen-Defekte.) E. Walther.
166 Case of Fibroxanthosarcoma. (Ueber eine Fibroxanthosarkom mit eigenartiger Ausbreitung und mit Vena cava sup. sinistra.) A. Dietrich.
167 *Solubility of Gall-Stones. (Die Lösungsmöglichkeit der Gallensteine.) v. Hansemann.
168 Experimental Alimentary Atherosclerosis. W. Steinbiss

167. **Solubility of Gall-Stones.**—Hansemann has apparently proved by experiments *in vitro* and by transferring gall-stones from human beings to dogs that gall-stones are soluble in normal bile, particularly stones composed largely of cholesterin. If, therefore, by treatment the catarrhal conditions of the bile passages can be cured, inflammatory products removed and the bile restored to its normal condition, the stones will be dissolved spontaneously. Treatment should be undertaken with this aim in view, rather than with a view to direct action on the gall-stones. The article is accompanied by a number of illustrations showing sets of gall-stones in various stages of being dissolved, the research reported establishing once more that normal bile under normal conditions does not permit concrements to develop and will dissolve in time those already formed. The peculiar shape of the gall-stones found at the operation in many cases is due to their being partly dissolved.

### Zeitschrift für Kinderheilkunde, Berlin

*VI, No. 4, pp. 253-374. Last indexed April 26, p. 1337*

169 Standards for Growth of Children and their State of Nourishment. (Eine einfache Tafel zur Bestimmung von Wachstum und Ernährungszustand bei Kindern.) C. v. Pirquet.
170 Tuberculous Meningitis; History, Symptoms, Prognosis. Literature. H. Koch.

*Nos. 5-6, pp. 375-518*

171 Metabolism of Atrophic Infants. (Stoffwechsel atrophischer Säuglinge.) A. Niemann.
172 Electrocardiagrams of Weakly Infants. C. T. Noeggerath.
173 Physiology of Lactation. K. Bamberg.
174 Rosenbach's Tuberculin in Treatment of Tuberculosis in Children. C. Beck.
175 *Sugar in Infant Feeding. (Zur Frage des Zuckerzusatzes bei der unnatürlichen Ernährung.) B. Bendix.
176 Continuous Intubation with Stenosis of the Larynx of Diphtheric Origin. Brückner.
177 *Reaction in Children to Human and Bovine Tuberculin. C. Cattaneo.

175. **The Best Sugar in Artificial Feeding.**—Bendix believes that beet sugar is to be preferred to milk sugar in preparing cow's milk for infant feeding. Its very much lower price is worth considering in poor families, but, in addition to that, infants actually increase more in weight on beet sugar. There is less intestinal fermentation and the stools are better. He gives weight curves for thirteen cases supporting his views.

177. **The Reaction of Children to Human and Bovine Tuberculosis.**—Cattaneo reviews the discussions as to the identity of human and bovine tuberculosis and gives his own results in a series of forty-five cases of tuberculosis in children treated with both human and bovine strains of tubercle bacilli. He found that cases of bone, bowel and gland tuberculosis reacted much more frequently and readily to the bovine tuberculin, while, on the contrary, a larger percentage of pulmonary cases reacted to the human form.

### Zeitschrift für klinische Medizin, Berlin

*LXXVII, Nos. 3-4, pp. 145-354. Last indexed April 5, 1913, p. 1116*

178 *Why Blood Annuls Toxic Action of Atropin. (Zum Mechanismus der Atropinentgiftung durch Blut und klinische Beobachtungen über das Vorkommen der Entgiftung.) A. Döblin and P. Fleischmann.
179 The Mechanism of the Polyuria in Diabetes Insipidus. (Zur Frage des Konzentriervermögens der Niere beim Diabetes insipidus.) Forschbach.
180 Experimental Research on Nature and Cause of Recurrences. F. Rosenthal.
181 Active Expiration as Sign of Nephritis. H. K. Barrenscheen.
182 *Spasmophilia in Adults. G. Peritz.
183 *Metastatic Tumors in the Skin. (Einige metastatische Hauttumoren.) S. Laache.
184 Types of Respiration in Health and in Acidosis (Ueber Atmung des gesunden und säurevergifteten Menschen.) Röver.
185 *Study of Kidney Functioning in Nephritis. (Funktionelle Untersuchungen bei den Nephritiden des Menschen.) W. Wolffheim.
186 Necropsy Blood Findings in Diphtheria. (Beiträge zur Diphtherie mit bes. Berücksichtigung der path.-anat. Organ- und bakt. Leichenblutbefunde in ihrem Verhalten zum klinischen Bilde.) W. H. Leede.
187 Elimination of Amino-Acids in Health and Disease. (Studien über Aminosäurenausscheidung bei Gesunden und Kranken.) M. Damask.

178. **Neutralizing Toxic Action of Blood in Respect to Atropin.**—The research reported seems to indicate that the substance in rabbit serum which annuls the toxic action of atropin is of the nature of a ferment. The reaction was positive in 30 per cent. of ten patients with exophthalmic goiter and in 15 per cent. of twenty with ordinary goiter; it was never found in the twenty persons with apparently normal thyroids.

180. **Nature of Relapses.**—Rosenthal thinks that much light will be thrown on mutation of pathogenic germs and the problems of heredity of acquired properties by research on the nature and cause of relapses and recurrences. It seems evident that under the influence of the antibodies generated in an acute infection the causal germs undergo some modifying action, so that they start up new phenomena of a different nature: the so-called relapses or recurrences.

182. **Spasmophilia in Adults.**—Peritz applies this term to a constitutional anomaly consisting of an abnormally ready response on the part of the nervous and muscular system, particularly the autonomic nervous system, to stimuli affecting them. This constitutional anomaly is characterized by increased irritability to anodal electric stimuli (Pirquet); by the Chvostek symptom; by exaggerated mechanical excitability (long lumps in the muscles and grooves at the base of the thumb); hypertonicity of the arteries (cold, livid hands and feet); the blood-pressure normal or below; the Aschner symptom (change in the pulse on pressure of the eyeball), and a change in the blood picture, increase of the large mononuclears (monocytes, Pappenheim's leukoblasts). This constitutional anomaly seems to be the basis on which various affections develop which have in common an increased irritability of the neuromuscular system. This includes cases of epilepsy, tic, myalgias, vasomotor neuroses, migraine, asthma, "dread neuroses" and especially what has been called vagotony.

183. **Metastatic Cancer of the Skin.**—Laache reports seven cases of metastatic tumors in the skin, sarcoma in three and carcinoma in four cases. In the latter group the primary focus was in the kidney and adrenal, intestine or breast. Death speedily followed the metastasis.

185. **The Kidney Functioning in Nephritis.**—Wolffheim reports extensive functional tests applied in twenty-eight cases of nephritis. In all the actually inflammatory kidney affections the elimination of salt and of water was apparently normal. The elimination of salt was found defective in the oliguric stage of vascular nephritis and in tubular nephritis. The elimination of nitrogen was also intact in the cases of acute nephritis. Retention of salt does not always entail edema, but in all cases with dropsy there is disturbance in the elimination of sodium chlorid, either from retention or from the flushing out of retained deposits of salt. Application of heat to the deeper tissues was applied in three cases with retention of salt, and under the influence of the thermopenetration the elimination of both salt and water improved. These findings encourage further trials in this line. The results of the research on the whole indicate that it is possible by functional examination to differentiate the various forms of nephritis. The tests were made with merely keeping the patients on a given milk or milk and rice diet, with or without given amounts of salt and water. The aim was to determine the conditions in regard to elimination of salt and nitrogen on a given uniform diet and when a test amount was given in excess. No attempt was made to apply the potassium iodid and lactose tests for fear of possible injury from the latter and because the inter-

pretation of the potassium-iodid test findings has not yet been perfected.

### Zentralblatt für Chirurgie, Leipsic

*April 26, XL, No. 17, pp. 633-680*

188 Fracture of Sternum. W v Brunn.
189 *Faradic Current in Treatment of Intermittent Limping. (Anwendung des faradischen Stromes beim intermittierenden Hinken.) W. Kühn.
190 Osteoplastic Amputation of the Foot. (Bildung tragfähiger Stümpfe bei der tiefen Amputation des Unterschenkels durch osteoplastische Verwendung der Knöchel.) W. Levy.

189. **Electric Treatment of Intermittent Limping.**—Kühn calls attention to the benefit attained in the case of a man of 68 suffering from intermittent claudication and given treatment with the four-cell electric bath. Each leg was placed in a deep vessel of water at 35 C. and the faradic current was brought into the water. The femoral pulse at first was imperceptible but after twelve sittings it became palpable again. A point near the tibia was still quite painful but this was cured by direct application of the faradic electrode. The patient had long been unable to walk, but now, six years later, he can take comparatively long walks without disturbance.

### Zentralblatt für Gynäkologie, Leipsic

*April 26, XXXVII, No. 17, pp. 601-640*

191 Streptococci in Puerperal Vaginal Secretion. (Bedeutung des Streptokokkenbefundes im Vaginalsekret Kreissender.) E. Sachs.
192 *Cancer in Stump of Uterus. (Ueber die im Uterusstumpfe nach der supravaginalen Amputation sich entwickelnden malignen Geschwülste.) P. N. Hansen.
193 *Biologic Test for Pregnancy. (Ergibt das Dialysierverfahren von Abderhalden eine spezifische Schwangerschaftsreaktion?) Behne.
194 Danger from Moisture Collecting Under Gloves. (Der Handschuhsaft.) H. Helleudall and W. Fromme.

192. **Cancer in the Stump of the Uterus.**—Hansen has become convinced by the four cases he reports that supravaginal amputation of the uterus for myoma should be totally abandoned. One patient was a woman of 43 and an epithelioma developed in the stump six years after the amputation for multiple fibromyomas. There has been no sign of recurrence during the two years since the cancerous stump was removed. In the second case the cancer was a chondro-myxosarcoma with metastases in the lungs and knee. It developed less than a year after the supravaginal amputation for myoma. In the third case there was only a brief interval after the amputation before new symptoms developed and a tumor in the stump proved to be of the same nature—a cystic fibroma—as that removed at the first operation. The bladder was injured—as also at the first operation—and the patient died soon after No trace of anything malignant could be found at necropsy, yet it is possible that some sarcomatous part of the tumor might have been overlooked.

193. **Biologic Test for Pregnancy.**—Behne has examined 100 patients but leaves out of consideration the first forty in which the technic may have been defective. He found the dialysis test almost constantly positive in normal pregnant women but in a few instances it was negative even with certain pregnancy. He also found it positive in a number of non-pregnant women with an inflammatory process in the genital organs or elsewhere. A positive reaction was also obtained in several males but only in those with pulmonary tuberculosis or liver disease.

### Zentralblatt für innere Medizin, Leipsic

*April 26, XXXIV, No. 17, pp. 417-440*

195 Nitrobenzol Poisoning. O. Roth.
196 *Acid-Fast Bacilli in the Blood Stream. (Vorkommen säurefester Stäbchen im Blute.) W. Lang.

196. **Tubercle Bacilli in the Blood-Stream.**—Lang found acid-fast bacilli in the blood of thirteen tuberculous patients and in seven of ten non-tuberculous. Necropsy of three in the latter group failed to disclose any macroscopic tuberculous changes in one; in the second there were a few calcified lymph-nodes at the hilus, and in the third old calcified foci in the apices.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*April 15, XXXIV, No. 45, pp. 471-478*

197 Serodiagnosis of Pneumococcus Infection. (La precipito diagnosi nelle affezioni da pneumococco del Fränckel.) A. Facchin.

*April 22, No. 48 pp. 503-510*

198 Treatment of Deep Abscess in the Neck. (Studio clinico delle suppurazioni profonde del collo.) F. F. Pisano.

*April 24, No. 49, pp 511-518*

199 Acute Articular Rheumatism Consecutive to Pseudomembranous Pharyngitis. G. Baglioni.

*April 27, No. 50, pp. 519-534*

200 *Causes of Pain in Epigastrium. G. Fargnoli.

200. **Causes of Pain in the Epigastrium.**—Fargnoli reviews the various causes which may induce severe pain in the stomach region, calling attention in particular to Pott's disease and Addison's disease as well as tabes, which must be excluded in differentiation. He also reports a case in which there were no symptoms except a progressively increasing pain in the stomach region, by the end of two weeks radiating to the kidneys and shoulder. The patient was a previously healthy young woman and the pain did not seem to be dependent on eating but became more intense about 5 p. m. After a month, fever and symptoms developed explaining the trouble as Malta fever with secondary staphylococcus liver trouble with bile pigments in the urine, the syndrome simulating finally gall-stone trouble. The serum agglutinated the Malta micrococcus at 1 to 1600 and the staphylococcus at 1 to 800. The pains in the epigastrium were so intense that the patient had to be kept under the influence of morphin most of the time but she gradually recovered and is now entirely well, with no signs of recurrence during the nine months since.

### Policlinico, Rome

*April 20, XX, No. 16, pp. 549-584*

201 Wounds from Modern Firearms. (Le ferite prodotte dalle moderne armi da fuoco portatili da guerra nei vari tessuti ed organi.) P. Imbriaco.

*April, Surgical Section, No. 4, pp. 145-192*

202 Experimental Mechanical Influencing of Hypophysis Functioning. (Sulla compressione artificiale dell'ipofisi.) A. Austoni.
203 Experimental Research on the Internal Secretion of the Testicles. (Ulteriori ricerche sperimentali sulla secrezione interna testicolare.) V Barnabo.

### Riforma Medica, Naples

*April 12, XXIX, No. 15, pp. 393-420*

204 Pancreatic Ferments in Stools as Aid in Diagnosis of Pancreas Disease. P. F. Zuccola.
205 The Meconium from Medicolegal Standpoint. (Del meconio rispetto agli indizii che ne sono desumibili nelle necroscopie.) G. G. Perrando. Commenced in No. 14.

*April 19, No. 16, pp. 421-448*

206 Tabetic Knee Affection Cured by Resection. (Artropatia tabetica del ginocchio. Resezione. Guarigione.) R. Falcone.
207 Experiences in Tripoli with Scalp and Skin Diseases. (Le tigne, il pian, le piodermatosi ed altre affezioni cutanee curate negli indigeni della Tripolitania.) D. A. Mazzolani. Commenced in No. 15.
208 Torsion of the Funiculum of Retained Testicle. (Intorno ad un caso di torsione del funicolo in ectopia inguinale del testicolo.) P. Tasca. Commenced in No. 15.

### Brazil-Medico, Rio de Janeiro

*April 1, XXVII, No. 13, pp. 121-130*

209 Urinary Fever. F. Luz.

*April 8, No. 14, pp. 131-140*

210 Treatment of Aneurysms. C. Werneck.

*April 15, No. 15, pp. 141-150*

211 Musical Heart Sound. (Sopros musicaes do coração.) C Fraga.

### Semana Medica, Buenos Aires

*March 27, XX, No. 13, pp. 741-796*

212 Technic for Operating on Enlarged Inferior Turbinate. (Una nueva intervencion en alguuas hipertrofias del cornete inferior.) M. J. Rizzi.
213 Congenital Myatonia. (La patogenia y anatomia patologica de la miatonia congenita de Oppenheim.) G. A. Alfaro.
214 Ultraviolet Rays in Sterilization of Water. V. Delfino.
215 Suction Hyperemia in Otology. (Resultados personales de la aspiracion de Bier en Otologia.) D. E. Botella.

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, No. 23 CHICAGO, ILLINOIS JUNE 7, 1913


## MENINGITIS OF THE EPIDEMIC TYPE IN CHILDREN BELOW TWO YEARS OF AGE*


HENRY KOPLIK, M.D.
NEW YORK


The diagnosis and treatment of cerebrospinal meningitis in children below 2 years of age has become a very important problem. Without fear of overestimating our modern advances in methods of diagnosis and treatment, it may be said that in older children, between the ages of 2 and 10 years, this dread affection has been deprived of its many terrifying aspects. The disease in these older children is easily diagnosed and the treatment now in vogue with the Flexner serum has given the disease a prognosis in epidemic periods equal to that of a lobar pneumonia, and in sporadic cases even a better prognosis than the pulmonary affections. In sets of sporadic cases the outlook is not worse than in any of the ordinary affections of an infectious nature in childhood. The children and infants below 2 years of age often present symptoms which are misleading and, therefore an early diagnosis is not made in a number of cases. This would seem strange to some who, from the text-book description, expect a meningitis in a young child or infant to present certain definite symptoms. The diagnosis is often masked, the physician not even entertaining a thought of meningitis. It is the fear of making a lumbar puncture and finding a clear fluid normal in every way, with the consequent doubting attitude of those about the patient, that must deter many from performing this necessary aid to an early diagnosis. In no other way can we account for the large number of infants who are sent to the hospital quite late in the disease without any diagnosis having been made. Even in the hospital, with the young patient under our direct observation, it is often difficult to come to a conclusion before lumbar puncture. Particularly difficult are the cases in infants which are complicated with a pneumonia. Many cases of pneumonia are complicated with cerebral symptoms; there is the restlessness, the rigidity, the retraction of the head and the fever which continues a long time past the initial phase of the disease. Again, there are in young infants a number of cases in which the initial symptoms of fever and restlessness are not combined with any other symptoms, such as rigidity; or there may be a slight concomitant otitis to mislead us at first into the feeling that we are dealing with a purulent ear disease instead of a meningitis. The remittence or intermittence of a high temperature with increasing restlessness, and finally the appearance of neck-rigidity then shows us we have had a meningitis from the outset. In fact, many diseases of infancy, even a simple intestinal disorder, are so often combined with milder forms of cerebral symptoms that we can easily explain how a meningitis in younger children and infants is often overlooked. The physician is alive to the presence of a Kernig, but this is certainly absent in many infants and is of little value in the diagnosis of a meningitis. Again, the onset in many diseases is with convulsions or repeated convulsions, and it would be rash to conclude that in every such case a meningitis might be present. An observation period is therefore assumed to be necessary and then valuable time is unavoidably lost.

Therefore, the first impression we obtain in a study of a series of cases of meningitis in the very young is that in all cases we should never lose sight of the possibility of meningitis and that perfection and accuracy in diagnosis in these subjects are essential.

I say, without fear of dispute, that a day's delay in older children is not dangerous (as will be seen from a study of the subject), but the same delay in a baby may mean its loss. The stress of diagnosis must be placed on the persistence of cerebral symptoms, high fever and, what is of greatest import and scarcely appreciated at its full value, Macewen's percussion note over the frontoparietal juncture as a sign of increasing fluid in the head. The younger the child the more difficult it will be to come to a definite conclusion as to increase of fluid in the ventricles, for in rachitic infants a Macewen percussion note is normal, but some practice will teach the difference in the line between the normal and abnormal. A tense fontanelle is of some value, but not always, for some children will mislead the most expert when a crying spell is present.

The mortality in young infants in cerebrospinal meningitis is quite high. In the statistics prepared by Flexner of his serum cases, of 125 infants below one year of age, treated by serum, 63 recovered and 62 died; a gross mortality of 50 per cent. On the other hand, 5 infants injected in the first three days of the disease recovered, and of 16 patients injected in the first week 12 recovered (75 per cent.). In other words, the earlier the injections the more certain the therapeutic effects of the serum. In another statistical report, giving an analysis of 400 cases, there is a mortality of 50 per cent. in 22 patients of 1 year and below, and 42 per cent. between 1 and 2 years of age. Taking these figures as a basis of comparison, in our own service in the Mount Sinai Hospital, there are 15 patients below one year of age with a mortality of 10, or 66 per cent. Of these 15 patients, 2 injected on the fifteenth day recovered, one injected on the seventeenth day improved (discharged), one on the twenty-first day was cured, and one on the twenty-ninth day cured.

* Read before the Clinical Conference in February, 1913, Mount Sinai Hospital.

None of the remaining patients came to us before the second week of the disease and some not before the forty-second day. Not all the patients coming early recovered, for one injected as early as the third day and another on the fourth day of the disease died. Between the ages of 1 and 2 years the mortality was less. Of 12 patients, 6 recovered. Some of the patients who recovered came to us quite late and were injected the twenty-first day or the twenty-ninth day of the disease and recovered, whereas one patient coming to us and receiving the serum on the second day of the disease died after an illness of fourteen days.

There are other causes which can account for the high mortality, among which must certainly be placed the virulence of the infection. Not only are the cerebrum and its fissures most delicately and minutely constructed in these infants, but the infection differs widely in virulence. This has been remarked by Flexner. Another reason is that quite early at the outset in many infants the subarachnoid space at the base of the brain is cut off from that of the cord, with the result that lumbar puncture with introduction of serum becomes fruitless quite early—on the second or third day of the disease in some infants.

A proof that the virulence in various strains of meningococci plays a most important rôle and is not reached by the serum is the fact that it was our fortune in pre-serum days (in spite of a very high mortality in these infants by the methods of treatment then in vogue) occasionally to save a very young infant suffering from meningococcic meningitis by the simple method of repeated lumbar puncture. In an attempt to save the cases in which the subarachnoid space was closed off from the spinal canal and simple lumbar puncture was fruitless, and serum could not be introduced by this route, we have resorted to ventricular puncture, the ventricle being punctured on one or both sides, a certain amount of fluid withdrawn and serum introduced. Eight patients were treated in this manner; some of them had had lumbar puncture and others not. In all of these cases the method was fruitless. In some coming to us on the sixteenth day of the disease, the lumbar puncture being fruitless, no fluid obtained, ventricular puncture was made from the start with no results. This disheartened us as to the future of ventricular puncture. The infants do not seem to bear the procedure well and it seems to me that some improvement over simple ventricular puncture must be devised. Some infants below one year of age cannot recover from the first shock of the infection of meningococci, and lumbar puncture does not relieve them but seems to add to their shock, which becomes more evident when serum is introduced, for they may pass out suddenly or soon after the puncture and serum introduction.

There is a set of cases which cannot be reached by the serum. We have recently had such a case in an infant 10 weeks of age, suffering from purulent meningococcic meningitis, which passed out while the serum was being introduced, the variation in cerebral pressure being too rapid for such a very delicately constructed nervous system. I would therefore urge that, in infants below 2 years of age, in whom meningitis is suspected, an early lumbar puncture be made so that the treatment may be begun as soon as feasible. In these young patients fluids should be withdrawn slowly and with the greatest caution and the serum be introduced very slowly in order that traumatism and extreme changes of pressure be avoided.

SERUM INJECTIONS IN PATIENTS BELOW 2 YEARS OF AGE

| Name | Age yrs. | mos. | Duration of Illness days | Day of Serum Injection *. | Result |
|---|---|---|---|---|---|
| 1907 | | | | | |
| Abe K. | .. | 24 | 30 | 7 | Cured |
| Hyman B. | .. | 15 | 55 | 23 | Cured |
| 1908 | | | | | |
| Herbert L. | .. | 3½ | 38 | 15 | Died |
| | | | | 18 | |
| | | | | 20 | |
| | | | | 23 | |
| | | | | 26 | |
| Max G. | .. | 15 | 22 | 8 | Cured |
| Mary R. | .. | 24 | 20 | 4 | Cured |
| Alice B. | .. | 22 | 25 | 5 | Died |
| | | | | 6 | |
| | | | | 10 | |
| | | | | 12 | |
| | | | | 16 | |
| | | | | 19 | |
| | | | | 21 | |
| | | | | 25 | |
| 1909 | | | | | |
| Heiman S. | .. | 4 | 29 | 13 | Died |
| | | | | 15 | |
| | | | | 18 | |
| Ethyl W. | .. | 4 | 42 | 12 | Died |
| | | | | 14 | |
| | | | | 15 | |
| | | | | 16 | |
| | | | | 17 | |
| | | | | 19 | |
| | | | | 21 | |
| | | | | 25 | |
| | | | | 33 † | |
| | | | | 35 † | |
| Anna G. | 1 | .. | 26 | 3 | Died |
| | | | | 5 | |
| | | | | 6 | |
| | | | | 8 | |
| | | | | 9 | |
| | | | | 11 | |
| | | | | 12 | |
| | | | | 13 | |
| | | | | 18 † | |
| Isaac L. | .. | 6 | 58 | 15 | Died |
| | | | | 16 † | |
| Frieda G. | 1 | 3 | 54 | 45 | Died |
| 1910 | | | | | |
| Abraham S. | 1 | 2 | 35 | 12 | Cured |
| Leon N. | .. | 5½ | 41 | 11 | Died |
| | | | | 13 | |
| | | | | 14 | |
| | | | | 25 † | |
| | | | | 39 | |
| Ida B. | .. | 4 | 119 | 42 | Died |
| | | | | 46 | |
| | | | | 71 | |
| | | | | 80 † | |
| | | | | 87 | |
| | | | | 92 | |
| 1911 | | | | | |
| Celia G. | .. | 8 | 38 | 21 | Died |
| | | | | 22 | |
| | | | | 24 | |
| | | | | 34 † | |
| | | | | 35 | |
| | | | | 35 † | |
| Izzy G. | 1 | 9 | 36 | 4 | Cured |
| | | | | 5 | |
| | | | | 10 | |
| | | | | 33 | |
| Hyman K. | .. | 7 | 5 | 4 | Died |
| Izzie S. | .. | 5 | 53 | 15 | Cured |
| | | | | 16 | |
| Sarah S. | 1 | 3 | 17 | 11 | Died |
| | | | | 13 2 inj. | |
| | | | | 15 | |
| Josephine H. | .. | 4 | 32 | 15 | Cured |
| Oscar L. | .. | 5 | 45 | 17 | Unimpv'd |
| 1912 | | | | | |
| Aaron S. | 1 | 9 | 14½ | 2 | Died |
| | | | | 3 | |
| John H. | 1 | 4 | 31 | 5 | Died |
| | | | | 8 | |
| | | | | 14 † | |
| | | | | 22 | |
| Louis S. | 1 | 1 | 22 | 8 | Died |
| | | | | 9 | |
| | | | | 10 | |
| | | | | 11 | |
| | | | | 13 † | |
| | | | | 20 | |
| Sidney C. | 1 | .. | 26 | 7 | Died |
| | | | | 9 | |
| Esther R. | .. | 5½ | 43 | 21 | Cured |
| | | | | 22 | |
| | | | | 23 | |
| Millie M. | .. | 10 | 56 | 29 | Cured |
| | | | | 31 | |

* Serum injected in lumbar region unless otherwise indicated.
† Serum injected in ventricular region.

In young patients the temperature is a guide of great value as to the necessity of repeated puncture and introduction of serum as in older children, but in face of great restlessness and a normal temperature fluid should be withdrawn by lumbar puncture and examined for bacteria. If these persist and a cloudy fluid is obtained, it is safe to reintroduce serum rather than delay and wait for actual cultures to determine whether or not such fluid is sterile. This brings me to a discussion of a baffling feature of this disease in infants and children below 2 years of age. I have mentioned the closure of the foramen of Magendie and the impossibility of performing lumbar puncture in many cases. We then see developed the hopeless picture of posterior basic meningitis. But more baffling are the cases of infants in whom, after repeated injections of serum have been made and the temperature having dropped to the normal and stayed there for weeks, we have developed under our eye the various features of a progressive hydrocephalus. This occurs even when the fluid withdrawn is shown after a time to be sterile. This hydrocephalus is not only due to changes in the ependyma of the ventricles, but, as I have shown and also know, to a persistence of the meningococci in the ventricles in much diminished numbers and of reduced virulence.

I have tried in this summary of our practice in the wards to point out the great difficulties as we meet them in the diagnosis and treatment of these cases and to emphasize the necessity for caution before pronouncing such patients cured. Until some time has elapsed since the onset of normal temperatures, the possibility remains that hydrocephalus may intervene, and I would emphasize the fact that much still remains to be done before we can rest satisfied with our means of aiding these patients.

30 East Sixty-Second Street.

---

## PREVENTION OF DISEASE VS. COST OF LIVING *

THOMAS F. HARRINGTON, M.D.
BOSTON

It is now pretty generally accepted that the increase in the cost of living must be reckoned with as a necessary consequence of the social, economic, and political development of the world. The problem is made up of so many complex items that little hope need be expected that a reduction in the cost of the several factors is likely or possible. Neither is there much promise of success in a fight to reduce the total cost of these various component elements. The situation is quite analogous to that which has developed in preventive medicine. Here we have found that germs of disease and microbes are so numerous and are so ubiquitous that their complete eradication is impossible. Some of them are helpful to health; others are powerful allies in combating certain diseases if rightly marshaled. The successful campaign against the harmful germs has been so to raise the inherent fighting power of each human being that the attacks from germs cannot get by the person's defense, that is, by his asset of health, or health income. Each person has within himself this resistant power to disease. Modern medicine consists greatly in bringing it into action. In the fight against tuberculosis alone, it has resulted in a reduction of deaths, in Massachusetts, of 45 per cent. since 1880. If the same principle is applied widely and in accordance with established facts in medicine, so that individuals are enabled to develop a greater working power, both in quality and in quantity, the increase of each one's wage income would exceed, or at least keep pace with rising prices. This would defeat the most powerful factor making for discontent, discouragement, and failure in the battle for life to-day. It would substitute for inefficient and unsatisfactory existence a happy, healthy, better living with which to meet the problems of high cost of living and present-day discontent.

There are two facts, however, which must be stated plainly to avoid misunderstanding. The first is the absence of a fixed normal standard of living for all classes of society; the second is that one hygienic advantage may be bought by a hygienic sacrifice in another direction. As an example of the latter, we find that people living under conditions which suggest unhygienic modes of life are often remarkably free from disease, and their children survive attacks of those infant diseases so fatal to a large number of babies each year. These people spend much time out of doors in the sunshine and fresh air. They are less dependent than others on housing conditions; consequently they can spend a greater proportion of the annual income on food, etc. This fact is often overlooked in dealing statistically with the cost of living, especially with the problem of housing conditions.

Stated briefly, a normal standard of living may be defined as that which permits each individual to live as an efficient, healthy human being—morally, mentally and physically. This definition simplifies greatly the whole problem of the cost of living and reduces it to a consideration principally of two factors—health and efficiency. All economists to-day agree that the greatest asset of any country is the vital efficiency of its citizens. Moralists and physicians agree that this factor has a direct relationship to morals and to mental efficiency. Furthermore, both assert that the conservation of the physical efficiency aids greatly in conserving the moral and the mental standard of society.

It is my purpose to point out some of the methods which modern medicine offers as a means to promote health and, so far as efficiency is dependent on health, to promote efficiency.

It is unnecessary to relate here the marvelous development of knowledge in all branches of science during the past century. The century has been justly termed the renaissance of science. In this medicine has profited greatly. The empiricism of former years has given place to facts based on careful clinical observations and on well-tested laboratory findings. This expansion and deepening of science has fortunately developed in medicine a higher reverence for and open acknowledgment of the spiritual and the humane. This has given to modern medicine a genuine altruism. The application of these various facts constitutes preventive medicine.

The more clearly one sees the whole field of preventive medicine, the stronger the conviction that all the problems are social problems and that they must be solved by social remedies. This is at once evident when we recognize, first, that the responsibility for the conditions that cause these diseases lies with the people and, secondly, that all the power and authority for bettering conditions also rest with society and its agents. It is a popular belief that the control and the prevention of disease are

* Address given under the auspices of Council on Health and Public Instruction of the American Medical Association before the Women's Municipal League, Boston.

largely a duty of the medical profession. This is not true. The medical profession can and does furnish the technical information as to how disease can be abolished or at least reduced. The physicians can point out the way, but they cannot, of themselves, accomplish anything permanent without public support. This support, this cooperation can come best when the public understands what is needed and why it is necessary. Public education, therefore, becomes an indispensable and a necessary factor in every movement for conserving health.

It adds to rather than detracts from the gifts of Jenner, Pasteur, Koch, Behring and others to assert that their discoveries in medical science were comparatively of small value to humanity until the public was educated in the value and the significance of these wonderful achievements. To-day the results are manifest in the reduction of some diseases almost to nothing, as yellow fever and small-pox; in robbing epidemics, as diphtheria, plague and cholera, of their terrors; in lessening the sufferings and the economic loss in quarantine; and, finally, in developing a happier, healthier, longer-lived community the world over. Each day the force and the wisdom of Pasteur's declaration that no human being need die of a parasitic disease is more appreciated, especially as the public comes to realize the enormous unnecessary waste of health, efficiency, and life itself yet prevailing and due greatly to causes which are preventable.

Some one has lately very appropriately placed preventable ignorance in the same list with the three other great preventable and unnecessary wastes, namely, preventable deaths, preventable sickness and preventable conditions of low physical and mental efficiency.

In reporting on the cost of living, the Massachusetts commission had this to say on this point:

> The increased vital efficiency of the citizens of this state which would result from a conservation of the present waste of health would, if expended in labor, increase the earnings of those whose health is impaired and also lessen the burdens of those who are at present unnecessarily ill. This increase in earnings would thus tend to reduce the cost of living, increase the total earnings of the citizens, and make the average income larger.

The commission asserts positively that there is no direct relation between the waste of health and the recent rise in prices; and furthermore, that there is no evidence that the waste of health lowered the rate of wages. It is very evident, however, that sickness, if long continued or often repeated, lowers the efficiency of the individual, and this lowered efficiency means, sooner or later, a reduced income, often a new and less permanent job. Conservation of health, therefore, means higher wages and this enables the workers to keep ahead of the increasing price of the commodities of life.

The extent to which health may be conserved and the number of accidents and deaths that can be prevented to-day seems incredible. The testimony of all those who are competent to judge agrees that on a very conservative estimate, 42.3 per cent. of the deaths each year might be postponed; that at least 50 per cent. of the cases of serious illness are preventable; that the average human life is capable of being prolonged 12.3 years; that 4 per cent. of the population of Massachusetts are on the sick list all the time, with an average loss, to each individual in the state, of the equivalent of two weeks' wages each year. Stated in dollars and cents, this means that families and the state suffer an annual loss of fifty million dollars because of preventable deaths and preventable serious illness—a per capita loss, each year, of fifteen dollars. This startling unnecessary waste does not include the economic loss of the 12.3 years that are sacrificed to indifference, ignorance, and neglect in applying the lessons which preventive medicine makes possible.

These great unnecessary wastes of human life and efficiency, affecting the cost of living and which are greatly preventable, may be grouped as follows: (1) preventable accidents; (2) preventable illnesses, and (3) preventable deaths.

Under the head of preventable accidents we are rapidly accumulating a mass of testimony the application of which to preventive measures should reduce greatly the risk and hazard of industrial life. Occupations are now being classified on a basis of relative risk to the workers. While it is true that many occupations will always carry with them unavoidable risks, nevertheless it can be claimed, without fear of successful contradiction, that there is not one of these occupations in which the hazard and risk of accident cannot be reduced to a minimum. The reports of the committee of the National Association of Manufacturers and the Interstate Commerce Commission show that in this country there were 500,000 workers incapacitated or killed by accidents incidental to industrial life in one year. The fact that 11,800 persons, employees and others, were killed, and 111,000 maimed on our railroads is in striking contrast with the reports from the industries of Germany, where the established facts of preventive medicine are applied. Since July 1, 1912, there has been in operation in this state a Workmen's Compensation Act. In six months over 52,000 accidents have been reported. The provisions of this act and the exceptionally high personnel of the commission justify a most optimistic view with regard to future prevention of the great loss of health, limb and life. It has been the experience in Germany—and in states in this country—that the adoption of this line of insurance has led to the installation of safety devices by employers which have reduced greatly the number of accidents. In the meantime, much progress can be made by instruction in the prevention and the avoidance of dangers incidental to industrial life. This is very necessary to-day insomuch as the trend of public education is toward greater emphasis on vocational training. Children now being guided into the various lines of vocational life should be given a word of warning or caution on its possible dangers. Laws may compel the employers to protect the employee from exposed machinery, from dangerous fumes or irritating dusts but no law can compel operators in rubber factories, for instance, to wash their hands, or prevent operatives at this work from eating and drinking in the work-room. Neither can laws adequately protect the employee from accident from electricity when this element is a necessary and often unavoidable source of danger. Instruction in prevention is here more important than labor laws for either protection or compensation.

Undoubtedly the three great factors besides ignorance which promote industrial accidents are defective hearing, defective sight and fatigue. Many failures, both in health and in efficiency, are due to poor sight or hearing. Persons with either defect are as clearly out of place at many lines of industrial life as a color-blind person would be as engineer, pilot or color-mixer. Many occupations increase these defects. Accidents must result sooner or later.

One of the immediate results of the application and future extension of the Employers' Insurance and Workmen's Compensation Act must necessarily be that great

attention will be directed to those physical defects which tend to increase industrial accidents, especially defects of vision and hearing, a large majority of which defects are remedial and curable.

The influence of the factor of fatigue in causing industrial accidents has not received the attention it deserves. The amount of unnecessary fatigue among all classes is not appreciated. Professor Fisher states that 5 per cent. of all persons in this country are fatigued to a degree sufficient to totally impair their working powers. Every physician—conversant with industrial life in our great manufacturing centers—recognizes the constantly recurring accidents which occur daily in the mills and workshops. These accidents occur with a clock-like regularity at certain hours of the day, a time of the day when the fatigue factor is most active. This fact has been carefully worked out in the German insurance tables and is as follows:

| Time. | Accident Per Cent. | Time. | Accident Per Cent. |
|---|---|---|---|
| 6- 7 a. m. | 2.82 | 12- 1 p. m. | 3.81 |
| 7- 8 a. m. | 5.16 | 1- 2 p. m. | 4.84 |
| 8- 9 a. m. | 5.29 | 2- 3 p. m. | 6.73 |
| 9-10 a. m. | 6.04 | 3- 4 p. m. | 8.07 |
| 10-11 a. m. | 10.37 | 4- 5 p. m. | 7.65 |
| 11-12 a. m. | 10.31 | 5- 6 p. m. | 8.48 |

From a very intimate knowledge of industrial life in the largest manufacturing city of this state, I have no hesitation in designating fatigue as one of the great factors in accidents of factory life. Fatigue has also a direct bearing on the susceptibility of the individual to disease. It lowers the whole tone of the nervous and muscular systems. It is a great evil not yet sufficiently recognized as a factor in undermining health and efficiency. It can be prevented almost wholly. Fresh air, good ventilation, avoidance of overheated workshops, enforced periods of rest interspersed in daily life, especially at midday, outdoor exercise at noon rather than confinement in vitiated room atmosphere, a more rigid inspection of industrial and mercantile conditions of employment, a strict enforcement of laws relative to hours of labor, especially those relating to women and children, and a proper regard for sanitary and toilet accommodations will reduce almost to zero the evil possibilities arising from fatigue. The simple exercises of physical training—now taught in the schools—should be given such a definite meaning to the pupils that each child carries into industrial life an appreciation of the value of these simple means to promote better circulation and respiration.

### PREVENTABLE ILLNESS: (A) OCCUPATIONAL DISEASES

Besides the accidents incidental to many occupations, certain diseases have become so closely associated with certain lines of industries that they are known as occupational diseases. Some of these industries have been designated as "dangerous trades," and the State Board of Health in this state is enjoined by the legislature to safeguard in a special manner the health of employees at these trades. Minors under 18 years of age are prohibited from entering certain specified trades of this group. Already the board of health has designated some twenty-six of these as dangerous trades, into which minors must not be permitted to enter. The list includes many trades which the educational authorities in several states are incorporating to-day into their programs for vocational training, as well as for industrial and trade-school work. Educational authorities have a great responsibility added to their strictly pedagogic functions by reason of this fact. A knowledge of these dangers should form a part of the preparation of those who are to undertake the teaching of trades in the public schools. Preventive medicine has pointed out ways and means which, if employed, will reduce to a minimum many of the dangers arising from these trades. It has designated certain family and individual traits which predispose to the development of definite diseases if the person is subjected to employment at specified trades or vocations. The disregard of this "tendency to diseases" explains the occurrence of many physical breakdowns in industrial life.

There are other trades in the pursuit of which physical incapacity is almost unavoidable. Examples of this group include woodcarving, lithography, typesetting, as well as the work of copperplate engravers, designers, photographic retouchers, goldsmiths, diamond-cutters, jewelers and needlewomen, especially those who work at embroidery. Obviously none with defective eyesight should enter these trades. In certain other trades, such as electric iron-welding, glass-blowing, etc., the dazzling rays of excessive light promote the formation of cataract. In trades in which lead, arsenic, phosphorus, methyl alcohol, nicotin, nitrobenzol, etc., are used, the occurrence of skin affections, eye affections, neuritis, paralysis, bone diseases, kidney diseases and blood diseases is so constant that no one to-day questions the cause. Preventive medicine has been able to reduce these dangers greatly, principally by adequate ventilation and light, and by instruction. It would take us too far to enter into the various manifestations of occupational diseases. Sufficient has been given, however, to warrant the suggestion that preventive medicine must form a part, and not an inconsiderable part, in any plan of industrial education or vocational training if the workers are to acquire and retain their best efficiency and health.

### PREVENTABLE ILLNESS: (B) GENERAL DISEASES

It has already been pointed out that fully 50 per cent. of illness is preventable. It is no exaggeration to state that if all easily preventable physical troubles were prevented, the addition which would be made thereby to the energy and happiness of the people is beyond description. This item is an additional gain in the family budget—the usual index of the cost of living. Not only has preventive medicine pointed out what diseases are preventable and how to prevent them, but also it has clearly grouped disease, both as to individual and to class, so that predisposition and immunity each have a vital value. The money value of preventable illness in Massachusetts is, including loss of wages and cost of medical attendance, $14,896,912 each year. This great loss occurs in the wage-earning period of life. It is the one factor often in the cost of living which, if transferred to the asset or credit column of the family, would mean an individual or family added to the class of producers with efficiency and one less in the group of dependents with inefficiency. The results achieved in the fight against tuberculosis are not unique in preventive medicine. Reduction in the morbidity, as well as in the mortality, of other diseases is equally striking and encouraging. The value of the lessons of the antituberculosis crusade lies greatly in the fact that the public is now convinced that the once dreaded foes to humanity no longer possess the terror of former times; furthermore, that it is possible to win a victory over inheritance, environment, disease and even death by the observance of the simplest teachings of preventive medicine, especially those on cleanliness, exer-

cise and diet; also that the effective remedies often are solely Nature's gifts—fresh air, sunshine and rest. It is becoming more evident each day that the weapons so effective against tuberculosis are equally effective in combating many other infectious diseases, as well as in eradicating those nervous and functional disturbances which are productive of ill health. While it is unquestionably true that enhanced prices of food have affected injuriously the health of many in the community, nevertheless it is far more evident that the real cause is often an unwise expenditure of the income for articles of food and, more evident still, an improper preparation of food rather than a question of quantity or quality of food or size of income even.

Educational authorities have grasped this fact and to-day great emphasis is being laid on this form of instruction to those who in a few years will be the housewives of the community. This brings the problem of prevention of disease and the cost of living back to the schoolroom. Here lies the greatest opportunity for teaching the value of health and efficiency rather than trying later in life to reduce the cost of neglect of this instruction. The two terms "value" and "cost" are not synonyms.

A good illustration of this fact is the prevalence of heart-disease. It outranks tuberculosis, pneumonia and infant mortality as a cause of death in Massachusetts. It has no equal as a cause of impaired efficiency. It is alarmingly common among schoolchildren. All physicians agree that there is a great difference between a cardiac lesion and a diseased heart. No matter what the anatomic change present may be, that heart is not a diseased heart so long as it can adequately take care of the demands placed on it by the individual. Although this is all true, nevertheless the great value of treatment in heart-affections is that of prophylaxis or prevention, rather than therapeutic or cure. This latter is the cost of negligence in applying prevention. So long as the cardiac lesion can be prevented from becoming an inadequate or incompetent heart, all goes well no matter how serious or of what form the changes in the valves or heart-muscles may be. The enormously high death-rate from heart-disease to-day and the great frequency with which children at the school age exhibit genuine heart-diseases, often beyond a possible stage of competency adequate for the simplest vocations of life, make this problem one of the most important in political economy.

Eliminating the heart diseases of those congenitally defective, who seldom reach the wage-earning period, it can be claimed that fully 80 per cent. of heart-disease could be prevented if the initial lesion and the exciting cause of the lesion were treated with half the care that is now given to the same stage of incipient tuberculosis. Preventive medicine teaches that rheumatism (often called growing pains), tonsillitis, chorea (St. Vitus' dance), diphtheria, scarlet fever as well as the various infectious diseases, cause a large percentage of heart-disease each. Some of these heart-affections are unavoidable. Many, however, are preventable if anticipated early.

Special hospitals for the training of children and adults afflicted with heart-disease offer the greatest promise of so molding lives that each person by a wise choice of occupation and mode of life may be able to live efficiently within his cardiac power. The cost of failure to learn the value of this lesson is inevitable—irregular employment, repeated illness, changing occupations, broken compensation of the heart and, finally, complete permanent dependency.

Next in importance to heart-disease prevention is the problem of prevention of diseases of infancy and of childhood. The necessity, as well as the importance, of beginning this prevention early in life is shown by the single fact that one-third of all cases of blindness can be referred to infection and neglect at the time of birth. These sightless babies soon become a burden on the family and subtract much from the possible income by the home care required from wage-earning mothers. Much infection of eyes, nose, mouth, etc., of the newborn can be avoided by the observance of the simple rule in preventive medicine—cleanliness.

Infant morbidity and infant mortality as recorded to-day are a gross injustice to God and to mankind, neither excusable nor pardonable. It is little short of criminal negligence that permits them to exist. That they represent the greatest loss to mankind to-day is the verdict of all economists. To state that one-fifth of all deaths that occur each year are those of infants less than one year of age, and that one-fourth of all deaths are those of children less than five years of age, while appalling, does not half state the situation. Our present knowledge of sanitary measures guarantees readily that 47 per cent. of those who die during the first year of life could be saved, and that 67 per cent. of the diseases that kill in the first five years of life are preventable. Notwithstanding this possible prevention, more than 200,000 of these young lives are sacrificed each year in this country at the rate of one life each ten seconds of time. Nothing so contradicts our boasted civilization and our claim of modern advance in medical science as this yearly unnecessary waste of infant life. At times it would seem, from the apparent indifference shown in the matter, as if the public yet believed that this high rate of mortality among children at or soon after birth was a wise dispensation of Nature to eliminate the unfit. In a study of this problem, it becomes evident that almost one-third of these deaths, especially of children under one year of age, can be ascribed to diseases of the digestive system. These diseases, together with those of the respiratory system and congenital debility, carry off 70 per cent. of all babies who die in the first year of life. This reduces the problem of prevention to simply giving to the baby its natural birthright, namely, the right to be born healthy, and secondly, pure milk and pure air or, as it is more generally stated, proper feeding.

The noble, patriotic, unselfish warfare that this association has waged for a purer and better milk-supply in our city has won the admiration of all who put a value on human life above that of commercial interests. No physician questions the benefit of this factor in reducing infant illnesses and deaths in many cases in which this form of artificial feeding has, through necessity, been adopted. The problem that I would present, however, is not so much that of the quality of cow's milk as an article of food, but whether it should be advocated as an adequate or preferred substitute for natural breast-feeding. I do not think it is. Undoubtedly, the high cost of living has forced many women to seek employment outside the home in order to help out the family income, and a large sacrifice of life, prenatal as well as infant, has resulted. Many infants, even when born healthy, are sacrificed by either the inability or the unwillingness of mothers to nurse their offspring. The question of infant morbidity and infant mortality is not one of sanitation alone, or of housing, or of poverty as

such, but is mainly a question of motherhood. The problem will be solved only when the value of intelligent motherhood is placed above that of philanthropy, of hospitals, of the medical profession and of the state. Neglect and ignorance are, therefore, more important than poverty as causative factors in the cause of infant illness and deaths. We have two striking illustrations bearing directly on this point.

During the siege of Paris (1870-71) the women were compelled to nurse their own babies on account of the absence of cow's milk. Infant mortality under one year fell from 33 to 7 per cent.

During the cotton famine of 1860 women were not at work in the mills. They nursed their babies and one-half of the infant mortality disappeared.

From 80 to 90 per cent. of all deaths from gastro-intestinal disease among infants takes place in the artificially fed, or ten bottle-fed babies die to one which is breast-fed. In institutions it has been found that the death rate is frequently from 90 to 100 per cent. when babies are separated from their mothers. After a trial of fifteen years, by which over 7,000 mothers with their babies were placed out in domestic service, the New York society was able to report that four-fifths of the babies lived and were in good condition; one-fifth died or were in poor condition.

The subject of infant-feeding, therefore, is not to be treated as an ethical question alone, but must be considered as a problem of preventive medicine of far-reaching results. It is an undisputed fact of preventive medicine that certain vital tendencies, which make for the preservation of the infant, such as immunity against certain infectious diseases, are transmitted through the mother's milk to her child. Neither a wet-nurse's breast-milk nor a cow's milk can do this for a child.

The dangers connected with cow's milk as an infant food are principally these—the chemical, the bacteriologic and the quantitative. Even with these three elements reduced to their lowest danger-point, there yet remains such a difference between cow's milk and human milk that the former can never be considered a safe substitute for the latter. This does not mean that we should relax one bit our efforts for pure cow's milk, which is in itself as near a perfect food chemically as any article of food we possess. Its value as an article of food must not be confounded with its relative value as a food for infants in place of maternal nursing, or even of wet-nursing of infants. One has to recall but a few of the essential differences between human milk and cow's milk to see the force of these statements. Notwithstanding all the successes in lessening the dangers from cow's milk, and with a full knowledge of the results achieved in feeding by modified milk preparations, I have no hesitation in advocating breast-feeding even under surroundings which appear to be unfavorable. The great prevalence of digestive disturbances, leading invariably to impaired vitality, often of a permanent degree, and the high rate of mortality among artificially fed babies, in spite of the great progress made in the art of artificial infant-feeding during the last decade, rob the foregoing statement of all appearances of an exaggeration of the problem.

There are unfortunately a large class of women who cannot nurse their infants, but medical experience the world over fails to substantiate the popular belief that failure to nurse the children is due to weakness in the mothers. The decrease in the proportion of breast-fed children is due, first, to more frequent occupation to-day of wife and mother outside the home; second, to the exaggerated claims of artificial food manufacturers, and the popular delusion that their adaptation to the physiologic needs of each infant is so simple that the process can be safely entrusted to "little mothers" who, after one or two lessons, can accomplish what the highest trained clinicians, working under ideal conditions of cleanliness and sanitation, fail to attain. Modern dress and modern social life have combined as factors in reducing the proportion of breast-fed infants. Whether these factors will collect their toll on the next generation of daughters remains to be seen. A recent investigation showed that only two daughters, out of 480 born to mothers who could not nurse their children, were themselves able to nurse.

The much-heralded influence of poverty, overcrowding and poor housing conditions as factors in infant mortality does not accord with facts. Whatever influence any one of these conditions might possess is greatly minimized by the favorable effects of breast-feeding and, as pointed out in the beginning, by the purchase, so to speak, of our hygienic advantage by a hygienic sacrifice in another direction. The truth of this is evident from a study of our own local situation. Boston has the lowest death-rate of infants under one year of age of any city in the country. Ward 8 has 190 persons to the acre, the most thickly settled part of Boston; yet it is next to the best ward, so far as infant mortality goes, and only fourth in the total mortality of the city. Ward 10, the sixth most congested district in the city, has the lowest general mortality as well as the lowest infant mortality in the city. The highest total mortality occurs in Ward 7, which has only 38 persons to the acre. Ward 5, with a density of 62, and Ward 13, with a density of 35, stand quite high in the rate of mortality each year. These same general results can be quoted from many cities of foreign countries. The conclusions from the study of the problem in the most insanitary districts of Italy are that the low infant mortality prevailing in many of these districts is due to the custom of breast-feeding followed by the poor people. In many cities of Germany and Austria the law requires the death certificates of infants shall contain a statement of the kind of food given to the infant either shortly before its death or throughout its life. There is no legitimate reason why the use of artificial foods and of so-called milk substitutes for infant-feeding should not be controlled by law and their use limited to the prescription of a physician. Such a law would reduce greatly infant morbidity and infant mortality.

I have dwelt at some length on the problem of infant morbidity and mortality because it is one of the greatest preventable wastes of life to-day, and one that weighs most heavily on the family budget. It resolves itself chiefly into a question of proper feeding. This is best guaranteed by intelligent motherhood, which can alone give to the infant that which neither wealth nor state nor yet science can offer with equal benefit to mother and child.

Many lessons of the value of preventive medicine in solving the complex problems of the cost of living might be presented in addition to those given in this address. I have selected the more prominent and the more evident of the group. There are others equally important.

The fact to remember is that the whole problem is a social one. Increased cost of living is not likely to be lessened or altered by laws or mode of life. Such remedies are largely academic. Preventive medicine does offer a cure for the condition in part at least if not in its entirety. It shows how the enormous waste of health,

energy, money and life may be curtailed and greatly prevented. It guarantees to each person who will learn its lessons and who will apply even its simplest teachings an assurance of greater power, greater health, greater wage-earning ability. This means a nearer approach to the normal living standard of each individual—an efficient, healthy mode of life—physically, mentally and morally.

310 Commonwealth Avenue.

---

## WOOD-ALCOHOL BLINDNESS

### REPORT OF TWO CASES, ONE OF EXTERNAL AND ONE OF INTERNAL USE *

HIRAM WOODS, M.D.
BALTIMORE

My object in reporting these cases of wood-alcohol blindness is to arouse, if possible, enough sentiment in the medical profession to influence the legislature to pass an act safeguarding innocent persons against an insidious poison. In 1897 Dr. Archibald G. Thompson[1] of Philadelphia reported a case of sudden blindness due to drinking "Jamaica ginger." A year later four such cases came under my observation, while two others were furnished me by my friends Drs. Herbert Harlan and Francis M. Chisolm. I reported these six cases[2] in 1899. All the patients presented substantially the same symptoms. They had drunk what they supposed to be Jamaica ginger. Shortly afterward, within from twelve to twenty-four hours, they were seized with nausea, headache, prostration and coma. These were attributed to a "drunk." On awaking they found themselves blind, or with central vision lost; all of them went through various periods of transient and temporary improvement, finally settling down into either total blindness or loss of central vision.

Both Thompson and I were totally at a loss to account for the toxic agent. The eye lesion in all cases was nerve atrophy. In searching literature I found a case reported by Mengin[3] presenting similar symptoms, attributed to wood alcohol. The date of this case was 1879. It was mentioned in my paper.[2] I obtained from one or more of the victims the name of the maker of the Jamaica ginger and asked for the formula; alcohol was one of the ingredients, but the kind of alcohol was not specified. I asked whether it was wood or grain alcohol, and the reply was "grain." This statement was accepted as true. Subsequently specimens of Jamaica ginger made by this firm were obtained and submitted to chemical analysis. Wood alcohol was found, and its use confessed later under oath when the cases became the basis of suits. These were finally compromised on payment of damages.

For some years thereafter blindness from wood alcohol was reported from various parts of the country and from different preparations, soft drinks, etc. In 1904 the late Dr. Frank Buller of Montreal and Dr. Casey A. Wood[4] of Chicago collected reports of all the cases to date. While many instances doubtless escaped them, they found 275 instances of death or blindness traceable to wood alcohol. Since then the literature has been comparatively free from such reports. Lately, however, they have reappeared. An admirable and instructive article on the subject was published recently by Dr. Wood.[5]

A word now with reference to wood alcohol itself. It is very much cheaper than grain alcohol. Dr. Wood gives the average comparative price as 50 cents per gallon for the one and $2.40 for the other. Until chemical methods succeeded in refining wood alcohol so as to remove its unpleasant odor and taste, it could not be used internally. Unfortunately, some skilful chemist discovered that the obnoxious factors could be removed. At present, under the name of Columbian Spirits, Standard Wood Spirits, etc., a deodorized and apparently not bad-tasting preparation of wood alcohol is on the market. The Standard Wood Spirits preparation is labeled "For Bathing, Burning and Cleaning." Its chief sale is in Canada, according to Dr. Wood's paper. Columbian Spirits is, I believe, made extensively in the United States. The difference in price is a big inducement to manufacturers to employ wood alcohol.

An interesting and singular feature is the great difference in the susceptibility of individuals to the influence of wood alcohol. As small a quantity as a teaspoonful has been known to produce serious consequences, while other persons have consumed large quantities with impunity. One of the interesting sideshows in the Baltimore suits was the spectacle of one of the defendants sitting on the witness stand and demonstrating the innocence of Columbian Spirits by taking copious drinks from time to time. As Dr. Wood states, the exact way in which wood alcohol destroys or cripples the central nervous system is not well understood. It is known, however, that it is not easily eliminated, as is the case with ethyl alcohol. It is believed that formaldehyd is one of its by-products. It has a peculiar cumulative effect, small and repeated doses, while not causing intoxication, often leading to serious results on the nervous system. As stated, the cause of blindness is atrophy of the optic nerve, with probable destruction of the ganglion retinal cells. In Dr. Wood's recent paper he quotes from the report by Dr. Buller and himself some fourteen conclusions. The following are some of them:

1. Methyl, or wood, alcohol, in any of its forms, and all methylated preparations as well, are dangerous poisons, menacing both life and sight.

2. It is used as an adulterant of, and substitute for, grain alcohol in cheap whisky and other alcoholic beverages, not to mention Jamaica ginger, lemon extract and many other essences and flavoring fluids.

3. Methyl alcohol is largely used in the preparation of many proprietary and patent medicines, witch hazel, domestic liniments, as well as bay rum, cologne water, Florida water and other perfumes.

5. The symptoms of acute poisoning are gastro-intestinal disturbances, more or less severe, accompanied by abdominal pain, general weakness, nausea, vomiting, vertigo, headache, dilated pupils and blindness. If recovery does not occur, there is marked depression of the heart's action, sighing respiration, cold sweats, delirium, unconsciousness, coma and death.

7. The diagnosis can hardly be mistaken. Methyl alcohol poisoning presents a picture unlike that of any other intoxication. Acute abdominal distress, followed by blindness, should always awake suspicion of methyl alcohol poisoning.

8. The prevention of poisoning by this insidious drug can only be brought about by prohibiting (or rendering unprofitable) the sale of deodorized wood alcohol in all its forms. The

---

* Read at the annual meeting of The Medical and Chirurgical Faculty of Maryland, April 23, 1913.

1. Thompson, Archibald G.: Ophth. Rec., November, 1897.
2. Woods, Hiram: Ophth. Rec., February, 1899.
3. Mengin, cited by Knies: The Eye in General Diseases, p. 347.
4. Wood, Casey A., and Buller, Frank: Poisoning by Wood Alcohol. Cases of Death and Blindness from Columbian Spirits and Other Methylated Preparations, THE JOURNAL A. M. A., Oct. 1, 8, 15, 22 and 29, 1904, pp. 972, 1058, 1117, 1213 and 1289.
5. Wood, Casey A.: Death and Blindness from Methyl or Wood-Alcohol Poisoning, with Means of Prevention. THE JOURNAL A. M. A., Nov. 30, 1912, p. 1962. See also Methyl Alcohol as a Poison, editorial, THE JOURNAL A. M. A., Nov. 30, 1912, p. 1974.

number of deaths may, meantime, be limited by putting all methylated preparations on the list of poisons and prosecuting all persons adulterating foods and drinks with it. Labeling it with the notice, "This fluid, taken internally, is likely to produce blindness," will certainly have a deterrent effect.

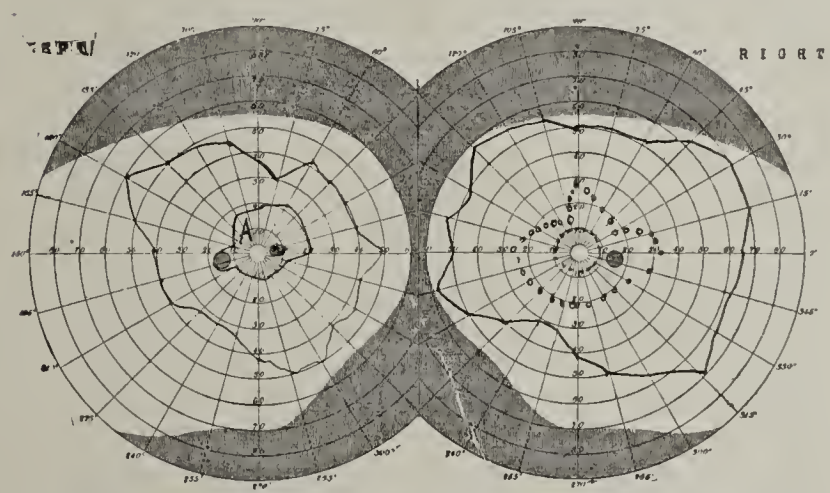
10: Poisoning by inhalation of the fumes of methyl alcohol generally occurs when the exhalations are mixed with rebreathed air, as in varnishing the interior of beer-vats, closets or small rooms, etc. It is also highly probable that in susceptible subjects repeated or even single methylated "alcohol rubs" may produce poisoning symptoms, through absorption of the spirit by the skin.

## REPORT OF CASES

Reports of my two recent cases follow:

CASE 1.—Blindness from external application of some refined preparation of wood alcohol. W. H., aged 42, consulted me, Jan. 8, 1913, for sudden loss of vision. He gave the following history: For some years he has been a moderate drinker. He has been employed as general utility man in a large candy factory in Baltimore. There is used in this factory, according to his statement, a preparation called "spirits" for making shellac, with which to "varnish" certain kinds of candy. The patient suffered from what he supposed to be rheumatism, chiefly affecting the calves of the legs and hips. For a month or more prior to his loss of sight he had been using this "spirits" for rubbing the painful muscles. These applications were made usually twice, and sometimes three times a day. On the morning of January 6, after the usual rubbing, he had started for the factory. After working an hour or so, his sight became dim, he felt nauseated and decided to go home, a distance of probably 2 miles through the city. He walked to his house, which he barely recognized when reached. Within an hour he was totally blind. I saw him two days later. The pupils were widely dilated and inactive to light. Light perception was lost. Ophthalmoscopic appearances were negative. During the month or six weeks he was under observation, he occasionally regained a little vision. Once or twice he saw well enough to reach for my hand placed in different positions before his eyes. This vision seemed to be limited to some part of the nasal fundus, judging from the way he moved his head in order to see. This improvement was only transient and he relapsed to the condition first observed—total blindness. Both nerve heads are now atrophic with narrowed vessels. The patient's wife brought me a bottle of the "spirits" which her husband had used. Analysis, kindly made for me by Mr. Dunning, of Messrs. Hynson, Westcott & Co., proved this to be one of the refined preparations of wood alcohol. As the man was a moderate drinker of cheap whisky it was of course necessary to eliminate so far as possible the presence of wood alcohol in the alleged whisky sold at the bars where he drank. A list of five or six of these saloons was furnished me and I sent it to Dr. Fulton, of the State Board of Health. In turn he and Dr. Caspari sent their agents and purchased from these saloons their five-cent whisky. Analysis showed that none of these specimens contained wood alcohol. This is the only instance of blindness caused by external application of wood alcohol which has come to my notice. There is a factor of doubt because the man may have obtained whisky at saloons other than those mentioned to me; but he insisted that this was not the case, and that he never drank any of the "spirits" which he used for rubbing. Possibly inhalation may have had something to do with producing blindness; still, all the cases of inhalation blindness with which I am familiar have occurred in persons working in closed places, such as vats, vaults, etc., where rebreathed air necessarily becomes charged with the wood-alcohol fumes.

CASE 2.—Partial blindness, which will probably become complete, from drinking supposed and mislabeled "whisky" containing wood alcohol. February 4, 1913, H. E., aged between 20 and 30, was brought to me with the following history: January 24 he and some friends bought at a saloon in Baltimore several pint bottles of what was thought to be whisky. At any rate, according to the patient's statement, a special brand of whisky was asked for, and both the package containing the bottle and the bottle itself were so labeled. It was impossible to tell how much of the stuff was drunk. He worked on the 25th in the button factory where he was employed, and on the 26th was taken ill with headache, nausea, cramps, etc. The next day his sight was lost. He seems to have remained blind during the week before I saw him, occasionally having some vision, and then losing it entirely. When he was brought to the hospital by his employer he was totally blind. Both nerves were already showing evidence of atrophy. The only other lesion in either eye was a very minute left vitreous opacity well forward. There was not the least evidence of either recent or old trouble of any other kind, and the patient was sure that prior to this spree he had never had trouble with sight. The symptoms pointing clearly to wood alcohol, I tried to obtain remnants of the liquor used. There was none obtainable. Then the man's employer sent another employee to the saloon, where he asked for a pint of this brand of whisky. The liquor was brought to me in its package, which was labeled with the name of the brand. I delivered it in the same condition to Mr. Dunning, who found about 30 per cent. of wood alcohol. Later other specimens were purchased at this saloon by various persons connected with the man's employer, Mr. Dunning or the State Board of Health, and all of them, with, I understand, one exception, contained from 25 to 30 per cent. of wood alcohol. All were bought under the name of this brand of whisky and all were so labeled. The legal side of this case is now in the hands of the state's attorney.




Fields of vision, Case 2. Left eye: Outer line is white field. Blue and red were seen poorly, approximately 10 degrees within white line. Space A, total color scotoma, white; very faint. Dark spot in nasal field, absolute positive scotoma. Right eye: Outer line indicates the remarkably good white field, in view of total blindness when first observed. Intermediate line of hollow dots is red field. Inner broken line includes space of doubtful red perception, March 21, and color scotoma, April 3. Blue perception was nowhere definite enough to record.

The further history presents some interesting features. Wood alcohol, when it produces defective vision, causes either total loss of sight or central scotoma. As a rule, according to my observation, the prognosis in any case can usually be estimated if we see the patient at his worst; or, to put it in another way, the ultimate result is seldom better than the poorest vision observed at any given time. Until this degree of blindness has become fixed, there may be, for an unlimited period, variations in vision. This man was entirely blind when I first saw him. His pupils were inactive to light and dilated. Consequently I expect the ultimate result to be total blindness. At the same time there has been an apparent improvement, and it is to be hoped that some vision will remain. March 21 the right eye had one-fifth central vision, with fairly good field for white. Perception for blue was indeterminable. Red was seen peripherally, though in a narrowed field, while at the fovea, and for 10 degrees beyond, its perception was doubtful. The meaning of these color losses is that the retinal cells are partially, though as yet not entirely, destroyed, and that the optic nerves, certainly

the central fibers, are undergoing atrophy. Two weeks later the right eye showed complete loss for red at and around the fovea, this central blind spot reaching at one point the peripheral red vision. At the same time central vision had become reduced to one tenth, a loss of one half since March 21. The peripheral limitations for white were unchanged. It looks as though a central scotoma is inevitable, as the best possible outcome, and I fear the atrophy will not stop there. The left eye, March 21, counted fingers doubtfully at 2 feet by eccentric fixation. At the nasal edge of the fovea there was an absolute scotoma, with a perifoveal area of very doubtful white perception. Colors were not seen at all in this area of doubtful white perception, while both red and blue were seen in a contracted field in the periphery. The field figures are appended. As to treatment, syphilis and tuberculosis were eliminated, the first by a Wassermann test, the second by careful clinical examination. There was no reason whatever to suspect either. The man was kept in the hospital and treated by diaphoresis, and later strychnin. At the very best the ultimate result will be complete scotoma from the center to the limits of doubtful white perception, while there is reason to fear that this scotoma will eventually break through to the narrowed white field. This will mean total blindness.

### PREVENTIVE MEASURES WHICH OUGHT TO BE TAKEN

Preventive medicine makes it incumbent on the profession to prevent disease if possible. What can be done in view of this apparent revival of the wood-alcohol danger? There is no single purpose for which wood alcohol is used that is not filled by something safer. These substitutes are more expensive than wood alcohol, and this is the sole reason for employing the latter. Either the making of the stuff should be prohibited, or if its commercial use is allowed, safeguards should be thrown around it. The oft-repeated recommendation that it be made unfit for drinking purposes by the addition of some vile-tasting compound should be made mandatory if its use be allowed. Denatured alcohol, as it is called, contains a certain amount of wood spirits, but its taste and odor are so repellant as to make its bodily use, internally or externally, usually impossible. Individuals, firms or corporations using wood alcohol should be compelled to report the fact to the State Board of Health, and this board should have the legal right to regulate conditions surrounding the use of the poison. For instance, its use in vaults, vats and ill-ventilated places is a terrible menace to sight and life, and the state board should have the right to inspect and regulate such conditions. Those using it should take special pains to instruct their employees regarding its dangers. Its sales in groceries, drug-stores, etc., should be surrounded by the usual precautions taken with other poisons. Every bottle sold containing wood alcohol should bear the label "Poison—Totally Unfit for Either External or Internal Medical Uses." The State Board of Health should have the right to inspect barber-shops[6] whose proprietors without any evil intention whatever, could easily use preparations of "witch-hazel," cologne spirits, etc., made out of wood alcohol by unprincipled manufacturers. All these are but suggestions. The lesson which I wish to impress from these cases is that commercial greed is again threatening the community with this insidious poison, and that it is the duty of our profession to combat this tendency in every possible way.

842 Park Avenue.

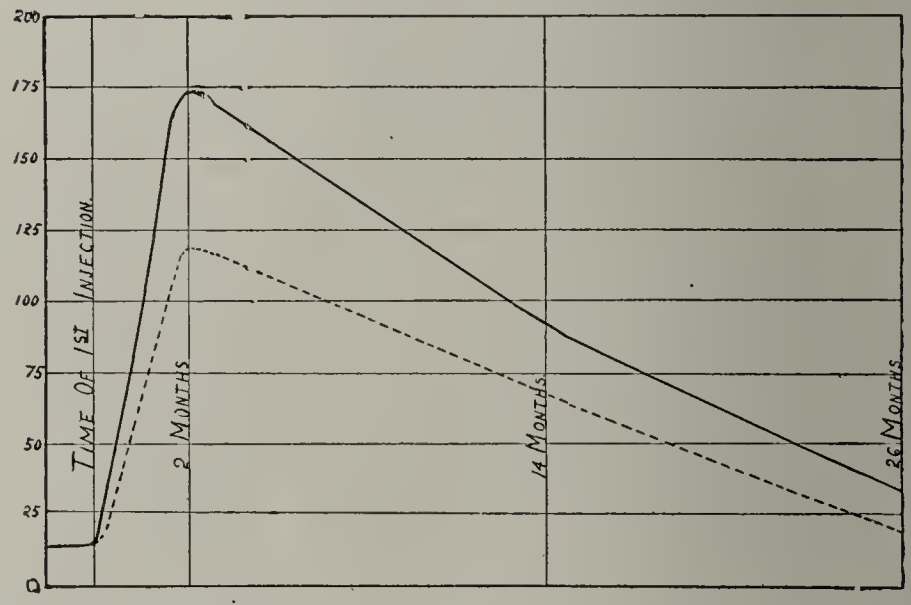
6. The subject of barber-shops is touched on in the editorial, Wood Alcohol—Poison, THE JOURNAL A. M. A., April 19, 1913, p. 1231

# EXPERIMENTAL IMMUNITY IN RELATION TO THE AGGLUTINATION REACTION IN TYPHOID*

VIRGIL H. MOON, A.B., M.Sc.
CHICAGO

The prevention of typhoid fever by injecting killed typhoid bacilli into the body is a comparatively recent procedure which is rapidly becoming general. The question naturally arises, How long will the immunity thus produced persist after treatment? It is impracticable to determine this by direct experimentation on the immunized patient, but it is known that acquired immunity is associated with the presence of antibodies in the blood, and the persistence of these may be taken as an approximate index to the persistence of the immunity.

In November, 1910, a number of students at Kansas University were availing themselves of the antityphoid inoculation offered by the university authorities, and it occurred to me as an opportunity to follow the effect of this treatment on the agglutinins of the serum. Accordingly a sample of blood was taken from each of a number of students previously to the first injection and the serum tested for agglutinins. As stated in a previous report[1] the dilutions above which these normal serums showed no agglutination ranged from 4 to 16. Three injections were given, at intervals of one week or ten days, of a suspension of killed typhoid bacilli. This was made by washing the bacilli from the surface of twenty-four-hour agar cultures with salt solution, and sterilizing at 60 C. (140 F.) for an hour on three consecutive days. The suspension contained approximately 1,000 million bacilli to the cubic centimeter as estimated in the Thoma-Zeiss counting-chamber. The first injection consisted of 0.5 c.c., the second of 1 c.c. and the third of 2 c.c. or 2,000 million bacilli. Only a few students took the third injection, and these gave symptoms of malaise, dizziness, headache, mental dulness and slightly elevated temperature for two or three days following. These symptoms were present in a minor degree after each of the first two injections.




Agglutination curves; solid line, average curve of those who received three injections; line of dashes, average curve of those who received two injections.

Samples of the serums were again tested for agglutination after the inoculations at intervals of two months,

* From Kansas University and the Memorial Institute for Infectious Diseases, Chicago.

1. Tr. Chicago Path. Soc., 1912, viii, 252.

one year, and two years respectively. The results are given herewith in tabular form. The accompanying curve of agglutination represents the average curves of all those tested except that those who were reinjected twelve months later were omitted from the subsequent averages. The crest of the curve is represented at the two-month interval, although from the data at hand we cannot determine whether it should occur exactly at this time or somewhat earlier or later.

AGGLUTINATING POWER OF SERUMS TESTED BEFORE AND AT VARIOUS INTERVALS AFTER ANTITYPHOID INOCULATION

| Name | Agglutination | | | | Remarks |
|---|---|---|---|---|---|
| | Before | 2 Mo. | 1 Yr. | 2 Yrs. | |
| W. S.* | 8 | 192 | 96 | 12 | Typhoid 10 years before |
| D. S. | 32 | 128 | 192 | 16 | Typhoid 8 years before |
| E. W.* | 12 | 256 | 64 | 32 | Typhoid 9 years before |
| H. C.* | 4 | 96 | 192 | 64 | Reinjected 12 months later |
| T. A. | 16 | 96 | 256 | .. | Reinjected 12 months later |
| P. C.* | 24 | 192 | 128 | .. | ..... |
| W. W.* | 8 | 192 | 48 | .. | ..... |
| L. F.* | 16 | 192 | 96 | 8 | ..... |
| W. Q. | 8 | 64 | 48 | 16 | ..... |
| F. J. | 8 | 128 | 48 | 16 | ..... |
| J. L. | 16 | 128 | 24 | 12 | ..... |
| J. M. | 8 | 128 | 48 | 8 | ..... |
| H. J. | 16 | 192 | 32 | .. | ..... |
| C. H. | 12 | 96 | 96 | 12 | ..... |
| A. H. | 16 | 96 | 48 | 12 | ..... |
| V. M. | 16 | 128 | 64 | 32 | ..... |
| M. S.* | 16 | 96 | .. | .. | ..... |
| E. B. | 16 | 64 | .. | .. | ..... |
| M. C. | 12 | 64 | .. | .. | ..... |
| M. B. | 8 | 128 | .. | .. | ..... |
| Control | 16 | 16 | .. | .. | ..... |
| Control average of 4 normal serums | | | 12 | 9 | ..... |

* Received the third injection.

The numbers in the table do not represent complete agglutination, but represent the highest dilution at which definite clumping of the bacilli was observed. This was determined by microscopic examination after two hours at room temperature. Attention should be called to the fact that the strain of typhoid bacilli used in making the last two series of tests was more resistant to agglutination than that used in the first two series, as shown by the controls. Hence the amount of agglutinins present was relatively greater than the figures of the last two columns show, though they have almost disappeared after twenty-six months.

It cannot be assumed that the degree of resistance to the disease runs directly parallel with the agglutinins of the serum, since other antibodies than agglutinins are concerned in the production of immunity and these are present in varying proportions at different times. It is believed that a patient who has had typhoid fever retains resistance to the disease after the agglutinins have disappeared from his blood. Naturally it would be expected that the same would hold true with immunity produced by antityphoid inoculation.

Another side of the experiment is that which has to do with the agglutination reaction as a diagnostic test. It is self-evident in this experiment that if one of these students had suffered from a disease of obscure character and the attending physician had based his diagnosis on a positive agglutination test, the result might have been a serious error. Considering this phase together with the increasing use of antityphoid inoculation, the physician should be on his guard, and before placing any reliance on a positive agglutination reaction should assure himself that the patient has not been inoculated with typhoid bacilli within at least two years.

1743 West Harrison Street.

# WHERE IS THE FUNDUS OF THE BLADDER?*

BRANSFORD LEWIS, B.Sc., M.D.
ST. LOUIS

Some years ago my attention was attracted to what appeared to me a curious eccentricity of nomenclature in vesical anatomy, namely, that of applying to the top of the bladder the term "fundus"; a word evidently allied to and having a common origin with such words as "foundation," "fundament" or base. It seemed unreasonable and illogical, and yet the evidence that it was correct appeared on all hands; in all current writings such usage was in vogue. On the other hand, the term "fundus of the uterus," in which the base was pointed upward, seemed unquestioned as to its authenticity and anatomic regularity.

So for a time my doubts were quieted; but gradually my Missouri instinct prevailed and I sought headquarters for information on the subject. Every book on anatomy that I consulted not only failed to give sanction to such usage, but also applied the term "fundus," as do the French in *bas fond*, to the base of the organ. It was described as synonymous with the word "base," and located at the bottom, instead of the top of the organ.

I occasionally mentioned this fact to medical friends in a casual way, and found a contest always awaiting the proposition. It required a treatise on anatomy and a shotgun to support the contention.

I recall that in 1910, when one of our esteemed members was about to read a paper entitled "Carcinoma of the Fundus of the Bladder," I caused him some perturbation for the time being by suggesting that possibly the term "summit," or "vertex," would more correctly represent the area to which he was about to refer in his paper; but his doubts were quickly allayed when he conferred with several members present, who evidently disagreed with my position and confirmed the correctness of the title as given in the program; and so it was read and to-day stands printed in our Transactions of that year. In this paper the author, Dr. Hagner, says: "The fundus of the bladder is a comparatively rare location for new growths, the more common seat being the base"—indicating the fundus as the antithesis of the base.

Some time later, when a guest at a dinner given in Chicago to a dozen or so of urologists, I happened to mention this incident and the point of contention. I was saved from mob violence at the hands of those present only by the existence in the host's library of several books on anatomy of undoubted authority, all of which gave me unqualified support.

To be convinced of the fact that the use of the term fundus of the bladder is widely prevalent in current writings, even by men of high standing in the profession, one need only review recent literature on bladder surgery. Authors of modern text-books also use the term in the same sense. Thus, Keyes, Junior,[1] describes the divisions of the bladder: "These four sides meet above in the fundus, below and in front in the neck, which is the urethral orifice." Many other authors no less distinguished locate the fundus at the summit of the bladder.

On the other hand, Guiteras[2] says: "The base or fundus looks downward and backward." Watson and

* Read before the American Urological Association, at Boston, April 16, 1913.

1. Keyes: Genito-Urinary Diseases, 1904, p. 328.
2. Guiteras: Urology, 1912, i, p. 46.

Cunningham[3] divide the bladder into the summit or apex, the body, the base and the neck or cervix. While the word "fundus" is not used in this connection, we find it mentioned by these authors on page 539 of the volume quoted in connection with the location of tumors of the bladder, thus: "None of these three tumors occupied the same part of the bladder as the original one; the former was on the right side of the trigone; those found at the second operation were near the fundus." But the question remains, where is the fundus?

It is apparent, therefore, that ambiguity and confusion attend the use of this term with reference to the bladder, and it would be worth while to straighten out the tangle. This may be done by referring to all of the modern treatises on anatomy of recognized authority. In all of these, without exception, the following divisions of the bladder are given: (1) the summit or vertex; (2) the base or fundus; (3) the body, and (4) the cervix or neck. There are, naturally, variations in the wording of the divisions, but there is no lack of harmony in the use of the term "fundus of the bladder."

I believe, therefore, in view of the prominence of this term in medical literature, of the frequency with which it is used in writings on vesical surgery and the evident confusion to which it has been reduced, that it is deserving of a better fate. Further, it should be recognized as having its own proper location and sphere of activity, and, like the conventional tub, the bladder should be permitted to stand on its own bottom, namely, the base or fundus.

550 Century Building.

## RARITY OF SARCOMA OF SCLERA

### REPORT OF A CASE WITH REMOVAL AND NO RECURRENCE

RICHARD M. NELSON, M.D.
ATLANTA, GA.

The rarity of sarcoma, and especially of primary sarcoma, of the sclera is a fact admitted by some of the leading authorities in ophthalmology and pathology. Many give it scant attention, while others, like May[1] and Adami and Nicholls[2] make no mention of it.

In view of its rarity, a report of the following case of primary sarcoma of the sclera may prove of interest.

*Patient.*—E. W., colored Jamaican, aged 25, was referred to Out-Eye Clinic, Colon Hospital, Cristobal, Canal Zone, late in October, 1906. Two years before patient had noticed feeling in left eye as if there was a piece of gravel in it, as also a small swelling or tumor. This tumor grew gradually until a month or more before patient came to the clinic, about which time the growth became much more rapid. When I first saw patient the tumor was quite noticeable. Vision had been failing for the past four months. Pain had been neither pronounced nor frequent.

*Examination.*—Tumor was located under bulbar conjunctiva inferiorly, and thus partly concealed by lower eyelid. There were bluish spots over tumor, evidently congested veins. On admission to eye-ward of hospital late in November, the tumor had either grown so in size or caused such swelling of the superimposed conjunctiva that a roll of the latter partly obscured and was in contact with the cornea. Cervical lymph-nodes of the left side were greatly enlarged. Clinical diagnosis made of malignant growth of sclera, probably sarcoma. Abscission or, failing in that, enucleation of the eye, was advised and consented to.

*Operation.*—Early in December, 1906, under general anesthesia, I tried to remove the tumor, assisted by Dr. Lloyd Noland, chief of surgical clinic, but soon found that it would be impossible to do so without destroying the eye, and so did an enucleation. On laboratory examination the tumor proved to be a small round-cell sarcoma of sclera, and was so reported by Dr. Norman Williamson, pathologist.

About ten days later I assisted Dr. Noland in an operation on same patient. By extensive work the affected cervical lymph-nodes before noted were removed as thoroughly as possible. About two weeks later, the patient was delirious for a few days, and we feared metastasis to brain; but the delirium left him. He was in due time discharged and fitted with an artificial eye. I saw him at intervals, never greater than six months, up to his last visit to me in March, 1912, five years and three months after last operation. Patient had continued in splendid health, with no signs of recurrence.

There is a difference of opinion among writers as to the malignancy and proneness to recur of epibulbar sarcoma. Derby[3] quotes both sides with seeming fairness. On the one side Strouse's statistics of twenty-four cases, with his conclusion that conservative measures, including primary abscission, are not contra-indicated. On the other hand Verhoeff and Loring, with the most complete statistics yet published of fifty-three primary abscissions, conclude that "after abscission the tumor sooner or later usually recurs and general metastases are not infrequent." Berry and Parsons, and apparently Derby himself, are strongly inclined to the same belief as Verhoeff and Loring, and thus all favor enucleation of the affected eye, rather than abscission of the tumor.

I wish to thank Col. W. C. Gorgas, Chief Sanitary Officer, Isthmian Canal Commission, for permission to report this case.

805 Empire Life Building.

3. Watson and Cunningham: Genito-Urinary Diseases, 1908, i, p. 435.
1. May: Diseases of the Eye, Ed. 4, Revised, 1905.
2. Adami and Nicholls: The Principles of Pathology, Ed. 1.

## BILATERAL AND MULTIPLE ECTOPIC PREGNANCY

ELLICE McDONALD, M.D.
AND
WILLIAM A. KRIEGER, M.D.
NEW YORK

Multiple ectopic pregnancy is by no means an uncommon occurrence. Like a great number of other medical rarities, it has been more frequently found when observers are educated to look for it.

The fact that twin ectopic pregnancy is proportionately more common than is normal twin uterine pregnancy has led Barnes to suggest that twin conception is a cause of ectopic pregnancy. This, however, is mere theory and has no definite basis of proof.

Multiple ectopic pregnancy may be divided into several classes. There may be pregnancy in the uterus with a tubal pregnancy; this is called combined pregnancy. There may be a pregnancy in each tube—bilateral ectopic pregnancy. There may be a pregnancy with both embryos in one tube—twin tubal pregnancy. These conceptions may begin at the same time or one may begin later than the other, or they may begin at the same time and the development of one may be retarded and the other may continue to grow. As a result of this, the fetuses are very often unequal in size and the varieties of multiple ectopic pregnancy may best be shown by the following table.

Twin ectopic pregnancy has been recorded a number of times in recent years. It is usually found only in

3. Derby, George S.: A System of Ophthalmic Operations, Edited by Casey Wood, 1911, p. 646.

TABLE 1.—MULTIPLE ECTOPIC PREGNANCY

Bilateral Ectopic Pregnancy:
1. Simultaneous.
2. Different ages.
3. One ovarian, one tubal.

Twin Tubal Pregnancy:
1. Simultaneous.
2. Different ages.
3. Twins on one side and one fetus on the other.

the early stages of the disease and so, since the treatment of the disease by operation, this condition has been increasingly found. It must be remembered that it was only in 1883 that Veit did the first operation with a confirmed diagnosis of ectopic pregnancy and Janvrin in 1888 was, we believe, the first in this country. So the condition has not had a great number of years of study.

It is difficult always to distinguish whether cases of ectopic pregnancy are true twin pregnancy. Many cases that have been reported as twin pregnancies are cases in which one gestation has been retained in a tube and another has been deposited in the same tube. Cases have been reported in which the first was retained as a lithopedion and a second tubal pregnancy occurred in the same tube. Several cases have been reported, in which there has been a gestation retained in one tube and by transmigration of the ovum a conception came from the opposite ovary and deposited itself in the tube already holding the first gestation.

The fetuses of a simultaneous twin tubal gestation are not always of the same size. One may die or its growth cease, while the other may thrive and grow. This is also possible when the fetuses are nourished by a single placenta.

As a result of these vagaries, it is always difficult to say whether the fetuses in a twin tubal pregnancy are really twins and of the same age or whether it is only a repeated tubal pregnancy in which one conception has followed another in the same tube. We have collected thirty-nine cases of twin tubal pregnancy in which the evidence is reasonably sure; that is, the fetuses are either of the same size and character or are nourished by a single placenta, or the careful history gives no other record of more than one syncopal attack. This, it

TABLE 2.—BILATERAL ECTOPIC PREGNANCY, PROVED CASES

| Author | Reference | Right Tube | Left Tube | Remarks |
|---|---|---|---|---|
| Byford | *Am. Jour. Obst.*, 1893, xxviii | Fetus | Fetus | Different ages |
| Burford | *Med. Press and Circ.*, 1905, lxxix, 533 | Fetus 38 mm. | Fetus 41 mm. | Same age |
| Boissard and Coudert | *l'Obstetrique*, 1900, iii, 6 | Fetus | Fetus | |
| Galabin | *Brit. Med. Jour.*, Oct. 10, 1892 | Fetus | Fetus | |
| Von Ott | *Jour. Geburtsh. u. Gynäk.*, 1892, p. 482 | Fetus | Fetus | Same age |
| Martin | *Ztschr. f. Geburtsh. u. Gynäk.*, 1897, xxxviii, Part 1, p. 144. | Fetus | Fetus 2 mm. | Different ages |
| Ruder | *Deutsch. med. Wchnschr.*, 1902, p. 50 | Fetus 2 mm. | Fetus 3 mm. | Different ages |
| Psaltoff | *Ann. de gynéc. et d'obst.*, 1903, lix, 376 | Fetus 4 mm. | Fetal mummy 3 yrs. | Different ages |
| Walter | *Brit. Med. Jour.*, 1892, ii, 732 | Fetus | Fetus | Different ages |
| Ferguson | *Edinburgh Med. Jour.*, February, 1899 | Lithopedion | Fetus | Different ages |
| McCalla | *Surg., Gynec. and Obst.*, March, 1909 | Fetus | Fetus | Different ages |
| Werth | Winckel's Handbuch der Gynaekologie, ii, 2 | Fetus 32 mm. | Fetus | Same age, 8 weeks |
| Finsterer | *Zschr. f. Heilk.*, 1909, xxviii, Supplement | Fetus | Fetus | Same age, 8 weeks |
| Launell | Mittheilungen aus der gynaekologischen Klinik des Dr. Otto Engstrom, 1910, vii, 2. | Clot. Chor. Villi | Fetus | Same age, 8 weeks |
| Findley | *Surg., Gynec. and Obst.*, July, 1910 | Clot. Chor. Villi | Clot. Chor. Villi | Same age, 8 weeks |
| Davidsohn | *München. med. Wchnschr.*, Jan. 6, 1912 | Fetus | Fetus | Same age, 6 weeks |
| Moreau | *Thèse de Paris*, 1853 | Fetus | Fetus | |
| Polak | *Brooklyn Med. Jour.*, 1904, xviii, 242 | Fetus | Fetus | L. Interstitial |
| Pozzi | Soc. d'Obst. et Gyn. Paris, Jan. 14, 1901 | Fetus 4 mm. | Fetus 7 mm. | Different age |
| Milligan | THE JOURNAL A. M. A., Jan. 13, 1912, p. 114 | Fetus | Fetus | Same age |
| Launay and Sequinot | *Rev. de Chir.*, April, 1911 | Fetus 3 mm. | Twin fetuses smaller | All same age |
| Winckel | *Verhandl. d. deutsch. Gesellsch. f. Gynäk.*, 1888, ii, 82. | Fetus | Fetal mummy | Different ages |
| Labbardt | *Beitr. z. Gynäk. u. Geburtsh.*, 1910, xiv, i, 155. | Clot. Chor. Villi | Clot. Chor. Villi | No fetuses |
| McDonald & Krieger | This paper | Fetus | Fetus | Different ages |
| McDonald & Krieger | This paper | Fetus | Clot. Chor. Villi | Same age |

TABLE 3.—BILATERAL ECTOPIC PREGNANCY PROBABLE, BUT NOT PROVED

| Author | Reference | Right Tube | Left Tube | Remarks |
|---|---|---|---|---|
| Frederick | *Am. Jour. Obst.*, November, 1901 | Ruptured blood-clot. | Ruptured clot | |
| Rosenstein | *Deutsch. med. Wchnschr.*, March 26, 1904 | Fetus | Blood-clot | |
| Bloom | *Philadelphia Polycl.*, 1894, iii, 292 | Clot | Clot | Uterine abort. 3 weeks before |
| Christie | *Medicin. Revue*, 1897, xiv, 1 | Fetus 2 mm. | Tubo-ovar. clot | |
| Kristmus | *Wien. klin. Wchnschr.*, 1902, xv, 47 | Fetus | Clot | Syncytial cells |
| Noble, G. A. | *Am. Jour. Obst.*, April, 1901 | Fetus 8 wk. | Clot | Hemorrh. from uterus |
| Robbins | *Atlanta Jour. Med.*, April, 1901 | Fetus 6 wk. | Unrupt. clot | |
| Barker | *Surg., Gyn. and Obst.*, 1907, v, 1 | Clot | Fetus | Uterine memb. passed |
| Wilson | *Austral. Med. Jour.*, 1909, xxix, 4 | Clot | Clot | Two syncopes |
| Greenberg | THE JOURNAL A. M. A., Aug. 17, 1907, p. 575 | Clot | Clot | Bleeding into bladder |
| Weinleckner | *Ber. d. Geburtsh.-Gyn. Gesellsch. Wien*, April 12, 1900. | Clot | Clot | Corpus luteum in each ovary |
| Savage | *Brit. Med. Jour.*, 1892, i, 556 | Clot | Clot | |
| Grosser | *Tr. Lucerne Co. Med. Assn.*, Wilkes-Barre, 1903, xi, 126. | Clot | Clot | |
| Chandler | *New York Med. Jour.*, 1903, lxxviii, 320 | Fetus | Clot | |
| Torrio | *Finska Läk.-sällsk. handl.*, 1896, xxxviii, 9 | Clot | Clot | |
| Giglio | *Ann. di obst. e gin.*, 1898 | Clot | Clot | |
| Heady | *Cincinnati Lancet-Clinic*, 1897, xxxix | Clot | Clot | |
| Janeway | *Med. Rec.*, N. Y., 1879, xvi | Fetus | Clot | Corp. lut. in left ovary |
| Jayle and Mandrot | *Rev. gyn. et chir. abd.*, 1904, viii, 195 | Fetus | Clot | |
| Johnson | *Boston Med. and Surg. Jour.*, 1894, cxxx, 256 | Clot | Fetus | |
| Stehman | *Am. Gynec. and Obst. Jour.*, June, 1896 | Clot | Fetus | |
| Rabinovitch | *Thèse de Paris*, 1906, No. 48 | Fetus | Clot | |
| Rowan | *Austral. Med. Jour.*, 1890 | Clot | Clot | |
| Riegenbeck von Heukelom. | Recueil des travaux anatomo-pathologiques du Laboratoire Boerhaave, Leyden, 1899. | Fetus | Clot | |
| Taconnet and Lefort | *L'Echo méd. du Nord, Lille*, 1899, ix, 139 | Fetus | Clot | |
| Newton | *Boston Med. Jour.*, Aug. 26, 1905 | Fetus | Clot. Decid. cells | |
| Coffey | Proc. West. Surg. and Gyn. Assn., Dec. 30, 1909 | Fetus | Clot | |

must be confessed, is not very accurate evidence, but it is the best available. The citation of the cases would offer little of interest save for some isolated ones.

Treub, for example, has the photograph of five embryos, removed by a colleague from one tube. They were about 3 or 4 months old and apparently all of the same age. Krusen has reported triplets in one tube, and Launay operated on a patient with twins on one side and a single fetus on the other, all apparently of the same age—about 3 months.

Sometimes there is only one sac; sometimes there are two sacs. One ovum is sometimes found free and sometimes both are free. It is not exactly correct to call a gravid tube with two fetuses a twin tubal pregnancy, but it is very difficult to prove it is not. Occasionally the history is so definite as to isolate the two gestations or the character of the fetuses may be so different as to make it sure that they are of different ages. It should be remembered, however, that one may grow and the other may not, even if they are conceived at the same time, and that repeated conception may occur in the same tube.

Bilateral ectopic pregnancy is subject to the same uncertainty. One gestation may be retained and another occur in the other tube. A lithopedion even may be in one tube and a gestation occur in the other tube. Then again, it is possible for the gestations to be of the same age and the growth of one to be stopped, while the other continues. Of the bilateral ectopic pregnancies here collected, where the ages were noted, in eleven cases the fetuses were of the same age, and in ten cases they were of different size and apparently of different ages.

An interesting fact in the study of bilateral ectopic pregnancy is that the presence of blood-clot in a tube when the opposite tube contains a fetus is no proof that gestation has occurred in both tubes. The presence of decidual cells in one tube, while the other has a gestation, is no proof that gestation has occurred in the tube with decidual cells and no fetus.

Definite decidua has been reported in the uninvolved tube by Kroemer,[1] Haultain[2] and others. In two cases of our own, in which the uninvolved tube was removed to prevent recurrence, as the women already had several children and the percentage of recurrence is one in twenty, there were decidual cells present in the apparently normal tubes.[3]

Ferroni has also shown that in the microscopic study of tubes removed for other conditions, all those tubes which contained blood showed decidual cells. All the cases of hematosalpinx had decidual cells, usually found in some of the folds of mucous membrane and disposed of in patches where there were no adhering coagulations. Over these patches the investing epithelium is well preserved as in other parts of the tube. The reaction was absent in all cases of fluid distention, which was not bloody or only in part bloody. Bazy[4] has reported cases of hemorrhage inflammation of the tubes, which by its clot may simulate tubal pregnancy without any gestation being present.

For these reasons, in the exact anatomic diagnosis of tubal pregnancy, the presence of clot in the tube or the presence of the decidua reaction is not sufficient. To make an exact diagnosis of bilateral ectopic pregnancy, there must be either a fetus or chorionic villi in each tube. In such a rare condition, the diagnosis should be exact. Chorionic villi are essential to placental formation and never exist without pregnancy, while decidual cells may be both in the tube and uterus.

For these reasons, reports of fifty-two cases reported as bilateral ectopic pregnancies have been collected into two groups: one of which has a definitely proved fetus on each side or chorionic villi on each side, and the second which consists of cases that have not this proof or have not been thoroughly studied. In this second table, it is probable that most of the cases are true bilateral ectopic pregnancy, but search has not been made for chorionic villi in the walls of the tube.

We have added to these lists two cases which are of interest. One patient had apparently three pregnancies, one in each tube and a uterine one which miscarried. She had two separate and individual ruptures with shock and collapse. The full histories are appended with the pathologic reports.

### CASE REPORTS: BILATERAL ECTOPIC PREGNANCY

Case 1.—*History.*—Patient, aged 38, married, tertipara, complained of pain in lower abdomen and uterine hemorrhage. History at that time showed that the patient had suffered from pelvic inflammatory disease about two years previously. Three months before entering hospital failed to menstruate, but menstruated profusely two months before. At that time she had an attack of fainting and thinking it a natural consequence called no physician. Bleeding was very profuse. From that time on she had symptoms of pregnancy and believed herself to be so. Hemorrhage continued varying in amount, although always present each day from May and the patient was confined to bed from that time up to entering the hospital. After entering the hospital, condition continued every day the same until July 5, when the abdominal pain was greatly aggravated and the patient was in a condition of shock from which she slowly rallied.

*Examination.*—The patient was very pale and anemic, pulse 110, temperature 99. There was abdominal distention and tenderness on superficial palpation. An irregular mass was felt over the symphysis about as large as a grapefruit, and both the inguinal rings were fuller than normal. Intestines were generally tympanitic. The glands were found to be enlarged and soft on abdominal examination. A boggy mass of irregular consistence filled uterus and entire pelvis, a portion being so firm as to give the impression of a fibroid, the other portion feeling like a recent hematoma. Neither the body nor the appendages could be identified from this general mass. The vaginal wall and cervix were cyanotic. Breasts were swollen and contained colostrum. In view of the clinical history and of the occurrence in May and July a diagnosis of ectopic pregnancy with multiple hemorrhages was made.

*Operation.*—An immediate operation was performed. Large quantities of partly coagulated and fluid blood, no way encapsulated, was found. Uterus, ovaries and blood-clot filled the pelvis, and it was difficult to demonstrate anatomic relations. Patient was placed in the Trendelenburg position and adhesion separated, so that the anterior wall of the uterus could be identified. By careful dissection of the adhesions both the lateral masses were removed, consisting of diffuse hemorrhages and tumor mass.

*Postoperative History.*—The family physician stated that four or five days after the operation the uterus expelled *en masse* the remains of placental tissue and fetus. He examined this personally and made the report. The patient made a slow recovery.

*Pathologic Report.*—The specimen consists of both tubes and ovaries, together with two fetuses.

The ovaries are normal in size. One ovary measures 3 by 2 by 1 cm., and is normal in appearance. The other ovary is larger, measuring 3.5 by 2 by 1 cm., and on section is found to contain a very large corpus luteum of pregnancy. There are a few adhesions on each side between the tubes and ovaries.

1. Kroemer: Arch. f. Gynäk., 1903, lxviii, 57.
2. Haultain: Jour. Obst. and Gynec., Brit. Emp., 1906, ix, 6.
3. These specimens were examined at the Bender Laboratory. We owe thanks to Dr. R. M. Pearce, late director.
4. Bazy: Rev. de gynéc., 1911, xx, July.

Both tubes are greatly enlarged and contain a brownish-red material, having the appearance of clotted blood. Springing from each tube at one point is a fungoid mass of grayish-white granular-looking growth, which has the characteristic appearance of masses of chorionic villi. Connected with each tube is a fetus. On one side the fetus is well preserved, is 9 cm. in length, and is attached to the material having the appearance of chorion by an umbilical cord 15 cm. in length. In this fetus the finger-nails are already apparent; the external ear, although still rudimentary, can be made out, and the eyes and other features are fairly well developed. The cavity of the mouth and tongue are well formed. The fetus on the other side appears to have undergone an arrest of development. It is brownish in color. Its lower limbs are perfectly apparent, as are its upper ones, but its trunk and head are contained in a well-defined capsule composed of firm tissue, apparently of the nature of connective tissue. A definite head and face cannot be made out in this fetus. In the portions apparent the fingers and toes are differentiated and the finger-nails are well formed.

*Anatomic Diagnosis.*—Bilateral extra-uterine pregnancy.

CASE 2.—*History.*—Patient, aged 28, housewife, complained of pain low in abdomen on left side. Menstruation was normal. Last period was slightly less than usual (see below). Patient noticed soreness in left lower abdominal quadrant about fifteen days before examination and had twinges of pain in this region. About five days later physician noticed a tumor at this site. If lying down and turning toward right side, she could feel something drop, from left to right, felt as if something were going to fall out of her. She had distinct sensation of pain at last menstruation, which lasted three days, stopped for a very short time, and then began as a continuous flow of brownish, watery fluid.

*Operation.*—On opening the peritoneal cavity there was found a small amount of free, blood-stained, turbid fluid. Partially beneath the sigmoid on the left side and firmly bound down by new-formed tissue was a mass the size of a small orange. This was the left tube and ovary, the seat of an ectopic pregnancy. The adhesions being broken up with some difficulty, the mass was brought up and the tube and broad ligament on the left side were clamped off and removed. The right ovary was macerated and lay behind the uterus and bound down by adhesions in the pelvis. This ovary was about the size of a hen's egg. On breaking up the adhesions this appendage was found the seat of a second ectopic gestation. This tube and the ovary (which was intimately associated with the ectopic mass) were removed and tied in the same manner as on the left side. The remaining portions of the broad ligaments were brought over and sutured to the cornua of the uterus, thus walling off from the abdominal cavity the raw surfaces produced by the liberation of the bound-down appendages. The patient's recovery was uneventful.

*Pathologic Report.*—Specimen consists of (1) fallopian tube 10 cm. long and (2) gestation sac. (1) Peritoneal surface in proximal two-thirds is grayish pink, smooth and glistening and tube is slightly thickened. In distal one-third peritoneum is greenish brown. Fimbriated extremity is absent and represented by a soft boggy mass measuring 6 by 4 by 4 cm. On section cut surface is irregular, reddish brown and is apparently blood. (2) The sac is a round somewhat firm mass; the outer surface varies in color from grayish yellow to bluish black. Surface in part is rough, due to dissection and in part covered by peritoneum and has numerous fibrous tags attached. On section cut surface shows a cavity within the mass lined by a smooth glistening membrane. Within this cavity is a fetus about 2.5 cm. long, which is attached to the wall by a cord. About this cavity the cut surface is mottled reddish-brown in color.

*Anatomic Diagnosis.*—Double ectopic gestation. Chronic pelvic peritonitis. Decidual cells and chorionic villi shown by sections from the walls of the sac of each tube. Necrosis of the decidual tissue and thrombosis.

174 West Fifty-Eighth Street

# EROSIVE AND GANGRENOUS BALANITIS

## THE FOURTH VENEREAL DISEASE
## A FURTHER REPORT*

B. C. CORBUS, M.D.

Professor of Genito-Urinary Diseases, College of Physicians and Surgeons, Medical Department, University of Illinois

CHICAGO

In May, 1909, Dr. Frederick G. Harris and I[1] reported our observations on a specific form of balanitis, due to a symbiosis of a spirochete and a vibrio.

This was the first time in this country that attention was drawn to this specific form of balanitis, although abroad Scherber and Müller[2] had classified this form of infection and proved conclusively that balanitis gangraenosa was identical with the *balano-posthite érosive circinée* of Bataille and Berdal,[3] only representing different degrees of severity.

Notwithstanding the fact that reports have come from McDonagh[4] in London, Scherber[5] of Finger's clinic in Vienna, Dind[6] in Switzerland, Romeo[7] in Italy and Kallionzis[8] in Greece, since Scherber and Müller's[2] publication in 1904, an extended search of the American current literature and text-books still shows a lack of appreciation of the virulency of these organisms.

Scherber's second and extensive communication[5] on the different forms of balanitis, published in 1910, describes the condition in detail.

Erosive or gangrenous balanitis is a specific infectious venereal disease, with local and constitutional symptoms varying with the severity of the infection. The cause is a symbiosis of a vibrio and a spirochete. These two organisms are always found together. Both have been demonstrated in sections, in the blood-vessels and in the inguinal nodes.

Predisposing causes are (1) a long, tight foreskin excluding the air, always present to a greater or less degree; (2) wetting the labia or penis with saliva, and (3) unnatural sexual relations, after alcoholic excesses.

In private practice in this country the disease is uncommon, probably occurring once in two hundred cases; but in dispensary work, in which material comes from the lower walks of life, the infection is fairly common. Scherber[5] reports eighty-one cases that occurred in Finger's clinic in four years.

That more cases are not reported in this country is due, I believe, to the lack of recognition, and it is with this idea in view that I have had the accompanying illustrations made.

### BACTERIOLOGY

Abundant evidence is at hand to show that in noma and in Vincent's angina the etiologic factors are a spirochete and a vibrio. Rona[9] says that "noma begins without exception in gangrenous stomatitis. If the fusiform bacillus and spirochete found in the mouth are etiologic factors in gangrenous stomatitis, since the organism is found in such abundance in noma, it must be due to the same cause."

---

* Read before American Urological Association, April 15-17, Boston.

1. Corbus, B. C., and Harris, Frederick G.: Erosive and Gangrenous Balanitis, the Fourth Venereal Disease, THE JOURNAL A. M. A., May 8, 1909, p. 1474.
2. Scherber and Müller: Arch. f. Dermat. u. Syph., lxxvii, 77.
3. Bataille and Berdal: Méd. mod., 1891, ii, 340.
4. McDonagh: West London Med. Jour., 1911, xvi, 131.
5. Scherber: Handbuch der Geschlechts-Krankheiten, 1910, i, 153.
6. Dind: Rev. méd. de la Suisse Rom., 1911, p. 592.
7. Romeo: Gazz. d osp., Oct. 4, 1910, p. 1257.
8. Kallionzis: Ἐν Σύρᾳ, 1910, xv, 385.
9. Rona: Arch. f. Dermat. u. Syph., 1905, lxxiv, 171.

In 1905, Weaver and Tunnicliff[10] described a fusiform bacillus which was isolated in pure cultures in cases of Vincent's angina and ulceromembranous stomatitis. Later, Tunnicliff[11] described three strains of fusiform bacilli isolated in pure cultures from the normal mouth. These resembled the organisms which she found in Vincent's angina and in ulceromembranous stomatitis.

In the first publication on this subject, by Harris and myself,[1] numerous authors were cited and abundant clinical proof was obtained to substantiate the pathogenicity of these organisms.

The accompanying photomicrograph (Fig. 1) from Tunnicliff's[12] work shows typical vibrios and spirochetes cultured from a case of noma, and Tunnicliff believes the organism to be one and the same only representing different stages of development. Ellerman[13] takes exception to this, however, calling attention to the lack of motility of the cultured organism.

I have repeatedly examined the spirochetes found in Vincent's angina under the dark-field illuminator. Here the organism is identical with that found in erosive and gangrenous balanitis, the motility being one of the characteristic and diagnostic features.

Since the conditions that favor the growth of these organisms—heat, moisture, filth and absence of air—are more ideal in the genitalia than in the mouth, it is easy to conceive how an organism may leave its normal saprophytic domain and under proper anaerobic conditions become pathogenic and produce extensive destruction.

Examinations of vaginal secretions of one hundred normal women[5] showed bacteria and spirochetes similar to those found in smegma, but no spirochetes of balanitis.

In eleven cases of clinically evident vulvitis and vaginitis, vibrios and spirochetes were found.

## ETIOLOGY

As shown in Figure 2, the vibrio and spirochete are the predominating organisms found. We can easily argue, as did Rona, in 1905, that if the fusiform bacillus and the spirochete found in the mouth are etiologic factors in gangrenous stomatitis and gingivitis, erosive and gangrenous balanitis must be due to the same cause, since the organisms are found in such abundance in these conditions, and especially since in the histories of all my cases unnatural sexual relations or a wetting of the labia were admitted.

The vibrio grows under anaerobic conditions on serum-agar. It occurs singly or in chains of two or more individuals. It is a slightly curved rod-shaped organism with pointed ends, measuring about 2 microns in length and 0.8 microns in width. It stains by the ordinary dyes and is Gram-positive, although the decolorization must be performed very carefully, as the organism gives up the gentian violet readily. It is preferable to use 70 per cent. alcohol for this purpose.

The spirochete is Gram-negative, but stains with the ordinary dyes; with the Giemsa stain it takes a bluish red. These organisms are best seen with the dark-ground illuminator. They average from 6 to 30 microns in length and about 0.2 micron in width. The windings are not acute and the ends of the organism terminate in the center of the spiral. The motion of the organisms is very rapid; they travel from place to place, resembling small snakes; they have a rotary motion, but this is not so pronounced as the backward and forward motion.

After unsuccessful attempts at animal inoculation with cultures, Scherber[5] does not believe in the pathogenicity of the fusiform bacillus and considers the spirochete responsible for the lesions.

A rapid and simple method of collecting the pus is by capillary attraction with small capillary pipets. These may be pushed deep into the ulcers and a quantity of fresh discharge obtained. The pus may be examined with the dark-field illuminator, or fixed and dried and stained from two to three minutes with carbolfuchsin. It is to be examined without cover-glass with oil immersion (the method used in Figure 2).

## PATHOLOGY

The pathologic condition in the milder forms of balanitis erosiva circinata consists simply of a flaking off of the epithelium, leaving small superficial erosions. When the desquamation is more marked there are bright-red ulcers, which are surrounded by a small white zone, the remains of the necrotic epithelium.

In the surrounding tissue there is an exudation of leukocytes and plasma. The organisms are found in the necrotic membrane. At times they can be demonstrated in the tissues and blood-vessels, as shown by Scherber and Müller.

In the more severe grades of infection there is more venous stasis and more exudation, resulting in marked phimosis which predisposes to gangrene. As Scherber and Müller[2] pointed out, the whole condition is one of degree only, but for clinical purposes we may distinguish two types: (1) balanitis erosiva circinata and (2) balanitis gangraenosa.

## SYMPTOMS

Balanitis erosiva circinata commences with the appearance of one or more small grayish-white patches in the preputial sac. At the time of the development of the erosion an offensive thin pus is produced, of a characteristic stinking odor and of the usual yellowish-white; in the more severe cases it becomes grayish-white or grayish-brown.

Pus from lesions is innocuous.[3] In its development the inoculation never becomes pustular, but necrosis of the epithelium always represents the beginning, and the future process is polycyclic.

Infection shows a preference for the sulcus coronarius, next on the inside of the prepuce and last on the glans. In development all of the glans penis is affected and under favorable anaerobic conditions the whole fossa navicularis is affected. It must be borne in mind that more or less phimosis is an essential factor.

In the mild cases the foreskin may be easily retracted, but in the more severe forms marked phimosis develops; there is considerable itching and burning behind the glans; the act of urination is practically without pain. In contradistinction to the gangrenous form in this type of the disease, constitutional symptoms are slight or absent.

As the process follows no hard and fast lines there are certain deviations from the foregoing picture. The process may be limited to the glans and the inner surface of the foreskin may be unaffected. This may be extreme or mild, but is always present on the covered portions of the glans.

10. Weaver and Tunnicliff: Jour. Infect. Dis., 1905, No. 2, p. 446.
11. Tunnicliff: Jour. Infect. Dis., 1906, iii, 148.
12. Tunnicliff: Jour. Infect. Dis., 1911, viii, 316.
13. Ellerman: Centralbl. f. Bacteriol., 1905, xxxviii, 383.

The inflammatory condition may remain a purely erosive superficial process and may recover spontaneously. Berdal says that in simple cases healing takes place in four or five days. Scherber has seen spontaneous healing almost completed in forty-eight hours by simple washing and admission of air by retracting the foreskin. He further states from observation that the height of the development usually occurs in from four to eight days after exposure to infection, and that he seldom saw cases of four weeks' incubation and cases persisting for three or four weeks.

In a number of cases the process does not remain superficial, but develops deep diphtheritic and gangrenous ulcers, which complicate the clinical picture in many ways.

In some cases when the foreskin can be retracted, after removal of the pus, small, round ulcers can be seen inside of the erosions, varying in size from that of a pinhead to that of a pea. These ulcers are moderately deep and on the whole flat and surrounded by a red zone. They are covered by a closely adherent pseudomembrane. In other cases the ulcers are more extensive and deeper, the average size being about that of a dime. These may become confluent and extend over the whole surface of the sulcus or the inner surface of the foreskin.

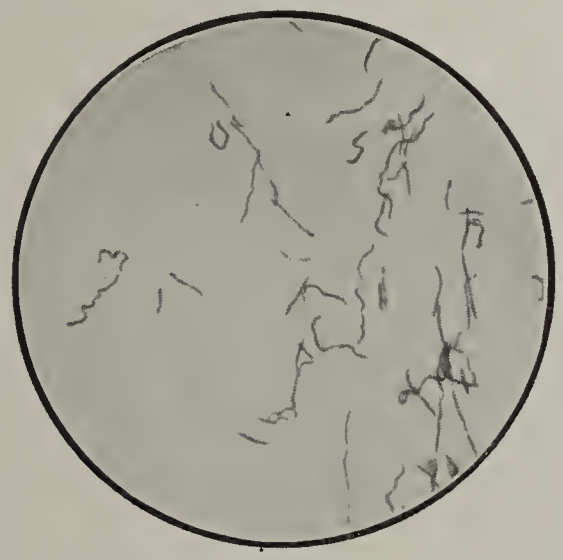


Fig. 1.—Vibrio and spirochete; culture from case of noma. Slide and culture by Dr. Ruth Tunnicliff.

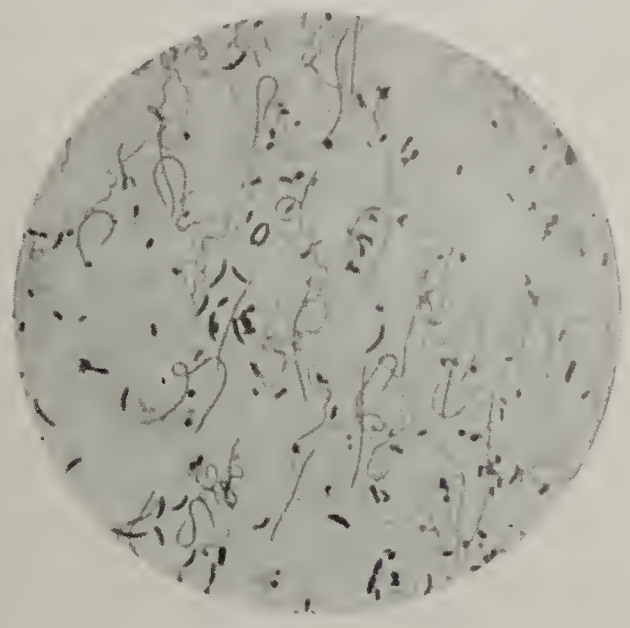


Fig. 2.—Etiologic factors in erosive and gangrenous balanitis.

These balanitic ulcers are of a somewhat irregular outline and are surrounded by a small inflammatory, slightly elevated border. This border is clean-cut and the sides somewhat slanting; the base is uneven,



Fig. 3.—Erosive type, Case 1. Balanitis erosiva; foreskin not retracted; ulcers seen on margin.

with a firm yellowish-white or yellowish-brown membrane, which is often edematous and swollen.

When more edematous this false membrane appears as a sort of friable slime. Here and there may be hemorrhagic spots which sometimes give rise to hemorrhages from the base of the ulcer.

In the severe forms the constitutional symptoms are more marked. Scherber and Müller noticed chills and fever in a majority of their cases and at the onset vomiting. The average temperature ranges from 100 to 101 F. There is marked edema, the external skin being red and edematous; the infiltration may extend to the root of the penis in some cases. The dorsal lymph-cord is usually palpable and the inguinal nodes are enlarged, but not painful. Unless the phimosis is complete there is no pain on urination; when, however, the urine is not able to pass freely and dilates the preputial sac, there is considerable pain.



Fig. 4.—Erosive type, complicated by syphilitic infection, Case 2. Foreskin retracted; grayish purulent secretion in sulcus coronarius and a few small erosions on the glans.

The discharge is the most profuse in this type of the disease. By gently irrigating the preputial sac with sterile water and wiping the external urethral orifice we can easily exclude gonorrhea by having the patient urinate in two glasses.

In the majority of cases of balanitis gangraenosa there occurs a marked edema of the subcutaneous tissue of the penis which extends to the root and causes a marked phimosis. If the ulcer is situated on the inner surface of the foreskin it shows externally as a dark, bluish-red area within the surrounding bright-red inflammatory tissue. The congestion and abnormal pressure, due to edema, favor the progress of the disease.

Soon the foreskin over the ulcer becomes black, and a complete necrosis of the part occurs. If the ulcer is situated on the glans, in a short time it may produce complete destruction of the glans or may even cause an extremely rapid gangrene of the organ, which may extend even to the root of the penis, as may be seen by my fourth case.

The ulcers in these cases are deep, the edges sharp and perpendicular, the base grayish-green or brownish; or the penis may show hemorrhagic areas or be changed into a black necrotic mass.

The discharge at this time is more offensive than in the erosive type; it is grayish-yellow or yellowish-brown, and at times it may be slightly hemorrhagic, but always with the same characteristic odor. The inguinal nodes are enlarged; there is a mild grade of sepsis present. General malaise is marked. There may be vomiting and the temperature may reach 104. The tenderness of the part is extreme.



Fig. 5.—Erosive type, more advanced stage, Case 3. Foreskin retracted after dorsal incision; deep erosive ulcers with necrotic bases just back of the sulcus coronarius.

## DIAGNOSIS

This disease is not so uncommon as one might suspect; unfortunately it is usually mistaken for chancroidal infection. The period of incubation may be the same in the two conditions; but with the characteristic thin yellowish-white, offensive discharge, in which one finds a vibrio-form organism and a spirochete, the diagnosis should not be difficult.

The ulcers of the two forms of infection may simulate each other very closely. In this form of balanitis, when the infection is at all severe, there is marked phimosis and considerably more inflammatory reaction. The enlarged inguinal lymph-nodes are painless, while with a very insignificant chancroidal sore a suppurating bubo is often present.

Chancroidal ulcers are, as a rule, multiple, but they do not spread with so great rapidity as do the ulcerative form of balanitis. Whereas the borders of the ulcers in both diseases have a clean-cut, punched-out appearance, there is greater tendency to undermine the wall in a chancroidal infection.

On account of the indolent adenopathy that accompanies balanitis erosiva, it must be differentiated from syphilis. In syphilis the period of incubation is longer, although the two infections may occur simultaneously, as reported in one of Scherber's cases, as well as in one of my own. When such a condition exists we may be compelled to defer our diagnosis of syphilis until the period of incubation for syphilis has elapsed; or in case of a mixed lesion the *Spirochaeta pallida* may easily be demonstrated by the dark-ground illuminator, and is so characteristic as to be easily differentiated from the spirochete of balanitis.

Herpes praeputialis always occurs as groups of small insignificant vesicles in which local reaction is mild or entirely absent. This condition simulates somewhat the mild form of balanitis erosiva, but in herpes one fails to find the organisms characteristic of balanitis.

## TREATMENT

As a prophylactic measure, the practice of circumcision should be encouraged; it is absolutely impossible for balanitis to exist in a person who has been circumcised.

In many cases in which the condition is mild and the foreskin can easily be retracted, all that is necessary is a thorough cleansing; but in the mild ulcerative forms in which there is the slightest evidence of phimosis, a dorsal incision should be performed. As the organism of balanitis is anaerobic, this incision serves a twofold purpose—of admitting air and exposing the diseased parts for treatment.

The natural tendency in this disease is to burn all the sloughing ulcers, but such treatment subjects the patient to needless punishment. As said before, the organisms of the disease are anaerobic, and as hydrogen peroxid liberates oxygen when in contact with organic matter, it acts as a specific for this form of infection.

The ordinary 2 per cent. solution is sufficient, but in severe cases of gangrenous balanitis, 25 per cent. may be painted on the parts.

## REPORT OF CASES

CASE 1.—Erosive type (Fig. 3), previously reported.[1]

*History.*—The patient, M. M. W., aged 40, married, denied all previous venereal history. After four days' incubation the patient noticed itching and burning around the glans penis. There were no constitutional symptoms. During the first week this continued as a mild balanitis. The patient was able to retract the foreskin. Treatment was neglected. At the end of the first week conditions suddenly became worse; the foreskin began to swell and the patient was unable to retract it. At this time he presented himself for examination.



Fig. 6.—Gangrenous type, Case 6. Appearance on examination.

*Examination.*—The general muscular development was good; there were no scars or evidence of previous venereal disease. The penis was swollen and edematous; the edema extended about half way up the shaft of the penis, giving it a pear shape. The skin over the glans portion was red and slightly injected. There was complete phimosis. Exuding from the opening was thin, yellowish-white pus, with a penetrating odor; in the pus a vibrio and a spirochete were found. There

was constant burning pain which was increased on the slightest pressure. There was no urinary pain. The dorsal lymph-cord was easily palpable; the inguinal nodes were enlarged but not tender. There was no fever.

*Treatment.*—With a small hand-syringe 2 per cent. hydrogen peroxid was injected every hour into the preputial sac. By the second day the foreskin could be retracted, showing numerous small ulcers with sloughing bases and sharp borders, involving the sulcus and the covered portion of the glans.

These healed rapidly under the above treatment.

CASE 2.—Erosive type, complicated by syphilitic infection.

*History.*—C. E., man, aged 19, single. No previous venereal disease; gives history of many exposures. Last exposure four days previous; unnatural relations. After six days of incubation, patient presented himself at my clinic at the Post-Graduate Hospital.

*Examination.*—Well-developed individual. general examination negative. Pulse and temperature normal. No enlargement of the lymph-nodes, profuse yellow discharge from the preputial opening. Moderate amount of phimosis present. Foreskin was retracted with little difficulty, showing numerous typical superficial erosive ulcers, both in the sulcus coronarius and on the glans penis. Complicating this, however, was a hard indurated erosive chancre seen just back of the corona on the patient's left side. The sulcus was filled with purulent discharge, as seen in Figure 4.

Here by examination with the dark-field illuminator it was possible to make a differential examination at once, for there were present the *Spirochaeta pallida,* the spirochete of erosive and gangrenous balanitis, and numerous vibrios. No other method could have given such prompt diagnostic technic.



Fig. 7.—Gangrenous type, Case 6. Appearance forty-eight hours later.

*Treatment.*—Two per cent. hydrogen peroxid and salvarsan with prompt resolution of erosive condition.

CASE 3.—Erosive type, more advanced stage.

*History.*—F. P. E., man, aged 21 years, single, private patient. No history of any previous venereal disease, incubation six weeks, at which time unnatural relations were held with the idea of avoiding exposure by the ordinary channels.

*Examination.*—Large corpulent individual, general examination negative. Pulse and temperature normal. Considerable phimosis present, penis slightly swollen. Extreme tenderness on examination. Foreskin was not retractable; patient stated that during the month previous there was a little itching behind the glans, but that twenty-four hours before presenting himself for examination it suddenly began to swell and was extremely painful on examination. Profuse stinking discharge. Dorsal lymph-cord was palpable, slight painless inguinal adenopathy present.

*Operation.*—Dorsal and ventral incisions were performed, showing both superficial and deep necrotic ulcers present at borders of glans and sulcus coronarius, as seen in Figure 5. Numerous vibrios and spirochetes were obtained from the necrotic ulcers.

*Treatment.*—Two per cent. hydrogen peroxid, thorough cleaning with hand-syringe every two hours; prompt recovery; unable to obtain second photograph. There is no doubt that this case would have gone on to gangrene had not prompt treatment been instituted.

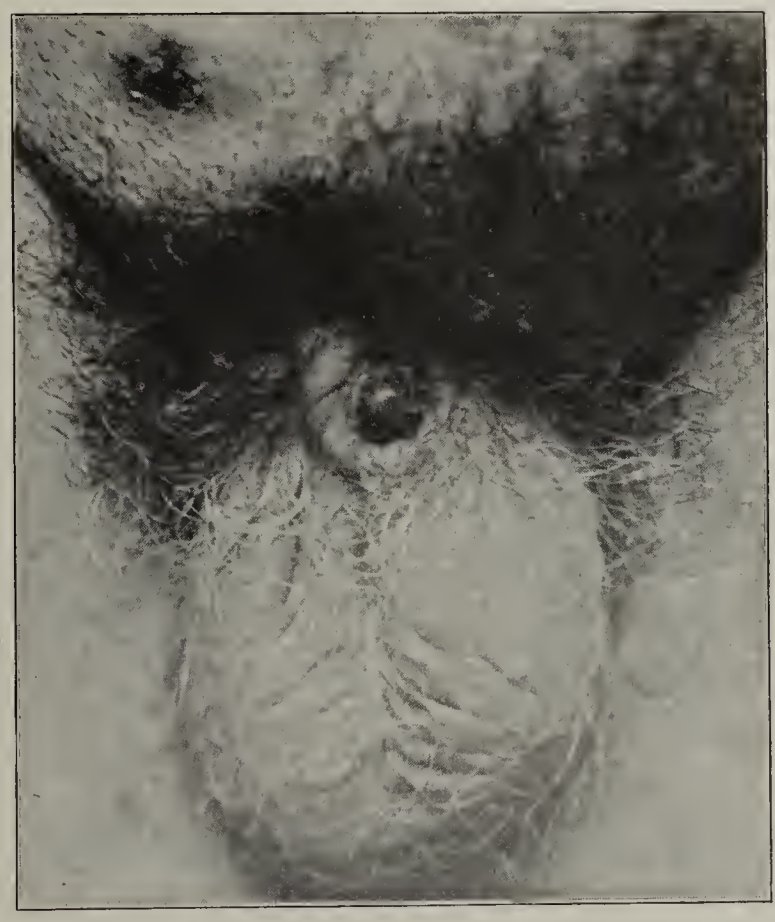


Fig. 8.—Gangrenous type, Case 6. Appearance five months after, showing small stump left.

CASE 4.—Erosive type.

*History.*—P. O. S., man, aged 26, history of previous gonorrhea. Unnatural relations were held thirty-six hours previously.

*Examination.*—Typical pear-shaped swelling of the penis, foreskin retracted. Whole of glans penis and sulcus coronarius covered with superficial ulcers, average size about the head of a pin, profuse purulent discharge, containing vibrios and spirochetes. Dorsal lymph-cord palpable; no adenopathy.

This patient was so slovenly and careless that after two days of marked improvement he discontinued treatment and had a recurrence with a later cure.

CASE 5.—Erosive type. Previously reported.

*History.*—The patient, M. W. M., aged 26, denied syphilis; had had a supposed chancroidal infection two years previously. Two weeks before presenting himself the patient had intercourse. After three or four days there was a little itching beneath the prepuce. At the end of six days he presented himself for examination.

*Examination.*—The temperature and pulse were normal. The general nutrition was good, and there were no signs of latent syphilis. There was a large indurated swelling of the penis. From the preputial orifice exuded a thin. yellowish-white, stinking discharge. This was examined for gonococci but none was present. There was phimosis, but it was not complete. With dilation, the little finger was gently passed between the foreskin and the glans. The whole covered portion of the

glans and the inner leaf of the foreskin were covered with small ulcers, having necrotic sloughing bases. Those on the inner leaf extended to the border of the preputial fold; by gently pulling back the foreskin the whole could be plainly seen. The dorsal lymph-cord could be plainly felt and the inguinal nodes were enlarged but not tender. There were no constitutional symptoms.

*Treatment.*—The patient was given a wash of hydrogen peroxid, full strength. As he did not return to the clinic, we presume that his condition was satisfactory.

CASE 6.—Gangrenous type, previously reported.[1]

*History.*—The patient, A. G. G., aged 43, denied all previous venereal history. He had had intercourse nine days previously, at this time, the patient said that the prostitute lubricated the labia with saliva. The following day the glans-portion began to swell; there were chilly sensations; no nausea or vomiting. Previous to this time the patient's glans penis was exposed between the preputial fold, and the foreskin could be retracted. On account of the rapid phimosis that developed this could not be accomplished later. The local symptoms increased rapidly; by the third day gangrene had set in.

*Examination.*—When the patient presented himself at the clinic he was well nourished; musculuar development good. There was a slight septic intoxication. The entire preputial covering for a distance of 3 inches was one black, necrotic mass (Fig. 6). By gentle manipulation the necrotic mass could be drawn away and deep sloughing ulcers, with sharp borders, could be seen extending into the penis above the glans. There was considerable thin, slimy pus present, with an odor of necrotic tissue. Here we were able to find the organism in large numbers. The remaining portion of the penis was dark red and infiltrated, the edema extending to the root; the inguinal lymph-nodes were enlarged. The patient's temperature was 102; malaise was marked.

*Treatment.*—The patient was sent to the county hospital. Here the necrotic foreskin was cut away, and just above the glans-portion, at the site of the inner preputial fold, two deep ulcers could be seen. The glans-portion was necrotic. In forty-eight hours (Fig 7) the entire glans-portion, together with about 1½ inches of the shaft of the penis sloughed off, leaving a short stump (Fig. 8). The patient was treated with irrigations of potassium permanganate three times a day, but the organism had already invaded the deeper layers and gangrene was unavoidable.

In the summer of 1912 I was permitted to exhibit in my clinic, from Dr. Sullivan's service at the Post-Graduate Hospital, an extensive case of gangrenous balanitis with destruction of one-half of the shaft of the penis. This had previously been treated with aseptic dressings and no organisms were found at the time I saw the patient.

At the present writing there is a case of gangrenous balanitis in the service of Dr. Oliver Ormsby at the Cook County Hospital.

Since reading Scherber's last publication, I am positively convinced that the same condition may produce distinct pathologic lesions in the female. Only recently I had under observation a patient with distinct erosions on the inner border of the labia minora with profuse foul-smelling acrid discharge.

I was able to find only the vibrio, but prompt and permanent healing was effected by means of tampons applied daily of 2 per cent. hydrogen peroxid.

It must be borne in mind that erosive and gangrenous balanitis only represents different stages of development in the same infection and that prompt treatment may often save an unfortunate person from the destruction of the whole or part of the sexual organ.

32 North State Street.

# THE DIAGNOSIS AND TREATMENT OF SEBORRHEIC KERATOSES OF THE LIPS

RICHARD L. SUTTON, M.D.

KANSAS CITY, MO.

The subject of seborrhea of the lip and its relationship to epithelioma has been admirably covered in a recent paper by Montgomery[1] of San Francisco, who also calls attention to the fact that concomitant functional hepatic embarrassment, chronic indigestion and the long-continued use of certain articles of food, particularly those rich in milk-fat, all have a deleterious influence on the skins of persons who are naturally predisposed to seborrhea.

The diseases commonly affecting the lips are relatively few in number. If one excludes lupus vulgaris and lupus erythematosus, both of which are comparatively rare in this region, at any rate in America, only six or seven disorders remain to be considered. Of these, pseudocolloid of the lips (Fordyce's disease), cheilitis glandularis apostematosa, cheilitis exfoliativa (Stelwagon's disease), seborrheic keratosis and epithelioma are the ones most frequently encountered. Of the general infections, syphilis is the most important.

Fordyce's[2] disease is "a condition which is characterized by the appearance of whitish or yellowish, scanty or abundant, discrete, aggregated, and often practically coalescent milium-like bodies, occurring more especially on the inside of the mouth, laterally along the line of the teeth as far back as the last molar, and possibly somewhat less frequently on the vermilion or mucous and inner surface of the lips."[3] The disorder is harmless, gives rise to no subjective symptoms, and does not predispose to malignance; consequently its presence is rather of theoretical than of practical interest.

Cheilitis glandularis apostematosa, an affection first described by Volkmann[4] in 1870, is an adenomatous condition of the mucous glands of one or both lips, histologically distinguished by enormous dilatation and hypertrophy of the ducts, and a great increase in the amount of glandular tissue, and clinically characterized by the presence of the widely dilated orifices of the affected glands on the mucous surface of the lip, giving to the vermilion border a peculiar, sieve-like appearance.

Until quite recently the condition was thought to be an extremely rare one, but, like many other cutaneous disorders, it undoubtedly occurs much oftener than it is recognized. Aside from the slight deformity to which its presence may give rise, and the inconvenience experienced by the patient in getting rid of the copious mucous discharge which is usually present, the condition in itself is not a serious one. In a single instance—and I have examined fully a score of cases—there was a concomitant cancerous growth at the mucocutaneous juncture, near the corner of the mouth. The patient, a man under the care of my associate, Dr. Kanoky, had been troubled with seborrhea for many years, and the border of the lower lip presented not only a well-defined case of cheilitis glandularis apostematosa (two daughters also were affected with this disorder), but cheilitis exfoliativa

1. Montgomery, D. W.: Seborrhea of the Lower Lip and Its Relationship to Epithelioma, Jour. Cutan. Dis., February, 1913, p. 82. See also Montgomery, D. W., and Culver, G. D.: Influence of Milk-Fat on Skin, Jour. Cutan. Dis., June, 1912, p. 319.

2. Fordyce, J. A.: A Peculiar Affection of the Mucous Membrane of the Lips and Oral Cavity, Jour. Cutan. Dis., 1896, xiv, 413.

3. Stelwagon, H. W.: Diseases of the Skin, Philadelphia, 1910, p. 1164.

4. Volkmann: Virchows Arch. f. path. Anat., 1870, i, 142.

and a "degenerated" seborrheic keratosis as well. It is probable, however, that the epithelioma was a result of the seborrheic affection and not of the glandular one.

Cheilitis exfoliativa[5] is a chronic, low-grade inflammatory process involving the vermilion border and usually the contiguous mucous and cutaneous surfaces of one or both lips, with resulting gradual exfoliation of the superficial corneous layers. There is seldom if ever any visible liquid exudation, and there is no itching. Clinically and histologically the disorder resembles a localized seborrheic dermatitis.

Seborrheic keratoses are circumscribed, painless, brown-pigmented, warty growths which develop on senile skin or on skin which is undergoing changes similar to those occurring in old age. The lesions begin as brownish macules and develop quite slowly. In the course of a few months or years a roughened, scaly, brownish or yellowish plaque is formed, with a slightly infiltrated base. In the milder types the elevation is slight, and the fawn-colored epithelial covering is smooth and velvety to the touch. In the extreme cases, however, the firm, dry, horny scales are irregularly arranged over the surface of the lesion, giving to it an appearance almost verrucose. The plaques are oval or irregular in outline and vary in size from a tack-head to a silver quarter. The sites where these lesions occur most frequently are the face and the back, although other regions are occasionally affected. When occurring on the lip, the lesions are usually firmer, smoother and more horn-like than when they occur on other parts of the body, but the main clinical and histologic features are the same. Here as elsewhere the growths may be temporarily removed by the use of greasy applications, alone or combined with small percentages of salicylic acid or sulphur, but promptly recur unless the large capillary loops which supply the base of the lesion are obstructed or obliterated. If allowed to persist, a considerable proportion of seborrheic keratoses undergo degenerative changes and ultimately become malignant, the resulting epitheliomas commonly being of an indolent, slow-growing type.

The diagnosis of cancer of the lip, unless it be at an extremely early stage, is as a rule not difficult. Occurring in middle-aged or elderly persons, and frequently commencing as a slight abrasion or crack, in the course of a few weeks or months a small, tender, superficial ulcer with variable infiltration results. The surface of the lesion is reddish or granular, and covered with a thin layer of viscid mucus.

Occasionally the epithelioma is of the papillary variety, beginning primarily as a papillary or warty growth, or springing secondarily from a lesion of the superficial, abraded type. The resulting fissured, cauliflower-like mass is generally covered with a sticky, mucoid or purulent discharge, bleeds easily, and gives rise to considerable infiltration and swelling of the subjacent tissues. In both varieties the lymph-nodes are involved comparatively early, particularly if the lower lip is the one affected.

According to Pusey[6] statistics would indicate that the majority of cancers of the upper lip are of the rodent



Fig. 1.—A typical example of cheilitis glandularis apostematosa. The scar marks the site of a former sinus opening.



Fig. 2.—Advanced papillary epithelioma of lip which developed on the base of a former seborrheic keratosis. Inoperable.



Fig. 3.—Chancre of lower lip, four weeks' duration.



Fig. 4.—Chancre of upper lip, seven weeks' duration.



Fig. 5.—Cheilitis due to syphilis in the second stage. Corners of mouth fissured, numerous mucous lesions in buccal cavity.

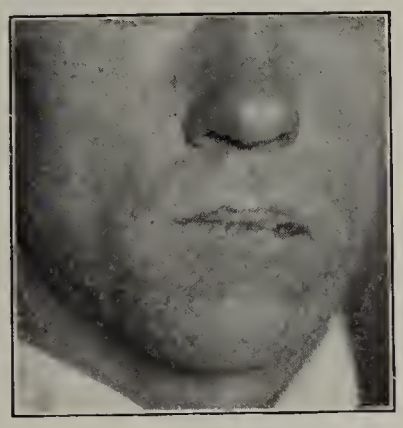


Fig. 6.—Seborrheic keratosis of the lip, three years' duration. Cured by application of Roentgen rays and carbon dioxid snow (Case 1).



Fig. 7.—Seborrheic keratosis of the lip, seven years' duration (Case 2).



Fig. 8.—Seborrheic keratosis of the lip, ten years' duration. Cured by application of Roentgen rays and carbon dioxid snow (Case 3).

5. Stelwagon, H. W.: Jour. Cutan. Dis., 1900, p. 268; A Peculiar Eczematoid Eruption of the Lip Region, ibid., August, 1904, p. 351.

6. Pusey, W. A.: Epithelioma of the Lip, Jour. Cutan. Dis., February, 1913, p. 73.

ulcer type, while only about 1.5 or 2 per cent. of those occurring on the lower lip are basocellular. In Bloodgood's[7] series of 119 cases, less than 4 per cent of those developing on the lower lip were rodent ulcers. I have found it difficult to obtain pathologic material in these cases because of the patients' fear of the knife and cutaneous punch, but, judging from the clinical features, I should say that basocellular carcinoma attacks the lower lip more frequently than this. I realize, however, that an opinion based on macroscopic appearance alone has very little weight when opposed to such evidence as that presented by Bloodgood.

In epitheliomatosis of this region the lower lip is affected much oftener than the upper. Bloodgood's conclusions were based on the study of 106 lesions of the lower lip and 13 of the upper, and Borrmann's[8] on 74 of the lower and 6 of the upper.

The only condition due to syphilis that might be mistaken for a seborrheic keratosis is the chancre. The rapidity with which the luetic lesion develops, as well as the induration generally present, and the associated early involvement of the lymph-nodes, will usually serve to distinguish it. In passing, a word of warning regarding the snap-shot diagnosis of suspicious lesions



Fig. 9.—Seborrheic keratosis of the lip of about one year's duration (Case 5).



Fig. 10.—Superficial epithelioma of lip which developed on the base of a former seborrheic keratosis. Apparent cure following application of Roentgen rays and carbon dioxid snow (Case 6).



Fig. 11.—Epithelioma of lip which developed on the base of a seborrheic keratosis of fourteen years' duration (Case 7).

in the buccal region by means of the microscope may not be out of place. When a man of Noguchi's[9] experience expresses doubt regarding his ability to identify positively the *Spirochaeta pallida* in specimens taken from the mouth, it would be well for less skilled laboratory workers to practice conservatism. The following cases of seborrheic keratosis of the lip have been under my care at various times during the past three years:

## REPORT OF CASES

CASE 1.—J. G., male, married, farmer, aged 28, referred by Dr. E. E. Peterson of Nashua, Mo. The patient's health had always been fairly good, although he had been troubled with seborrhea of the face and scalp since his sixteenth year. He seldom drank milk, and ate butter sparingly, but was an inveterate chewer of tobacco. His teeth were in bad condition. The lesion on the lip was of three years' duration, and, the patient believed, had followed a slight injury. Only the left side of the lower lip was involved, and the growth was but slightly infiltrated. It cleared up promptly under treatment.

CASE 2.—I. G., male, married, banker, aged 59, referred by Dr. W. L. M. Witter of Milan, Mo. At various times during the preceding fifteen years the patient had suffered more or less from digestive disturbances, and particularly from catarrhal jaundice. Nearly all of his teeth had decayed, and had been removed and replaced by bridgework. He was a large, powerful man, and careless regarding both eating and drinking. He had used tobacco since boyhood. There were numerous seborrheic keratoses on the cheeks, forehead, nose and backs of both hands. The one which he desired removed was on the upper lip, near the right angle of the mouth, and had been present about seven years. The plaque promptly disappeared under treatment, but in the course of a few months a new one developed on an adjoining area. This one was also removed, but was likewise followed by a recurrence. During the past three years, a half dozen or more keratoses have been removed from the right side of the upper lip, but, despite most energetic treatment, new ones have invariably appeared. The degree of infiltration is very slight, and there has never been any ulceration or involvement of the lymph-nodes. The sites of the former lesions are at first smooth and burnished looking, but sooner or later the surface becomes rough and scaly, and a new lesion promptly develops unless treatment is instituted.

Naturally, the patient fears that a carcinoma will finally result, but as yet there is nothing to indicate it. In this case, as in Montgomery's first one, I feel quite sure that the disordered condition of the digestive tract has much to do with the recurrence of the growths.

CASE 3.—W. F., male, married, farmer, aged 47. This patient had had seborrhea of the face and scalp for many years. He had been a chewer of tobacco for over twenty years. His teeth began to decay early in life, and only a few sound ones remained. The lesion from which relief was sought occupied the middle two-thirds of the lower lip, and was about 1 cm. in width and 0.5 cm. in height. It had commenced as a purplish macule, ten years previously. At times practically all of the horny mass would become detached, leaving a rough verrucose base, but in the course of a few weeks the keratosis invariably returned. Under treatment recovery was prompt, and there was no sign of a recurrence when the patient was last seen, eleven months later.

CASE 4.—F. R. N., widower, retired farmer, aged 61, referred by Dr. V. L. Andrews of Stella, Neb. In this case the keratosis, which had been present for five years, was situated on the left side of the lower lip, and was almost a duplicate of the lesion in Case 1. This patient had worn artificial teeth for eleven years, and had smoked and chewed tobacco for more than thirty. There was a history of "dyspepsia" and "liver trouble" extending over nearly a quarter of a century. The lesion cleared up promptly under treatment, but there was a slight recurrence two months later. Since then the lip has been in good condition.

CASE 5.—J. R., cattleman, married, aged 41, referred by Dr. Daniel Ross of Denison, Tex. The keratosis was decidedly

7. Bloodgood, J. C.: The Surgical Treatment of Cutaneous Malignant Growths, THE JOURNAL A. M. A., Nov. 5, 1910, p. 1615.
8. Borrmann: Deutsch. Ztschr. f. Chir., 1905, lxxvi, 404.
9. Noguchi, H.: Identification of Spirochaeta pallida in Culture THE JOURNAL A. M. A., Oct. 5, 1912, p. 1236.

warty in character, the hypertrophied papillae bleeding profusely whenever the growth was curetted away. It was located at the mucocutaneous juncture, near the middle of the lower lip. There was but little infiltration, and no suggestion of epitheliomatosis. Recovery was fairly prompt under the usual line of treatment, and there had been no recurrence up to the time of the patient's death, from intestinal obstruction, almost a year later.

CASE 6.—G. W., engineer, married, aged 46, referred by Dr. T. J. Beattie of Kansas City, Mo. The patient was a large, fleshy German. His teeth were in very bad condition, the result of a long-standing case of pyorrhea alveolaris. He had used tobacco since boyhood. The lesion, which had commenced as a seborrheic keratosis five years before, was located near the middle of the lower lip, and was already epitheliomatous, as shown by the amount of infiltration present, and the ulcerated base of the growth. Recovery was apparently complete at the end of two months' treatment, and there are no signs of recurrence after more than a year has passed.

CASE 7.—L. J. B., retired farmer, married, aged 64, referred by Dr. Frank Herbst of Kansas City, Mo. The lesion on the lip had commenced as a seborrheic keratosis fourteen years previously. At the time of the first examination there was present a large keratosis at the mucocutaneous juncture on the right side of the lower lip. When the surplus epithelium was removed by means of a mild salicylic acid paste, the base was found to consist of an ulcerated, nodular mass, the size of an English walnut. The submaxillary lymph-nodes were not palpable. This patient had been in poor health for many years, and had been a tobacco-chewer since his thirtieth year. The growth did not respond favorably, or at any rate promptly, to treatment, and at the end of a month was referred to Dr. Jabez N. Jackson for operation.

### TREATMENT

The line of treatment employed in these cases was in each instance the same, with the exception of Case 2. Each of the lesions received from seven to twenty Roentgen-ray exposures, a medium tube being used, at a distance of 15 cm. The treatments were of eight minutes' duration, and were repeated daily for one week. Finally the superabundant epithelium was removed by the aid of a 5 per cent. salicylic acid ointment, and the base of the lesion thoroughly frozen (for at least one minute, under heavy pressure) with Pusey's[10] carbon dioxid snow, care being taken to include not only the entire base but a margin of apparently healthy integument as well.

In Cases 1, 3, 4, 5 and 6 the results were all that could be desired. In Case 2 a large number of remedies and measures have been tried. Probably the greatest degree of benefit has resulted from the application of trichloracetic acid crystals, an exceedingly effectual agent first suggested by Davis of Philadelphia, and strongly recommended by Montgomery and Culver[11] for the removal of circumscribed patches of chronic seborrheic dermatitis. Despite the efforts of both Dr Witter and myself, however, the keratoses continue to form.[12] It is possible that the plan of treatment here outlined would have ultimately brought about a cure in Case 7, but under the circumstances I believe that the necessary delay would not have been justified.

10. Pusey, W. A.: Carbon Dioxid Snow in Treatment of Nevi and other Skin Lesions, THE JOURNAL A. M. A., Oct. 19, 1907, p. 1354.

11. Montgomery, D. W., and Culver, G. D.: Trichloracetic Acid as a Keratolytic in Seborrheic Keratosis, Jour. Cutan. Dis., September, 1912, p. 523.

12. April 19, 1913. Early in February this patient, who is an exceedingly intelligent, but rather "strong-minded" individual, concluded that he would reform in the matter of drinking and intemperate eating. Within less than a month the lip was well, and has remained so ever since. The credit for this gratifying result belongs to Dr. Witter, who supplied the necessary moral support.

### CAUSES OF SEBORRHEIC KERATOSES

According to Pusey[13] the most essential factor in the production of seborrheic keratoses is a peculiar harsh, dry quality of the skin, occurring more particularly in florid individuals. The fact that several members of a family may be similarly affected would suggest that this condition, like ichthyosis, may occasionally be hereditary. Constant exposure to sunlight and wind is a contributory cause in many instances. In keratosis of the lip, however, it is exceedingly probable that neglect of the teeth, with ensuing disturbances of the digestive tract, and the irritation resulting from the long-continued use of tobacco, especially chewing tobacco, are important etiologic factors.

709 Carbin Terrace.

---

## THE EFFECTS OF ADRENAL MASSAGE ON BLOOD-PRESSURE

R. G. HOSKINS, PH.D.
Professor of Physiology, Starling-Ohio Medical College
AND
CLAYTON McPEEK, M.D.
Lecturer in Physiology, Starling-Ohio Medical College
COLUMBUS, OHIO

In spite of considerable evidence to the contrary, the opinion widely prevails that adrenal secretion has exclusively a pressor effect on vascular tension. From time to time since Oliver and Schaefer first investigated the subject, different observers have reported that dilute solutions of adrenal extract cause a fall of arterial pressure; but this effect has been ascribed to general "depressants" which occur in almost any tissue extract. For instance, Moore and Purington reported in 1900 that extracts of adrenal glands from the ox when given in minute dosage cause in the dog a fall of pressure, but that when larger amounts are used the effect is a rise.[1]

More recently Elliott[2] has noted that stimulation of the splanchnic nerves in the cat results not only in augmented pressure due to vasoconstriction in the abdominal viscera, but also in a secondary fall of pressure due to liberation of epinephrin from the adrenals. This fall of pressure Elliott has designated the "paradoxical reaction." A similar effect was independently observed by Cannon and Nice.[3] Recently, continuing investigations along the same line, Cannon and Lyman[4] have conclusively proved that in the cat at least, when blood-pressure is at a normal height, injections of pure epinephrin in proper minute dosage and at the proper rate invariably produce a depression. This effect can be secured time after time. It was found, however, that the reaction varies diametrically depending on the existing degree of vascular tonus. If initial tension is low only an augmented pressure can be secured. Last year Hoskins and McClure[5] reported that in the dog also the effect of minute doses of epinephrin (adrenalin) is characteristically a fall of pressure; then as the dosage is increased the depressor is succeeded by a pressor effect. These observations, however, are open to the objections that the depressor influence might conceiv-

13. Pusey, W. A.: The Principles and Practice of Dermatology, Ed. 2, 1911, p. 737.

1. For a review of the earlier literature see Vincent, Internal Secretion and the Ductless Glands, London, 1912.

2. Elliott: Jour. Physiol., 1912, xliv, 374.

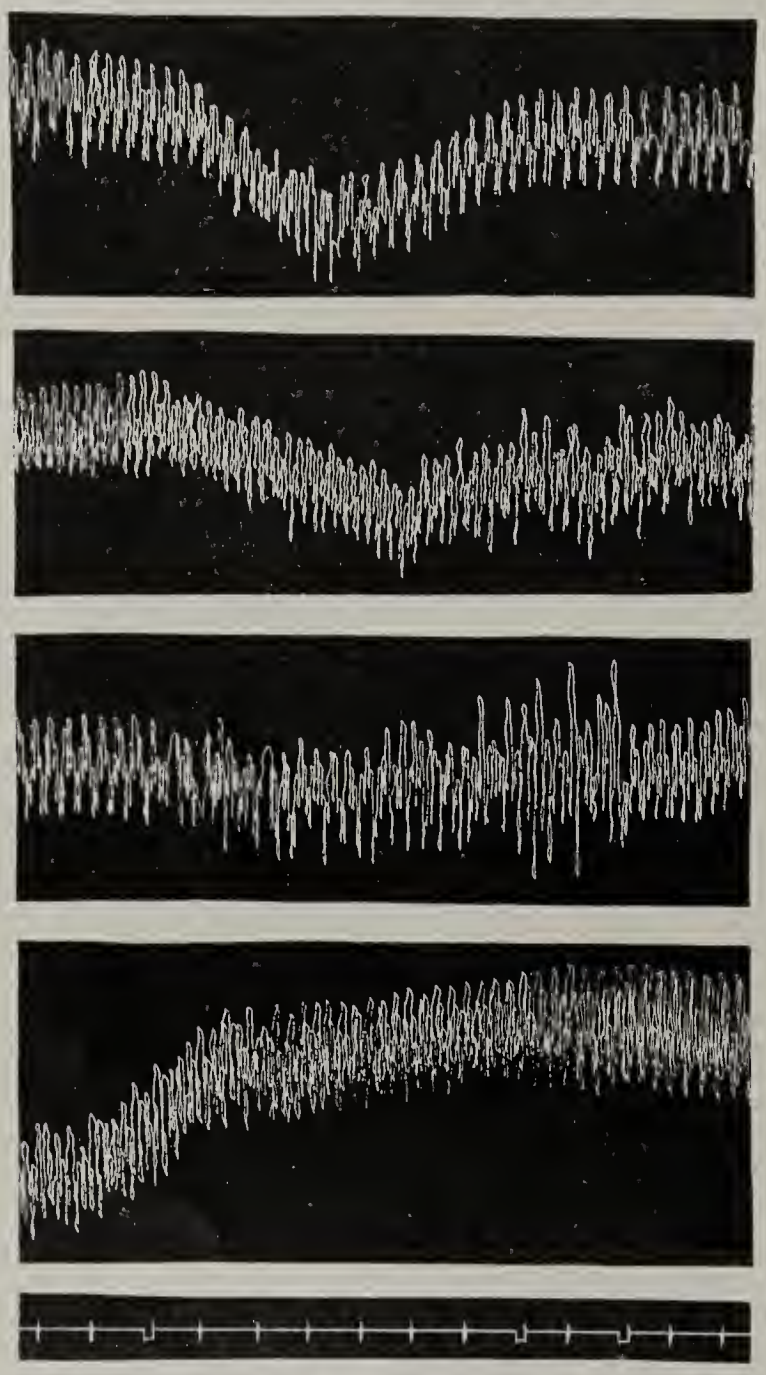
3. Cannon and Nice: Am. Jour. Physiol., 1912, xxix, p. xxiv.

4. Cannon and Lyman: Am. Jour. Physiol., 1912, xxxi, 376.

5. Hoskins, R. G., and McClure, C. W.: The Adrenal Glands and Blood-Pressure, Arch. Int. Med. October, 1912, p. 353.

ably be due to the preservative used in the drug, to impurities present or to disintegration products.

The question as to whether minute quantities of epinephrin do or do not have a pressor effect is one of considerable importance. The assumption that epinephrin circulating even in minute (physiologic) quantities does have a pressor influence is the basis of a widely held theory that an important function of the adrenals is to maintain a tonic activity in the vasomotor system, or, indeed, in the sympathetic system as a whole. So far as the cat is concerned the matter is now conclusively determined. Similarly conclusive evidence should be



Graduated series of effects obtained in the same dog by adrenal massage of varying degrees from light (top) to vigorous (bottom). Tracings from carotid artery. Mean blood-pressure 130 mm. Time, five seconds.

obtained as regards other animals. Von Anrep[6] has recently made some interesting observations on the effects of stimulating the splanchnic nerves in the dog. He noted that such stimulation causes a discharge of epinephrin which can be recognized by its constricting effect in the peripheral blood-vessels. Although he was familiar with Elliott's "paradoxical reaction" in the cat he apparently saw nothing comparable to it in the dog.

For these reasons we decided to investigate further in the dog the vascular reactions to adrenal stimulation, noting particularly the effects of varying the strength of stimulus. Our first plan was to apply electrodes to the splanchnic nerves directly after cutting them to prevent the effects of afferent impulses playing on the central nervous system. Our first results were unsatisfactory, apparently because there was little dischargeable epinephrin left in the glands after the necessary experimental manipulations. In the meanwhile Cannon and Lyman's paper appeared, showing that normal reactions could not be expected under the condition of low blood-pressure which results from cutting the splanchnic nerves.

It became necessary then to devise some way of stimulating the glands during conditions of normal pressure without at the same time unduly stimulating any of the intact contiguous nerve fibers. Stewart[7] has called attention to the fact that massage of the adrenals readily causes an augmented epinephrin secretion. We decided therefore to make use of this fact to secure adrenal discharge. Investigation showed that considerable care was necessary to avoid visceral irritation which in itself causes changes of blood-pressure. With careful manipulations, however, massage sufficient to affect the adrenals could be applied in the region of these glands without causing any significant influence on blood-pressure due to stimulating other structures. Any results from applying similar massage to the adrenals, therefore, can be ascribed to effects on the glands themselves.

As a matter of fact, another unexpected difficulty was encountered. It proved necessary to work very carefully to prevent a premature exhaustion of the available epinephrin. Influences known to be important in causing adrenal discharge are anesthesia, asphyxia, violent emotions and sensory stimulation. These all had to be reduced to a minimum to secure satisfactory results.

A dog of quiet temperament was in each instance selected. It was then handled gently and etherized with as little excitement or asphyxiation as possible. Then after it was strapped to an animal-holder, urethane was given by stomach-tube, about 2 gm. per kilogram, and the ether discontinued as the urethane became effective. A cannula was inserted into one of the carotid arteries and connected with a recording mercury manometer. An incision about 2 inches long was then made through the body wall in the region of each adrenal. Through these a finger or finger and thumb could be inserted and the adrenals carefully massaged. It was found necessary to use care to avoid traction on the mesentery or undue irritation of the viscera, either of which in themselves cause variations of blood-pressure.

The results secured confirm the observations of Hoskins and McClure on the effects of varying dosage of epinephrin. They ranged from marked depression with a small discharge to considerable rise of pressure when the glands were vigorously manipulated. In no case, however, was there secured a rise of pressure at all comparable to that following the ordinary therapeutic dosage of epinephrin or, indeed, of the magnitude expected.

The accompanying tracings show a graduated series of effects produced in the same dog by massaging one or the other of the adrenals, at first gently and then more and more vigorously until a maximal discharge was obtained. In the last instance figured the discharge continued for about four minutes after the massage had ceased.

Incidentally, it may be mentioned that we have had opportunity to extend Cannon and Lyman's observation

6. Von Anrep: Jour. Physiol., 1912, xlv, 318.

7. Stewart: Jour. Exper. Med. 1912, xv, 547.

on the effect of initial tension to include the dog. In a series of experiments starting with a mean blood-pressure of 120 mm., very dilute solutions of epinephrin gave a pronounced fall of pressure. When in the same dog, however, the initial tension was 40 mm., only purely pressor effects could be obtained.

The results herein reported as well as those of Cannon and Lyman add further support to the conclusion that adrenal secretion cannot be an immediate factor in normal blood-pressure. There can be little doubt that the injection or discharge of epinephrin in gradually increasing amounts will result first in an augmentation of any physiologic effect that normally circulating epinephrin might be producing. It follows, therefore, that since the first effect of such injection is depression the adrenals have normally either no immediate influence or else have a depressor effect on arterial tension. It is only when a distinctly abnormal quantity is used that a hypertension occurs. Strong support for the same conclusion is also derived from the fact reported by Hoskins and McClure[8] in 1912, that epinephrin injections bring intestinal peristalsis to a complete standstill in dosages inadequate to raise blood-pressure. A mechanism that could promote vascular tension only at the expense of intestinal stasis would be obviously futile.

An explanation of the well-known low blood-pressure that results in experimental adrenal deficiency or in melasma suprarenale (Addison's disease) is to be looked for, therefore, not in the failure of a normal tonic stimulant to the sympathetic nervous system, but probably in an interference with muscular metabolisms, including those of the heart and arteries.

700 North Park Street.

---

# THE POSSIBLE RELATIONSHIP OF ORGANIC DISEASES OF THE NERVOUS SYSTEM TO RIGGS' DISEASE *

JOSEPH COLLINS, M.D.
Physician to the Neurological Institute of New York
NEW YORK

The occurrence of purulent disease of the alveolar processes is so common and so wide-spread that it has come to be regarded, unfortunately, only as disagreeable and esthetically offensive, but not dangerous and capable of causing serious disease. I have had experience which convinces me that Riggs' disease may be the source from which serious organic diseases of the nervous system flow; although I can offer no other proof of the truth of this statement than the occurrence of such disease in persons afflicted with alveolar pyorrhea, the absence of other etiology and the amelioration or disappearance of the disorder after the pyorrhea has been treated locally and constitutionally by means of autogenous vaccine, I am constrained nevertheless to present a few of these observations for consideration. From a large number of cases in which I believe Riggs' disease played the chief rôle in the causation of the nervous trouble, I have selected three. In these the peripheral motor neurons bore the brunt of the disease.

The first case that I shall cite was one of universal myokymia. "Myokymia" is the name given to a disease of unknown origin the chief clinical manifestations of which are the occurrence of muscle waves and general weakness. It was first described by Kny[1] and by Schultze.[2] Its occurrence has been attributed to exhaustion, to exposure to cold, to trauma and to lead, but none of these has been proved to be causative of the disorder. That it is apparently a rare condition is shown by the fact that I have encountered but five instances of it in the examination of 10,000 patients. The course of the disease is extremely chronic, and in the absence of any cause which can be removed or overcome the treatment is most unsatisfactory.

*Patient.*—Merchant, aged 41, married, of good habits, habituated to cricket, golf and tennis, noticed in June, 1912, that his legs became tired and his gait feeble after comparatively slight effort, such as playing a round of golf or a set of tennis. These symptoms continued to increase rapidly and a month later he noticed that while playing cricket he could not focus properly; the ball would hit him instead of the bat. In the four months that intervened between the occurrence of his symptoms and the date when I first saw him, the easily induced fatigue, insecurity of station and gait and sensation of trembling in the muscles had increased to such an extent that he became nearly incapacitated for any work or pastime that required standing or walking. For instance, the day he came to see me he had to be assisted from the automobile into my house.

*Examination.*—The most conspicuous symptoms were: (1) constant wave-like movement in practically all the muscles of the body and of the limbs; (2) abnormal liveliness of all the tendon-jerks, including an exhaustible ankle-clonus but no Babinski or Oppenheim phenomena; (3) nystagmus when the eyeballs were in forced lateral position and paresis of the right external rectus muscle; (4) hyperidrosis; (5) increase of electric excitability of the muscles of the extremities; (6) tremor of the outstretched fingers and slight transient tremor of the lips. The myotatic irritability, however, was the striking symptom. As the patient lay quietly in bed the muscle waves could be seen extending from one end of his body to the other, short waves one following another in what seemed to be indolent succession. The most careful laboratory examination of his blood, spinal fluid, urine, gastric contents and feces showed no departure from normal. During the week that these examinations and observations were being made the patient was kept in bed and at the end of that time myokymia was much less striking and the patient said he felt quite well. He returned to his business, but in a few days he returned with complaints of his infirmity. It was then that the suspicion crossed my mind that an obvious and severe pyorrhea which he had might have some relation to the disease. A culture was made from pus about the gum of the wisdom tooth and this culture revealed Gram-positive coccus in short chains and pairs; Gram-negative coccus, unidentified few.

*Treatment and Results.*— Vaccine, *Streptococcus viridans*, strength 1 c.c., 500 millions. First dose 1/10 c.c., 50 millions; an injection given twice a week and increased by 1/10 c.c. or 50 millions.

Jan. 24, 1913: Vaccine, *Streptococcus viridans*, strength 1 c.c., 1,000 millions. First dose 1/10 c.c. 100 millions, a reduction from the last dose of 500 millions. The injections were given twice a week, increased by 1/10 c.c., 100 millions, up to 5/10 c.c. or 500 millions, and thereafter once a week up to 1,000 millions.

Meanwhile he was sent to a dentist for local treatment.

Two months after the treatment had been instituted he felt well, the muscle waves and weakness of the legs no longer annoyed him and he went daily to his business. He was not seen then until March 18, 1913, when a call came from his place of business saying that he had been suddenly taken seriously ill. When one of my assistants reached him he was told that the patient had been in excellent health up to the morning of that day. The day before he had walked two miles because he felt like walking and he was well enough to play a game of cricket. On the morning of March 18 he noticed at

8. Hoskins and McClure: Am. Jour. Physiol., 1912, xxxi, 59.

* Read before the Association of American Physicians, May 6, 1913.

1. Kny: Arch. f. Psych., xix.
2. Schultze: Ztschr. f. Neurol., vi.

11 o'clock that his feet were heavy. Gradually his legs and thighs became heavier and by 3 o'clock he found locomotion without support impossible. During this period he felt chilly and ill. At 3 o'clock he had several uncontrollable outbursts of sobbing without experieneing any subjective emotion, sobbing which seemed to the observer quite similar to that which one sees in patients who have thalamic disease.

He was at once brought into the hospital and the physical signs were, in addition to those which he had six months before, elevation of temperature to 101, pulse 100 and inability to stand and walk unaided. Again the laboratory investigation threw no light on this inexplicable accession of symptoms. He had the last injection of vaccine on March 16, 1913. A dentist was requested to remove two front teeth and from the cavity of one of them oozed a considerable amount of pus.

March 20, the following day, the temperature was normal, patient had slept well, and said he was much better.

March 21, patient was up walking around the room, shaved himself and was able to stand on either leg without aid. No headache had followed the lumbar puncture.

March 22, patient maintained that he felt quite well. The direct myotatic irritability of the muscles was much less than three days before. Tendon-jerks were still active, no evidence of any myokymia. From that day to this the patient has gone to his business daily. There is no evidence of museular weakness or myokymia and he seems to be well. The vaccine administration was continued.

He who will not believe that there was a definite relationship between the pyorrhea alveolaris and this most enigmatic symptom-complex to which the name "myokymia" is given must be skeptical indeed.

The second case that I shall relate is a very complicated one and to accept the statement that all the patient's ill health was dependent on disease of the buccal cavity may tax your credulity as it does mine.

*Patient.*—A man now 58 years old, had been singularly free from illness until his fiftieth year. Then after months of most strenuous devotion to and successful effort in an international sporting event, he was stricken with a disease which was at first supposed to be a polyneuritis, but which was found eventually to be a chronic parenchymatous myositis. After a week of malaise the patient complained of heaviness in all his extremities. Pain in the muscles of the extremities and of the trunk increased by active or passive movements and gradually he became paralyzed and helpless, practically unable to move a limb. There was no swelling of the joints and no tenderness over nerve trunks, but the swelling of the muscles in the shoulder and upper arm and the thigh could be readily made out. None of the ordinary attributable causes of general myositis, acute infection or intoxication of any kind could be determined, nor did the blood reveal evidences of eosinophilia. In the absence of any attributable cause, it was thought it must be a manifestation of the gout. The patient had never had gout nor did his arteries or kidneys show any evidence of it. At the end of a year, during which time every resource, which a man of wealth could command, was resorted to, he gradually recovered. The muscles that were the seat of this disease in its most advanced form underwent an atrophy evidently the interstitial sequela of the parenchymatous process which after a long time was counteracted by exercise.

The patient remained well for three years; then without attribution of any kind he complained of malaise, headache, lack of energy and general depression. The upper lobe of his left lung revealed a general tuberculous infiltration. Two months later he had his first hemorrhage which was followed by most profound prostration and mental depression and both the physical examination and x-ray revealed the extensiveness of the tuberculous process. Bacilli were never very numerous in his sputum. He lost about 26 pounds in weight and had an elevated temperature for two months or over, but at the end of the year he was apparently well. Again he remained well for about three years.

One evening in September, 1912, after he had returned from the races in Paris, where he had subjected himself to some emotional strain, he complained of a strange fluttering in his chest, a sensation of uneasiness and state of apprehension without cause. At the end of a week's observation the Parisian physicians made the diagnosis of auricular fibrillation and put him on a course of treatment including digalen. At the end of a month he came home. The fibrillation which he had on his return, shown by the electrocardiograms made for me by Dr. W. B. James, was absolutely typical. He had a profound attack of prostration. He was kept in bed for five weeks, during which time most benefit was obtained from the administration of digipuratum, but the evidence of the fibrillation remained very conspicuous.

*Physical Examination.*—Heart revealed no valvular or detectable muscular disease. It was assumed, however, that the fibrillation of the auricles must have been the direct outcome of a chronic myocarditis, probably the result of a coronary arteriosclerosis, though no evidence of arteriosclerosis could be found in any part of the body, save for a diminution of the hydrochloric acid in the gastric juice. All laboratory examinations were negative.

*Treatment.*—The patient was kept in bed for four weeks and given digalen, for which later digipuratum was substituted. He felt some improvement but not much. The pulse-beat and the apex-beat became synchronous, however. His condition remained profoundly neurasthenic. Every second day he complained of stiffness of the joints of the hands and elbows, occasionally of the knees, and unattributable malaise, headache and depression. He reported that he found blood occasionally on his tooth-brush. Examination revealed an extremely mild pyorrhea from which a culture was made.

Dec. 17, 1912: Vaccine, *Streptococcus viridans*, strength 1 c.c., 500 millions. First dose was 1/10 c.c., 50 millions: injection given twice a week and increased by 1/10 c.c. or 50 millions.

Jan. 24, 1913: Vaccine, *Streptococcus viridans*, strength 1 c.c., 1,000 millions. First dose 1/10 c.c., 100 millions, a reduction from the last dose of 500 millions. Injections given twice a week, increased by 1/10 c.c., 100 millions, up to 5/10 c.c. or 500 millions, and thereafter once a week up to 1,000 millions.

Feb. 26, 1913: Vaccine, *Streptococcus viridans*, strength 1 c.c., 1,625 millions. First dose 5/10 c.c., 812 millions, a reduction from the last dose of 1,000 millions. Injections given once a week and increased by 1/10 c.c., 162 millions, for five doses and followed by three doses of 1 c.c., 1,625 millions, once a week.

*Results.*—From the time when the evidences of the local disorder disappeared under topical treatment and he had received ten vaccinations, the patient began to improve. Now he rides, walks, plays golf in moderation and comports himself like a normal man. An electrocardiogram made a few days ago shows the fibrillation of the auricle still in existence. The relation of the disease which this man has had to Riggs' disease, I do not know; but I do know that he seems to have recovered after the Riggs' disease had been overcome. It is worthy of note that the gastric juice now contains hydrochloric acid in normal amount.

The third case that I shall relate as an example of organic disease of the nervous system following in the wake of a condition caused by purulent gingivitis is one of multiple neuritis, which made an unimpeded progress to death.

*Patient.*—Farmer, aged 60, complained of pain and soreness in the lower extremities, of a sensation of drawing, of tightness in the feet and legs, of enfeeblement in the lower extremities, of rapid fatigue on exercise and of general weakness. These symptoms he thought had come on two years before I saw him, that is, in the summer of 1909, but on inquiry he admitted that he had not been well for eight or ten years. It was as long ago as that when he noticed that he could not do as much work as he formerly could do, that he became fatigued easily and that he often had pain in the back. He thought this was due to a slight attack of rheumatism which he had twenty years ago. Three years before

coming under observation he had had several attaeks of pain over the sternum; dull, heavy, deep pain, the intensity of which increased for about an hour, then gradually wore away. It had no relation to taking food nor was it affected by antirheumatie medicines.

In May, 1911, he complained of a sensation of eonstriction in the bottom of feet and toes and of increased sensitiveness of the toes. When he moved the toes they felt like a rubber ball. During the summer, weakness of the feet and legs developed and he was unable to go to his farm. In the early autumn he first noticed that he eonld not clear the toes in walking and this increased until eomplete foot-drop developed. The next symptom, aside from sexual impoteney, which was an early symptom, was atrophy of the lower extremities and general emaciation.

*Examination.*—When I saw him early in 1912, he had the typical objeetive symptoms of multiple neuritis, that is, tenderness over the nerve trunks, symmetrical museular atrophy, loss of the tendon-jerks, reaetion of degeneration in the affeeted nerves and muscles and objective sensory distnrbance nonsegmental in distribution, hyperesthetie in some areas, hypesthetie in others.

Examination of the blood on various oeeasions showed a mild degree of seeondary anemia, and with a eonsiderable number of leukoeytes, but with no inerease in the number of lymphoeytes. For instance, Jan. 1, 1912, the blood showed hemoglobin 89 per eent.; red blood-eells 4,882,000; white blood-cells 19,000; differential eount: neutrophils 76 per cent.; eosinophils 1 per eent.; basophils none; large lymphoeytes 7; small lymphoeytes 12; mononuclears none; transitional 4 per eent. The red blood-eells showed a mild polyehromatophilia.

The eerebrospinal fluid analysis showed negative Wassermann, positive globulin content, no cells and the cerebrospinal fluid reduced Fehling's solution. The serum Wassermann was negative.

Analysis of the stomaeh eontents showed a deeided subaeidity; total 10/40, no free hydrochlorie acid, normal pepsin eontent and no laetie aeid. Gross, ehemieal and mieroseopie examination of the stools showed no abnormality. The same was true of the nrine save that there was eonstantly an exeess of indiean and oeeasionally a traee of urobilinogen. The pulse and temperature ehart shows that eaeh day there was an elevation of temperature in the afternoon, always as high as 100 degrees mouth temperature, and here and there 100.5 to 101 degrees. The morning temperature was approximately normal. The pulse kept paee with the temperature. In the morning it averaged from 78 to 85, in the afternoon 90 to 100.

The slight febrile state and the blood-pieture were the only suggestions of a possible infeetious origin of the disease, but the sonree of this infeetion, a profound purulent gingivitis, was not suspeeted until the patient was seen again.

*Treatment and Result.*—During several weeks he was subjeeted to general restorative treatment: massage, eleetrieity, packs, injeetions of stryelmin, etc. He made no progress under sueh treatment and a dentist was then ealled. Many pus pockets were opened and surgical treatment of the disease begun. Unfortunately no eultures were made. The patient could not be persuaded that this had anything to do with his total ineapaeity and he insisted on going home, where he died six months later, the disease, it is reported by his physician, having made steady progress.

A great many cases quite as striking as these could be eited. I am of the opinion that the neuromuscular system is most vulnerable, after the joints, to the *Streptococcus viridans*. That a very considerable number of the cases of the chronie arthritides are of bacterial origin there can be, I think, little doubt. In a recent article, Dr. T. W. Hastings[3] quotes the histories of six cases of arthritis deformans of from two to fifteen years' duration which reacted to strains of *Streptococcus viridans*. From four of these cases the same organism was isolated from a tooth-socket after extraction of the tooth. Improvement resulted from injections of vaccines.

The time has apparently come when it is incumbent on us to treat seriously what has seemed to be only an offensive disorder, and to institute early measures that will prevent a systemic infection which may become far reaching and extremely serious.

37 West Fifty-Fourth Street.

3. Hastings, T. W.: Complement-Fixation Tests for Streptococcus, Gonococcus and other Bacteria in Infective Deforming Arthritis and Arthritis Deformans, THE JOURNAL A. M. A., April 19, 1913, p. 1208.

---

## A SPIROCHETE ASSOCIATED WITH INFECTIONS OF THE ACCESSORY SINUSES *

RUTH TUNNICLIFF, M.D.
CHICAGO

In examining smears from the noses of patients with acute rhinitis, a spirochete, staining deeply with carbol-gentian-violet, was observed in five cases. In four of the cases it was found in connection with infections of the accessory sinuses. In the other cases no history could be obtained except that of a severe acute rhinitis. The spirochete has two or three curves, the ends being pointed and parallel to the long axis; it measures from 2½ to 5 microns in length and ½ micron in width; it is anaerobic and was isolated in pure culture on alkaline goat-blood agar. The growth appeared on the surface after seven days incubation as a dull radiating growth; later it appeared also in the fluid of condensation.

In subcultures it formed raised pin-point colonies near the fluid of condensation, the rest of the growth being dull and rather profuse. The growth in the first culture was mucoid but it lost this characteristic after being transplanted several times. There was no odor from the cultures. The organism also grew in ascites and dextrose agar but produced no change in the mediums. In cultures the organisms may show as many as four curves and are apt to be irregular in shape, often staining irregularly. Oval, round, only slightly curved bacillary forms are seen. Deeply staining bodies and rings may be attached to the ends, and with the Giemsa stain two or three red-stained bodies are brought out inside the spirochete. The spirochetes show evidence of transverse division. The organism is commonly motile, having a darting-forward movement and some rotary motion; the refractile bodies present are also actively motile. It possesses many flagella on its ends and sides; the free round bodies also appear to possess flagella. After growing about seven days the spirochete disintegrates suddenly, leaving many poorly stained bodies as a result. It is not pathogenic when injected into the nose of a dog.

The significance of this spirochete is yet to be determined.

1743 West Harrison Street.

* A Preliminary Report from the Memorial Institute for Infectious Diseases.

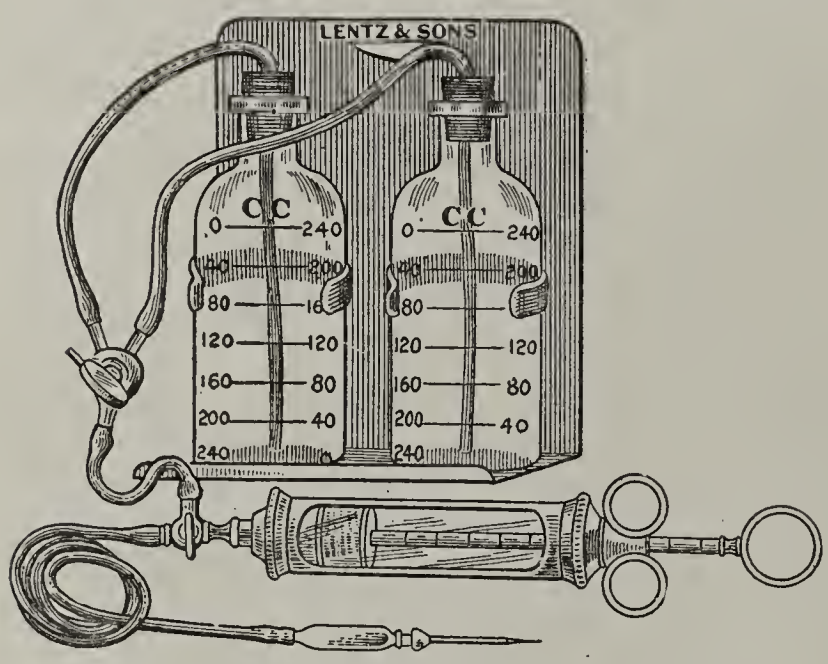
---

**Degeneracy and Errors of Refraction.**—While extreme moral degeneraey traeeable to errors of refraetion is without question very rare, we have all met numerous instanees in which a ehild's irritability, perverseness and apparently pure "eussedness" have been set aside by the wearing of glasses. A boy with squint will find his deformity the object of the taunts and ridieule of his sehoolmates, and aeeording to his temperament it will tend either to make him shy and sensitive or, if he be aggressive, resentful and pugnaeious. The effeet of sueh a defeet on a girl is almost certain to make her shy and irresponsive, and may profoundly influenee her whole life.—W. Zentmayer in *Ann. Ophth.*

## NEW AND SIMPLE APPARATUS FOR SALVARSAN ADMINISTRATION *

G. FRENCH S. CARY, M.D., BALTIMORE

The apparatus consists of two glass bottles graduated up to 240 c.c. in units of 40 c.c. each; one 50 c.c. glass and metal syringe fitted with a mineral-wool-packed plunger; one two-way stop-cock which is fitted to the end of the syringe; one two-way Y stop-cock which controls the fluid coming from each of the bottles; four pieces of rubber tubing and two rubber stoppers; and a specially made needle with a slip-on joint which fits a small glass handle which has one end ground to fit the needle. A simple aluminum stand with clips to hold the bottles completes the outfit. The whole apparatus may be placed in a sterilizer and boiled, and is so compact that it can be carried easily in one's grip if necessary. The salvarsan or neosalvarsan solution may be made directly in either one of the graduated bottles, thus saving the use of extra glassware, such as graduates, pipets, mixing flasks, etc. The aluminum stand allows change of position of the apparatus during the administration of the drug, which is often necessary. The slip-on needle does away with washers, and allows the operator to expel all the air from his tube after the needle has been introduced into the vein, while the glass handle acts as a guide for the operator; as blood will appear in this handle as soon as the needle




Syringe for injection of salvarsan. Glass handle guides operator. Two bottles enable alternate use of drug or water.

is in the lumen of the vein. One of the bottles may be used for either sterile water or saline solution, thus enabling the operator to wash out the vein before, during or after the injection of the drug.

### SUMMARY

The advantages that suggested themselves to me in working with this apparatus are as follows:

1. The glass handle fitted with a slip-on needle is of great advantage because just as soon as the needle has properly entered the vein the blood will flow back into the glass handle, which saves the injection of fluid into the tissues until the operator is certain he is in the vein.

2. Since the salvarsan and distilled water are in separate bottles, both connected directly with the syringe and controlled by a two-way Y stop-cock, the operator can use solution from either bottle at will.

3. The fact that the bottles are graduated in units of 40 c.c. each permits the drug to be mixed in the bottle, as each unit of 40 c.c. of water is sufficient for 0.1 gm. of salvarsan.

4. The compactness of the apparatus makes it possible to carry it in a small space.

410 Professional Building.

* From the Genito-Urinary Clinic of the Johns Hopkins Hospital, Baltimore.

## RETROPERITONEAL RUPTURE OF THE APPENDIX WITH EXTRAVASATION OF PUS INTO AND GANGRENE OF THE ENTIRE THIGH

JACOB R. BUCHBINDER, M.D., CHICAGO

I wish to present the following report not so much because of the diagnostic interest attached as because of pathologic findings of rather unusual rarity and variety.

*Patient.*—Mary R., negress, aged 21, entered the service of Dr. F. A. Besley in Cook County Hospital, Feb. 22, 1913. No history could be obtained, at the time of admission, because of the altered mentality of the patient, who was brought in by the police, unaccompanied. The following facts were obtained twenty hours later from a relative.

*History.*—Ten days before admission the patient had been seized with a sudden severe attack of abdominal pain, confined to the right side. She became nauseated and vomited repeatedly for twenty-four hours. The pain persisted, the nausea ceased at this time, and two physicians who then saw the case made a diagnosis of acute appendicitis. Five days later when the abdominal pain had lessened in severity, and the patient felt well enough to leave her bed, she was seized with severe pain in the right thigh, accompanied by repeated chills and a feeling of feverishness. On the following day considerable swelling of the thigh was noticed, and became progressively greater until admission to the hospital. In the past she had always been in good health; no pregnancies.

*Examination on Admission.*—The patient was a young negress of large stature and well-developed musculature; intensely septic-looking. The body was covered with fine drops of perspiration; respirations very rapid and shallow. The pupils were widely dilated and reactionless, the eyes presenting a peculiar stare, while the mental condition was that of alternating stupor and a low muttering delirium.

Chest: Lungs entirely negative. Heart rate rapid, but otherwise negative.

Abdomen: Moderately distended and tympanitic; rigidity moderate and apparently equal on both sides. Palpation in lower right quadrant aroused patient and caused her to cry out. In no other way (save that mentioned below) could a response be obtained.

Extremities: The right thigh was enormously swollen from hip to knee. The skin, smooth, tense and glossy, indented on digital pressure. The knee-joint was distended with fluid. The entire thigh was exquisitely tender, and touching any part of it caused the patient to cry out. Tendon reflexes were barely present.

Vaginal Examination: Cervix hard and freely movable; fundus retroverted. No other palpatory findings.

Rectal Examination: Negative. A colonic flushing given at this time resulted in a small amount of flatus.

Temperature: On admission 97.6; rose steadily to 103.6 during the next twenty-four hours.

Pulse: At first 120, very weak and snappy; in the course of from twelve to sixteen hours became imperceptible at the wrist.

Respirations: On admission 32; in a few hours hovered between 50 and 80.

Laboratory Findings: Leukocytes 15,000; polymorphonuclears 94 per cent. Urine showed a faint ring of albumin; nothing else.

By the time a history and consent for operation could be obtained, the condition of the patient excluded such procedure. Death occurred twenty-nine hours after admission.

*Necropsy.*—On opening the abdominal cavity the following conditions presented:

The small bowel was moderately distended with gas; the visceral peritoneum lusterless. There were no adhesions, no fluid nor other exudate in the general peritoneal cavity. The parietal peritoneum presented its normal luster. The edge of the liver projected just below the costal border. In exerting slight traction on the cecum in order to bring it into view,

several ounces of thin yellow pus welled up beneath the cecum, and between it and the abdominal wall. There were no adhesions between the latter and cecum.

Without further disturbing relations, the small bowel was crowded away, and the following unique picture presented:

The appendix, retrocecal, had become adherent by its tip to the posterior portion of the parietal peritoneum about on a level with the head of the cecum. It was much thickened and markedly inflamed along its entire length, and the tip had become gangrenous and sloughed off. An opening the size of a dime was present at this point in the peritoneum, the edges of which were ragged and sloughing, and into this the appendix dipped, discharging its contents retroperitoneally.

When the peritoneum was opened along the inner border of the cecum and the ascending colon, a large retroperitoneal pocket extending as high as the lower pole of the right kidney was found. This contained pus, fecal concretions and sloughing tissues. The ascending colon was negative The same pocket was then exposed in a downward direction behind the pelvic peritoneum. Here it was found that the pus, flowing over the iliac muscle, had extended into the thigh beneath Poupart's ligament through a kind of necrotic trough in the muscle, just external to the anterior crural nerve.

The incision started on the abdomen was carried down the right thigh, well below the knee. Pus in great quantities poured from the incision, which extended to the deep fascia. All of the superficial muscles anteriorly, laterally and two or three of the deeper ones posteriorly, were necrotic, a dirty grayish-brown color and of the consistency of butter. The finger could readily be pushed through them. The muscles closer to the femur were unaffected except for edema; in several places, however, the pus had begun to seep along fascial plains to deeper structures.

The periarticular structures of the knee were almost liquefied, and from there extension upward into the fatty subcutaneous tissues had occurred. The knee-joint was filled with a clear serous fluid. The hip-joint was unaffected. Neither femur nor tibia showed any changes externally or in the medullary canal. No evidence of embolus or thrombus could be found in artery or vein. The pelvic viscera were normal in every respect. The heart showed swelling and pericardial hemorrhages. Other viscera showed nothing of consequence. The causative organism was a colon bacillus.

## TORSION OF THE SPERMATIC CORD

ISRAEL KLEINER, M.D., NEW HAVEN, CONN.

Torsion of the spermatic cord, a fairly rare condition, was first described by Delasiauve in 1840. Scudder in 1901 published the report of a case[1] and reviewed the thirty-one other cases that had been reported in the literature up to that time. No doubt many cases have been reported since but I have been able to find the records of only fifty-four cases, most of them in the foreign literature. Many cases are probably overlooked as the patients recover spontaneously, and some are probably operated on for strangulated inguinal hernia, as were the patients in some of the reported cases. The rarity of the condition and the difficulty of differentiating it, in diagnosis, from strangulated inguinal hernia lead me to report the following case.

*Patient.*—H. H., boy, aged 15, was seen March 21, 1912, at 4 p. m. He complained of severe pains in the right groin, which began at 3 p. m. He had shoveled a heavy snow from the sidewalk at 1 p. m.; went to school as usual and felt well. He was called on to recite at 3 p. m.; had his foot twisted behind his chair and in attempting to arise was seized with a sudden severe sickening pain in the right groin. Patient said he felt all gone. He could not move his right leg without causing excruciating pain; had to be carried to a carriage and taken home. He had eaten nothing unusual that day. Bowels had moved well day before. There was no history of injury and no trouble with urination. He had always been well. He had had enlarged cervical lymphnodes several years ago. Two slight attacks of appendicitis three years ago. Family history was negative.

*Examination.*—(4 p. m.).—Well-developed boy, in bed apparently in severe pain. Temperature 99.6; pulse 110. Right leg drawn up; severe pain caused by motion of leg. Heart, lungs and abdomen negative. Inguinal canal, in its lower third, extremely tender. The right testicle cord and scrotum so tender that examination was impossible. No impulse on coughing. Introducing the finger into the right external abdominal ring caused severe pain but did not reveal any hernia. No apparent swelling of the testicle or cord, although examination was unsatisfactory. Rectal examination negative except for large amount of feces in rectum. No urethral discharge.

*Treatment and Results.*—An enema was ordered and hot application of lead and opium wash applied to the scrotum. Scrotum was swung in an adhesive hammock. At 8 p. m., five hours after onset, patient was comfortable. He suffered no pain except when he attempted to move. Examination showed the right epididymis and testicle swollen to about twice the size of the left, cord also considerably swollen, both very tender, epididymis and testicle in proper relation to the other parts. The testicle was fully descended. Treatment was continued as before. On the following day examination showed the same condition: patient comfortable except when testicle was handled; very tender to touch. Two days later swelling had disappeared, but tenderness still persisted. Patient returned to school the following day.

Five months later, August 23, patient had a similar attack. He was sitting at a table playing cards when on shifting his position he was seized with the same sort of pain. Another physician attended him that evening. I saw him the following morning and he presented the same condition as previously described. This, however, cleared up entirely the following day and the boy was about playing as usual.

On examination since, the boy shows no abnormality of the testicle except for a slight varicocele on the left side. There does not appear to be any atrophy.

I believe this to be a case of true torsion of the spermatic cord, one in which the twist became untwisted in both attacks before any permanent damage was done to the testicle.

193 York Street.

1. Scudder, C. L.: Strangulation of the Testis by Torsion of the Cord, Ann. Surg., 1901, xxxiv, 234.

## INCONTINENCE OF FECES (NON-ORGANIC)

L. H. ZEUCH, M.D., CHICAGO

Incontinence of feces analogous to incontinence of urine, the origin of which can be traced to neuroses, general anemia or local parasites, is quite rare, judging from a review of the literature. In this disorder there is a relaxation of the sphincter ani, but not a paralysis. The muscle fibers respond to stimulation and are controlled at will, but formed stools pass through without the knowledge of the individual, as often as five or six times a day. No amount of moral suasion will control the disagreeable evacuations. Vegetable astringents, taken internally, are of no avail. Ergot, strychnin and hematic tonics have given success in the hands of others, but not until weeks have elapsed. To the list of reported cases I wish to add one occurring in my practice.

Case A. H., aged 8, whose father was a dipsomaniac, and mother very neurotic, had good control of the sphincters early in childhood. Last year he developed an acute nephritis, with general anasarca, which subsided on the administration of diuretics and other eliminative measures. After convalescence the mother noticed that he had lost control of the sphincter following a diarrhea. I was then consulted and prescribed vegetable astringents such as kino, krameria, gambir and others. The diarrhea stopped, but the incontinence of formed stools persisted. Night as well as daytime evacua-

tions occurred to the number of from five to eight a day. I again tried tonics and bromids, but no results followed. The parents first used punishment and then bribery, but without avail.

After six months I examined him thoroughly, but found nothing to which I could attribute the difficulty. His voluntary control of the sphincter ani was practically normal. There was no evidence of seatworms, or prolapse of the mucous membrane. Except for a slight relaxation of the sphincter, everything seemed to be normal. Thinking seatworms a possible etiologic factor, I injected a solution of mercurie chlorid 1:10,000 high into the rectum with a pump syringe. He held a pint of this solution fully ten minutes and then had a copious evacuation of formed stools. Internally I prescribed 10-minim doses of fluidextract of ergot every four hours. Since that day, now a period of more than nine months, he has had control of his feces.

While it would not be wise to draw conclusions from the results of treatment of one case, I wish to suggest the use of 1:10,000 solution of mercuric chlorid. I have had no ill effects from this solution in the treatment of seatworms and intolerable itching of the anus.

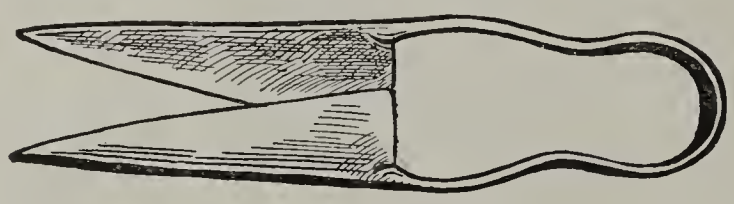
The result in my case was not due to the internal treatment, for the evacuations ceased before the ergot and tonics had had time to act, although they may have had a beneficial effect on the muscles, preventing recurrence.

3014 Fullerton Avenue.

## MODIFIED SHEEP-SHEARS USEFUL IN SURGERY

EDWIN M. JONES, M.D., Miami, Fla.

The model photographed here was made up by an inexperienced man, who, being a blacksmith, used only hammer, anvil and file, but it serves the purpose. The advantages of these shears are that they are easily differentiated from other instruments on the table; can be used with the left



Modified sheep-shears useful in surgery.

hand as well as the right; they are always ready to cut, being open and not difficult to grasp. They are especially useful in cutting sutures, thin tissues and dissecting.

If taken up by an experienced instrument maker and modified somewhat, I believe that this very simple instrument will prove itself valuable.

909 Avenue C.

## ANOTHER CASE OF SPOROTRICHIAL INFECTION IN MAN

G. S. ADAMS, M.D., YANKTON, S. DAK.

A wide-spread and growing interest in the subject of sporotrichosis during the last three years, particularly in the middle West, is evident from the increasing number of cases of this infection that are being recognized and reported. There can be little doubt that when the nature of this infection is more fully understood by the general practitioner a large number of cases of refractory skin lesions, now diagnosed as tuberculous or syphilitic in origin, will be recognized and treated as sporotrichosis.

The following more or less typical example of the infection very well illustrates this fact. The physician who first saw the case had in mind tuberculosis or syphilis. The improvement following the administration of potassium iodid rather strengthened the latter diagnosis, but on account of the negative history, family and personal, the case remained a puzzler.

For the history of the case I am indebted to Dr. J. P. Isaac, of Freeman, S. Dak., who presented the case for diagnosis at a meeting of the Eighth District Medical Society, Dec. 31, 1912.

*Patient.*—Miss S. W., a farmer's daughter, aged 18, a native and resident of Hutchinson County, S. Dak., lived in North Dakota the greater part of the first twelve years of her life, but the last six have been spent mostly in South Dakota.

She had not been away from home for some time previous to the beginning of the present trouble. Cutaneous history of the family is negative. There is no history of any preceding trauma. Patient first noticed a chain of small tumors on the extensor surface of the left forearm Nov. 1, 1912. When first seen by her physician, Nov. 28, 1912, there was an ulcer half an inch in diameter in the middle third of left forearm and a chain of small tumors extending to the elbow. The ulcer had a punched-out appearance, the border of the skin dark violaceous in color, infiltrated and undermined. The tumors were boggy, the overlying skin discolored, and a little seropus exuded when they were opened.

Patient was put on potassium iodid Dec. 21, 1912, before a diagnosis was made. One of the small tumors, which had broken down, was aspirated Dec. 31, 1912, by Drs. F. V. Willhite and E. V. Eyman of the State Hospital at Yankton, and several culture tubes inoculated. Jan. 6, 1913, the *Sporothrix schenckii* was recovered in pure culture from one of the tubes.

The iodid treatment began Dec. 21, 1912. The lesions were entirely healed by the end of January, 1913.

# Special Articles

## REPORT ON POST-MORTEM EXAMINATIONS IN THE UNITED STATES

BY THE PUBLIC HEALTH, HOSPITAL AND BUDGET COMMITTEE* OF THE NEW YORK ACADEMY OF MEDICINE †

I. THE PAST AND PRESENT POSITION OF THE AUTOPSY IN MEDICAL EDUCATION AND PRACTICE
HORST OERTEL, M.D., New York, Director of the Russell Sage Institute of Pathology.

II. STATISTICS OF POST-MORTEMS IN LARGE HOSPITALS OF THE UNITED STATES AND ABROAD
E. H. LEWINSKI-CORWIN, PH.D., New York, Executive Secretary of the Public Health, Hospital and Budget Committee of the New York Academy of Medicine.

III. SUMMARY OF THE REPORT; RECOMMENDATIONS

## I. THE PAST AND PRESENT POSITION OF THE AUTOPSY IN MEDICAL EDUCATION AND PRACTICE

HORST OERTEL, M.D., NEW YORK
Director of the Russell Sage Institute of Pathology

### HISTORICAL

It is an interesting observation to the student of the history of medicine that the development of scientific medicine and therapy in any country and among all nations has been inaugurated by the systematic performance of post-mortem examinations which made possible the establishment of pathologic anatomy. Its neglect has invariably been attended by stagnation and scientific decay.

*MEMBERS OF THE PUBLIC HEALTH, HOSPITAL AND BUDGET COMMITTEE OF THE NEW YORK ACADEMY OF MEDICINE:

E. H. Lewinski-Corwin, Ph.D., Executive Secretary.
Charles L. Dana, M.D., Chairman
James Alex. Miller, M.D., Secretary
Robert J. Carlisle, M.D.
Haven Emerson, M.D.
Arpad G. Gerster, M.D.
S. S. Goldwater, M.D.
Thomas W. Hastings, M.D.
L. Emmett Holt, M.D.
John H. Huddleston, M.D.
Abraham Jacobi, M.D.
Theodore C. Janeway, M.D.
Egbert Le Fevre, M.D.
Samuel Lloyd, M.D.
Frank S. Meara, M.D.
W. Gilman Thompson, M.D.
Philip Van Ingen, M.D.
Linsly R. Williams, M.D.

† Report approved by the Council of the Academy.

As in the rejuvenation of literature and arts, we owe to Italy the first decisive step in this direction. Preceded by the two Fantonis, it was essentially the merit of Morgagni (1767) to correlate the changes found in the body after death with the symptoms of disease. By post-mortem examinations he traced the underlying cause and seat of diseases; he localized diseased processes and furnished for the physicians of his times an objective idea of disease. In order fully to appreciate the magnitude of this work it must be remembered that before Morgagni's time ideas about the nature of diseases had been almost entirely imaginary and based only on very superficial knowledge of symptoms. Much was still unknown of the normal structure of the body, dissections of the human body had been rarely done and pathologic anatomy had consisted in a collection and description mainly of monstrosities and curiosities. Perhaps Morgagni's greatest accomplishment, therefore, was the consideration of usual and unusual evidence with equal scientific skill and criticism. This enabled him to arrive at much clearer ideas of the organic changes underlying the symptoms of diseases than had previously been possible. Morgagni's creation is therefore not strictly a system of pathology in the later and modern sense, but rather, as Haeser expresses it, a pathologic-anatomic explanation of symptomatology.

The second great step in this direction was made by Bichat in France (1771-1802), the founder of general anatomy. (It is reported that Bichat actually lived in the dissecting-room. In one winter he conducted personally 600 dissections—a very large number for that time. It undermined his health and caused his early death.) His work formed the direct foundation for the great French advance in medicine during the first thirty years of the nineteenth century. His influence is particularly noticeable in the works of the two great physicians of that time, Corvisart and Laennec. Bichat taught:

1. The body consists of general tissues which occur in all organs and in special tissues which are characteristic of an organ or "system" as he termed it.
2. Every tissue of the body may become diseased within itself.
3. All changes which constitute a disease of a tissue are essentially similar in character in all organs which contain this tissue.
4. Symptoms which occur during disease of organs in the body depend on changes in their respective tissues.
5. Sympathetic action is not so much the result of a relation of organs as it is evidence of relation of tissues.

These views opened an entirely new line of thought, for they were based on sound observation. Corvisart and Laennec, thus influenced, were able to make a considerable step forward of Morgagni. He had established the seat of diseases. But Corvisart and Laennec, standing on Bichat's shoulders, regarded pathologic anatomy as means to arrive at the *development* of diseases and therefore saw in it the underlying foundation of physical diagnosis. Thus the way was paved for the introduction and development of percussion and auscultation by Corvisart (1808) and Laennec (1815-19) and the revival and augmentation of Auenbrugger's work on percussion, which through ignorance and neglect had remained hidden for fifty years. Corvisart resurrected and enlarged it. Thus Bichat's work assumed an importance in the development of medicine which may justly be compared to the discovery of the circulation of the blood by Harvey.

A similar picture is presented somewhat later in Vienna. It is the work of one man, Rokitansky (1804-1878), professor of pathologic anatomy at the University of Vienna. Rokitansky possessed unusual industry and technic, coupled with excellent judgment and power of observation. He, as the first, regarded the anatomic changes in the organs as expressions of a *genetic* development of a disease. Rokitansky, therefore, endeavored to trace the character and relationship of processes of disease and laid the cornerstone of modern general pathology and particularly pathologic histology, that is, the microscopic investigation of diseased tissues. He emphasized in his farewell address that pathologic anatomy is the solid foundation of pathologic physiology, that is, the study of diseased functions, and of clinical medicine.

Thus Rokitansky became the founder of a school of medicine which soon was to be famous the world over as one offering the best opportunity to study the relation of symptoms to the organic changes in the body. Vienna became a veritable Mecca for the education of thousands of physicians from all parts of the world until a rival arose in Germany, which under the influence of the greatest pathologic anatomist went further in its scientific development and education than any country had gone before.

The development of scientific medicine in Germany is perhaps the most instructive of all. In the first half of the nineteenth century it had remained far behind France, England and Austria. But during the second half of that century it was lifted by the all-controlling influence of a pathologic anatomist, Virchow, from a position nothing short of ridiculous to a position of greatness and leadership. German medicine through the first half of the nineteenth century had been under the influence of the speculative natural philosophy of Schelling. Long after France, England and Austria had made serious efforts to overcome the purely speculative ideas and systems, German medicine by clinging to them had reached a point of lowest level. In the preface to the great encyclopedia of medicine edited by Virchow, who had just begun his work, he says significantly (1854): "German medicine on account of its views and dissenting 'schools' has become the laughing-stock of the world." There did not exist a well-founded universal scientific method of thought, investigation or teaching, but only opposed and battling "schools" and "systems" of medicine and therapy such as homeopathy of Hahnemann, polypragmasia, Rademacher's system, Priessnitz' system, therapeutic nihilism, eclecticism, Bouillaud's bleeding to unconsciousness of the patient, Dietl's absolute condemnation of bleeding as a criminal offense (1849), Mesmerism and others. They formed the source of endless and senseless discussions, for they were all speculative and contributed much to the entertainment of their pompous defenders and the laity but not to the benefit of their patients. In other words, therapy absolutely lacked a scientific objective support and backbone, for there existed in pathology only individualism and, therefore uncertainty. It was not even a time of crude empiricism, but a phantastic period which like a nightmare in individuals occasionally arises during the life of a nation.

An interesting illustration of what was then taught in pathology was given to me by Professor Senator in Berlin in the form of a syllabus used by Professor Schultz-Schultzenstein in his lectures in 1851 which Senator had still attended in his student days. The title of this syllabus is: "The Natural Families of Diseases, Berlin, 1851," and it contains this passage which I shall translate rather literally: "Disease has, although it represents a process of death, an organic combination of several actions, which develop from the innermost part of one nucleus. This nucleus is its principle. Disease grows from this nucleus to a system of actions. In this system the nucleus represents the fundamental action, the stem of disease, from which extend many branch actions as, for instance, constipation, colic, vomiting, fever, etc." Another passage: "The fundamental character of a disease may be either melanotic, apeptic, anaplastic, bilious, dysplasmatic; further anarethic, paralytic, but each of these may combine with those of opposite characters as branch actions." (The original German of this text has been published by Senator in his farewell address in *Berliner klinische Wochenschrift*, 1910, No. 34.) It will be seen that it is not made more ridiculous by the translation, as one might suppose. It is interesting to compare with it a passage from an article published in New York in 1909 by an author who shall remain nameless: "Chronic Bright's disease begins, in the vast majority of cases, as a general perversion of metabolism, excited by either simple strain or toxic inhibition of function, and

continues for years, presenting just as definite signs of renal distress as are suppression or coma. It is in these early stages of functional strain precedent to organic injury which are too frequently ignored, that Bright's disease is definitely curable. In this stage the obtrusive symptoms may be anything from grumpiness to goiter, from pestering activity to angina pectoris, etc., etc." Does not the same unsound speculative spirit of the early nineteenth century in Europe appear to recche in America in the early twentieth century?

Such peculiar and phantastic and mysterious systems existed in considerable number.

Virchow arose, out of this apparently hopeless chaos, first assistant to Froriep in the Charité Hospital in Berlin; he removed to Würzburg on account of many personal difficulties, but was called back to Berlin as professor of pathologic anatomy in spite of personal and political obstacles. It was one of the most far-sighted and commendable acts of the Prussian government, which declared thereby that a man's political creed and personal opinions have nothing to do with academic positions.

Virchow taught and demonstrated at the autopsy table with a system, perseverance and force never approached before, that every disease represented an anatomically localized process and that, therefore, the goal of all pathologic conceptions must be objective knowledge of, and location of the diseased processes—no speculative idea. Herein he was more radical than any of his predecessors, not excepting Rokitansky. Virchow broke with all traditions of scholasticism and recognized only deductions based on actual observation. He held that every physiologic process possessed an anatomic corollary; a disease, therefore, finds expression in anatomic, visible processes. The anatomic changes *represent* the disease. The only method, therefore, to arrive at a correct knowledge of the origin and course of a disease is to correlate the undeniable and visible autopsy experience of many cases, and to reproduce them experimentally. Thus vanished all speculation and discussions about the mystic character of diseases, which even Rokitansky had not entirely escaped. Virchow aroused sometimes much ire and controversy among his old pompous colleagues by actually "holding their mistakes under their own noses" at an autopsy.[1] He soon convinced the younger generation of the truth of his assertions, however, and the strength of a government position which made it impossible for his enemies to have him removed gave him an opportunity to declare himself forcibly and openly. In this he was not too reluctant as the many complaints about him to the minister of education testify. By strength of his academic position Virchow was able to declare his entire independence, and he made his laboratory for the first time of any in the world an independent scientific institute, which was not as formerly a mere addition for the immediate needs of the hospital. It enjoyed a building of its own, elegantly fitted up for those times. It became a great place not only of research but also of training in pathology. Virchow was most successful in this. It may be said without exaggeration that during his activity there was probably not a professor of pathology, medicine and surgery in Germany, to say nothing of foreign countries, who had not been taught or deeply influenced by him. The great pathologic institutes in Germany to-day are of his spirit, and under that spirit still devote the greatest attention to that branch of science which is intimately connected with the experience derived from post-mortem examinations. It forms the all-important pillar of German preeminence in medicine, and it served as the most striking example of the influence of pathologic anatomy on scientific thought and development in medicine in any country. It was Virchow's greatest pride that he had taught physicians to think anatomically—that is, objectively. It was of greater consequence to the welfare of communities than a dozen individual brilliant discoveries.

1. Virchow was much aided in his earlier days by his forceful friend Reinhard, who unfortunately died too young to become generally recognized. Virchow paid him a great tribute in the fourth (1852) and one-hundredth (1885) volumes of his Archiv.

### THE PRESENT POSITION OF PATHOLOGIC ANATOMY

Having established in a general outline the historic fact of the remarkable influence of the study of disease after death on the scientific development of medicine and therefore on the welfare of the living in all countries, it becomes necessary for me to present the importance of this study in greater detail and to trace the reasons for its great influence on scientific medical thought.

Mention has already been made of the fact that the experience at the autopsy table has two sides: a purely scientific and an educational. We shall view them independently. The enormous advances in medicine have demanded in the course of time somewhat of a division of labor. We can recognize at the present day two main groups of investigators—those who deal with the direct cause and prevention of disease, the bacteriologists; and those who explore the disease after its establishment in the body: they determine the natural history of a disease. It is the chief duty of the pathologic anatomist, who is aided in it by experiment and chemical research.

The fact that we know to-day the direct causes of many diseases does not allow us to dispense with the services of the autopsist and microscopist. If, for example, it should ever be proved that cancer was an infectious or parasitic disease, we should be no nearer the understanding of the nature of the cancerous process than before. For the most important question would remain unsolved, namely, how any parasite could induce cells to grow characteristically and incessantly to the destruction of the whole organism. But, after a disease is established in a person, is it not of great consequence to know what visible changes in cells and tissues lead to or are associated with such destructive action? I need only mention the difficult question of dissemination of cancer cells and their growth in distant parts of the body. Only a full understanding of the factors determining these phenomena will allow an intelligent treatment.

Another illustration: We know that "diphtheria" is caused by a specific micro-organism, and also that it may be controlled largely by its antiserum. But the problem of the character of the diphtheritic process in the throat and the other changes the disease produces in the body can be solved only by careful post-mortem investigation. This gives us information about important features of the disease: for example, a child may have died very unexpectedly during what appeared to be a mild attack of this disease. We are at a perfect loss to understand why until we examine the heart and find it markedly and unexpectedly diseased. This is information we could never derive from a study of the cause of the disease, but if we find post-mortem evidence of it in many cases of diphtheria we are justified in concluding that diphtheria is a disease which exhibits a marked tendency toward a characteristic involvement of the heart. But a fact thus established by autopsy is of the greatest practical importance, for it directs the attention of the physician to what he must carefully watch and guard against during this disease. Such examples could be readily multiplied, many of them very complicated and therefore still unsettled and under investigation, for there are many diseases in regard to the causes or the mode of action of which we are still uncertain. Some diseases are much complicated by environmental influence; others are the results of several causes one of which may modify the action of the other. Take, for instance, the much-talked-of arteriosclerosis. It is not a disease that can be traced to a definite micro-organism at all. The direct causative effect of alcohol is very uncertain, to say the least, and its manifestations in people living under different social and economic conditions very different. Angina pectoris, one of the important causes of death among the well-to-do in later life (the so-called death of heart-disease) occurs very rarely in the poorer classes. In charity hospitals it is almost unknown. What is the cause of this? Only a very careful comparison of the manifestations of this disease among all concerned will lead ultimately to a solution of this difficult and practically so important problem.

Another illustration: The fact that the tubercle bacillus has been definitely known as the cause of tuberculosis has not at all settled the manner and method of infection. There is even now a decided difference of opinion as to how the infection and dissemination of the tubercle bacillus through the body occurs. Is it inhalation? Or ingestion? How is the bacillus or its toxins carried through the body? Why does it settle in one part and not in another? What changes does it produce in tissues? What diseases are caused by this bacillus? There are many obscure, doubtful glandular diseases the relationship of which to the tubercle has not been determined. How will these questions be solved? Only by the anatomic investigation which alone can trace the origin of a lesion and its manifestations through the body.

Finally, one more example of the same type: Pneumonia is a well-understood disease as far as its causes are concerned, but what determines its manifestations? What is responsible for its course, good or bad, its terminations into abscess of the lung or gangrene and its malignant character among the aged? Here the autopsist comes again to our rescue and explains these perplexing questions on the hand of his structural observations. He shows that the good termination depends on the unhindered removal of the inflammatory products through natural channels, the lymphatics, and the bad on blocking or obliteration of these paths of resorption: that in the lung of the aged the elasticity and many important structures which aid in the removal of inflammatory products have been lost in the process of aging and that therefore this infection is so much more dangerous. Moreover, in the study of hereditary diseases which descend from generation to generation, it is of great importance to study closely the changes which lead to death in an individual in order to know how to safeguard the interests of the survivors, and eventually to eradicate the disease from future generations and descendants.

While the foregoing examples relate to individual cases of disease, the regular systematic performance of autopsies assumes much wider and general dimensions in the collection of reliable trustworthy statistics. It is not generally recognized how much still remains to be done in this line. A correct scientific diagnosis of a disease, such as is demanded for a useful record, can be made only after death by one well trained in pathologic anatomy. Our present American statistics as kept by almost all boards of health in this country are extremely faulty and are scientifically worthless. Even not considering those returns of the cause of death made worthless by neglect, stupidity and by intent—and they are not too infrequent—all purely clinical diagnoses that are based on uncertain symptoms only must remain pure conjectures that lack the necessary objective proof. But reliable statistics are of the greatest consequence to a nation. Take alone the cancer question. Is cancer really on the increase or only apparently so? Professor Bashford, director of the Imperial Cancer Institute in London, has severely criticized the American statistics in this regard and asserted that the returns from Ceylon were more reliable than those from New York. The same is true of other important diseases: of the heart, Bright's disease, etc.

There is no absolutely certain clinical diagnosis, and even if the autopsy proves the main diagnosis correct it almost always discloses important associated lesions which in their obscurity escape even the most careful clinical observer. Nevertheless these may have an important bearing on origin, course and symptoms of the disease. Dr. Cabot, an eminent diagnostician of Boston, has recently published[2] the percentages of correct clinical diagnosis of what appeared to be the most important lesion revealed by 3,000 autopsies. These are here appended, and it must be noticed that only a few of the most evident diseases exceed 75 per cent. in the hand of an experienced diagnostician; many important diseases fall below 50 per cent. in recognition, some even below 25 per cent.:

TABLE 1.—PERCENTAGE OF CORRECT DIAGNOSES IN VARIOUS DISEASES

| | Per cent. | | Per cent. |
|---|---|---|---|
| Diabetes mellitus | 95 | Miliary tuberculosis | 52 |
| Typhoid fever | 92 | Chronic interstitial nephritis | 50 |
| Aortic regurgitation | 84 | Thoracic aneurysm | 50 |
| Cancer of colon | 74 | Hepatic cirrhosis | 39 |
| Lobar pneumonia | 74 | Acute endocarditis | 39 |
| Chronic glomerulonephritis | 74 | Peptic ulcer | 36 |
| Cerebral tumor | 72.8 | Suppurative nephritis | 35 |
| Tuberculous meningitis | 72 | Renal tuberculosis | 33.3 |
| Gastric cancer | 72 | Bronchopneumonia | 33 |
| Mitral stenosis | 69 | Vertebral tuberculosis | 23 |
| Brain hemorrhage | 67 | Chronic myocarditis | 22 |
| Septic meningitis | 64 | Hepatic abscess | 20 |
| Aortic stenosis | 61 | Acute pericarditis | 20 |
| Phthisis, active | 59 | Acute nephritis | 16 |

It is also interesting to record in this connection that Professor Orth, director of the Pathologic Institute in Berlin, makes the statement that of all appendixes that have been submitted to him for examination by conservative surgeons with the clinical diagnosis of appendicitis, as many as 17 per cent. showed no disease.

This takes us to the educational value of post-mortem examinations.

The historical introduction has shown that the indisputable facts of an autopsy prevent useless speculation and discussion. With an elementary force pathologic anatomy keeps the truth before the eyes of student and practitioner. It furnishes their conceptions of disease a backbone of actual facts and it impresses on them true visual ideas of diseased processes without becoming phantastic, and last—not least—it makes the treatment scientific and reliable.

The student and physician who think anatomically think truthfully—they need no "school" or "system" of ideas to speculate about the character of a disease. They see and therefore know what actually occurs. They must only be given opportunity to enlarge their experience in that direction. Such a physician applies a treatment not because it rests on a premise of some one else's authority, a premise that he can neither prove nor disprove, but because he has personal knowledge of a disease by his own observations: he knows its character and therefore how it may or may not be beneficially influenced. He is not, to use the old grotesque expression, like the blind man in a dark room looking for a black cat that is not there, but a scientist, no matter how humble a practitioner, who approaches his patients with the certainty and moral conviction of real knowledge. Individual "schools" and "systems" of medicine have therefore almost entirely disappeared in Germany. Only remnants still exist, like the memory of a nightmare the morning after. The state recognizes, teaches only and requires a severe examination in scientific medicine.

It is said that if a country wishes to shape its destiny, it must study the history of others. America is fortunate in that respect. It has before it the combined and sometimes sad experiences of centuries of Europe and it is free to adopt or to discard. Should it not profit by this experience? This is what Goethe meant, when he said:

Amerika Du hast es besser, als unser Continent der Alte!

## II. STATISTICS OF POST-MORTEMS IN LARGE HOSPITALS OF THE UNITED STATES AND ABROAD

E. H. LEWINSKI-CORWIN, PH.D., NEW YORK

Executive Secretary of the Public Health, Hospital and Budget Committee of the New York Academy of Medicine.

In order to obtain statistical evidence of the amount of autopsy work performed in some of the largest institutions in this country and England and Canada, letters were sent out to twenty-eight hospitals inquiring as to the number of deaths for the last three years ending December, 1912, the number of autopsies performed during the same period, the percentage of correct clinical diagnoses as revealed by the autopsies, and the laws and regulations governing the performance of autopsies.

2. Cabot, Richard C.: Diagnostic Pitfalls Identified during a Study of Three Thousand Autopsies, THE JOURNAL A. M. A., Dec. 28, 1912, p. 2295.

Replies have been received from eighteen institutions in this county and eight hospitals abroad. Statistics of the German and Austrian hospitals were obtained from the printed reports of the institutions.

All the statistics have been arranged in Tables 2 and 3.

The striking fact brought out from the comparison of the statistics of autopsies in foreign hospitals and in American hospitals is that the percentage of autopsies performed in our largest hospitals, some of them connected with teaching institutions, is but one-eighth of the percentage of autopsies performed abroad. While the University College Hospital of London reports an average of 84 per cent. of autopsies, St. Thomas' Hospital of London reports an average of 75 per cent., St. Bartholomew's of London an average of 79 per cent., another English hospital an average of 83.7 per cent., the Montreal General Hospital an average of 83 per cent., Bellevue Hospital of New York performed autopsies on only 10 per cent. of patients dying in the hospital, Boston City Hospital on 9 per cent., and the Philadelphia General Hospital shows an average of a little over 10 per cent. And these are the three largest hospitals in the country. Other hospitals show a still lower percentage, while a number of the smaller hospitals in which the number of deaths is comparatively small show much higher percentages. Thus, Johns Hopkins Hospital had post-mortems performed in 62.8 per cent. of cases and the University of California Medical School Hospital in an average of 42 per cent. of cases, but the total number of deaths in these two institutions for the last three years amounted to 705, all told, while the number of deaths in Bellevue alone for the same period was 8,918, in Boston City Hospital 4,421, and in the Philadelphia General Hospital 5,921—a total of 19,260 deaths as against the 705 cases of the two institutions in which the percentage of autopsies is relatively high.

The relative as well as the absolute number of autopsies in some of the American Hospitals has been constantly falling

TABLE 2.—STATISTICS OF AUTOPSIES IN AMERICAN HOSPITALS
(Exclusive of Medicolegal Cases)

| Name of Institution | Year | Number of Deaths | No. of Autopsies Performed | |
|---|---|---|---|---|
| | | | Total | Per Cent. |
| Bellevue Hospital, New York. .. | 1910 | 2,968 | 301 | 10.1 |
| | 1911 | 3,035 | 354 | 11.6 |
| | 1912 | 2,915* | 343 | 11.8 |
| Presbyterian Hospital, New York | 1910, 1911, 1912 | 1,146 | 281 | 24.5 |
| New York Hospital, New York.. | 1910 | 460 | 103 | 22.4 |
| | 1911 | 524 | 87 | 16.6 |
| | 1912 | 457 | 94 | 20.6 |
| St. Luke's Hospital, New York.. | 1910, 1911 | 618 | 89 | 14.4 |
| Mt. Sinai Hospital, New York. | 1910 | 719 | 158 | 7.3 |
| | 1911 | 738 | | |
| | 1912 | 705 | | |
| House of Relief. New York .... | 1910 | 230 | 36 | 15.6 |
| | 1911 | 184 | 57 | 30.9 |
| | 1912 | 206 | 74 | 35.9 |
| Massachusetts General Hospital, Boston ..... | 1911 | 475 | 143 | 30.1 |
| | 1912 | 429 | 66 | 15.4 |
| Boston City Hospital, Boston.... | 1910 | 1,327 | 195 | 14.7 |
| | 1911 | 1,483 | 113 | 7.6 |
| | 1912 | 1,611 | 100 | 6.2 |
| Louisville City Hospital, Louisville, Ky. ..... | 1910, 1911, 1912 | 698 | 120 | 17.2 |
| San Francisco City and County Hospital, San Francisco ..... | 1910, 1911, 1912 | 1,486 | 676 | 45.1 |
| University of California Medical School Hospital, San Francisco | 1910 | 66 | 18 | 27.3 |
| | 1911 | 51 | 22 | 43.1 |
| | 1912 | 37 | 21 | 56.8 |
| New Haven Hospital, New Haven, Conn. ..... .. ..... | 1910 | 254 | 37 | 14.6 |
| | 1911 | 235 | 16 | 6.8 |
| | 1912 | 269 | 23 | 8.5 |
| Johns Hopkins Hospital, Baltimore ..... | 1910, 1911, 1912 | 551 | 346 | 62.6 |
| Jefferson Hospital, Philadelphia.. | 1910, 1911, 1912 | 620 | 104 | 16.8 |
| Buffalo General Hospital, Buffalo, New York ..... .... | 1910, 1911, 1912 | 896 | 117 | 13.1 |
| Albany Hospital, Albany, N. Y.. | 1910 | 239 | 24 | 10 |
| | 1911 | 268 | 22 | 8.2 |
| | 1912 | 272 | 13 | 4.8 |
| Philadelphia General Hospital Philadelphia ..... .. | 1910 | 2,122 | 324 | 15.3 |
| | 1911 | 2,050 | 293 | 14.3 |
| | 1912 | 1,749 | 196 | 11.2 |

*Up to December 1.

TABLE 3.—STATISTICS OF AUTOPSIES IN FOREIGN HOSPITALS
(Exclusive of Medicolegal Cases)

| Name of Institution | Year | Number of Deaths | No. of Autopsies Performed | |
|---|---|---|---|---|
| | | | Total | Per Cent. |
| Montreal General Hospital, Montreal, Canada ..... | 1908 | 292 | 235 | 80.4 |
| | 1909 | 294 | 229 | 77.9 |
| | 1910 | 272 | 235 | 86.4 |
| Royal Victoria Hospital, Montreal, Canada ..... | 1910 | 297 | ... | 73 |
| | 1911 | 267 | ... | 62 |
| | 1912 | 264 | .. | 67.8 |
| Toronto General Hospital, Toronto, Canada ..... | Oct., 1911 to Sep., 1912 | 321 | 82 | 26.3 |
| University College Hospital, London, England ... ..... .. . | 1910 | 333 | 276 | 82.8 |
| | 1911 | 284 | 244 | 85.9 |
| | 1912 | 257 | 217 | 84.4 |
| St. Thomas' Hospital, London, England ..... ..... | 1910 | 622 | 468 | 75.2 |
| | 1911 | 676 | 486 | 71.9 |
| | 1912 | 611 | 473 | 77.4 |
| St. Bartholomew's Hospital, London, England .. .. . ... .. | 1910, 1911, 1912 | 2,010 | 1,597 | 79.4 |
| Royal Infirmary, Edinburgh, Scotland ... .. .. ..... | 1910, 1911, 1912 | 2,466 | 1,453 | 58.9 |
| Large English hospital whose name cannot be divulged... .. | 1910, 1911, 1912 | 4,037 | 3,378 | 83.7 |
| *Charité Hospital, Berlin, Germany ..... ... . ..... | 1910 | 1,588 | 1,480 | 93 |
| | 1911 | 1,597 | 1,472 | 92 |
| | 1912 | 1,527 | 1,419 | 92 |
| *Eppendorf Hospital, Hamburg, Germany . ..... ..... | 1908 | 2,322 | 2,012 | 86 |
| | 1909 | 2,417 | 2,181 | 90 |
| | 1910 | 2,487 | 2,220 | 89 |
| *St. Georg Hospital, Hamburg, Germany . . .... ... .. | 1908 | 1,272 | 1,129 | 88 |
| | 1909 | . .. | 1,218 | .. |
| | 1910 | ..... | 1,168 | .. |
| Pathological Institute, Leipsic, Germany . .. . ... . . | 1900 | 1,082 | 1,018 | 94 |
| | 1901 | 1,224 | 1,139 | 93 |
| | 1902 | 1,246 | 1,160 | 91 |
| | 1903 | 1,325 | 1,213 | 91 |
| | 1904 | 1,385 | 1,258 | 90 |
| | 1905 | 1,516 | 1,352 | 89 |
| | 1906 | 1,562 | 1,383 | 88 |
| | 1907 | 1,719 | 1,531 | 89 |
| University Hospital, Breslau, Germany .. .... . .. .. .. . | 1905 | . .. | 487 | 90.7 |
| | 1907 | ..... | 534 | 91.9 |
| | 1908 | .. . | 570 | 93.4 |
| Allerheiligen Hospital, Breslau, Germany . . .. ..... .. | 1905 | . ... | 715 | 70.5 |
| | 1907 | .... | 1,038 | 87.6 |
| | 1908 | ... | 1,077 | 89.8 |
| Allgemeines Krankenhaus, Vienna, Austria ... ... ... .... | 1903 | 1,950 | 1,793 | 91 |
| | 1904 | 1,867 | 1,866 | 99.9 |
| | 1905 | 1,929 | 1,873 | 97 |
| Eight other hospitals, Vienna, Austria . ..... ... ... | 1903 | 6,690 | 5,213 | 77 |
| | 1904 | 6,820 | 5,517 | 80 |
| | 1905 | 7,364 | 5,722 | 77 |

* The remaining percentage includes not only refusals, but legal cases.

off within the last few years. The number of autopsies in the Boston City Hospital was 195 in 1910, 113 in 1911, and only 100 in 1912, while the number of deaths in the hospital in that year was 1,611 as against 1,327 death in the year 1910. In the New Haven Hospital the percentage of autopsied cases fell from 14.6 in 1910 to 6.8 in 1911 and 8.5 in 1912. In the Albany Hospital the percentage of post-mortems has dwindled from 10 in 1910 to 4.8 in 1912, and in the Philadelphia General Hospital 324 post-mortem examinations were held in 1910 and only 196 in 1912. The variations from year to year in the number of autopsies in the English and European hospitals are insignificant and they never fall below 70 per cent. When the Philadelphia General Hospital had 196 post-mortems for its 1,749 deaths, Bellevue 343 for 2,915 deaths and the Boston City Hospital had 100 autopsies for its 1,611 deaths, in the Allegemeines Krankenhaus of Vienna 1,866 cases out of a total of 1,867 deaths came to autopsy in one year. In the Eppendorf Hospital, Hamburg, 2,220 cases out of a total of 2,487 were autopsied, and 244 out of 284 dying in the hospital came to autopsy in the University College Hospital of London in 1911.

Five causes can be assigned for this pitifully poor showing of our hospitals: (1) adverse public opinion and existing prejudices; (2) the existing law; (3) the undertakers and burial societies; (4) hospital rules, and (5) the claims of the departments of anatomy.

*1. Adverse Public Opinion and Prejudices.*—In no other civilized community is there so much aversion to post-mortem examinations as in this country. This is partly due to the fact that no great effort was made in the past century to perform them. We have not endeavored in the past to be in the vanguard of medical science and education, and did not attempt to impress the public with the importance of autopsies to medicine and to mold public opinion in favor of them, although we had autopsies performed in this country as far back as the first half of the seventeenth century.[3]

When the public recognizes that autopsies are indispensable for the progress of medical and surgical science, for the proper understanding of the diseases, and for the adequate training of physicians, and are essentially different from anatomic dissection, the existing prejudices will be overcome and the present adverse attitude changed.

With the great abundance and variety of material in our hospitals, with our equipment and facilities, and with the large corps of scientific workers we possess, a great stimulus to medicine would be given if the prevailing public opinion and the present laws with regard to autopsies could be changed.

*2. The Existing Law.*—The Laws of New York Relating to Autopsies: Outside of legal cases, in which death is caused by homicide, suicide and accident, or occurs suddenly or in a suspicious manner, which come under the jurisdiction of coroners and prosecuting officers, and in which inquests on the bodies may be held under the authority of the penal code, all other post-mortem examinations in New York state can be performed only so far "as the husband, wife or next of kin of the deceased, being charged by law with the duty of burial, may authorize dissection for the purpose of ascertaining the cause of death,"[4] or if permission for autopsy was given by the deceased before or during the illness which caused the death.[5]

Autopsies which are performed without the consent of the next of kin are illegal and punishable as a misdemeanor even though the next of kin may not be known to the hospital or may reside in a foreign country or be beyond the reach of communication. No necropsy, no matter how scientifically important it may be, can be performed without the permission of the next of kin. In the majority of cases no autopsies can be performed on the unclaimed dead. The number of unclaimed dead in Bellevue alone was 654 in the year 1912. Then, when such permission is obtained, it does not always protect the man performing the autopsy. The permission obtained may prove invalid should relatives nearer to the deceased person than the one from whom consent was secured challenge the right of autopsy. The terms of the law giving the right to grant permission to the "next of kin" charged by law with the duty of burial and not clearly establishing the order of priority of relatives have given occasion to a number of lawsuits. Complications arise when the next of kin are minors or when there are several persons owning the same degree of relationship, and they are not agreed on granting the permission for a post-mortem examination. When no proper permission is obtained for an autopsy, action can be maintained for the illegal mutilation of the remains. In such an action a recovery may be had "for injury to the feelings and mental suffering" resulting directly and proximately from the wrongful mutilation of the body, although no actual pecuniary damage is alleged or proved.[6]

Even if the law should specify the order of priority, the burden of finding the proper person would devolve on the hospital or person desiring to perform the autopsy. Such searches are often impossible, and invariably mean unfortunate delay.

Moreover, in case no relatives are found, the authorization of a friend cannot safely be acted on, although the same friend can compel a hospital to deliver the body to him for burial.

As it now stands, our law relating to autopsies is indefinite in expression, uncertain in application, obsolete in spirit, detrimental to scientific progress and injurious to the best interests of the public.[7]

The Law in Foreign Countries: The British law, although old (dating back, practically unchanged, to Aug. 1, 1832) and containing provisions similar to ours, can, however, be interpreted much more liberally than ours. The two principles underlying the British law are:

1. No property resides in a dead body except so far that it belongs to the executors or relatives solely for the purpose of disposing of it according to law; and

2. No assault can be committed on a dead body.

It follows from these two principles that "in the mere act of performing an autopsy a medical man cannot be committing an offense known to the law, provided that as a matter of provable fact such has not been expressly forbidden by the subject during life, or his executors or nearest kin after death."[8]

Permissions for autopsy are easily obtained in England and lawsuits ensuing out of illegal post-mortems are very rare.

Regulations relating to the performance of autopsies are made by the hospitals. In some hospitals in England all patients, on entering, sign a form agreeing to a necropsy in the event of death. In others, the regulations are that autopsies shall be made on the bodies of all persons dying in the hospital or brought in dead. The representatives of the deceased are, however, at liberty to prevent the holding of an autopsy by giving due notice, and a statement to that effect is placarded in the hospitals.

The Canadian laws require permission of the nearest relatives, but in the Province of Quebec a law was passed a few years ago whereby all institutions receiving state aid may demand autopsies on the bodies of those who have been free patients.

In Austria the law provides that, as a matter of right and duty, every case—whether the patient be rich or poor—terminating in a general hospital, must be autopsied.[9]

3. Steiner, Walter R.: Some Early Autopsies in the United States, Bull. Johns Hopkins Hosp., August, 1903; Dewis, John W.: Champlain's Narrative of Early Autopsies in North America, ibid., May, 1905.

4. Art. 198, Sect. 2213 of the Penal Law.

5. Sec. 2210 of the Penal Law. [In 1910 the Supreme Court of California decided that one cannot dispose of his own corpse by will. See Henry W. Cattell: Post-Mortem Pathology, Ed. 3, Philadelphia, 1906, p. 5.]

6. Darcy vs. Presbyterian Hospital, 202 N. Y. 259 at p. 262 (1911).

7. A detailed discussion of the law will be found in the appendix a report of Philip J. McCook of the New York Bar, being an appendix to the committee report.

8. Smith, Fred. J.: Law for Medical Men, London, 1913, p. 81.

9. Flexner, Abraham: Medical Education in Europe, New York, 1912, p. 95.

In German hospitals autopsy takes place as a matter of routine, unless the contrary is specifically requested.[10]

With the growth of the appreciation on the part of the general public of the fact that medical science cannot progress or hold its own without the extensive anatomic and clinical use of the cadaver, and with the growth of general education and the gradual disappearance of prejudices, the laws of foreign countries relative to post-mortem examinations as well as the hospital rules regarding them have undergone changes which relieved the hospitals of the irksome burden of seeking permissions and at the same time left to the relatives the right to prevent an autopsy if they should so desire.

*3. Undertakers and Burial Societies.*—Another source of impediment to the work of the pathologist consists of the undertakers and certain burial societies. The first use it as a means of securing business; the others try to prevent autopsies on the basis of some religious prejudices. Our foreign population, accustomed to the matter of autopsies in the countries where they come from, would not think of objecting to them here were it not for the promptings of the undertakers and burial societies. One of the pathologists connected with a large hospital in New York, speaking of the absurdly small proportion of autopsies to deaths in the hospital, attributes it to the influence of undertakers in trying to prevent autopsies. "They seem to get wind of death of the patient," he writes, "before this has happened and they approach the family with the promise that no mutilation will be allowed if they are given the job of managing the funeral."

Then some religious burial societies are very largely active in preventing autopsies on the unclaimed bodies of their coreligionists.

*4. Hospital Rules.*—Only one of the American hospitals included in this inquiry requires, on entrance, a signed permission from the nearest relative for post-mortem examination in every case. No patient is admitted unless such permission is given. The adoption of this rule was deemed necessary owing to the importance of correcting the clinical and laboratory findings from the research point of view, and it is stated that this rule has proved extremely satisfactory.

In all the other hospitals the rule is to try to obtain permission after the patient's death, and this duty devolves on either the clerks or the interns. Their success in obtaining permissions depends much on their power of persuasion, sagacity, tact and interest in the matter. It has been found to be more practical to leave this duty to a medical man.

One hospital reports that there was a decided improvement in the number of autopsies at the hospital since the appointment of an assistant superintendent, a young physician who has taken over as a part of his duties the obtaining of permission for autopsies.

Another hospital attributes its good fortune in obtaining permission to the fact that extreme care is taken over the toilet of the cadavers subjected to autopsy and also to the fact that the office staff who receive the friends of patients dying in the hospital take a particular interest in urging that an autopsy be performed for the benefit of the family, that the family may know all about the presence of constitutional diseases.

If similar rules, regulations and practices should be adopted by private hospitals, they would undoubtedly prove beneficial in a great many instances.

*5. The Claims of the Departments of Anatomy.*—There exists one additional difficulty under the present law in utilizing all the material available in the hospitals, which has not hitherto been mentioned, namely: The demands of the departments of anatomy on the unclaimed dead, which constitute a large number of important deaths in public hospitals. Frequently unclaimed bodies which are very important from the pathologic point of view are thus used for dissecting purposes in the departments of anatomy.

10. Flexner, Abraham: Medical Education in Europe, New York, 1912, p. 96

This extremely unsatisfactory condition has arisen from the lack of recognition on the part of the law of the difference between anatomic dissection and a pathologic autopsy. The anatomic dissection is done for the purpose of systematic study of normal anatomy. This study necessarily calls for the permanent possession of the body and entails complete taking apart of the body. A pathologic autopsy, on the other hand, simply requires the opening of the various cavities of the body in order to disclose the pathologic lesions. It therefore consumes much less time and does not disfigure the body to any extent, and in its results to the cadaver is practically analogous to what is done in embalming.

To avoid all possible friction and loss of important material, it would seem advisable so to change the laws and rules with regard to this class of cases that the pathologists have unrestricted use of the cases which were clinically observed, while all bodies of persons dying outside of hospitals be distributed to the anatomic departments in ratio to the number of students. The distribution of the bodies could be most satisfactorily carried on under the supervision of a committee composed of all the professors of anatomy in the medical schools of the state.

### PERCENTAGE OF CORRECT CLINICAL DIAGNOSES AS ESTABLISHED BY AUTOPSIES

This part of the investigation was the least successful. Only seven institutions answered the questions asked. The others stated either that no records are available or that no answer is possible.

The percentages of correct clinical diagnoses in four institutions were given as 60, 47, 78 and 71. In one hospital in which 200 cases were examined, the autopsy showed that 133 were rightly diagnosed, forty-three had a wrong diagnosis, and no diagnosis was made in twenty-four cases. In another instance of 100 autopsies, 10 cases were not observed longer than twenty-four hours, 12 were complete errors of diagnosis, 21 main diagnoses correct but important conditions not diagnosticated, and the remaining 57 cases were correct. In a third instance, out of 117 autopsied cases, 60 cases were correct, 14 incorrect, and in the remaining 43 cases the patients were in the hospital too short a time to permit a diagnosis to be made.

## III. SUMMARY OF THE REPORT

1. The history of medicine shows that modern progress in medical science and the further development of medicine in the future is closely correlated with the extensive use of cadavers for post-mortem examinations.

2. In European countries the importance of necropsies has been universally recognized and neither public opinion nor prejudices, nor the law, cause any difficulties to the use of persons dying in hospitals for purpose of post-mortem examination.

3. The absolute and relative number of autopsies performed in American hospitals is extremely small in comparison with the number of autopsies performed in European hospitals.

4. Our research institutions, scientific bodies and medical colleges are greatly hampered in their work by the prevailing hostile attitude of the public and the law with regard to the performance of autopsies.

5. Our laws relating to autopsies are indefinite in expression, uncertain in application, obsolete in spirit, detrimental to scientific progress and injurious to the best interests of the public.

6. The main causes of the difficulties in obtaining permission for autopsies are due (*a*) to the ignorance on the part of the public of the importance of autopsies to science and therefore to the welfare of the people; (*b*) to the existing inadequate laws; (*c*) to the activity of undertakers and certain funeral societies, (*d*) to the inadequate rules of the hospitals in this respect, and (*e*) to the claims of the department of anatomy.

7. As a result of the slight opportunities given to physicians to study their errors of diagnosis, the percentage of incorrect diagnoses is unduly large.

### RECOMMENDATIONS

The small number of autopsies performed in our hospitals despite the efforts made by many of them to obtain permissions for performing them, proves very forcibly that some changes in the public mind and in the existing laws must be brought about in order that medical education and medical progress in this country may not be seriously hampered.

The committee would therefore recommend:

1. That effort be made on the part of various medical bodies to interest the press in the matter of autopsies with a view of presenting to the public the absolute dependence of medical progress and education on the regular performance of post-mortem examinations.

2. That effort be made to secure legislation relative to autopsies, similar to that of European countries, which would obviate the necessity of securing written permissions and at the same time safeguard all the present rights of the relatives.

3. That the law should be so amended as to recognize the difference between anatomic dissection and pathologic autopsy made for scientific purposes.

4. That until such legislation is secured, the boards of managers of all our private hospitals be urged to have the hospital rules so changed as to remove as much as possible the obstacles now placed in the way of securing autopsies.

---

## BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(*Continued from page 1705*)

VII

### DANGEROUS RECOMMENDATIONS

From the point of view of actual menace to life, the most hazardous advice is that which encourages the physician to rely on bacterial vaccines in certain acute localized infections in which operative measures are indicated, as for example in acute appendicitis, cholecystitis and mastoiditis. By specious advertising, or even by direct recommendation the undiscriminating practitioner is allured into relying on inoculations of stock vaccines in these dangerous conditions, with the result that good surgical counsel is not sought, or is sought too late for successful operative intervention.

The situation is almost equally grave in certain septicemic complications in which operative procedures are unavailing, such as puerperal infection. Here the success of immunizing treatment, if success is possible, depends on the prompt identification of the offending bacteria, and the early use of most accurately adjusted doses of the autogenous vaccine. But the physician who accepts the guidance of commercial vaccine institutions will use some one or other of the marketed mixed vaccines or "bacterial derivatives" advertised as suitable for just such emergencies, and often lose the only possible opportunity to avert a fatal issue.

### HARMFUL ADVICE

In subacute and chronic infections the risks of abusing vaccine therapy under the stimulus of misleading advice are not immediate as regards life, but much harm and needless suffering may be caused. This is illustrated by those affections in which mechanical obstacles to recovery exist, which must be removed before a cure can be expected. Urinary calculi, biliary calculi, occluded appendixes, adenoids, pus-tubes, urethral strictures, abscesses requiring drainage, necrotic bone—these are some of the pathologic conditions in which vaccine therapy has been used to the exclusion of the appropriate operative procedures, or even of a correct diagnosis. Also in subacute and chronic infections it has come about that implicit reliance on bacterial vaccines has deprived the patient of appropriate non-operative therapeutic measures, either alone or as accessories.

### TECHNICAL OBJECTIONS TO MARKETED STOCK VACCINES

Aside from the faults that accompany misleading therapeutic claims there are a number of valid objections which apply to all commercial bacterial vaccines. These shortcomings may be itemized as follows:

1. *Uncertainty as to Source of Culture.*—Commercial laboratories depend on outside sources for cultures which are obtained from individual clinicians, public clinics or hospitals. Rarely is it possible to learn anything definite as to what complicating factors exist in a given case. Thus a culture may be obtained from a patient afflicted with some concomitant infection whose existence is not clear at the time the culture is secured. A culture of staphylococcus or streptococcus, for instance, may be yielded by the pus from an ulcer which subsequent events will show to have been of syphilitic origin; it may, in fact, be a chancre before the secondary manifestations. It has actually happened in the practice of vaccine therapy that the material from which the vaccine was prepared was contaminated with the virus of syphilis, but luckily the vaccines were of the autogenous variety and inoculated only into the patient with the mixed pyogenic-syphilitic infection. It is altogether likely that the syphilitic virus was killed by the heat used in sterilizing the vaccine, and while the transmission of syphilis in this way is almost inconceivable, it illustrates the importance of investigating carefully the source of stock vaccines. No physician would care to subject himself to the criticism of having used such a vaccine. Other mixed pyogenic and chronic granulomatous infections like tuberculosis, glanders, actinomycosis and blastomycosis, and mixed pyogenic infections in which resistant spore-bearing anaerobes like tetanus and malignant edema occur, might be cited to emphasize further dangers.

2. *Uncertain Age of Culture.*—Just how long a given culture of pathogenic bacteria will retain its specific immunizing property, or when this property is lost under subcultivation, have never been definitely ascertained. The biologic characteristics of bacteria alter more or less rapidly under artificial environment, and since virulence is often rapidly lost, it is probable that antigenic potency is similarly precarious. The older the culture the less reliable it is likely to be.

3. *Uncertain Potency-Period of Market Vaccines and Suspensions.*—The unknown influence of time also applies to the therapeutic potency of ready-prepared vaccines and suspensions, a fact abundantly testified by clinical experience. This loss of therapeutic effectiveness as shown by clinical trials varies widely according to age, storage-temperature, and composition of different vaccines. This is the experience of bacterio-therapeutists who prepare their own vaccines and who employ mostly those of the personal or autogenous variety. Consequently this element of uncertainty must be magnified both in market vaccines and in the stock suspensions from which they are prepared. But with the purchased

---

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

vaccines the physician is helpless to remedy the fault if, indeed, he is able to detect it.

4. *Possibility of Dangerous Contaminations.*—The risk of accidental contamination of the vaccine during or after preparation has been strongly emphasized by several eminent bacteriologists. The danger of contamination from street dust which may contain tetanus germs demands constant care. Accidents such as these can of course occur to the private practitioner of vaccine therapy who makes and uses his own vaccines. Their occurrence should at all times be kept in mind and every precaution taken both to safeguard against them, and to have the protection of all possible skill and experience to offset the criticism such an accident would entail. Naturally the opportunities for such disasters are multiplied in marketed vaccines, especially in those laboratories in which much routine work is delegated to unprofessional assistants, or those in which the actual work of preparation is entrusted to persons inadequately trained in bacteriology. Unfortunately the responsibility of accidents from commercial vaccines rests on the physician administering them, and not, as it properly should, on the manufacturer.

5. *Uncertainty as to Dosage.*—As already remarked, dosage is one of the fundamental factors of success in vaccine therapy. Inflexibility in dosage is one of the serious faults incidental to the use of commercial bacterial vaccines as at present supplied. A single dose in a single container may be too large or too small to meet the requirements of a given case. The extensive latitude which appertains to the therapeutic dose of bacterial vaccines is left entirely to the resources of the physician without supplying him with the means of meeting these extremes. Attempts to remedy these defects have been made by furnishing certain vaccines in graduated containers with what is presumed to be a maximum dose, fractions of which are supposed to be withdrawn at discretion. Another device for meeting the defects in dosage is offered by a set of bulbs with varying quantities of bacteria, the plan being to increase the doses serially, doubtless with the hope that some will be found adequate. As pointed out under the discussion of dosage, these expedients are to be avoided; and they impress the fact that dosage in commercial vaccines is by no means adequately provided for.

6. *Vaccines of Questionable Identity.*—Among the well-known bacterial species the question of identity of those composing a commercial vaccine need cause little concern. But with the rarer bacterial species serious mistakes in identification have been made. For instance, a commercial vaccine supposed to be of gonococcus proved to be derived from a small diphtheroid bacillus. The acne bacillus has also been incorrectly diagnosed. A vaccine marketed and advertised for pertussis was found to have as its source a culture of a bacterium growing readily on ordinary culture mediums; thereby differing widely from the bacillus of pertussis which grows so scantily. This organism failed to qualify in any of the special features characteristic of the whooping-cough bacillus of Bordet-Gengou. It is highly probable that critical analysis will disclose many shortcomings in commercial vaccines purporting to contain the more uncommon bacterial species.

7. *Complicated and Expensive Containers.*—A variety of packages for distributing separate doses of vaccine have been employed by manufacturers, some using a minute glass bulb, bottle or ampule, while others have introduced the syringe-container—that contrivance whose original adoption arose solely through competition in the marketing of therapeutic serums. No competent practitioner needs such artifices as these to perform a proper inoculation, and he should discourage their manufacture and sale by insisting on simple and inexpensive containers for serums and vaccines.

*(To be continued)*

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

**MAGNESIUM PERHYDROL.**—A name applied to magnesium peroxid (for properties, actions and uses see New and Nonofficial Remedies, 1913, p. 185).

Manufactured by E. Merck, Darmstadt, Germany (Merck and Co., New York). German patents Nos. 141,821 and 171,372. No. U. S. patent. U. S. trademark No. 44,147.

**MAGNESIUM PERHYDROL, 25%.**—Magnesium perhydrol, 25%, is a mixture consisting essentially of magnesium peroxide and magnesium oxide with water of hydration, containing not less than 25% of magnesium peroxide ($MgO_2$).

It responds to the tests of identity and purity given for magnesium peroxide. The titration with potassium permanganate described under magnesium peroxide should indicate not less than 25 per cent. of magnesium peroxide $MgO_2$.

Manufactured by E. Merck, Darmstadt, Germany (Merck and Co., New York). German patents Nos. 141,821 and 171,372. No U. S. patent. U. S. trademark No. 44,147.

*Magnesium Perhydrol, 25 %, Tablets, 7½ grs.*—Each tablet contains magnesium perhydrol, 25%, 0.5 Gm. (7½ grains).

**LUMINAL**—(For properties, actions and uses see N. N. R., JOUR. A. M. A., May 17, 1913, p. 1541).

Manufactured by Farbenfabriken vorm. Friedr. Bayer and Co., Leverkusen, Germany (Farbenfabriken of Elberfeld Co., New York).

*Luminal Tablets 1½ grs.*—Each tablet contains luminal 0.1 Gm. (1½ grains).

Prepared by Farbenfabriken vorm. Friedr. Bayer and Co., Leverkusen, Germany (Farbenfabriken of Elberfeld Co., New York).

*Luminal Tablets, 5 grs.*—Each tablet contains luminal 0.3 Gm. (5 grains).

Prepared by Farbenfabriken vorm. Friedr. Bayer and Co., Leverkusen, Germany (Farbenfabriken of Elberfeld Co., New York).

**LUMINAL-SODIUM.**—(For properties, actions and uses see N. N. R., JOUR. A. M. A., May 17, 1913, p. 1541).

Manufactured by Farbenfabriken vorm. Friedr. Bayer and Co., Leverkusen, Germany (Farbenfabriken of Elberfeld Co., New York).

# Therapeutics

## PRESCRIPTION NONSENSE

In the following prescriptions it is not intended to comment on every discoverable mistake; our remarks are especially directed at the use of such multiple combinations. The following has been proposed and printed as a treatment for bronchial pneumonia in a child 3 years of age, one teaspoonful being given in water every three hours:

℞ Ammon. carb. ..... gr. xlv
Mucil. acaciae .....
Syrupi simplicis .....āā ʒ ss
Tinct. lavandulae comp. ..... ʒ ii
Aquae .....q. s. ad ʒiv
In the tincture of lavender are:
Oil of lavender flowers
Oil of rosemary
Saigon cinnamon
Cloves
Nutmeg
Red Saunders
Alcohol
Water

In the first place, the primary thought should always be not to give the patient anything that will cause nausea and vomiting. This is particularly true with babies and children. Ammonium carbonate is always irritant. As an expectorant it has absolutely no advantage over ammonium chlorid, and as a cardiac stimulant is more or less of a failure. Ammonium carbonate can stimulate the heart or raise the blood-pressure only by irritating the throat, gullet and stomach, much as does the first irritation of whisky. In causing this irritation it very frequently causes vomiting. The irritation from the ammonium carbonate is covered up, in the above prescription, by the mucilage of acacia and the syrup. Therefore, as a cardiac stimulant it would be an utter failure. It might cause nausea. As an expectorant it is inferior to ammonium chlorid.

A sick child should not receive a lot of syrup and sticky mucilage. Very many times we prevent a child from receiving sweets and then give him sugar in some form in his medicine.

Some would criticize the use of the compound tincture of lavender on the ground that it is unnecessary and disturbing to give the young child these spices. Of course the 2 fluidrams in a 4-ounce mixture represents so little ( a teaspoonful, approximately 5 c.c., representing about one-third of a cubic centimeter or 5 minims of this compound tincture of lavender), that it makes the addition nothing but a dash of cocktail for the baby.

As a whole, the prescription is bad. If an expectorant is needed, the required amount of ammonium chlorid, given in syrup of citric acid and water, which may be administered in a little lemonade or orangeade, will do the work, will not disturb the stomach, and will be perfectly palatable.

The following has been recommended and printed for bronchial pneumonia in which there is respiratory failure:

℞ Quin. sulph. ..... gr. xxiv
Strych. sulph. ..... gr. ¼
Acidi hydrochlor. dil. ..... ♏ xv
Glycerini ..... ʒ iii
Liq. pepsini .....q. s. ad ʒ iv
M. Sig.: One teaspoonful in water every three or four hours for a child 5 years of age.

In the first place, with a very sick child the cerebral irritation from quinin is not advisable, unless it is positively needed. This preparation will be so intensely bitter that a child 5 years old would reject it. Also, it cannot be too many times urged that quinin will inhibit the digestive properties of pepsin preparations, and there is no excuse for administering quinin and strychnin with glycerin, pepsin and dilute hydrochloric acid.

If the stimulation from strychnin is required, the rapidity with which it would be absorbed, in this mixture, is so uncertain that with "respiratory failure" its value would be doubtful. If strychnin is required for a young child (and the necessity for its administration does not often occur) it would be better to administer it hypodermically, if positively needed. If given by the mouth, a teaspoonful of a solution of strychnin sulphate in water, in the required dose, might be given in orangeade or better, in a small cup of chocolate. As just stated, the nervous stimulating effect of strychnin and quinin are rarely desired in a seriously sick child, but if the indication for strychnin is positively present, it should be given in a way that the child will surely get it, and get it in a short time.

The following prescription has been recommended and printed for the same condition as the above, namely, respiratory failure in a child who has bronchial pneumonia:

℞ Strych. sulph. ..... gr. ¼
Acidi hydrochlor. dil. ..... ʒ i
Spts. chloroformi ..... ʒ iv
Ext. cinchonae liq. ..... ʒ iii
Aquae .....q. s. ad ʒ iv
M. Ft. mistura.
Sig.: One teaspoonful for a child 5 years of age, every three or four hours.

The preceding discussion in relation to the administration of strychnin holds true with this prescription. The object of the dilute hydrochloric acid in it is difficult to discover.

The fluidextract of cinchona is an absurd ingredient, intensely disagreeable to take, and is a more unnecessary ingredient than the quinin in the above prescription, as the quinin was administered with a definite object, although we cannot approve of that object in this case. The fluidextract of cinchona should probably never be ordered.

The spirits of chloroform is irritant, and would be very disagreeable for a child to take. As a matter of fact the prescription would be intensely disagreeable, if not nauseating. Its perpetration is inexcusable, and a child would doubtless vomit it.

The following prescription, written by a physician and sent to a drug-store, is a good example of inexcusable prescription absurdity:

℞ Bism. subnit. ..... ʒ iii
Calomel ..... gr. xii
Ex. belladonnae ..... gr. ii
Codeia ..... gr. v
Ex. hyoscyami ..... gr. v
Pulv. arom. ..... ʒ ss
Pul. fennel ..... ℈ ii
Sodii bicarb. ..... ℈ ii
Pepsin ..... ʒ ss
M. et ft. chart. No. x.
Sig.: One q. 3 h.

In the first place, a cathartic (calomel) is entirely out of place in a stomach sedative mixture containing bismuth, codein, belladonna and hyoscyamus. There is no real excuse for combining belladonna and hyoscyamus The action of both is practically that of atropin.

The combination of bicarbonate of soda with pepsin is of course a chemical mistake, as the alkali would inhibit the activity of the pepsin.

Why the powdered fennel is added to the aromatic powder it is difficult to understand.

The pharmacologic, chemical and pharmacal mistakes in the above prescription are absolutely inexcusable.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, JUNE 7, 1913

## THE SMALLEST LUNG CAPACITY COMPATIBLE WITH LIFE

It is beginning to be appreciated that many of the organs of the body which are indispensable for life have a functional capacity far greater than that which they are called on to exhibit under the ordinary conditions of existence. This excess of available physiologic power above what is commonly called into play has happily been termed by a well-known American physiologist the "factor of safety." Two kidneys, for example, are available to perform the task which one can ordinarily execute satisfactorily; other glands are similarly duplicated in excess of what is necessary to accomplish the purposes for which they were intended.

In the case of the lungs this surfeit of tissue is perhaps less obvious on first consideration, because we are accustomed to rate the pulmonary needs of the body at a high figure. Nevertheless, it is well known that life may still continue, even though no inconsiderable part of the lungs be destroyed. In pneumonia, for example, sufficient pulmonary ventilation can proceed without ultimate detriment for some time, even when one lung has become entirely consolidated. Comparable conditions are occasionally brought about by purely mechanical interference with pulmonary ventilation. Physiologic literature records numerous experiments in which the lung capacity has been reduced at least one half, and Courmont has recorded the possibility of continuing respiration after destruction of three quarters of the lungs.[1] Now we are informed through the investigations at the Laennec Hospital[2] in Paris, that the reduction of the lungs to even one sixth of their ordinary capacity is not incompatible with the continuation of life. The method adopted by these French investigators to accomplish the reduction of the lung capacity is of interest, inasmuch as it was suggested by a procedure which has had some application in human therapy. They produced an artificial pneumothorax, such as has been made in human patients, by the introduction of inert nitrogen gas into the chest. The surprising result recorded encourages the belief that a total collapse of one lung may be produced without permanent detriment, even if the other lung be partly affected by previous disease.

The comparative innocuousness of a unilateral pneumothorax has been appreciated for some time. These experiments not only serve to explain certain cases of striking survival after pathologic interference with respiration, but also render less ominous the much-discussed procedures for rendering immobile considerable portions of the lungs in man. The margin of safety, long appreciated as the result of clinical experiments to be considerable, has thus been extended beyond the most generous allowances heretofore assumed possible.

1. Courmont, J.: Sur la pneumectomie expérimentale avec survie prolongée, Compt. rend. Soc. de biol., 1912, Nov. 23.

2. Bernard L.; LePlay, A., and Mantoux, C.: Capacité pulmonaire minima compatible avec la vie, Jour. de physiol. expér., 1913, xv, 16.

## REGULATION OF THE HEAT OF THE BODY IN HOT CLIMATES

In all temperate climates and, if certain exceptional cases are noted, in almost all climates in which mankind is engaged in the usual activities of life, the temperature of the human body is higher than that of the environment, so that there is a tendency toward continuous loss of heat from the surface of the body. Except in so far as it is prevented by the insulating devices of clothing, this loss takes place in part by convection, that is, by warming the layers of air in contact with the body, as well as by radiation whereby there is an exchange of heat between the surface of the body and that of surrounding cooler objects. When there is occasion for the removal of a larger amount of heat, this is accomplished through the function of perspiration. In the evaporation of sweat a large amount of heat becomes latent and is removed from the body. The chief factor which may interfere with this procedure is the impeding of the evaporation by the presence of an atmosphere already saturated with water vapor so that the sweat can no longer be converted into the gaseous phase.

Few persons realize that there are, nevertheless, inhabited regions in which the temperature of the surrounding air is not lower than that of the body. In parts of India, for example, during the hot weather in March, April and May, the maximum temperature is daily seldom under 38 C. (100.4 F.), and in some places it rises to over 43 C. (109.4 F.) for long periods. Usually such habitable areas experience a very low percentage of moisture in the air. Wet heat is not usual, since with the rains the weather becomes cool.

It is well known that the body temperature can be maintained at its normal height in an atmosphere much higher than 37 C. (98.6 F.), in spite of the fact that the production of heat is still going on in the organism. It is said that a man can stand exposure to a temperature of 90 C. (194 F.) or even 120 C. (248 F.) for a considerable time provided that the air is dry. If the outside temperature be above that of the body, heat is actually added instead of lost; and this additional heat is greatly increased by exposure to a very hot sun or wind. Inasmuch as radiation and conduction are avail-

able as cooling agencies only when the outside temperature is below that of the body, it is a matter of no little moment to understand what the organism is called on to do in order to prevent any marked rise of internal temperature. That an adjustment does take place is assured from the fact that during extremes of dry heat no great discomfort is felt by healthy persons; and it is stated on good authority that fairly hard physical work is possible in the sun, even with a "shade" temperature of 43 C. (110 F.) or more. Here the organism must depend solely on evaporation as a cooling agent; and this function must be sufficient to remove all the heat added from external sources as well as the heat due to internal metabolism. In a Turkish bath the loss of weight, represented almost entirely by water, may be at the rate of two pounds per hour.

Dr. E. H. Hunt, medical officer to the N. G. S. Railway, who resides in Deccan, India, where extremes of heat like those mentioned prevail, has furnished interesting data as to how one becomes adjusted to the physiologic and hygienic conditions thus created.[1] The heat contributed by the combustion of the ordinary food-supply sufficient to maintain nutritive equilibrium may be judged from its fuel value. If this is put at 3,500 calories for an active working man, a calculation shows that the amount of water the evaporation of which will absorb this heat at body temperature is 6 liters (about 6 quarts). Water must therefore be taken into the body in food and drink to supply this requirement in addition to what is lost by the urine and feces, is wasted by inefficient perspiration, or is needed to remove the heat actually added to the body from without, in the hot climates referred to.

Such hypothetical estimates have been compared by Dr. Hunt in India with actual observations made during an exceedingly hot and very dry period when, for some hours at midday, the lowest temperature which could be secured in tents under trees was 42.8 C. (109 F.). All dry objects were as hot as this or hotter, and were uncomfortable to handle. The mercury in the thermometer fell at once when a hand was placed near it, or if it were breathed on. Until about midday the party of investigated healthy Europeans remained in the sun with no shade whatever, a considerable amount of physical exercise being taken. Such a life, we are told, is led by hundreds of Europeans in India, customarily with a gain rather than a loss of health. When health suffers it is usually through the incidence of infectious disease. None of the party, using strict moderation, consumed less than three gallons of liquid per day. Even with this the flow of urine was by no means free. When the activity and considerable exposure to the extremes of heat are taken into account in this experience, which probably represents an approach to the limit of comfort, the fluid intake is not far removed from the hypothetical estimate.

1. Hunt, E. H.: The Regulation of Body Temperature in Extremes of Dry Heat, Jour. Hyg., 1912, xii, 479.

It is obvious that in such extremes of dry heat any failure of perspiration must lead to instant and grave risk. This failure may result from an insufficiency of drinking-water. It may equally result, as Dr. Hunt maintains, from pathologic processes incident to slight malaria, early typhoid, or any other process by which heat regulation is upset. He adds that he has not come across any case of pure "heat-stroke" or sunstroke in a proved healthy person. A man might suffer from but slight fever while indoors and might be unaware that he was ill; yet his whole regulation might completely fail if he were at work in the sun under conditions which involve an extreme effort even for the healthiest.

The main regulation of heat loss takes place by the control of the nervous system over the cutaneous circulation and the sweat-glands. When this fails, the temperature must speedily rise above the normal in these hot climates. General excitability is evinced and metabolism is stimulated so that a "vicious circle" is established. There is not even any compensation by lessened heat production. In "wet heat" the limit of safety is speedily reached. When the air is already more or less saturated with moisture, as indicated by high wet-bulb thermometer readings, evaporation is slow and inefficient, and danger ensues even during rest. The excess of sweat secreted and any increase in the amount of water consumed under such conditions merely increase discomfort rather than facilitate heat regulation.

The large amount of water absolutely required and actually consumed by men in these hot climates has not been appreciated adequately in any quantitative sense. Experiments by Hunt have demonstrated that a healthy man carries in his body a large reserve of water mainly stored in muscle and so readily available that the percentage of water in the blood is not appreciably diminished even when several liters of water have been lost by sweating. If, however, it is extensively drawn on, replacement seems to occupy many hours, and this delay is an important factor, forming a strong argument against any restriction of drinking which would cause undue or needless use of the stored water of the body.

## "BOB VEAL"

It is well known that the sale of the flesh of very young calves is prohibited by law. Up to 1906 the federal government fixed the age limit at four weeks; in that year it was reduced to three weeks, at which point it still remains. There is an unfortunate lack of uniformity in the laws of different states. New Jersey and Pennsylvania have adopted the three weeks' age minimum, but the majority of states and cities maintain a limit higher than that placed by the federal government, and Arkansas and Missouri prescribe an age limit of six weeks.

The most accurate method of determining the age of a calf seems to be by the appearance of the umbilical cord. In healthy calves the cord disappears within two

weeks. Guesses as to the age of a carcass based on the appearance and condition of the fat, on the appearance and eruption of the teeth, on the ossification of the bones, on the condition of the arched pad on the hoof and similar characters may be wide of the mark. Even careful histologic examination of the tissues by Moore and Gage has shown no difference that can be relied on to separate animals one week old from those that are six weeks old.

The sale of "bob veal" is forbidden presumably either on the ground of its unwholesomeness or for esthetic reasons, or both. It is a curious fact, as we have already pointed out,[1] that the evidence for the harmfulness of bob veal is of the slightest. Some at least of the cases of illness—not very numerous—attributed to the use of bob veal have been due to specific infection or to contamination after sale and not to the immaturity of the veal in itself. In the experiment recently conducted by Fish[2] bob veal was eaten by twenty persons of various ages, and no injurious effect was observed, not even the "laxative effect" ascribed to bob veal by some writers. The question whether or not immature calves are more likely to be specifically diseased than calves over three weeks old is one on which there seems to be some difference of opinion,[3] but it would seem to be capable of ready solution if a sufficient number of well-controlled observations could be assembled. As the case stands, veal from animals two or three weeks old appears to be no more unwholesome than that from calves over three weeks. Further experiments and observations, however, seem desirable.

On the esthetic side legislation is plainly beset with difficulties. Repugnance to the meat of very young animals may or may not be justified. To some people the sight of raw oysters is unpleasant and the swallowing of raw oysters an impossible feat. Fastidiousness with regard to certain articles of diet is not universal. In some parts of Germany the sale of calves' flesh is permitted from eight to ten days after the birth of the animal, and such meat, which would be condemned throughout the United States, finds ready purchasers.

On the economic side it has been urged by Fish and others that a lower limit should be placed as the permissible age for the sale of veal. "The honest farmer who carries on intensive dairying and does not find it profitable to raise all of his calves to maturity must suffer considerable loss. The skin of the calf may perhaps be sold for a dollar or less, but the law prohibits the sale of the carcass for food purposes. Naturally, the farmer infers that the flesh is unwholesome. If the butcher may not be allowed to sell it to the public to eat, the farmer and his family are not likely to consider it a proper food for themselves. The result is that the carcass possessing a certain nutritive value, as far as proteins are concerned, is thrown away or cooked up and served to the swine or poultry for food."

While public health interests must be held paramount to all other considerations, it must be admitted that the unwholesomeness of much of what is now condemned as bob veal needs confirmation. Whatever our prejudices, whatever the traditions of our country or race, we must keep our minds open to new evidence. If through ignorance we have been destroying good and wholesome food, let us recognize the fact and mend our ways. At all events, the matter is sufficiently important from several points of view to require immediate, although thorough and careful, investigation.

1. Is "Bob Veal" Toxic? editorial. The Journal A. M. A., March 15, 1913, p. 834.
2. Fish: Am. Vet. Rev., 1912, xli, 178.
3. Proc. Am. Vet. Med. Assn., 1912.

---

## VACCINATION FOR AUTUMNAL HAY-FEVER

Dunbar, who was the first to demonstrate that the European or spring variety of hay-fever is caused by the pollen of timothy and other members of the grass family, found that an aqueous extract of the pollen produced congestion and intense irritation when introduced into the eye of a susceptible person. Normal persons are entirely unaffected by such a procedure. Clowes,[1] of the State Institute for the Study of Malignant Disease, at Buffalo, has now observed that sufferers from the American or autumnal form of hay-fever (caused by the pollen of ragweed, goldenrod and other members of the family of the *Compositae*) exhibit a similar sensitiveness when tested with aqueous extracts of ragweed pollen. This reaction is also strictly specific, and only those who suffer from both spring and autumnal hay-fever react to the extracts obtained from both varieties of pollen. The amount of pollen extract required to produce congestion in the eyes of sensitive individuals varies from 0.05 c.c. of a solution of 1 : 500,000 to 0.05 c.c. of a solution of 1 : 500. This test can be utilized quantitatively, and affords a fair index of the measure of immunity or resistance possessed by sensitized persons. Clowes states that a specific cutaneous reaction capable of quantitative application may be obtained by making a slight abrasion of the skin and applying a drop of pollen extract of suitable concentration. A large white welt similar to that resulting from a mosquito-bite or bee-sting accompanied by a distinct itching sensation develops on susceptible persons within fifteen minutes, while normal controls are unaffected. A small dose of pollen extract (1 c.c. of a 1:1,000,000 solution for example), injected subcutaneously, produces in highly sensitized persons an itching or prickly sensation followed immediately by considerable swelling at the point of injection and redness extending sometimes over an area of several inches. The injection of a somewhat larger dose (1 c.c. of a 1 : 50,000 solution) caused a considerable swelling and pain, and small blisters resembling hives developed at

1. Clowes, G. H. A.: A Preliminary Communication on Certain Specific Reactions Exhibited by Hay-Fever Cases, Proc. Soc. Exper. Biol. and Med., 1913, x, 69.

the point of injection. This was followed by dizziness and a sense of general discomfort, and a slight attack of hay-fever was precipitated.

An attempt has been made in the Buffalo laboratory[2] to produce immunity against American autumnal hay-fever by vaccination. The extracts employed by Clowes were prepared from the pollen of ragweed by one of the following two procedures: (1) that previously employed by Dunbar, consisting of repeated freezing and thawing in a 5 per cent. aqueous suspension, and (2) an original method, which consists of precipitating the pollen with acetone and extracting with water.

After Dunbar's first attempts to produce active immunization against hay-fever by vaccination with aqueous pollen extract, he abandoned this direct process because of the anaphylactic symptoms obtained, and subsequently resorted to passive procedures. The number of observations by Clowes is still rather too small to permit of broad generalization or final pronouncements. As an index of promise we may quote his statement that all the eight patients treated experienced marked alleviation of general symptoms corresponding very closely with the physical tests.

Specific precipitin and complement-deviation reactions with pollen extracts as antigens were exhibited by certain patients before the commencement of the hay-fever season. These reactions disappeared under treatment, reappearing a few weeks later. There is enough of an encouraging outlook to warrant further investigation. The dosage of the extracts must be regulated with great care, since they are not entirely devoid of dangerous possibilities. The uninitiated need to be warned against any overhasty procedure where so much uncertainty remains.

## SOLVING THE MYSTERIES OF TROPICAL DISEASES

Gangosa is a mysterious[3] disease of Guam, which produces serious disfigurement of the nose and adjoining regions of the face. It has sometimes been called rhinopharyngitis mutilans, since the mutilating lesions seemed in most cases to start at the back of the nose or in the soft palate. Mink and McLean[4] described and illustrated this disease in THE JOURNAL in 1906. In a recent number of the *United States Naval Medical Bulletin* — a periodical published for the information of the medical department of the Navy—Kerr[5] discusses the subject further. When an American naval vessel touched at the island about forty years ago, the naval surgeon who saw a number of cases of the disease thought it probably of syphilitic character; but the therapeutic test apparently did not confirm this and the diagnosis was abandoned.

The disease, which was apparently contagious, was common and increasing; the segregation of affected patients therefore seemed wise. A location next to the leper colony was picked out and all the patients, of whom there were several hundred, sent there. After careful and persistent observation and treatment the problem of the character of the disease has been solved. The lesions yield slowly but surely to antisyphilitic treatment when it is given freely and kept up for a long time. The experience should prove of value in the treatment of other refractory syphilids. Ignorant patients cannot be trusted to administer the treatment themselves because they are apt to stop taking it on account of its unpleasantness when they do not see prompt signs of improvement.

Each inmate of the gangosa colony at Ypao was given a mixture containing 15 grains of potassium iodid and 1/15 grain of mercuric chlorid three times a day. This dose was soon increased to two or three times the original amounts according to the age and strength of the patient. After a few months all began to improve. At the end of eight months all active manifestations had subsided. There were some relapses, but these occurred only in patients who neglected to take their medicine regularly; after the imposition of a fine of 25 cents for each dose missed, all recovered promptly once more.

In the meantime in many cases the Wassermann test was found positive and the histories became clearer. Some of the patients were found to have suffered from frambesia in earlier life. This is another of these Pacific Island diseases that has been identified with syphilis and in which a positive Wassermann is found. The results reported by Reed[6] leave no doubt on this subject. The use of salvarsan was found to hasten the cures materially, though the continuance of the mixed treatment and especially of the mercury has been deemed necessary to provide against relapses.

Many of the supposedly tropical diseases, affections thought to be due to the hot, moist climates in which these people live, are turning out to be not mysterious results of climatic conditions, but the consequences of much more concrete and preventable agencies. Syphilis and the animal parasites, the mosquito, the tsetse fly, the filaria and the hookworm account for most of them; thus the problem of prophylaxis becomes much simpler.

It is announced through the United States Public Health Service[7] that there is a gradual reduction of the number of lepers in Hawaii so that the total number of cases is now much below what it was a few years ago. The care given lepers in the leper colony is so satisfactory that a patient pronounced cured and authorized to leave the settlement sometimes asks to be allowed to

2. Clowes, G. H. A.: A Preliminary Communication on the Treatment of Autumnal Hay-Fever by Vaccination with an Aqueous Extract of the Pollen of Ragweed, Proc. Soc. Exper. Biol. and Med., 1913, x, 70.

3. Gangosa is probably the "unknown disease" described by Senn, Nicholas: Travel Notes from South America, THE JOURNAL A. M. A., Jan. 11, 1908, p. 116, cited in the editorial Gangosa, THE JOURNAL A. M. A., Feb. 8, 1908, p. 455.

4. Mink, O. J., and McLean, N. T.: Gangosa, THE JOURNAL A. M. A., Oct. 13, 1906, p. 1166.

5. Kerr, W. M.: Gangosa, U. S. Naval Med. Bull., April, 1913, p. 183.

6. Reed, E. U.: Treatment of Frambesia with Salvarsan, U. S. Naval Med. Bull., April, 1913, p. 188.

7. McCoy, George W.: Care of Lepers in Hawaii, Pub. Health Rep., April 18, 1913, p. 726.

remain. These instances from Guam and Hawaii show what our government is accomplishing for the dependent peoples. In many ways, but particularly in all that concerns the health of the natives, the assumption of authority over them by the United States has been a great blessing. It has saved much in suffering and disease, and there is no doubt that the prospect for the future is even brighter; for it is above all in prophylaxis, now so well understood, that modern sanitary science can accomplish its greatest results.

---

## EXPERIMENTAL EOSINOPHILIA

An increase in the number of eosinophilic leukocytes in the circulating blood occurs in certain diseases, notably those associated with intestinal parasites, and in parasitic diseases of the skin, bronchial asthma, myeloid leukemia and some postfebrile conditions. The cause for this increase and the function of the eosinophil cells are little understood, and the views advanced to account for them have been largely without experimental basis. Recently the production of eosinophilia in animals has brought out some interesting observations. The occurrence of eosinophilia has been noted following the introduction of a foreign protein into a previously sensitized animal. Ahl and Schittenhelm,[1] in experiments in which guinea-pigs were injected with a series of protein substances, found that the resulting reaction was associated with varying degrees of eosinophilia. For example, animals sensitized to albumin, fibrin and globin, when reinjected respectively with these, showed some eosinophilia. Nucleoprotein, histon and caviar peptone gave high eosinophilia, while other protein end-products, as nucleic acid and protamin, gave almost no increase in eosinophils. These investigators conclude that there is a marked difference in the ability of different protein products to produce eosinophilia, and suggest that this property belongs only to a class of substances with a certain distinctive chemical structure, and that anaphylaxis is not due to a certain, definite, single poison, but to a group of chemically related substances.

Goldschmidt observed that laboratory workers, in dissecting the intestinal parasite *Ascaris*, frequently have attacks of conjunctivitis, coryza, sneezing, cough and asthmatic seizures, and that these attacks increase in severity on repeated contact with the material. These manifestations are accompanied by eosinophilia, and naturally would be explained as anaphylactic phenomena. Opie found that in guinea-pigs eosinophilia follows infection with *Trichinella spiralis*, being marked in cases of mild or medium nature, while in severe and fatal cases the increase is slight, and may be entirely absent. These observations suggest the possibility that the function of the eosinophils is protective and that they are associated with resistance to specific toxins. The fact that eosinophils are often localized in the neighborhood of the foreign protein lends color to this view.

Herrick[2] gives the result of a series of experiments in which he sensitized guinea-pigs with an extract of the bodies of roundworms *(Ascaris lumbricoides)*. When the injections were made at short intervals, as on consecutive or alternate days, no eosinophilia or other special manifestations resulted; but when the injections were made at intervals of from five to twenty-five days there was marked eosinophilia. In no instance did eosinophilia result from a single injection, and in some instances death from acute shock followed the subsequent injections. He found that when the extract was rendered protein-free by precipitation and filtration, no eosinophilia resulted from the introduction of it into previously sensitized guinea-pigs. From these observations he concludes that the substance producing the eosinophilia is a protein, and that experimental eosinophilia is closely connected with anaphylaxis and indicates previous sensitization.

In view of these experiments the occurrence of eosinophilia in bronchial asthma lends additional support to the view now growing in favor, that asthma is an anaphylactic manifestation. There is a tendency to regard other diseases accompanied by eosinophilia in the same light. Evidently this field of investigation is only barely opened, and much remains to be done before the exact relations of eosinophilia and other symptoms of intoxication with protein-split products can be determined.

---

## ENDEMIC GOITER AND RADIO-ACTIVITY

In a recent Bavarian report on the endemic distribution of goiter[3] the conclusion was reached that geologic formation is not the determining or primary factor. The belief was further ventured that the etiologic agent is to be sought in water, which may, of course, be indirectly modified by rock and soil condition. It is said that no less than fifty causes for the occurrence of endemic goiter have been proposed in the literature of medicine. One by one they have been subjected to critical examination and rejected as inadequate or retained for further evidence. Accordingly, from time to time we have referred to the topic,[4] which unquestionably deserves the serious consideration of scientific investigators.

Among the more recent suggestions, radium and radio-active waters aroused consideration as possible etiologic factors in the genesis of goiter several years

1. Ahl and Schittenhelm: Ztschr. f. ges exper. Med., 1913, i, 111

2. Herrick, W. W.: Experimental Eosinophilia with an Extract of an Animal Parasite, Arch. Int. Med., February, 1913, p. 165.

3. Schittenhelm, A., and Weichardt, W.: Der endemische Kropf mit besonderer Berücksichtigung des Vorkommens im Königreich Bayern. J. Springer, Berlin, 1912. See Endemic Goiter, editorial, The Journal A. M. A., March 8, 1913, p. 751.

4. McCarrison's Researches on Goiter, editorial, The Journal A. M. A., Aug. 10, 1912, p. 449; Endemic Goiter, editorial, ibid., March 8, 1913, p. 751.

ago. Répin[3] demonstrated that a number of well-known goiter-producing waters of Savoy exhibit radio-activity. There is much in his report that contradicts the direct causal relation between the disease and the radium emanation. Nevertheless the novelty of the subject and the presumable physiologic potency of radio-active substances have kept attention centered more or less on the possibility involved, though it can scarcely be regarded as one of the more widely debated theories of the causation of goiter.

Meanwhile data regarding the distribution of radio-active minerals throughout the world are increasing rapidly. Dr. Hesse of the royal Saxon army has collected the facts and attempted to correlate them with the known incidence of goiter.[4] Inquiry has elicited the fact that goiter is not observed in undue frequency among the chemists who are accustomed to work with the radium minerals and are exposed to atmospheres doubtless charged with quantities of emanation exceeding the therapeutic dosage thousands of times. Attendants and patients at the establishments for radium therapy, such as exist at St. Joachimsthal, do not develop goiter. On the contrary, disappearance of thyroid enlargement has even been reported. Miners particularly exposed to air laden with emanation show no excessive incidence of goiter. To all these suggestive facts may be added the failure of a parallelism between morbidity from goiter and radio-activity of the local water-supplies to manifest itself. This is brought out in an investigation of more than sixty localities by Hesse. There are goiter regions in which no radio-active waters occur. Whatever the relation of water and air may be to goiter, the causal factor must be sought in something other than their radio-active properties. If the etiology of the disease is not elucidated by this statement, at any rate radium is relieved of another of the numerous responsibilities which have so precipitately been thrown on this unique element.

3. Répin: Nouvelles recherches sur la radioactivité des sources goîtrigènes, Compt. rend. Acad. d. sc., Aug. 17, 1908; Distribution géographique du goître en Algérie, Bull. Soc. de path. exot., Paris, May 8, 1912; Les eaux goîtrigènes, Rev. d'hyg. et de police sanitaire, 1911, xxxiii, Nos. 4-5; Goître expérimental, Compt. rend. Acad. d. sc., July 29, 1911.

4. Hesse, E.: Die Beziehungen zwischen Kropfendemie und Radioaktivität, Deutsch. Arch. f. klin. Med., 1913, xc, 338.

## Current Comment

### HUMAN INDIFFERENCE AND INDUSTRIAL HYGIENE

In a protest against what he terms sensational statements that have lately appeared in the press concerning the poisonous effects of certain trades on workmen, a well-known writer on the chemistry of paints, Mr. Maximilian Toch,[1] refers to a feature which might appropriately be emphasized in relation to most of the larger industries dependent on dangerous processes. This factor is the element of indifference and carelessness on the part of the workmen themselves. The necessity of manufacturing and transporting hazardous materials is an inevitable accompaniment of modern progress. Unquestionably every safeguard should be taken to avoid the possibility of disaster, every precaution applied to prevent the subtle encroaches of unappreciated danger. But when all of this has been done there remains the irresponsive and irresponsible human individual to contend with. The possibility of hedging him in has its limit. There are occupations and activities which can scarcely be rendered absolutely "fool-proof." The limitations of industrial hygiene are thus frequently found in the man himself rather than his industrial environment. Without denying in the least that lead injected or absorbed into the system in any way is exceedingly harmful, Mr. Toch contends that the precautions taken in the white-lead factories of the United States are so great that the plumbism which does result is to a large extent due to the carelessness of the workers themselves. As an illustration of this contention he asserts that it is an almost impossible task to educate illiterate workmen to understand that they must wash their hands before they eat. It is generally agreed by hygienists that in the lead-working industries bathing facilities and wash-rooms should be at the disposal of the workmen and that they should be forbidden to eat, drink or smoke in the workrooms. Toch states that the government is now distributing circulars printed in various languages notifying workmen that it is illegal for an employer or an employee to permit food to be consumed where white-lead materials are manufactured. The ignorance and indifference of man himself still remain as two of the most formidable barriers to the ideal success of modern preventive medicine and hygienic endeavors.

1. Toch, Maximilian: Lead-Poisoning, Jour. Ind. and Eng. Chem., 1913, v, 434.

### FUNCTIONAL HEART-BLOCK

The faulty correlation of the beat of the auricle and ventricle, spoken of as heart-block, is commonly assumed to be due to an organic defect or injury in some portion of the cardiac tissue in which the beat is initiated and the impulse conducted from part to part. Lately instances of possible functional heart-block, that is, the phenomena of the Stokes-Adams syndrome without actual anatomic defects in the auriculoventricular system to account for the complete dissociation between the parts of the heart, have been reported. In one observed case,[1] for example, the patient recovered and the relations between auricles and ventricles became normal so that the proof of the real difficulty could not be ascertained. Oppenheimer and Williams[2] have now described a somewhat similar case in which the heart-block symptoms were followed and electrocardiograms obtained at intervals until the death of the patient. During many months of the period of observation the patient had a pronounced Cheyne-Stokes respiration. The details of the ventricular beat as they exhibit themselves on the modern electrocardiographic records show frequent

1. Cohn, A. E.: Curves from a Case of Transient Complete Heart-Block, Showing Constantly Varying Ventricular Complexes, Proc. Soc. Exper. Biol. and Med., 1911, ix, 24.

2. Oppenheimer, B. S., and Williams, H. B.: Prolonged Complete Heart-Block, without Lesion of the Bundle of His and with Frequent Changes in the Atrioventricular Electrical Complexes, Proc. Soc. Exper. Biol. and Med., 1913, x, 86.

changes. The important finding, however, was the lack of apparent organic lesions when the heart was examined after death. Histologic examination failed to reveal any anatomic defect to account for the block in the auriculonodal junction, the node of Tawara, or the main stem and its branches. The nodal artery was sclerotic. It is unusual to miss structural defects when they are supposed to form the basis for abnormal physiologic behavior. Their absence justifies the inquiry as to whether or not one is dealing with purely functional disturbances in explanation of such unusual instances of complete heart-block.

## AN INDEX OF GENERAL NERVOUS CONDITIONS

For more than one reason a reliable index to the general nervous condition of an individual is a desideratum. If a dependable method of judging the state of the nervous system could be devised it would doubtless find a profitable application in the study of abnormal individuals and serve to elucidate neurologic and psychopathic conditions in man. Drs. Grabfield and Martin[1] of the Harvard Medical School have succeeded in measuring the irritability of normal individuals in terms of sensory thresholds for faradic stimulation. The scheme consists in determining the strength of the stimuli required to awaken sensation in the fingers of a hand immersed in a liquid electrode. The results obtained with adult males show a diurnal variation such that there is a period of high irritability between 10 and 11 in the morning, a steadily declining irritability to a minimum at about 4:30 in the afternoon, and a subsequent gain in irritability continuing till the end of the tests at 8:30 in the evening. These variations in irritability agree closely with published observations on the working capacity of muscles and in a general way with data on the varying reaction-time of man. The conclusion is drawn that the daily variation is a central rather than a peripheral phenomenon; probably, therefore, estimations of the sensory threshold by Martin's method will presently find an application in the domain of the pathology of the nervous system. Meanwhile the morning and early evening are marked as the periods of highest activity.

## NEW YORK'S ACTION ON THE FRIEDMANN INSTITUTE

An occurrence which, rightly considered, serves to add weight to the demand for governmental investigation of tuberculosis treatments, is the action of the New York City Board of Health in prohibiting treatments of the Friedmann class until they have been investigated. It will be recalled that the plan for exploiting the Friedmann treatment, when the U. S. Public Health Service refused to endorse it, contemplated the preparation of the cultures in each state. Thus, since the product was not to become an article of interstate commerce, the United States Public Health Service would not have jurisdiction over its sale. Its exploitation would be a matter exclusively for local control. The Board of Health of New York City has taken action to prevent administration of living bacterial organisms for the prevention of treatment of disease in the city, until full and complete data regarding preparation, dosage and methods of administration have been submitted to the board, and until the state board has granted permission for the use of such preparation. The first thought which comes to one's mind on reading of this action is the hope that other boards of health, city and state, especially the latter, may feel their responsibility as has the New York City Board of Health. The second thought is the reflection that where no power exists, no responsibility can lodge. Few, if any, boards of health in this country have power to deal with the situation so effectively as has the New York board. In one state the control of serums, vaccines, etc., may be the business of the state board of pharmacy; in another, that of the state department of agriculture; in another, that of the laboratory of the state university; while in still others, there is actually no body legally constituted to cope with the situation. The need for adequate legislation on the subject throughout the country is at once apparent, as is also the need for a central body to aid in correlating all the data and to furnish expert advice to the authorities on whom may fall the responsibility for action.

1. Grabfield, G. P., and Martin, E. G.: Variations in the Sensory Threshold for Faradic Stimulation in Normal Human Subjects, Am. Jour. Physiol., 1913, xxxi, 360.

## MEDICAL BOOKS FOR FLOOD SUFFERERS

The wide-spread damage caused by the floods this spring has included all ranks of people, and physicians did not escape. We print in the Correspondence Department of this issue an appeal for gifts of books to replace a practical working and reference library at Dayton, Ohio. At the time of the floods and tornado, the self-reliance and manly independence of physicians throughout Indiana and Ohio, not to mention tornado-swept Omaha, who had lost their homes, equipment and other property in the flood, prevented us from calling for financial aid on their behalf. This proposition to allow the medical men throughout the country to assist the Dayton profession to replace its reference library is a most worthy project. It would be best to make offers of books by letter first and to hold the books until the offer is accepted, so as to avoid duplication. If it were possible as the result of this appeal, approximately to replace this lost library, each book perhaps bearing on its fly-leaf an inscription of the giver, it would make a worthy memorial in Dayton—a testimony to the spirit of brotherly love that exists in our profession.

## ANOTHER DENOMINATIONAL ORGAN DROPS NOSTRUMS

Another of the old standbys of the nostrum-maker has thrown off the shackles and will attempt to achieve success without the money received from nostrum advertisers. The *Advance* of Chicago, the great Congregational weekly, has been released from its handicap of many years through changes in the control of the paper. It has passed to other hands and a new board of editors has been appointed. One of the first acts of the new administration has been to throw out nearly the whole line of "patent-medicine" advertisements — retaining only a few of what the publishers may perhaps call

simple home remedies. For a score of years many physicians and others have refused to subscribe to this paper, even though they were Congregationalists and would have otherwise desired to have it in their homes, but the nostrum advertisements debarred it. To offset the loss in revenue, the paper is making an appeal for an increased subscription list, and it deserves the hearty response which we are informed that it is receiving. The new editors are injecting new life and spirit into the pages so that honesty in advertising is not the only means of attracting new subscribers. We wish the *Advance* success.

---

### PRODUCTION OF TUBERCULOUS ANTIBODIES IN CATTLE

Rothe and Bierbaum[1] have published certain results in the immunization of cattle with tubercle bacilli which appear to be of considerable importance to the study of immunity in tuberculosis. They aimed to find a method whereby larger amounts of tuberculous antibodies could be produced. For this purpose they injected cattle intravenously with variously treated tubercle bacilli and products thereof, and it was found that injection of the whole bacilli killed either by prolonged desiccation or by treatment with alcohol gave by far the best results. A single intravenous injection of from 30 to 50 mg. of such bacilli, whether of the human or bovine type, gave a marked and prompt production of antibodies, which usually reached their height on the seventh day to persist into the second month, when a pronounced diminution or even total disappearance would take place. Certain tuberculin preparations had little or no antigenic powers. The antibodies tested were the complement-fixing amboceptor and the precipitin. In their course these two substances appeared to run fairly parallel although not absolutely so. Quite similar results were obtained in the case of horses also. Having established conclusively that antituberculous substances can be produced under these circumstances, the effect of repeated intravenous injections of dead bacilli was tested and the results indicate that a considerable protection against virulent bacilli can be created by this wholly harmless method. Whether or not the serum of animals so treated possesses any real curative powers does not appear to have been determined. Perhaps the most important result of this work so far as immediate availability for practical use is concerned is that by means of this serum, which is rich in tuberculous antisubstances, it may become feasible to test the various tuberculins, of which such a large number are offered for sale, for their actual content in specific derivatives of tubercle bacilli, by means of test-tube methods. For this purpose the specific precipitin test would be especially serviceable. We long have needed some easily applied test of this kind in order to exercise some control of commercial tuberculins, and it now seems that this can be done. The work by Rothe and Bierbaum also has a bearing on the problem of protective inoculation of human beings against tuberculosis in so far as they show that there are methods of killing tubercle bacilli with retention seemingly in large measure of their antigenic power.

1. Rothe and Bierbaum: Ueber die experimentelle Erzeugung von Tuberkulose-Antikörpern beim Rind; zugleich ein Beitrag zur Tuberkulose-Immunisierung, Deutsch. med. Wchnschr., 1913, xxxix, 645.

### A MILLION DOLLARS FOR MEDICAL EDUCATION

Another large gift to medical education comes in the offer of a million dollars from Mr. Andrew Carnegie for the medical department of Vanderbilt University, Nashville, Tenn.[1] A condition of the donation provides that the direction of the educational and scientific work of the department shall be committed by the board of trustees to a small board of seven members, three of whom are to be eminent in medical and scientific work. It is said that the offer has already been accepted by the executive committee of the board of trustees and that this action comes before the whole board for ratification June 16. No medical school in this country is more deserving of good fortune than is the medical department of Vanderbilt University, since the school, in spite of having to contend against obstacles probably greater than those which have confronted any other school, has always been an ardent champion of reasonably high standards of preliminary and medical education. Located as the university is in the state which at present has the weakest legal requirements regulating the practice of medicine, the gift, if accepted will have a beneficial effect on medical education not only in Tennessee but also in the entire South.

---

## *Medical News*

### ALABAMA

**New Officers.**—Annual meeting of the University of Alabama School of Medicine Alumni Association, held in Mobile, May 21: president, Dr. Angelo Festorazzi, Mobile; secretary-treasurer, Dr. P. J. Howard, Mobile.

**Personal.**—Dr. P. J. M. Acker, Mobile, has been appointed surgeon of the Mobile Light and Railroad Company, vice Dr. W. G. Ward, deceased.——Drs. J. T. Searcy, Tuscaloosa, and G. T. McWhorter, Riverton, were elected vice-presidents of the American Sociologic Congress at its meeting in Birmingham, April 24.

**Building for Professional Men in Birmingham.**—Plans have been completed for the proposed Hygeia building, a nine-story structure to be erected on Ninth Avenue, between Twentieth and Twenty-First Streets, Birmingham, for the use of physicians and dentists. The top floor is to be used for an auditorium, the use of which is to be given to the Jefferson County Medical Society free of expense.

### ARIZONA

**Personal.**—Dr. William A. Holt, Globe, who has been in serious condition in Mercy Hospital, Chicago, as the result of septicemia following an operation wound, is reported improving.——Dr. H. E. Crepin has been appointed health officer of Tucson.

**New Officers for State Association.**—At the annual meeting of the Arizona Medical Association held in Globe, May 19-21, Tucson was selected as the next meeting place and the following officers were elected: president, Dr. Ira E. Huffman, Tucson; vice-presidents, Drs. J. W. Flinn, Prescott, E. B. Ketcherside, Yuma, and R. Ferguson, Bisbee; secretary, Dr. C. E. Yount, Prescott; delegate to the American Medical Association, Dr. J. E. Bacon, Miami. The association voted to continue the publication of the *Arizona Medical Journal*. Drs. Charles T. Sturgeon and R. D. Kennedy, Globe, were indorsed as candidates for the vacancy on the State Board of Medical Examiners caused by the resignation of Dr. William A. Holt, Globe.

### ARKANSAS

**Women Physicians Organize.**—Women physicians of Arkansas met in Little Rock May 20, on the occasion of the State Medical Society meeting, and organized the Woman's Medical

1. See Medical News, Tennessee, this issue.

Club of Arkansas, electing Dr. Olive Wilson, Paragould, president; Drs. Elzora Butler Allen, Wye, and Irene Tatman, Eureka Springs, vice-presidents, and Dr. Ida J. Brooks, Little Rock, secretary-treasurer.

**State Board Appointments.**—The following have been appointed members of the State Medical Board of the Arkansas Medical Society: second district, Dr. T. J. Stout, Brinkley, vice Dr. F. T. Murphy, Brinkley; third district, Dr. E. F. Ellis, Fayetteville, vice Dr. F. B. Young, Springdale, recently elected president of the State Board of Health; sixth district, Dr. W. S. Stewart, Pine Bluff, to succeed himself, and seventh district, Dr. J. C. Wallis, Arkadelphia.

**Dr. Murphy Presented with Loving-Cup.**—At the recent meeting of the State Medical Board of the Arkansas Medical Society in Little Rock, May 23, Dr. F. T. Murphy, Brinkley, secretary of the board, was presented with a handsome silver loving-cup by his fellow members of the board as a token of regard and esteem. Dr. Murphy retired from the secretaryship under the rules governing the State Medical Society, which provide that no one person can fill an office for more than eight years.

**State Society Meeting.**—The annual meeting of the Arkansas Medical Society held in Little Rock, May 20-23, is said to have been the most successful in the history of the organization. Six additional counties were reported to have been organized during the year, and an increase of 15 per cent. in membership was announced. It was decided that non-graduates should be denied admission to county and state medical societies. The following officers were elected: president, Dr. F. B. Young, Springdale; vice-presidents, Drs. L. E. Moore, Searcy, S. L. Steer, Hot Springs, and F. G. Richardson, Heber Springs; secretary, Dr. C. P. Meriwether, Little Rock (reelected); treasurer and editor of the State Journal, Dr. W. R. Bathurst, Little Rock (reelected); councilors, Dr. M. C. Hughey, Rector, first district (reelected); Dr. T. B. Bradford, Cotton Plant, third district (reelected); Dr. J. S. Rinehart, Camden, fifth district and secretary; Dr. John F. Rowlan, Hot Springs, eighth district; Dr. W. A. Snodgrass, Little Rock, (holdover) chairman, and Dr. A. M. Hathcock, Harrison, ninth district; delegates to the American Medical Association, Drs. Morgan Smith, Little Rock, and W. V. Laws, Hot Springs; alternates, Drs. Carle E. Bentley, Little Rock, and A. U. Williams, Hot Springs; section officers—practice of medicine, Dr. C. J. March, Fordyce, chairman, Dr. S. J. McGraw, Eldorado, secretary; surgery, Dr. C. S. Holt, Fort Smith, chairman, and Dr. Earle H. Hunt, Clarksville, secretary; obstetries and gynecology, Dr. R. L. Saxon, Little Rock, chairman, and Dr. O. D. Ward, England, secretary; pathology, Dr. F. B. Kirby, Harrison, chairman, and Dr. L. O. Thompson, Little Rock, secretary; state medicine and public hygiene, Dr. J. L. Greene, Little Rock, chairman, and Dr. C. W. Garrison, Little Rock, secretary; dermatology and syphilology, Dr. J. L. Chesnutt, Hot Springs, chairman, and Dr. J. M. Proctor, Hot Springs, secretary; diseases of children, Dr. N. E. Murphy, Clarendon, chairman, and Dr. A. R. Hederick, Booneville, secretary. It was decided to hold the next annual meeting at Eldorado. The president, in his annual address, referred to the sacred mission of the physician, congratulated the profession on the recently enacted bill providing for a State Board of Health, and bespoke the hearty cooperation of every member of the society in the work of sanitation, prophylaxis and vital statistics that has been inaugurated.

## CALIFORNIA

**New Officers.**—Orange County Medical Association at Orange, May 13: president, Dr. H. A. Johnston, Anaheim; secretary, Dr. Welch, Santa Ana.

**Building for Physicians.**—A seven-story building is being constructed in San Diego for the especial use of physicians and dentists. The building is to be of reinforced concrete and fire-proof.

**Million for Research Bureau.**—Mrs. George William Hooper, San Francisco, is said to have transferred to the University of California, $1,000,000 for the establishment of an institute of medical researeh. The foundation is to be controlled by an advisory board of seven members, consisting of the president of the Carnegie Institute, the professor of pathology at Johns Hopkins University, the director of the Rockefeller Institute for Medical Research, the president and dean of the medical school of the University of California, a representative of the donor and a member to be chosen by the western members of the advisory board.

**Promotions and Appointments.**—The following promotions and new appointments have been made in the Stanford University Medieal Department: Dr. Thomas Addis has been promoted to assoeiate professor of medicine, Dr. E. C. Dickson and Dr. W. W. Boardman have been made assistant professors of medieine, Dr. Leo Eloesser and Dr. F. E. Blaisdell have been made assistant professors of surgery. Dr. R. G. Brodrick has been appointed assistant elinical professor of hygiene and publie health. Dr. W. F. Schaller has been made assistant clinical professor of medicine, assigned to neurology, and Dr. J. M. Wolfsohn clinical instructor in medicine assigned to neurology. Dr. A. A. O'Neill has been promoted to clinical instructor in medicine and Dr. G. A. Rothganger has been appointed clinical instructor in surgery.

## CONNECTICUT

**State Society Meeting.**—At the annual meeting of the Connecticut State Medical Society held in Hartford, May 21-22, the following officers were elected: president, Dr. D. Chester Brown, Danbury; vice-presidents, Drs. W. S. Hulbert, Winsted, and Kate C. H. Mead, Middletown; secretary, Dr. M. M. Scarbrough, New Haven, and treasurer, Dr. Joseph H. Townsend, New Haven.

**Personal.**—Dr. and Mrs. Morris Tuch, Hartford, have returned from abroad.——Drs. Robert S. Starr, James F. Rooney, D. J. Molumphy and D. W. Tracy have been reappointed medical inspectors of the health board of Hartford, and Dr. Arthur J. Wolff has been reappointed baeteriologist. ——Dr. Edward Carter Perkins, Hartford, sailed for China, recently. He has purchased a site in Giu Giang on which he is to build a men's hospital of which he will be superintendent and which will be operated under the Methodist Episcopal Mission Board.

## ILLINOIS

**Personal.**—Dr. R. S. Gazelle, formerly a practicing physician at Armington, has been appointed first lieutenant in the Medical Corps of the Egyptian Army and is stationed at Port Bruce, Sudan.——Dr. Elizabeth B. Ball, Quincy, secretary of the Adams County Medical Society, sailed for Europe, May 31. Dr. D. G. Stine, Quincy, will act as secretary during her absence.——Dr. E. L. Mitchell has been elected vice-president and Dr. Ralph Graham, secretary, of the Monmouth Hospital Association.——Dr. Samuel M. Green, Dixon, charged with being responsible for the death of a Milledgeville girl, has been acquitted.——Dr. B. H. King, health commissioner of Granite City, has resigned.——Dr. and Mrs. E. K. Lockwood, Virden, have returned from Europe.——The office and residence of Dr. John W. Botkin, Virden, was burned to the ground, May 12.——Dr. G. W. Fockler, Delavan, entertained a number of his brother practitioners at a dinner, May 11, in honor of his fiftieth birthday anniversary.

### Chicago

**Personal.**—Drs. Isaac A. Abt, Ernest Lackner and Julius H. Hess have been appointed attending medical staff of the Sarah Morris Hospital for Children, and Drs. Mark Jampolis, Albert H. Beifeld and Jesse R. Gerstley, associate medical staff.——Dr. John D. McGregor, city physician, was the guest of honor at a banquet March 22.

## KENTUCKY

**Hospital Sold.**—Drs. J. N. McCormack and Lillian H. South, Bowling Green, have sold St. Joseph's Hospital to Dr. T. O. Helm, Bowling Green.

**Tuberculosis Ward in State Reformatory.**—The Prison Commission has instructed the warden of the State Reformatory to have plans drawn for a tuberculosis ward to be erected in the prison yard.

**County Sanatorium.**—The Lexington Board of Health has indicated its willingness to cooperate with the Fayette County Medical Society and the Fayette Tuberculosis Association in the movement for the establishment of a tuberculosis sanatorium for Lexington and Fayette County.

**State Board and Tuberculosis.**—At a joint meeting of the State Board of Health and State Tuberculosis Commission held in Frankfort, May 7, a committee was appointed to outline and plan for a cooperative campaign against tuberculosis. The committee consists of Dr. J. N. McCormack, secretary of the State Board of Health, Dr. C. A. Fish, Frankfort, and Dr. C. Z. Aud, Cecilian, for the State Board, and Drs. U. V. Williams and H. S. Keller, Frankfort, Dr. R. T. Yoe, Louisville, and Dr. E. Morris, Sulphur, for the commission, which will meet in Louisville at the call of Dr. McCormack.

## MINNESOTA

**Resolutions Regarding Dr. Bjelland.**—At the last regular meeting of the Blue Earth County Medical Society, memorial resolutions regarding the late Dr. Adolph Odin Bjelland, Mankato, were read by Dr. Helen Hughes Hielscher and adopted by the society.

**Personal.**—Dr. Willard P. Greene, physician in charge of the White Earth Ageney, has been appointed epidemiologist of the State Board of Health.——Dr. I. J. Murphy has been reappointed assistant health commissioner and epidemiologist of the Department of Health of Duluth.

**Sanatorium Notes.**—There are now about one hundred patients at the State Sanatorium for Tuberculosis, Walker, and improvements are in progress which will cost about $200,000 and which will increase the capacity of the institution to 180.——The new tuberculosis sanatorium for St. Paul and Ramsey County will be constructed according to the original plans on the grounds of the City and County Hospital at a cost of $100,000, of which the state and county each pays one-half.

## NEW JERSEY

**Camden's Hospital Fund.**—Within two days of the close of the campaign to raise $100,000 for the West Jersey Homeopathic Hospital, $46,000 had been secured.

**Small-Pox in Stockton.**—The State Board of Health began, May 26, an investigation of an outbreak of small-pox in the borough of Stockton, Hunterdon County.

**Ice Cream Sellers Warned.**—May 26, Dr. B. H. Warren, chief food inspector of Atlantic City, filed notice with nine of the seventeen ice cream manufacturers giving them twenty-four hours to place their factories in sanitary condition. Licenses for the ensuing year were issued May 27.

**Hospital News.**—Bergen County is to have a tuberculosis hospital to cost about $175,000.——The Weeks Memorial Hospital at the New Jersey State Village for Epileptics, Skillman, was dedicated recently. The hospital is named in honor of the late Henry M. Weeks, Trenton, first superintendent of the village.——The city of Camden has been authorized to issue bonds amounting to $25,000 to raise funds for the furnishing of the new Camden Municipal Hospital.——In the campaign held in Orange, recently, to raise $150,000 or more for the Orange Memorial and New Jersey Orthopedic hospitals, the pledges during the twelve days of the campaign exceeded by $15,000 the amount it was desired to raise.——A tract of land 100 by 150 feet on Rutherford Avenue, Trenton, has been given to Mercer Hospital by W. S. Hancock, president of the board.

## NEW YORK

**Medical Club Organized.**—Physicians of Albany have organized the Harvey Medical Club and elected Dr. J. B. Congdon, president, and Dr. William F. Conway, secretary-treasurer.

**Personal.**—Dr. L. L. Wiles, Amsterdam, who has been ill with septicemia due to an operation wound, has recovered. ——Dr. John Gerrin, physician at the Auburn State Prison, has resigned.

**Research Laboratory at Otisville Sanatorium.**—At a meeting of the Board of Health held Jan. 31, 1913, a resolution was adopted requesting the consent of the Board of Estimate and Apportionment to the expenditure of a sum not exceeding $16,000 from funds at the disposal of the Board of Health from the sale of vaccine virus and surplus bacteriologic products, to enable the department to establish a branch of its present Research Laboratory on the grounds of the Municipal Sanatorium for Tuberculosis at Otisville, Orange County. The objects sought by such a laboratory are the routine examinations incident to caring for the 600 patients in the institution at Otisville; the pursuit of special research work, the pathologic and bacteriologic work in connection with the production of vaccine and antitoxin serums; the study of the diseases of animals in connection with and affecting these products, and investigations having in view the more economical production of the various bacteriologic products and their wider and more practical ultilization in the prevention and treatment of contagious diseases. At a meeting of the Board of Estimate and Apportionment on April 24, the Board of Health was empowered to expend $12,757 during the nine months beginning April 1.

### New York City

**Must Take Typhoid Vaccine.**—All nurses, members of the house staff, orderlies, laundresses and attendants in Mount Sinai Hospital will be immunized against typhoid by vaccine. For some time past immunization has been voluntary and few availed themselves of it.

**New Flower Hospital.**—The cornerstone of the new building for Flower Hospital was laid at the corner of Eastern Boulevard and Sixty-Sixth Street on May 28. On this occasion lantern slides of the new building as it will appear when completed were shown. It is announced that the hospital will continue its ambulance service, which is the largest of any private hospital in the city.

**Personal.**—Dr. and Mrs. L. E. La Fetra have sailed for Europe.——Dr. Ludwig Weiss has been appointed consulting dermatologist to St. Mark's Hospital.——Dr. Mary V. Glenton, formerly of New York City, a medical missionary in charge of the Elizabeth Bunn Memorial Hospital, Wu Chang, China, reached New York, May 19.——Dr. Oscar M. Schloss has succeeded Dr. Ira S. Wile as conference physician at the Riverside Kitchen of the New York Diet Kitchen Association.

## OHIO

**Personal.**—Dr. C. H. Humphreys, Dayton, was operated on in Leeds, England, recently for the removal of an infected gall-bladder.

### Cincinnati

**Personal.**—Dr. A. C. Baehmeyer, assistant superintendent of the Cincinnati Hospital, has resigned.

**Dr. Woolley Resigns.**—Dr. Paul G. Woolley, dean of the Medical Department of the University of Cincinnati, has resigned, but retains his professorship.

## PENNSYLVANIA

**Anti-Vaccination Bill Defeated.**—On May 28, the bill to amend the vaccination law so that vaccination should be required only in time of outbreaks of small-pox was defeated in the house.

**Small-Pox.**—Six cases of small-pox have been reported to the State Department of Health from Salisbury township, adjacent to Bethlehem, and two cases from Fountain Hill Borough, adjoining South Bethlehem. These communities are the homes of many of the employees of the Bethlehem Steel Works. All employees will be vaccinated. The county medical inspectors and the local health authorities in Bethlehem, South Bethlehem, Allentown and Fountain Hill are urging all persons not vaccinated within five years to be vaccinated.——A case of small-pox was discovered on the United States Battleship *Wisconsin*, at the Philadelphia Navy Yard, May 29. The vessel was placed under quarantine until the officers and members of the crew, 300 persons, were vaccinated.——Owing to the discovery of five small-pox cases in two houses on Darien Street near Columbia Avenue, Philadelphia, May 31, a wholesale quarantine of the district was established.

### Philadelphia

**Charter Granted Clinical Society.**—The Clinical Society of Philadelphia, which has been planning to establish a scientifically constructed and arranged building where lectures and demonstrations may be held, has been granted a charter. One was also issued to the American Society for Physicians' Study Travels.

**Mortality Records Low.**—Mortality records for the week ending May 31 show that Philadelphia is steadily maintaining the high standard attained last year of being one of the healthiest of the larger cities. The deaths for the week were 436, or a mortality rate of 13.89 per thousand of population as compared with 15.22 for the entire twelve months of 1912.

## SOUTH DAKOTA

**New State Society Officers.**—At the annual meeting of the South Dakota State Medical Association, held in Vermillion, May 27-29, the following officers were elected: president, Dr. Fred A. Spafford, Flandreau; vice-presidents, Drs. Fred Treon, Chamberlain, and J. B. Vaughn, Castlewood; secretary-treasurer, Dr. R. D. Alway, Aberdeen (reelected); counselors, Drs. H. T. Kenney, Pierre, and T. J. Billion, Sioux Falls.

## TENNESSEE

**Sanatorium Ready.**—The new Chattanooga Tuberculosis Sanatorium is practically ready for occupancy. It is located in Hill City and has been erected at a cost of about $75,000. It consists of a main administration building, two stories in height, and four cottages. The sanatorium will be under the direct charge of the Chattanooga Tuberculosis Society.——A new ward has been opened at the Nashville City Hospital especially fitted up for infants and children, with accommodation for eighteen patients.

**A Million for Vanderbilt.**—It has just been announced that Mr. Andrew Carnegie has offered to donate to Vanderbilt University one million dollars for the development of its medical department. Of this sum $200,000 is intended to be given at once for the erection and equipment of laboratories, while the remaining $800,000 will be given as an endowment, the income from which will be paid annually for the support of the medical department. This is the largest single gift ever given to the university.

**Tennessee Physicians Elect.**—Twenty-second annual meeting of the West Tennessee Medical and Surgical Association, held in Jackson, May 9: president, Dr. J. R. Carroll, Henderson; secretary-treasurer, Dr. I. A. McSwain, Paris. Union City was chosen as the meeting place for 1914.——Annual meeting of the Middle Tennessee Medical Association, held in Dickson, May 15: president, Dr. T. J. Coble, Shelbyville; secretary-treasurer, Dr. R. W. Billington, Nashville. Columbia was selected as the next place of meeting.

## TEXAS

**Personal.**—Dr. C. F. Hays, Fort Worth, has been appointed assistant city physician.——Dr. I. L. McGlasson, Waco, sailed from Galveston for Liverpool, May 7.

**Hospital for Babies.**—The outdoor hospital annex to the Physicians' and Surgeons' Hospital, San Antonio, opened May 6. The annex is in charge of Miss M. M. Taylor.

**Tuberculosis Camp Established.**—Harris County has established a tuberculosis camp on the County Poor Farm, south of Houston. The building is on the dormitory plan and has accommodation for twenty-four patients. It is provided with dormitories for men and for women and a refectory and extensive open-air sleeping-porches.

**Ex-Presidents' Meeting.**—At the annual meeting and banquet of the Association of Ex-Presidents of the State Medical Association of Texas, held in San Antonio, May 8, the following officers were elected: president, Dr. J. D. Osborne, Cleburne; vice-presidents, Drs. Bacon Saunders, Fort Worth, and J. C. Loggins, Ennis; secretary, Dr. H. W. Cummings, Hearne, and historian, Dr. Frank Paschal, San Antonio.

**New Officers.**—Fayette County Medical Society organized at Lagrange, May 3: president, Dr. C. J. Schramm, Fayetteville; secretary-treasurer, Dr. Charles M. Hoch, Lagrange.——Hays County Medical Society reorganized at San Marcos, April 30: president, Dr. J. R. de Steigner; secretary-treasurer, Dr. E. T. Powell, both of San Marcos.——Frisco-Central Medical Society, thirteenth semi-annual meeting at Dublin, April 30: president, Dr. H. L. Wilder, Glen Rose; secretary, Dr. J. H. Gandy, Lipan. ——Dallas County Medical Society at Dallas, May 19: president, A. W. Nash; secretary, J. W. Loving.

**Charity Hospital for Houston.**—A meeting was called by the Harris County Medical Society in Houston, May 19, to discuss the proposed building of a charity hospital. Invitations were sent to the civic organizations of Houston. It is proposed that a bond election be called for $150,000 for the establishment of a charity hospital. A committee was appointed, consisting of Dr. A. P. Howard, chairman, Dr. O. L. Norsworthy, Mrs. W. B. Sharp, Mr. C. R. Wharton, Rev. Peter Gray Sears, Mr. H. T. Warner and Mr. E. C. Griscom, to promote the establishment of a municipally-owned hospital and clinic.

## WEST VIRGINIA

**New Officers.**—Marshall County Medical Society, May 13: president, Dr. L. H. McCuskey; secretary, Dr. C. G. Morgan, both of Moundsville.

**Personal.**—Dr. W. P. Megrail, Wheeling, who has been seriously ill with septicemia, is reported to be convalescent.——Dr. B. M. Spurr has completed arrangements for the building of an addition to the Sheltering Arms Miners' Hospital, Hansford. It will cost about $15,000.

**State Association Meeting.**—The annual meeting of the West Virginia State Medical Association was held in Charleston, May 21-23, and the following officers were elected: president, Dr. R. E. Venning, Charlestown; vice-presidents, Drs. C. M. Scott, Bluefield, F. B. Murphy, Philippi, and J. E. Cooper, Cameron; secretary, Dr. A. P. Butt, Davis, and treasurer, Dr. H. G. Nicholson, Charleston.

**Good Health Work.**—Dr. Harriet B. Jones, Wheeling, has taken up active work with the tuberculosis exhibit of the state. A car has been presented by the Baltimore and Ohio Railroad and free transportation has been given over all railroads in the state. It is the intention of Dr. Jones to pass through every county in the state and several places in the county, giving lectures on tuberculosis. The legislature has appropriated $9,900 for the expenses. Dr. Thurmon Gillespy will accompany the tuberculosis car and deliver lectures, en route.

## GENERAL

**Medico-Psychologists to Meet.**—The sixty-ninth annual meeting of the American Medico-Psychological Association will be held at the Clifton Hotel, Niagara Falls, June 10-13, under the presidency of Dr. James T. Searcy, Tuscaloosa, Ala.

**Albany Alumni at Minneapolis.**—Among the alumni gatherings at the Minneapolis session of the American Medical Association Tuesday, June 17, will be a meeting of the graduates of Albany Medical College at the Hotel Radisson, at 5 p. m.

**Frisco Surgeons Meet.**—The Frisco System Medical Association held its twelfth annual meeting in Oklahoma City, Okla., May 26-27 and elected the following officers: Dr. J. R. Dawson, Birmingham, Ala., president; Drs. C. M. Lutterloh, Jonesboro, Ark., and J. D. Osborn, Frederick, Okla., vice-presidents; F. E. Chalmont, St. Louis, secretary (reelected), and Dr. W. A. Camp, Springfield, Mo., treasurer (reelected). Birmingham was selected as the next place of meeting.

**Prize for Means to Cure Typhoid Carriers.**—The medical press of the world is asked to spread the news that a prize of $2,500 will be awarded in Germany to the person of any nationality who can devise a means by which typhoid carriers can be freed from the bacilli and the stools and urine remain free from them for at least half a year after treatment. The jury to award the prize consists of Ehrlich, Gaffky, Uhlenhuth, Kraus and Hoffmann besides the surgeon-general of the army. The description of the method offered in competition must be in German and be in the hands of the jury before October, 1914.

**Government Loses Steamship Suit.**—In the case of the Holland-America Steamship line which sued the United States for $2,167.80, paid for medical treatment of aliens brought to this country and held at Ellis Island on account of some temporary contagious disease, the Federal District Court held that there was nothing in the law to compel the treatment of aliens aboard a ship when the government had proper facilities, such as Ellis Island, for their treatment. Steamship companies, it was decided, are liable for the care and maintenance of sick aliens only when they are brought to this country through negligence, the company knowing that they are suffering from contagious diseases. The government's attorneys argued that the government had the right to compel the steamship company to keep sick passengers aboard ship and that their removal was assented to only after the steamship company had practically consented to pay their expense. Judge Mayer considered that this might mean injustice to the other passengers and shippers if contagious sickness appeared, and ruled against the government.

## LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, May 24, 1913.

### International Medical Congress

As stated before, the membership subscription to the International Medical Congress is sufficient only to cover the expense of publishing the transactions. A subscription list for private donations has therefore been opened to meet the expenses of the congress, which it is expected will be attended by 7,000 persons. A large sum has already been subscribed by about 600 leading physicians; the individual subscriptions vary from $5 up to $1,000; but a further sum of $12,500 is required to meet the necessary expenditure. Elaborate preparations are being made for the entertainment of the members, and private hospitality will be extended to them by the king and many prominent men, the medical corporation and some of the city livery companies.

Particulars have already been given with regard to the sections of medicine and surgery, and some may now be added with regard to the section of physiology. The president is E. A. Schäfer. There are three set discussions. The one which appears to be exciting most interest is on the internal secretions, which will be held jointly with the section of medicine. The reporters in this discussion are Gley of Paris and Biedl of Strasburg. To introduce this subject a discussion on endogenous protein metabolism, to be held in conjunction with the subsection of chemical pathology, will be introduced by Abderhalden, H. D. Dakin and G. Embden.

The third discussion will be confined to the section of physiology and will deal with the question of reciprocal innervation; it will be introduced by Sherrington and Max Vernon. Perhaps the most interesting meetings of this section will be three laboratory meetings, at which demonstrations will be given. These will be held in the physiologic laboratories of the University of London, University College, London, and King's College, London, respectively.

ARRANGEMENTS FOR SOCIAL FUNCTIONS

In spite of the large number expected to attend the International Medical Congress, so much hospitality has been proffered that it has been necessary to refuse many invitations. With comparatively few exceptions arrangements have been made for the entertainments to be conducted on a private basis. After the formal opening of the congress by Prince Arthur of Connaught at 11 a. m. Wednesday, August 6, arrangements have been made for a government dinner, at which 500 guests of the congress will be entertained. The king, acting as patron, has invited 2,000 members to attend a garden party at Windsor, Saturday, August 9. During the week, probably on Friday, a congress soirée will take place at the Natural History Museum. For the most part the dinners which have been arranged are sectional, but the president is to entertain 100 of the leading members of the congress at a dinner, August 11. Lord Strathcona has also promised hospitality on an extensive scale. Among the luncheons is to be one at the Royal Free Hospital and another at St. Bartholomew's Hospital. Garden parties are to be given by the Bethlem Royal Hospital, by the dean of faculty of medicine of the University of London, by St. Bartholomew's Hospital and by Mr. Waldorf Astor. There is to be a Masonic meeting on the afternoon of Monday, August 11, and excursions have been arranged to Brighton, Harrogate, Stratford-on-Avon, Oxford, Cambridge and Bath. Tuesday, August 12, a dinner will be given by the Apothecaries' Society, and on the same evening receptions have been arranged at the Royal College of Surgeons, at the Royal Society of Medicine, at the Royal Army Medical College, at University College, Hospital Medical School and at the Grocers' Company. Sir William Lever is also to give an entertainment.

To relieve the difficulties of organization, much of the work of entertainment is being distributed among the sections. The various London committees include most of the leading medical men in London, and arrangements have been made to insure that all those who attend the congress shall be entertained privately. The business of the various sections will be conducted both in the morning and in the afternoon, but as it is the common experience of congresses that members attend only a part of the sessions, excursions are being arranged day by day to various places of interest in London. Many of the sections have already arranged to hold sectional dinners and to attend special soirées. Among the morning and afternoon engagements the surgical section is to visit the Barbers' Hall (it may be remembered that in the middle ages the functions of barber and surgeon were combined in the "barber surgeons") and to attend garden parties at Cambridge and Henley. The section of children's diseases will visit the Cripples' Home at Alton, and the section of psychiatry is to inspect Claybury Asylum, and on Wednesday, August 13, will pay a visit to Cardiff. The president of the section of stomatology is to give a garden party, and the section of laryngology and otology has been invited to Oxford.

### National Association for Prevention of Infant Mortality

This association has made arrangements to hold an English-speaking conference on infant mortality at Caxton Hall, Westminster, London, August 4 and 5, the two days preceding the opening of the International Medical Congress. It is under the immediate patronage of the king and queen and will be presided over by Mr. John Burns. Lady Aberdeen, Mr. Pease, Sir George Newman and Dr. Arthur Newsholme are among the chairmen of the various sessions into which the two sections — administrative and medical — are divided. Papers will be read by experts from the United Kingdom, the United States and the colonies on many aspects of the following questions: The responsibility of central and local authorities in the matter of infant and child hygiene; the necessity for special education in infant hygiene; medical milk problems; the administrative control of the milk-supply, and antenatal hygiene. The United States and a large number of colonial governments will be officially represented and the attendance generally promises to be large. The British railways and steamship companies with services to the colonies and to the United States have all granted special traveling facilities, particulars of which are set forth in the detailed program, which may now be obtained from the secretary of the National Association for the Prevention of Infant Mortality, at 4 Tavistock Square, London, W. C. The subscription for membership is $5. The corporations of Liverpool and Glasgow have each given a donation of $250 toward the expenses of the conference, that of London has given $125, and many other towns are sending smaller sums in proportion to their population.

### Annual Meeting of the British Medical Association

The eighty-first annual meeting of the British Medical Association will be held at Brighton, July 22-25. Sixteen sections have been arranged. Some of the more important papers may be mentioned. In the section of bacteriology and pathology the papers will include one by Dr. Miller Galt on "The Value of the Blood-Count in Obscure Bacterial Infections," and an account by the staff of the John Howard McFadden Research Fund on "Some Researches on the Jelly Method of Staining Cells Alive." A joint discussion has been arranged with the section on pharmacology on "Anaphylaxis," the papers promised including a consideration of "The Action of Asbestos and other Finely-Divided Substances on Various Physiologic Substances." In the section of climatology and balneology there will be discussions on "Sea Bathing," to be opened by Dr. W. J. Tyson, and on "The International Aspects of British Health Resorts," to be opened by Dr. Neville Wood. In the section of diseases of children, Dr. E. J. Poynton and Dr. Carey Coombs will initiate a debate on the "Affections of the Heart in Childhood." In the section of electrotherapeutics papers and discussions have been arranged on "Roentgen Diagnosis," on "Electrodiagnosis and Electrotherapeutics" and on "Roentgen Therapy and Radium." The subjects chosen for discussion in the section of medical sociology are "Crime and Punishment" on which Dr. Charles Mercier, Sir Bryan Donkin and Dr. James Scott will read papers, and on "Hospitals in Relation to the Stage, the Public and the Medical Profession," in which Sir Henry Burdett and Dr. I. G. Gibbons will read papers. The discussion will, it is hoped, prove valuable in helping to elucidate the problems involved in providing hospital accommodation for insured persons under the national insurance act. A discussion on "Eugenics" will be introduced by Professor Bateson, to be followed by Dr. Stewart Mackintosh, and Mr. Benedict Davenport of New York. The arrangements for the navy, army and ambulance sections include a paper by Major Birrell on "Notes on the Work of a British Red Cross Unit with the Bulgarians."

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, May 16, 1913.

### Personal

During the session of May 13, the Académie de médecine elected a member of the section of operative medicine to replace Professor Segond, who died last October. Dr. Bazy, surgeon of the hospitals of Paris, who is especially well known through his works on diseases of the urinary passages, was elected.

Dr. Théophile Anger, formerly surgeon of the hospitals of Paris, has died, aged 77. He was on the staff of Napoleon III during the war of 1870, in which he took an active part. He has left few written works, but he formerly was a very active surgeon. He brought into notice an autoplastic procedure for the cure of hypospadias and epispadias. He was also much interested in advanced cystotomy procedures and he was the first to call attention to hypogastric cystotomy. He applied to the reduction of luxations the method of elastic traction by large rubber tubing, and devised a number of ingenious apparatus for club-foot and for coxalgic deformities.

### Tuberculosis and the Brushing of Clothes

Professor Letulle read before the Académie de médecine, May 13, a report by Dr. Chaussé, who showed experimentally that brushing clothes soiled with dried tuberculous sputum set in motion respirable, virulent particles. Chaussé exposed guinea-pigs to powder caused by the brushing of such clothes. He states that he used clothes the sputum on which was of different ages; all the guinea-pigs were infected by that dating from the second and fourth days; but the number of infections diminished in proportion as the sputum became more and more dry. The danger, however, was not completely over at the end of fifteen days, a fact which was shown by an infection from sputum sixteen days old.

### The Future Permanent Secretary of the Academy of Medicine

The Académie de médecine will soon elect a permanent secretary to replace Professor Jaccoud. It is believed that Professor Debove, formerly dean of the Faculté de médecine de Paris, will be elected. The new permanent secretary will be the eighth since the foundation of the academy by Louis XVIII. His predecessors were: Pariset from 1822 to 1827; Adelon from 1828 to 1830; Pariset from 1831 to 1847; Frédéric Dubois from 1847 to 1873; Béclard from 1873 to 1887; Bergeron from 1887 to 1900; Jaccoud from 1901 to 1913.

### Mutual Aid Society for Wives and Children of Physicians

A Société de secours mutuels et de retraites pour femmes et enfants de médecins has just been founded in Paris under the patronage of the Association générale de prévoyance et de secours mutuels des médecins de France. Its aim is to give assistance in the form of pensions, etc., to its members in old age, disease or infirmity.

### A Municipal Secret Maternity Hospital

In order to avoid child murder, which is becoming more and more frequent, the city of Toulouse has founded a secret maternity hospital. Any woman about to become a mother can enter this hospital without revealing her name. After delivery she may go out as she has come in, keeping her incognito. She is compelled to deposit in a sealed envelope the information in regard to her identity, necessary to make the legal declaration in case of her death, but this envelope is returned to her at her departure.

## BERLIN LETTER

*(From Our Regular Correspondent)*

Berlin, May 2, 1913.

### Personal

Von Bramann, the surgeon of Halle, died April 27 at the age of 58 from carcinoma. Bramann belonged to the von Bergmann school. In 1888 he became connected with the faculty in Berlin. In 1888, as von Bergmann's substitute, he performed a laryngeal operation on Emperor Friedrich, who was attacked by severe dyspnea caused by laryngeal carcinoma. At that time Bergmann gave warm praise to this operation, which was performed under the greatest difficulties. Through this service Bramann came into high favor with the present emperor. In 1890 he was ennobled and became regular professor in Halle, as Volkmann's successor. His scientific work embraced different fields of surgery without reaching any special eminence.

### German Convention on Internal Medicine

*(Concluded from page 1721)*

#### INFECTIOUS DISEASES

Von Jochmann of Berlin confirmed the good results in the treatment of scarlet fever with salvarsan, which were reported at the last annual meeting. In the Virchow hospital in Berlin he treated 117 scarlet fever patients with small doses of salvarsan—0.1 gm. (1½ grains) for every 10 kg. (20 pounds) of body weight—and his impression was that the general condition, especially in cases with marked stupor, was very favorably influenced. He noted that the greatest advantage of salvarsan lies in its action on the inflammatory processes in the throat. Among twenty-five cases of this sort, twenty-four improved promptly: the tongue cleaned rapidly, the exudate disappeared and the swelling of the throat was reduced. In four cases in which the prognosis was absolutely unfavorable, three patients were saved, and among fifty-one with doubtful prognosis three died. Schreiber of Magdeburg also confirmed the favorable action and recommends a local treatment with salvarsan especially for the process in the throat.

#### CONSTITUTIONAL DISEASES

More time was occupied with addresses on diseases of deranged metabolism, especially diabetes. Of practical importance were the conclusions of Lüthe of Kiel on the treatment of diabetes. At the medical clinic in Kiel extensive use has been made for some time of enemas of sugar solution, particularly by the drop method. In this way it is possible to introduce in almost every case sugar to the amount of from 50 to 100 gm. per day, without difficulty and without any indication of irritation on the part of the intestine. [See Abstract 100, p. 1841.] As compared with equivalent quantities of grape-sugar or bread given by mouth, there has always been excellent utilization of the grape-sugar introduced into the intestine. In experiments made in healthy persons as well as in patients, in regard to the amount of sugar in the blood after the administration of enema by the drop method, there always was found a marked increase of sugar in the blood, so that the actual absorption of sugar from the intestine appears to occur beyond doubt. We still lack an explanation of the biologically interesting and practically important fact that sugar brought directly into the circulation is generally better utilized than that which is carried to the liver by the portal circulation.

Frank of Breslau discussed renal diabetes in men and animals. He showed that the poisons uranium, chromium and mercury, when given in small doses to experimental animals, constantly produced an excretion of sugar by the kidneys which continues for some time and may become permanent if the dose is repeated at certain intervals. The pathologic action of the kidney from poisons circulating in the body is probably responsible for certain cases of renal diabetes in man. A typical form of human renal diabetes is the excretion of sugar occurring in many women during pregnancy, which may be produced in almost all pregnant women by the overuse of starch or grape sugar.

#### KIDNEY DISEASE

E. Meyer of Strasburg read a paper on the influence of the nervous system on the activity of the kidney. From many experiments it is evident that there exists a center in the spinal cord which influences the activity of the kidneys. If this portion is injured by a puncture a marked increase in the amount of urine and the excretion of chlorids will follow, independently of the ingestion of water and salt. The same action is observed after section of the nerves passing to the kidneys. The puncture which produces increased excretion of salt is without effect after section of the renal nerves. The nerve paths which connect the kidneys with the brain can be determined still more accurately by special experiments. The increased excretion of chlorids and of urine brought about by injury of these paths is to be regarded in part as due to an irritation of the vasodilators and in part to a direct excitation of the renal cells. The facts discovered are of importance for the explanation of the normal function of the kidney, and they also serve to assist the investigation of many still unexplained pathologic conditions.

Frank of Greifswald called attention to the fact that by the new methods for determining the functioning of the kidneys after infectious diseases, injury to the renal function can be established. Marked disturbances of the renal function could be demonstrated in many cases of scarlet fever and pneumonia even a long time after the acute symptoms have disappeared. A number of facts were brought up in the discussion which explained the influence of the nervous system on the activity of the kidneys. Diabetes insipidus seems to be connected with diseases of the pineal gland; at any rate, in disease of this gland a marked increase of the amount of urine is frequently observed.

#### HEART DISEASE

Little is positively known regarding the physiology of the coronary vessels, particularly regarding the influence of the action of drugs on this important area of the circulation, since hitherto it has been possible to carry out experiments on the coronary circulation only on hearts which had been removed from the body. Morawitz of Freiburg has been able to study the coronary circulation in living animals by means of a special method. A marked action on the vessels of the heart is shown by nicotin. It first contracts the blood-vessels and later paralyzes them. This gives a new basis for understanding the relatively frequent occurrence of diseases of this circulatory area in excessive smokers. Nitrites as well as nitroglycerin, caffein and similar substances act as dilators. These have been long in use as cardiac stimulants, especially in calcification of the vessels of the heart. Epinephrin produces an enormous improvement in the circulation of the heart; while it markedly contracts many other areas of the circulation, it dilates the vessels of the heart. Quincke of Frankfort reported interesting experiments: It is a well-known fact that apoplectic strokes more frequently affect the right half of the body than the left, which is to be referred to the fact that obstruction of the arteries on the left side of the brain occurs more frequently than on the right. Quincke has tried to determine experimentally whether a more abundant supply of blood in the left half of the brain might also furnish an explanation for right-handedness. A greater supply of blood to the left half of the brain could not

be demonstrated; on the other hand, minute solid granule-like substances enter more frequently the left artery than the right, which is referable to the asymmetrical branching of the aorta.

Strubell of Dresden reported on the influence of physical exercise on the function of the heart. He has examined swimmers, skaters, pugilists and other athletes and found that the influence of rational physical exercise on the function of the heart is favorable. On the other hand, all excesses which tend to increase the arterial pressure and tax the heart unusually were found to be decidedly injurious. Thus boxing, at least as carried on by professional boxers, must be regarded as unfavorable for the heart, in spite of the marked strengthening of the musculature. These pugilists die young, generally before the fortieth year.

### Friedmann's Treatment for Tuberculosis

German physicians seem not at all concerned with the investigation of the Friedmann tuberculosis remedy. At any rate, nothing further has been published in regard to it, and I do not expect that anything more will appear. The distrust of Friedmann's statements and of his personal character, which was shown by most conservative observers soon after his first appearance, was naturally much strengthened by his trip to America. On hearing of his removal to America I remarked that although he would not secure the million dollars offered for the cure of Mr. Finlay's son-in-law, he would find a way in America to make two millions in another way. The course of his performances in America appears to show that my surmise was correct. The reports which come to us from the German newspapers and the information contained in THE JOURNAL are received here with a significant shrug of the shoulders, as if to say: "Just what we expected." Friedmann knew well that his task would not have been so easy in dealing with German physicians and with the German public as in America, where the daily press is even more accessible to sensational reports and advertisement than in Germany, and where the public believes in all things "made in Germany," even against serious objections. Friedmann's calculations will be realized. In spite of the warning of your state boards of health, enough credulous people will be found who will pay sufficiently for his work, and Friedmann, having "made his pile," will spend it either in America or in Germany as a completely independent adventurer who cares nothing for his scientific reputation, for the respect of his colleagues, or even for the opinion of so-called good society. With this happy prognosis I will close for the present the chapter concerning Friedmann.

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, May 17, 1913.

### A Single Session Each Day in the Schools

Owing to the climate in this country, the schools have hitherto required the pupils to come twice daily to school, (8 to 10 or 11, and 2 to 4 or 5). This gave little time for outdoor exercise, as the children were also bound to do a fair amount of writing at home. For this summer a change has been planned, so that only the morning will be used for teaching purposes, the school hours lasting from 8 to 12. In the afternoons, each class will have to devote at least four hours a week to athletics or outdoor sports, and no indoor teaching will take place after 12 o'clock between May 15 and July 15. The formation of excursion-classes, of plays in the open air, and of swimming and mountain climbing will be favored in every way by the school boards. The hygienic effect of this measure will be no small one, as our children, especially those of the poorer classes, are none too well used to this kind of sports. The health conditions in the poorer schools of the towns and cities are sometimes rather lacking from the point of view of the eugenist, and public feeling is not yet wide awake to the necessities of open air for the development of the young.

### Compulsory Admission of Inpatients into Hospitals

The deaths of two persons who sought in vain to be received as inpatients in hospitals in Vienna, and dropped dead in the streets, have evoked a storm of indignation and had the most unexpected effect of inducing bureaucratism to think of its duty. As a result a circular has been sent to all medical men and all medical and charitable institutions to the effect that in future any person applying to a hospital with a certificate from a doctor stating that the bearer is suffering from this or that disease and is urgently needing hospital care for danger of life, must be received without hesitation. This person must be accommodated. The circular does not state how it should be done, if the hospital is completely filled, but it simply says "must be received." Naturally such an order will be a boon to the poor sufferers, but nevertheless the scarcity of beds will continue for some time, and will make it the more imperative to erect new hospitals and charitable institutions. The chief drawback of our hospital system is the fact that we have far too little hospital accommodation for tuberculous patients. They are mostly those who are sent away from one hospital after the other without getting the benefit of a bed; and yet numerous efforts by philanthropists to erect people's tuberculosis sanatoriums in healthy, if fashionable districts, are violently attacked and frustrated by cold-hearted proprietors of hotels and health resorts. More energetic action by the government is expected, which will permit the placing of at least 1,000 beds at the disposal of poor tuberculous patients.

---

# *Marriages*

ROBERT ALEXANDER GLENN, M.D., Oakdale, Cal., to Miss Myrtle Weaver of Lancaster, Pa., in Philadelphia, May 20.

NATHAN MORRIS BENYAS, M.D., Portland, Ore., to Miss Dorothy Reeder of Scranton, Pa., in Philadelphia, May 20.

HERMAN CANFIELD PITTS, M.D., Providence, R. I., to Miss Lucy Esther Macdonald of Princeton, N. J., June 3.

DAVID HOWARD MCKINLEY, M.D., Winchester, Ky., to Miss Helen Himes of Oxford, Pa., at Louisville, May 21.

JOHN EDWIN FROOM, M.D., Eagle, Idaho, to Miss Cass Cassmeyer of Newport, Ky., at Boise, Idaho, May 16.

EDWARD BARTHOLOMEW MANION, M.D., Ilion, N. Y., to Miss Margaret Connors of Newport, N. Y., May 14.

OLIVE WINONA BROWN, M.D., Salem, Mass., and Mr. Nathan Israel Hale of South Royalton, Vt., June 1.

HARRY BOYDEN ROWE, M.D., Miami, Fla., to Miss Audrey Belle Quinton of Trenton, N. J., May 13.

ROBERT J. BASKERVILLE, M.D., Detroit, to Miss Georgia Richardson, at Wayne, Mich., April 21.

GERRIT EDWARD VERMEER, M.D., Rock Valley, Iowa, to Miss Vashti Cram of Sibley, Iowa, May 20.

WILLIAM WARREN HILDRETH, M.D., to Miss Kathleen Whitaker, both of New York City, May 21.

JOHN S. KILBRIDE, M.D., Watertown, N. Dak., to Miss Mary Birchen of St. Paul, Minn., May 12.

WALTER DEAN LEVI, M.D., Louisville, Ky., to Miss Greta Wynant of Anderson, Ind., May 15.

NELSON HORATIO LOWRY, Jr., M.D., to Miss Amalie C. Pippereit, both of Chicago, May 17.

CHARLES ALLEN STONE, M.D., St. Louis, to Miss Smith of Shipman, Ill., May 17.

---

# *Deaths*

**Frederick Forchheimer, M.D.** a leader in the profession of Cincinnati, a splendid citizen, eminent teacher and scholarly writer; died in the Jewish Hospital, Cincinnati, June 1, sixteen days after an operation for the relief of acute disease of the prostate gland, aged 59. He was graduated from the College of Physicians and Surgeons, New York City, in 1873 and, after two years of study abroad, located in his native town, Cincinnati. He taught the first course in histology ever presented in the Medical College of Ohio and later filled the chairs of chemistry, physiology, and theory and practice of medicine. In 1889 the college instituted a department of pediatries with Dr. Forchheimer at its head. He was also dean of the college for four years. He was actively engaged in hospital staff work for more than thirty years, serving as physician to the Good Samaritan and Cincinnati City hospitals and as consulting physician to the Jewish Hospital. He was the author of standard works on "The Prophylaxis and Treatment of Internal Diseases," which appeared in 1907, and of "Therapensis of Internal Diseases," which was published this

year. Dr. Forchheimer was a member of the American Medical Association, president of the Association of American Physicians in 1910 and a member of the American Pediatric Society and Cincinnati Academy of Medicine. The latter body, at a special meeting, adopted resolutions setting forth the irreparable loss suffered by its members in the death of Dr. Forchheimer, and expressing to his family and friends deep sympathy in their great bereavement.

**Harry M. Hallock, M.D.** College of Physicians and Surgeons, New York City, 1889; Major Medical Corps, U. S. Army, retired in 1908 on account of disability received in line of duty; formerly medical director of the Government Reservation, Hot Springs, Ark.; a member of the American Medical Association; who had suffered for a long while from melancholia; was found dead in the woods near Hot Springs, May 19, from the effects of a self-inflicted gunshot wound of the head, aged 45.

**Angus John Murray, M.D.** College of Physicians and Surgeons, Chicago, 1885; president of the New Brunswick Medical Society in 1909; a member of the Provincial Board of Health and of the Municipal Council of Fredericton Junction, and for two years warden of Sunbury and Queens County; died at his home in Fredericton Junction, April 3, from pulmonary tuberculosis, aged 57.

**Charles P. Bunsen, M.D.** University of Heidelberg, Germany, 1855; afterward assistant in the St. Lazare Hospital, Paris, and later a physician to the Russian court in St. Petersburg with service in the Medical Corps of the Russian Army; a citizen of the United States for nearly fifty years; died at his home in Winona, Minn., May 16, from senile debility, aged 82.

**Ole T. Hougen, M.D.** Northwestern University Medical School, 1888; a member of the American Medical Association and a resident of Grand Rapids, Wis., for nearly twenty-five years; died in Wesley Hospital, Chicago, May 12, after an operation for the relief of obstruction of the stomach and intestines, which was found to be due to malignant disease, aged 50.

**Joseph Tomlinson, M.D.** College of Physicians and Surgeons, New York City, 1878; a member of the American Medical Association, American Academy of Medicine and Board of Education of Bridgeton, N. J.; chief of the surgical staff of the Bridgeton Hospital; died in the Jefferson Hospital, Philadelphia, May 18, after a surgical operation, aged 58.

**Frank Charles, M.D.** New York Homeopathic Medical College, New York City, 1895; a Hungarian practitioner known to the poor of the lower East Side of New York as the "angel doctor;" died in his apartment in New York City, May 21, from nephritis, aged about 60.

**Ezra H. Cary, M.D.** Eclectic Medical Institute, Cincinnati, 1859; Jefferson Medical College, Philadelphia, 1864; surgeon of the Sixteenth Pennsylvania Volunteer Cavalry during the Civil War; died at his home in Prosperity, Pa., March 9, from influenza, aged 82.

**Hiram Hunter Ruble, M.D.** University of Tennessee, Nashville, 1889; a member of the Tennessee State Medical Association; for twenty-five years a practitioner of Greene County, died at his home near Greeneville, April 21, from valvular heart disease, aged 61.

**Franklin P. Miles, M.D.** State University of Iowa, College of Homeopathic Medicine, Iowa City, 1893; died at his home in Las Animas, Colo., from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, May 15, aged 46.

**Charles Alonzo Wilson, M.D.** Harvard Medical School, 1869; a member of the American Medical Association; formerly surgeon in the United States Navy and a veteran of the Civil War; died at his home in St. Louis, about May 19, aged 70.

**Rankine Dawson, M.D.** McGill University, Montreal, 1882; L.R.C.P. Lond., 1881; M.R.C.S, Eng., 1886; for many years surgeon on the steamers of the Peninsular and Oriental Line to the Orient and South America; died in London, April 1, aged 54.

**Phineas Sewall Stearns, M.D.** College of Physicians and Surgeons, Boston, 1882; for many years a practitioner of Owego and Buffalo, N. Y.; died at the home of his niece in Stony Creek, N. Y., May 5, from senile debility, aged 83.

**Robert Parks White, M.D.** University of Pennsylvania, Philadelphia, 1886; a member of the American Medical Association and a prominent practitioner of Fort Wayne, Ind.; died at his home in that city, May 19, aged 53.

**John Augustus Magee, M.D.** University of Vermont, Burlington, 1872; a member of the Massachusetts Medical Society; city physician of Lawrence from 1883 to 1885; died at his home, May 23, from heart disease, aged 65.

**Benjamin H. Anderson, M.D.** Memphis Hospital Medical College, 1904; of Brownwood; a member of the State Medical Association of Texas; died in Chicago, about May 14, while on his way home from Europe, aged 33.

**John M. Kane, M.D.** Indiana Medical College, Indianapolis, 1875; for half a century a practitioner of Hamilton County; a veteran of the Civil War; died at his home in Westfield, May 17, from senile debility, aged 82.

**Henry McEwen Pettit, M.D.** Jefferson Medical College; a surgeon in the Confederate Service during the Civil War and later a resident of Carrollton, Mo.; died in Frederick, Md., April 11, from diabetes, aged 77.

**Roch Samuel Moise Mignault, M.D.** Ecole de Médecine et de Chirurgie, Montreal, 1859; liberal member of Parliament from Yamaska, Que., for several years; died at his home in Yamaska, March 30, aged 76.

**John Henry Allen, M.D.** Bellevue Hospital Medical College, 1876; a member of the Medical Society of the State of New York; died at his home in Churchtown, N. Y., February 23, from typhoid fever, aged 72.

**John E. Dillon, M.D.** Miami Medical College, Cincinnati, 1877; formerly a practitioner of Woodsville and Antioch, Ohio; died at his home near Barnesville, Ohio, March 3, from heart disease, aged 78.

**James H. McLaughlin, M.D.** Jefferson Medical College, 1864; Cincinnati College of Medicine and Surgery, 1873; died at his office in Braddock, Pa., March 13, from heart disease, aged 60.

**Reuben Harrison Huddleston, M.D.** Rush Medical College, 1872; for many years a resident of Miami, Fla.; died at his home, May 16, from cerebral hemorrhage, aged 74.

**Robert Lawrence, M.D.** University of Victoria College, Coburg, Ont., 1871; died at his home in Vancouver, B. C., March 19, from cerebral hemorrhage, aged 70.

**James Wallace, M.D.** University of Toronto, Ont., 1866; for more than thirty years a practitioner of Alma, Ont.; died at his home in that village, April 11, aged 78.

**John Clement Parker, M.D.** Medical School of Maine, Brunswick, 1891; a member of the Rhode Island Medical Society; died at his home in Providence, March 12.

**Willie Waldo Hendershott, M.D.** Rush Medical College, 1883; the first practitioner of Deer Park, Wash.; died at his home in Camden, Wash., recently, aged 54.

**Thomas G. Gordon, M.D.** Columbus (O.) Medical College, 1884; died at his home in New Philadelphia, O., February 11, from cerebral hemorrhage, aged 56.

**James W. Waters, M.D.** St. Louis Medical College, St. Louis, 1888; for twenty years a practitioner of Bachelor, Mo.; died in Reform, Mo., May 21, aged 46.

**Israel C. Barlott, M.D.** Long Island College Hospital, Brooklyn, 1872; of Hooversville, Pa.; died in the Johnstown (Pa.) Memorial Hospital, May 15.

**William O. Eastwood, M.D.** University of Toronto, Ont., 1853; coroner for the Whitby (Ont.) District; died at his home in Whitby, March 22.

**Charles W. Unger, M.D.** University of Halle, Germany, 1863; died at his home in Los Angeles, March 21, from valvular heart disease, aged 73.

**Joseph H. Putnam, M.D.** Bellevue Hospital Medical College, 1864; died at his home in Bridgeton, N. J., April 14, from senile debility, aged 80.

**John Edgar Lundy, M.D.** University of Toronto, Ont., 1897; died at his home in Portage la Prairie, Man., April 27, aged 38.

**James Lester Carney, M.D.** Long Island College Hospital, Brooklyn, 1888; died at his home in Brooklyn, April 22, aged 63.

**Solomon C. McLean, M.D.** Queens University, Kingston, Ont., 1874; died at his home in Spencerville, Ont., April 16, aged 66.

**Lewis C. Schutt, M.D.** Louisville (Ky.) Medical College, 1875; died at his home in Toledo, Ohio, May 21, aged 63.

**Edward M. Small, M.D.** Jefferson Medical College, 1871; died at his home in Eastport, Me., April 20, aged 66.

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OTHER MATTER TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## THE "BUSINESS" OF FRAUDULENT MEDICAL PRACTICE

### Advertising Specialists on the Pacific Coast

The "business" of medical quackery is run on much the same plan in all sections of the country. It has been shown[1] that the "United Doctors," operating largely in the central West and in the Eastern states, is a purely business and not a professional organization; it is owned and controlled by persons who hire cheap doctors to work the people. On the Pacific Coast, a similar system is operated by another concern, although the Western offices are not run under one firm name. In Seattle, Tacoma, Portland, San Francisco, Los Angeles, Oakland and Spokane offices are owned by two persons, H. J. Jiles and C. K. Holsman, but are run under various names. In Seattle, Dr. Cook & Co. was found to be a corporation with these men as the chief owners. They also own the Scott Medical Institute. In Tacoma, the office is run under the name of Dr. E. A. Severance. In Portland, where there are two offices, one is run under the name of Dr. C. K. Holsman. In the other cities they are run under the names of the men hired by Jiles and Holsman. When these doctors are changed from time to time the name of the office is likewise changed.

Recently in Seattle a campaign of exposure has been carried on by the Seattle *Sun*, a daily paper, assisted by the county medical society, the district attorney, and by various suits in the courts for recovery of money fraudulently obtained by these advertising doctors. Commenting on their methods, which are almost exactly similar to those of the "United Doctors," the Seattle *Sun* says:

#### "EMINENT SPECIALISTS" ONLY HIRED MEN

"It should be of interest to any person contemplating answering one of their alluring advertisements to know that the 'eminent specialist' is merely a salaried employee—a hired hand of a corporation—that as such he draws pay of from $30 to $50 per week out of an income of $500 to $1,000 per week brought to the corporation . . . It is not a profession; it is a business and a cold-blooded one, as most of those who have had dealings with it can testify."

#### HIRED MEN EXPECTED TO GET THE MONEY

According to the statement of one of the "eminent specialists" who was formerly in the employ of Jiles and Holsman, and who became disgusted with the business, the expenses of one of their offices for equipment, salaries, drugs and supplies and advertising bills amount to from $1,500 to $1,800 per month, about half of which usually goes to the newspapers for advertising. The "eminent specialists," as hired men, are expected to make money for their employers and are given definite instructions to that effect. They are told to find in each patient the most serious malady they can and to obtain the largest possible fee for the treatment and continue it as long as the patient will stand for it. No prospective patient must be allowed to escape who comes for "free consultation." The value of these hired specialists to the concern is their ability to get money, and in Seattle it is said that one office has shown a profit of not less than $200 per month above expenses and sometimes as high as $2,000. The seven offices operated by Jiles and Holsman are said to return a profit of from $5,000 to $10,000 per month out of the readers of daily newspapers who have been lured into the advertising doctors' offices.

#### "FREE CONSULTATION" BAIT

The manner in which these concerns take advantage of people who come to their offices under the bait of "free consultation" is graphically set forth in a series of stories in the Seattle *Sun* by a reporter who was sent to the offices of Drs. S. S. Johnson, J. Eugene Jordan and H. P. Wilkins. This young man after being pronounced physically sound and perfect by two regular practitioners of Seattle, after a thorough examination, went on successive days to the offices of the three quacks named. In each instance he complained simply of a backache about which he told them he was "worried." Without making anything in the nature of a thorough examination, the suggestion of "worry" was immediately seized on by the quacks, who proceeded to try to inspire the young man with terror as to his condition and the awful consequences which would ensue unless he took their treatment at a substantial fee. The manner in which the quacks proceed to inspire terror into the hearts of their victims who are "worrying" is described by the reporter, as follows:

#### INSPIRING TERROR IN THE VICTIM

"Worry! That word 'worry,' that's it. It will get you anything the 'free consultation' room has in stock. Worry, w-o-r-r-y. That's the mental state that breaks down your defenses; that fans the slumbering worry-embers until flames leap out of them — flames that turn the brain hot; set streams of perspiration running down your body; that eat into your heart; scorch your courage; incinerate every vestige of hope in the human breast; that shrivel your strength, and wither your nerves.

"You go to the 'free consultation' room after your imagination has whipped your mind into horror. Submitting, you go into the room with mock defiance; chin up and shoulders thrown back. You come out beaten. You have a bottle under your arm. You don't exactly know what's wrong with you, but you know that the bottle holds the 'cure' for what you have got. The terror that capitalizes 'free consultation' is in you; the day looks gray. You are ready to sink under the gloom of hopelessness."

#### ALASKA MINER SWINDLED

Some of the practical results of the "free consultation" methods are revealed in the case of an Alaska miner named Emil William Nelson who was lured into the offices of Dr. Cook & Co., owned by Jiles and Holsman, where he was made to believe that he was seriously ill and required a number of surgical operations. When it was learned that Nelson had about $3,000 in one of the Seattle banks he was induced by the most shameless misrepresentations to pay to Dr. Cook & Co. $2,287.50. Later when Nelson woke up to the fact that he had been swindled, he employed a lawyer to get back his money. It took a fight to do it, and also three detectives to secure enough evidence to make the fight successful. The evidence indicated that Dr. Cook & Co. was a corporation and that the stock was held by C. K. Holsman and H. J. Jiles as stated. When the court found that the concern was incorporated it was held that a corporation could not hold a license to practice medicine and judgment was rendered for the plaintiff. Nelson managed to recover most of his money after selling out the offices of Dr. Cook & Co., who immediately opened the offices again under the name of Dr. H. P. Wilkins, who was employed to run it. In another lawsuit, according to the Seattle *Sun*, Dr. S. S. Johnson, who was one of the quacks consulted by the reporter for the *Sun*, was required to pay back $35 to a patient from whom that sum had been extracted at a "free consultation." In this instance the suit was not brought against Dr. S. S. Johnson, in whose name the office is run, but against R. M. Griebel. The lawyer for the defendant would not explain who the R. M. Griebel was, but it was admitted that Dr. Johnson was merely the hired man for the real owners of the office.

#### VAST SUMS SPENT ON QUACKS

In commenting on the practice of these quacks, the Seattle *Sun* said:

"It would be impossible to estimate the total of the vast sum of money annually abstracted from the pockets of Seattle people by advertising doctors and patent-medicine fakers who sell their nostrums through a working alliance with the daily newspapers, but it is certain that the larger part of this sum is taken from the poorer class of people of the community,

1. THE JOURNAL A. M. A., March 1, 1913, p. 682.

including many unfortunates who are nigh unto death and are spending all the money they have under the delusion, fostered by the cure-all doctors, that they can be fully restored to health."

A CLEANUP PROMISED

In Washington a law has been enacted providing for the prosecution of persons who publish untrue, deceptive or misleading advertisements. The prosecuting attorney of the county in which Seattle is located has given it as his opinion that these advertising quack specialists can undoubtedly be reached under the law and driven from the city, and he expresses it as his intention to undertake prosecutions when the law becomes effective in June of this year. The work of the Seattle *Sun* in thus exposing quack organizations similar to that of the "United Doctors" in the central West, deserves the highest praise. It is understood that the *Post-Intelligencer*, another leading paper of Seattle, has recently adopted the policy of excluding from its advertising columns all fraudulent medical advertising.

## DRUG DETERIORATION

The Wayne County (Michigan) Medical Society recently appointed a committee to cooperate with a similar committee appointed by the Detroit Retail Druggists Association to investigate the question of deterioration of drugs. Dr. W. J. Wilson, Jr., of Detroit, calls attention to this fact and sends a copy of the report:

The Committee on Drug Deterioration appointed by the joint meeting of the Detroit Retail Druggists Association and Wayne County Medical Society would respectfully report:

Recent investigations of the fluidextracts show that with few exceptions they retain their potency for a number of years when kept under proper conditions; that is, without access to air, or exposure to light.

With such drugs as hydrogen peroxid in which the absolute limit of potency is eighteen months, and the probable limit from six to twelve months, we would recommend that the manufacturers state on the label the date of manufacture as well as the limit of potency.

We would recommend that the practice of keeping all liquid preparations, such as tinctures and fluidextracts which deteriorate on exposure to light, preferably in light-proof cupboards, or in amber-colored bottles not exposed to direct sunlight, with the usual precautions of a tight-fitting and air-proof stopper, be made universal.

We would also recommend that the subject of drug deterioration be made one of the leading topics for discussion in all the state and national pharmaceutical and medical societies in the meetings of the near future.

# Correspondence

### Books Needed by Dayton Physicians to Replace Those Destroyed by the Flood

*To the Editor:*—There have been many loyal offers of help to the physicians who have been sufferers in the late flood. There were about one hundred in Dayton who were losers to a greater or less extent. On some it has worked an almost ruinous hardship, but so far as I know there has been no one seeking personal aid.

The medical profession responded with its characteristic promptness, courage and efficiency to the call of duty in the great disaster that overtook us, and did noble work. This goes without saying, for when did the medical profession ever fail at the call of humanity? So we are not pleading for personal help, or special sympathy, or for recognition of any duty done; but the members of the Montgomery County Medical Society did suffer a loss which impaired their professional efficiency very materially, to which the society has appointed me to call your attention.

The medical department of our public library was a complete loss. Not a single book was saved. There were in the library more than sixteen hundred new and standard medical works, making a good, practical working and reference library that was very valuable to the profession. Now that so many physicians have lost all their private libraries, and in many instances cannot for obvious reasons replace them for a long time, such a public library would be more valuable than ever—is in fact, almost a necessity to an unimpaired professional efficiency.

Therefore the society has thought that it might without a lowering of dignity ask you to call this public loss of the Dayton physicians to the attention of those of the profession who may be in a position to make library contributions, and of the medical publishers, who have always found us liberal patrons, and to ask their cooperation in building up this department of our library. We believe that it will be necessary only to make our need known.

All communications in regard to the matter may be addressed to Dr. W. J. Conklin, 17 East First Street, Dayton, Ohio, who is chairman of the Library Committee of the Society and president of the Library Board of the Public Library. In order to avoid duplications, those who wish to contribute books should first send the titles, and wait for an answer. Horace Bonner, M.D., Dayton, Ohio.

[An editorial comment will be found in this issue.—Ed.]

### Cooperation in Medical Practice

*To the Editor:*—Why should not the group-unit, which is so plainly the chief efficiency factor in industrial and commercial enterprises be the same in medical practice? Could not small groups of medical men, specializing or semi-specializing, achieve far greater results, primarily for the patient and, secondarily, for themselves?

The day of the patriarchal, almost parental, "all-round" family practitioner is passing, if it has not already passed.

The evolution of civilized needs, the vast advances in every department of medical science, render it impossible for any one man to keep abreast of progress, even to form a symmetrical conception of present-day knowledge. These have produced new aspects of supply and demand. Giants of science who are familiar with essentials in certain departments and are capable of long perspective and deep penetration into mysteries rarely assume responsibilities of family practice; a few undertake consultations in limited clinical fields.

Every graduate of a reputable medical school must have qualified in certain uniform directions. Yet how many fall out of the ranks and turn to other pursuits, often successfully enough! The essential condition for success has been defined by Arnold Bennett as, in the final count, "an insatiable appetite to succeed." This may be conditioned on divers qualities, among which is always consistency in the will to achieve. This also probably depends on some freedom in choice of direction for effort.

Does the practice of medicine always furnish a fair ground for freedom of choice? To one of overmastering impulse, yes; but not unless that impulse has opened to it liberalities in the field of opportunity common to the broader avenues of competition outside of a profession so nicely poised on ethical grounds as is medicine.

The essential purpose of the apostle of medicine is to guide the human being, whether in or out of health.

One man can furnish one group of capabilities, another a very different one, and no man should be expected to do first-class work in domains for which he is not fully qualified. Give each one his particular work to do and he will make good. The work coming to him in which he is not interested or trained should be shared with others on an equitable basis. In the larger cities this is accomplished by consultations. When conditions to be met are clearly defined, the difficulties are small; but they exist and must be met, chiefly by forming a public opinion that mutual helpfulness among physicians is absolutely necessary in the best interests of the patient.

We are constantly confronted with perplexities based directly on the erroneous, archaic notions of medical practice which certain outworn traditions have kept alive. There is too much *laissez faire*, "let well enough alone," and not a little culpable moral timidity.

There are few of us who have not been told by our most cherished and attached patients that we ought to attend to one or another specialized problem ourselves; that they "do not like to be turned over to some one else." Thereupon too many worthy practitioners play the fool; strive to cover too large a territory; assume responsibilities outside of personal capabilities, and thereby come to grief; whereupon the patient, taking counsel with a shrewd neighbor, promptly leaves us.

A plan which is simple and promises much efficiency for all concerned is this:

In any small community of about fifteen or twenty practitioners, there will be found those who are better qualified by inherent aptitudes, acquired skilfulness, experience, taste or office equipment to render special service; for instance, in departments of surgery, in electrotherapeutics, especially in roentgenology, now so imperative in diagnosis; or in expert diagnostic methods for the heart, lungs, skin, etc.; in short, in many ways to cooperate with his colleagues to the best interests of all concerned, especially the patient.

Let there be a well-defined basis of fees for this semispecialism—to which few patients will object. They can be educated to realize the advantage to themselves. Or, if circumstances warrant it, when there are, say, twenty-five or fifty doctors near each other, let them form partnership groups, each treating all the patients who apply to him and yet cooperating in specialized lines.

Individual independence can be maintained, if desirable, except as described. Then, whoever specializes or semispecializes can well afford to purchase equipment and spend time and money in centers of learning.

The outworn idea that any one man is capable, or should be expected to be capable, of being an all-round expert in conserving the physical and moral welfare of the community is sheer folly. To persist in encouraging people to think so encourages all sorts and conditions of charlatans, breeds discontent, strife and evil-speaking, alienates friends, jeopardizes efficiency and imperils human lives.

The group-unit, judiciously evolved, will go far toward raising the index of efficiency of the medical profession. Above all, it will raise to a most desirable position of advantage the professional potential, to well-deserved confidence, honor and esteem in the community.

J. MADISON TAYLOR, M.D., Philadelphia.

---

### The Rattlesnake-Venom Treatment of Epilepsy

*To the Editor:*—In THE JOURNAL for March 29, 1913, appears an editorial on "The Rattlesnake-Venom Treatment of Epilepsy," which, although chiefly aimed at another worker on this subject, is, in many instances, so manifestly unfair that I, who am wholly responsible for the origination of this method of treatment, cannot allow it to stand without a protest.

In the first place, you seem to think that the essential feature in the setting aside of the epileptic seizures by crotalin resides in the injurious shocks and "severe reactions" which are incidental to its injection. Nothing could be farther from the truth. It is a fact that when the drug was first injected it was given in larger doses than have since been shown to be necessary to produce the desired results; but that it is absolutely indispensable to call forth a profound local or general reaction is not true, and against this I have protested for more than two years. It may be regarded as a safe working rule that the reaction at the seat of injection, or throughout the body, bears no vital relation to the best effect of the drug. Extended experience points out that it is always desirable to begin with small doses in all new cases, and to increase them gradually as immunity becomes established.

The second objection which you offer is the fear that adventurous experimenters ignore the fact that "all snake venoms have a hemolytic power." This might be serious if it were wholly true, but it is one of the half-truths that have done duty before in the defense of extravagant statements. If snake venom is hemolytic, so are the cyanids, the only difference being that this action is much more accentuated in the latter than in the former; but I hope that this is no reason for excommunicating them from the non-official formulary, if they ever found a place therein. The same action is also characteristic of phosphorus, mercury and other medicinal agents; yet, from last accounts, they have not been Jonahized by the Council on Pharmacy and Chemistry. The real truth is that neither snake venom nor the other agents here named have been proved to be destructive to the blood in minimum doses.

Third, you apprehend that venom injections may surreptitiously hide some dangerous germs in their meshes, and thus pave the way for fearful pyogenic infection. This is a mere surmise, resting on an extremely flimsy basis; for, among the more than six thousand injections of this drug, I have yet to meet my first case of this kind.

Fourth is the hasty claim that before snake venom is employed "in human beings" it should be subjected to "careful animal experimentation" and "be accurately standardized." If you know of any drug that has undergone a more vigorous, protracted and extensive scrutiny at the hands of expert investigators, I should like to hear of it; and, if you have any doubt about the snake being less capable of standardizing its venom than the official standardizer, you should make a series of tests, at certain intervals, with five or six equally large doses of the natural venom, abstracted from different snakes of the same species. Rattlesnake venom, of whatever source, retains an unimpaired activity for a long time. I have found that, when kept in a dry state for twenty years, it is just as powerful as that which was ejected freshly at the end of that period.

Finally, with a great deal of earnestness, you expatiate on the well-known fact that epilepsy is sometimes temporarily arrested by shock, high infectious fever, surgical operations, injuries, etc., and then, presuming on the credulity of your reader, you share with him the profound secret that in the dark ages traumatism was applied as a remedy for "falling-fits," whether by decapitation or by less sanguinary methods you fail to state; but you console yourself with the thought that the benefit which epileptics are said to experience from the action of snake venom is, after all, more apparent than real.

On the one hand, you bring what you undoubtedly believe to be a series of overwhelming charges against snake venom as a remedy for epilepsy, of which not one stands the test of even a cursory examination, making it certain that if it ever shall be shown that snake venom is useless in relieving epilepsy it will not be on account of any of the before-named imputations. On the other hand, a set of men, all of whom are well-known practitioners of a professional standing as high as your own, who are fully as able to distinguish between the false and the true in therapeutics, consider it a sacred hippocratic obligation to save life and lessen suffering whenever they can, even though they are compelled to step outside the rock-worn restrictions of the non-official formulary; they are interested in snake venom, not as a cure-all for epilepsy, but as an agent which, by further clinical investigation, may be found to possess the power of giving permanent relief to many of these sufferers who are even admitted by you to be "too commonly helpless."

THOMAS J. MAYS, M.D., Philadelphia.

[COMMENT.—Nothing in Dr. Mays' protest alters the scientific facts on which the editorial was based, and it is not the purpose of this reply to enter into polemics to support them. There is another phase of the matter which can now be elaborated.

While Dr. Mays comes forward as the spokesman and champion of Spangler's rattlesnake-venom treatment of epilepsy, we can hardly believe that he stands ready to defend the lay press write-ups by which this hazardous therapeutic experiment has been promulgated and commercialized. Except that the subject is one of less general interest, its sensational publicity has been on a par with that of Shafer's Phylacogens and Friedmann's tuberculosis treatment. Through it, victims

of incurable epilepsy have been led to submit themselves to a method of therapeutic experiment wholly empiric and fraught with just such dangers as our editorial indicated. Physicians otherwise conservative, through the importunities of patients aroused by these newspaper accounts, have been led to test Spangler's treatment, and it is on the basis of such trials by competent epileptologists that we condemned the method and cautioned the profession against its adoption.

Dr. Mays' letter gives the opportunity of protesting again against the tactics by which the crotalin treatment of epilepsy has been forced into public notoriety.—Ed.]

---

### Prescribing Proprietaries, and Managing the Detail Man

*To the Editor:*—The professions of medicine and pharmacy are distinct, and the best results are obtainable only when the physician and the pharmacist each attends to his own business and the two work in harmony. As the result of the activities of our pharmacologic society, composed of physicians and pharmacists, the conditions in Evanston are a surprise to visitors to our city. The use of proprietary medicines is reduced to a minimum. Still further to reduce the nuisance of the detail men and their samples, at the last meeting a committee was appointed, consisting of one physician and one druggist, to whom detail men must present their case before they will be received by the other members. Exploiters of proprietary mixtures will be refused endorsement, as will those also who have been involved in doubtful financial transactions in the past. Would it not greatly aid the general condition if the Evanston example should be generally copied through the country?

Henry B. Hemenway, M.D., Evanston, Ill.

[Comment.—The Evanston method of dealing with the proprietary question indicates that the physicians of that town are alive to their responsibilities. Would it not be simpler and just as efficient, however, to accept the findings of the Council on Pharmacy and Chemistry as constituting credentials for the detail man? Many physicians are using New and Nonofficial Remedies for just this purpose.—Ed.]

---

### Needed Reorganization of the Indian Medical Service

*To the Editor:*—I have read with a great deal of interest Dr. Wimberly's letter to The Journal (May 17, 1913, p. 1558), and in most respects agree with his exposition.

During the last year the Medical Association of the United States Indian Service has been formed and has appointed a committee to draft a bill for introduction in Congress either for our amalgamation with the Public Health Service or for the organization of the medical work among the Indians along the same lines. Conditions at present are deplorable in the extreme, not only for the Indians and the physicians concerned, but for the public at large. When over 20 per cent. of the Indians have trachoma, in Oklahoma over 68 per cent., how long will it be before the white settlers around and on the reservations also become infected? Owing to its antiquated methods of handling hygienic and sanitary questions and the restrictions imposed on the physicians, the Indian Office has shown its utter inadequacy to deal with the problems involved.

The physicians in the Indian Service are, I believe, fully as capable as the ordinary practitioner on entering the service. They are selected by a competitive civil service examination and must possess the same qualifications and pass the same examinations as physicians for the Isthmian Canal Service, Coast and Geodetic Survey, Reclamation Service, Philippine Service, etc., and the Indian Service physicians receive only from $1,000 to $1,200 a year whereas the others enter at $1,800. After assignment to the reservation, they find in many instances no quarters or quarters unfit to live in; no means of transportation or an old worn-out team or saddle pony with which they are supposed to cover several hundred square miles of territory. Not only that, but every act is subject to the superintendent's wishes. The teams they drive, the drugs they purchase, the quarters they occupy, their chances of increase in salary or promotion of any sort depend on his whims. Some of the superintendents are anxious to improve conditions but are either lacking in funds or fear to antagonize the Indians, while others lend as little support as possible. The reservations are so large that it is impossible often to give an acute case the attention it really deserves; besides, there is often much antagonism on the part of the Indian to treatment by white physicians.

Most of our work should be along sanitary and hygienic lines. This would require not only a larger allowance for medical work but also a complete reorganization of the Indian Medical Service. It should be separated from lay control entirely, some one skilled in medical science placed at the head and then organized along the lines of the Public Health Service or Medical Corps of the Army and Navy. Better still from economic reasons would be its union with the Public Health Service, where it in reality belongs.

C. W. Lane, M.D., Lincoln, Wash.
Secretary and Treasurer, Medical Association of the United States Indian Service.

---

### Limited Usefulness of Fish in Destruction of Mosquitoes

*To the Editor:*—In The Journal, May 3, 1913, p. 1348, there is an item on a small fish, native of Barbados, called commonly "millions," which is used in the Cape Province, South Africa, for the destruction of the larvae of anophelines as one means of combating malarial fever. Similar experiments with the same species of fish, from Barbados, were carried on in the Canal Zone by the Sanitary Department of the Canal Commission three years ago. The method was found to be applicable only to small permanent collections of water unsuited to drainage or oiling. The fish are so small that they easily become prey of larger fish in streams and ponds of any size, and the smaller collections of water are usually more easily treated by oiling or drainage. For these reasons the value of this method of mosquito destruction is limited.

Alfred G. Farmer, M.D.
District Physician, Gatun, C. Z.

---

## Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

---

### CRITICISM OF A PRESCRIPTION FOR "LIVER TROUBLE"

*To the Editor:*—Please criticize the following prescription, which I am informed was given after a diagnosis of "liver trouble":

| | | |
|---|---|---|
| ℞ | Resorcin | 3 iss |
| | Acid borac. | 3 i |
| | Sodii bicarb. | 3 ii |
| | Tinct. nuc. vom. | 3 iii |
| | Syr. ipecac. | 3 i |
| | Fl. ext. rhubarb | |
| | Fl. ext. hydrast. | āā 3 iiss |
| | Elix. digest. comp. | ad 3 iv |

M. Sig.: Teaspoonful after meals.

James Wiltse, M.D., Brewster, N. Y.

Answer.—Our correspondent's implied criticism of the diagnosis seems to us appropriate. We might say that the prescription fits the diagnosis. It is rather characteristic of the type of mind that is satisfied with an indefinite diagnosis like "liver trouble," to attempt to cover possible therapeutic indications by a monstrosity of polypharmacy. Aside from the impropriety of combining so many ingredients in one prescription, there are several obvious chemical incompatibilities. The mixture of sodium bicarbonate and boric acid in a solution would result in the formation of carbon dioxid and a salt of sodium — a borate. The antiseptic power of the boric acid is considerably reduced by such a reaction. The combination of an alkali like sodium bicarbonate with a compound of strychnin is likely to give rise to a serious incompatibility. In this case it is probable that the strychnin might be held in solution by the alcohol

in the tinctures and fluidextracts, but the possibility of a precipitation should always be kept in mind. While bicarbonates do not immediately precipitate strychnin, there is a chance of a gradual separation of carbon dioxid, converting the bicarbonate into a carbonate which may produce precipitation of strychnin to the extent that a fatal dose is given at the last. Elix. digest. comp. is an entirely superfluous component of the prescription so far as therapeutic value is concerned.

---

### REMOVAL OF BIRTHMARKS

*To the Editor:*—Under my care I have a girl 5 years old who has a birthmark on the dorsal surface of the wrist and a portion of the hand. The skin is of a deep brownish color, indurated and is quite hairy. What is the most approved method and what is the most practical technic for removing this mark?

J. F. RIORDAN, M.D., Berlin, Wis.

ANSWER.—The best method of treating such pigmented hairy nevi is by repeated freezings over the area with solidified carbon dioxid (after the method introduced by Pusey). Areas not larger than ¾ inch square can be frozen at one application; if the area to be treated is large, it can be frozen by repeated applications to adjacent areas at one sitting. It is well to begin with applications not longer than twenty seconds and increase their length to thirty, forty or sixty seconds at later sittings if it should be found necessary. A series of treatments at intervals of a few weeks—from three to eight—may be necessary to attain the greatest possible improvement. It is better to do too little at each treatment and repeat the treatments than to proceed too vigorously and produce an unnecessary amount of scarring. With care, patience and intelligence even large pigmented nevi can be almost entirely removed with little scarring.

Before freezing a hairy nevus the hair should be shaved off or clipped very close, and as a precaution the surface washed with an antiseptic solution. The pain of the applications is slight; a 5-year-old child will usually stand a treatment without resistance, if not too many areas are frozen at one time. The frozen area swells like a mosquito-bite or a bee-sting; the disappearance of this swelling can be hastened by bathing in hot or cold water. Bathing also diminishes the evanescent discomfort following the freezing.

---

### AUTOGENOUS VACCINE THERAPY IN EPIDEMIC OF TONSILLITIS AND ACUTE ARTHRITIS

*To the Editor:*—This community has been infested this year with a lot of infectious tonsillar trouble, which manifested itself later in a great deal of infectious joint troubles. What bacterin might possibly be advantageously used?

CHARLES H. STARKEL, M.D., Belleville, Ill.

ANSWER.—Smears of the throat should be taken and the micro-organism which seems to be the cause of the disease should be obtained in pure culture. In the case referred to it would be well to look for streptococci, as these have been the cause of a number of epidemics of sore throat recently reported. An autogenous vaccine should be made from the organism which seems to be the cause of the trouble. It has been shown that such epidemics are spread through the milk-supply; therefore this should be carefully investigated. The following references indicate the importance which this subject has assumed within the last two years:

Milk-Borne Tonsillitis, editorial, THE JOURNAL, Nov. 11, 1911, p. 1618.

Davis, D. J., and Rosenow, E. C.: An Epidemic of Sore Throat Due to a Peculiar Streptococcus, THE JOURNAL, March 16, 1912, p. 773.

Hamburger, L. P.: An Epidemic of Septic Sore Throat in Baltimore and Its Relation to a Milk-Supply, THE JOURNAL, April 13, 1912, p. 1109.

Stowell, E. C., and Hilliard, C. M.: Comparison of Streptococci from Milk and from Human Throat, *Am. Jour. Dis. Child.*, May, 1912; abstr., THE JOURNAL, June 22, 1912, p. 1997.

Capps, J. A., and Miller, J. L.: The Chicago Epidemic of Streptococcus Sore Throat and Its Relation to the Milk-Supply, THE JOURNAL, June 15, 1912, p. 1849.

Davis, D. J.: Bacteriologic Study of Streptococci in Milk in Relation to Epidemic Sore Throat, THE JOURNAL, June 15, 1912, p. 1852.

McKinney, R.: Streptococcus Infections of Throat, *Southern Med. Jour.*, June, 1912.

Luetscher, J. A.: Bacteriology of Epidemic Sore Throat, THE JOURNAL, Sept. 14, 1912, p. 869.

Heinemann, P. G.: The Epidemic of Sore Throat in Chicago, THE JOURNAL, Aug. 31, 1912, p. 716.

Capps, J. A.: The Rôle of Milk in the Causation of the Chicago Epidemic of Sore Throat, THE JOURNAL, Nov. 9, 1912, p. 1715.

The Clinical Manifestations of Epidemic Sore Throat, editorial, THE JOURNAL, Nov. 23, 1912, p. 1894.

Rosenow, E. C.: Study of Streptococci from Milk and from Epidemic Sore Throat and the Effect of Milk on Streptococci, *Jour. Infect. Dis.*, November, 1912; abstr., THE JOURNAL, Dec. 21, p. 2286.

The Source of the Streptococci in Epidemic Sore Throat, editorial, THE JOURNAL, Jan. 4, 1913, p. 51.

Hamburger, L. P.: Baltimore Epidemic of Streptococci or Septic Sore Throat and Its Relation to Milk-Supply, *Bull. Johns Hopkins Hosp.*, January, 1913.

Stowell, E. C.; Hilliard, C. M., and Schlesinger, M. J.: Statistical Study of Streptococci from Milk and from Human Throat, *Jour. Infect. Dis.*, March, 1913; abstr., THE JOURNAL, April 5, 1913, p. 1106.

The close relation of tonsillitis to acute arthritis (acute rheumatism) is now well recognized. It is probable that the tonsil forms the port of entry for the infecting organism. The following recent articles may be referred to in connection with this subject:

Schichhold, P.: Tonsillectomy in Treatment of Rheumatism and Other Infections, *München. med. Wchnschr.*, Feb. 8, 1910; abstr., THE JOURNAL, March 19, 1910, p. 1016.

Pickenbach: Importance of Tonsillitis in Etiology of Acute Rheumatism, *München. med. Wchnschr.*, April 5, 1910.

Hess, K.: Importance of Tonsil Region in Relation to Acute Articular Rheumatism and Heart Disease, *Med. Klin.*, Nov. 21, 1910.

Higgs A. K.: Relation Between Diseased Tonsils, Rheumatic Fever and Heart Disease, *Northwest Med.*, November, 1911; abstr., THE JOURNAL, Dec. 9, 1911, p. 1944.

Symposium on Chronic Focal Infections: Their Relation to Disease of the Heart, Kidney and Joints, THE JOURNAL, Dec. 30, 1911, p. 2169.

Billings, F.: Chronic Focal Infections and Their Etiologic Relations to Arthritis and Nephritis, *Illinois Med. Jour.*, March, 1912; abstr., THE JOURNAL, Dec. 30, 1911, p. 2169.

---

### LITERATURE ON PURIFICATION OF DRINKING-WATER

*To the Editor:*—I am desirous of obtaining some information in regard to the sterilization of drinking-water, and should be greatly indebted to you if you would refer me to any literature describing the various methods which are used in the United States.

F. E. C., New York.

ANSWER.—Following is a list of recent articles on this subject:

The Purification of Water with Bleaching-Powder, editorial, THE JOURNAL, Oct. 16, 1909, p. 1293.

The Purification of Water by Hypochlorites, editorial, THE JOURNAL, Aug. 20, 1910, p. 699.

Chamberlain, W. P.: Effect of Ultraviolet Rays on Amebae: Use of These Radiations in Sterilization of Water, Philippine Jour. Sc., November, 1911; abstr., THE JOURNAL, March 23, 1912, p. 892.

Cooper, A. T.: Some Tests of the Efficacy of Chlorinated Lime in Purifying Drinking-Water, Military Surg., May, 1912; abstr., THE JOURNAL, June 8, 1912, p. 1817.

The Increasing Use of Calcium Hypochlorite in Water Purification, editorial, THE JOURNAL, Jan. 27, 1912, p. 279.

Stokes, W. R., and Hachtel, F. W.: Some Results of the Treatment of the Baltimore Drinking-Water by Calcium Hypochlorite, THE JOURNAL, Oct. 26, 1912, p. 1505.

Scharff, M. R.: Experiments on Disinfection of Water with Ultraviolet Light, with Laws of Disinfection, Jour. Infect. Dis., May, 1912.

Clemesta, W. W.: Use of Ultraviolet Rays in Sterilization of Water, Indian Med. Gaz., July, 1912.

Powell, S. T.: The Water-Purification Works of the Baltimore County Water and Electric Company, THE JOURNAL, Sept. 14, 1912, p. 875.

Hering, R.: Methods of Water Purification of Large Cities, THE JOURNAL, Feb. 8, 1913, p. 411.

The Hypochlorite Treatment of Water-Supplies, editorial, THE JOURNAL, Jan. 18, 1913, p. 211.

---

### MUCH-HOLZMANN PSYCHOSIS TEST—WEIL COBRA VENOM TEST—NOGUCHI BUTYRIC ACID TEST

*To the Editor:*—1. What is the Much-Holzmann psychosis test?

2. What is the Weil cobra venom test for syphilis?

3. In Noguchi's "Serum Diagnosis of Syphilis," p. 157-159, instructions are given that in using the Noguchi butyric acid test on the cerebrospinal fluid one should boil the mixed reagents and spinal fluid. In the directions for using the butyric acid method with the blood-serum no mention is made regarding the heating of the precipitated globulin, dissolved in the normal salt solution, to which the butyric acid is added. Is it necessary to boil the reagents in testing the cerebrospinal fluid and not in case of the blood-serum?

EDWIN E. HUTSHING, Napa, Cal.

ANSWER.—1. The Much-Holzmann test is a test used for the presence of dementia praecox. It consists in the use of cobra venom together with red blood-cells. The cobra venom causes a hemolysis of the red blood-cells in the absence of dementia praecox. If the serum of a patient with dementia is added to the mixture of the cobra venom and red blood-cells the hemolysis is almost completely inhibited. (See article by Much and Holzmann, *München. med. Wchnschr.*, May 18, 1909, p. 1001. Also A. J. Rosanoff: The Much-Holzmann

Serum Reaction in Insanity, *Arch. Int. Med.*, October, 1909, p. 405.)

2. The Weil cobra venom test for syphilis is essentially similar. The technic of this test is described in The Journal, April 19, 1913, p. 1247.

3. The reason that heat is not applied in the case of the test of blood-serum by means of butyric acid is that the amount of globulin is here much richer than in the cerebrospinal fluid, and the reaction takes place with sufficient rapidity without the aid of heat. In cases, however, in which one deals with a very much smaller quantity of the blood-serum, it is helpful to heat it.

It should be noted that a recent query referring to the luetin test as the Noguchi skin test was incorrectly answered in The Journal, March 29, 1913, p. 1016. The mistaken assumption was made that the query referred to the Noguchi modification of the Wassermann test. Luetin is still prepared by Dr. Noguchi exclusively.

### MORPHIN AND HYOSCIN (SCOPOLAMIN) IN LABOR

*To the Editor:*—Please inform me in regard to the use of morphin and scopolamin hydrobromid hypodermically in confinement cases. Is it perfectly safe, and if there are objections, what are they? Is there any objection to this more than to morphin and atropin? H. B. Fitts, M.D., Provincetown, Mass.

Answer.—Scopolamin (hyoscin) and its salts are nearly allied in origin and composition to atropin. The chief difference between them is in their physiologic and therapeutic action on the central nervous system. Atropin in moderate or therapeutic doses is somewhat of an excitant. Scopolamin is rather a sedative or depressant. For this reason atropin is antagonistic to morphin and is therefore employed to counteract the analgesic effects of morphin on the respiratory centers. Scopolamin is a cerebral sedative and hence in regard to its action on the nervous system a synergist to morphin.

A few years ago it was proposed to use morphin and scopolamin in labor and give a sufficient amount to render and keep the patient in a semiconscious state *(Dämmerschlaf)*. This plan was tried out in several German clinics but seems to have been generally abandoned. The objections to it have been danger to the child and disturbance of normal labor.

### WHISKY BLENDS

*To the Editor:*—I want certain information concerning the pure food act as it relates to the blending of whisky. On good authority, I stated to a group of university club young men—some lawyers—that a blend was a fraudulent device, though authorized by a ruling of Mr. Taft. The article is a mixture of a little good whisky, cheap alcohol, vegetable extracts and coloring matter. The lawyers said that the government not only authorized the blend, but had a formula for it which was carried out in the mixture before it left the warehouse with the stamp of the government. This was news to me, and I hesitated to accept the statement. My understanding is that when whisky leaves the warehouse with the government stamp it is straight whisky—130 proof. That the practice of dealers and clubs is, on account of its strength, to reduce it about 30 per cent. with simple water, making the proof about 90, and in this condition it is bottled and government stamp put over the cork. This is not a blend, but the dishonest dealer adulterates it in the manner previously stated and then it is a blend. This is true, or there is no reason for the mixture. The plea that the fragrance and flavor are improved by the blend is simply a fraudulent device to deceive and to sell a cheap whisky at greater cost than a pure one. The latter can be flavored safely if necessary. Purity is no bar to it, certainly. There is much public misapprehension as to the law and the facts, and I believe an exposition in The Journal would be well received. M.D., Denver.

Answer.—Under the Food and Drugs Act, the term "blend" is used to denote a mixture of "two or more like substances."

In April, 1906, the Department of Agriculture issued a decision (F. I. D. 65), sometimes called the Roosevelt whisky decision, which declared, in intent, that "straight whisky" and "neutral spirits" were unlike substances. With this as a basis, it was ruled that:

> "Straight whisky will be labeled as such.
>
> "A mixture of two or more straight whiskies will be labeled 'blended whisky' or 'whiskies.'"
>
> "A mixture of straight whisky and ethyl alcohol, provided there is a sufficient amount of straight whisky to make it genuinely a 'mixture' will be labeled as compound of, or compounded with, pure grain distillate.
>
> "Imitation whisky will be labeled as such."

Naturally, this decision was not acceptable to certain of the whisky interests. The result was another decision issued in 1910 sometimes referred to as the Taft decision. According to this decision, straight whisky, rectified whisky, redistilled whisky and neutral spirits whisky are "like substances" and any of them may be labeled "whisky" without qualification. To quote from the decision:

> ". . . All unmixed distilled spirits from grain, colored and flavored with harmless color and flavor, in the customary ways, either by the charred barrel process or by the addition of caramel or harmless flavor, if of potable strength not less than 80 degrees proof, are entitled to the name whisky without qualification. If the proof be less than 80 degrees, i. e., if more water be added, the actual proof must be stated on the label and this requirement applies as well to blends and compounds of whisky" (F. I. D. 113).

Naturally, under this decision, mixtures of straight whisky with neutral spirits whisky may be labeled a "blend" because they are mixtures of "like substances." We believe that it makes no difference what the proportions are of the component parts in a "blend."

A mixture of straight whisky with alcohol derived from something other than grain, must be labeled a "Compound." The Attorney General decided, in December, 1908, that the amount of whisky in a "compound" must equal or exceed one-third in volume of the spirituous content.

### PRESCRIBING THYMOL IN LIQUID PETROLATUM

*To the Editor:*—It is asserted that purified petroleum, or "liquid vaselin," is not emulsified or absorbed by the intestinal mucous membrane. If this is true, will you kindly inform me if there would be any danger in giving thymol dissolved in liquid petrolatum, provided, of course, that no other fats or oils were taken?

C. H. Wood, M.D., Glendora, Cal.

Answer.—So far as we can see, there would be no objection to prescribing thymol in liquid petrolatum. While the petrolatum would dissolve the thymol it would not tend to facilitate its absorption, because it is not itself absorbable and the thymol would need to pass through a watery liquid, in which it is only very slightly soluble, before it could reach the blood.

### THE VERB "MASSAGE"

*To the Editor:*—Please state the correct verb to use in expressing the act of performing massage, and its proper pronunciation. For example, which of the following sentences is correct, and if both are correct which is preferable?

"The nurse was asked to masser (massay) the breast."
"The nurse was asked to massage (massazh) the breast."

Inquirer.

Answer.—The second sentence is correct. Massage is the verb in common use. Massé is used rarely. Masser, the French verb (of which massé is the past participle), is not used in English. The pronunciation has been indicated correctly by our correspondent. Massage is accented on the second syllable; the first a is short as in ran, the second a has the Italian sound as in alms, the s's are hissed, and the ge is sounded soft as the si in vision. Massé is accented on the second syllable and the é is pronounced like the a in ape.

### REQUEST FOR SPECIMENS IN RESEARCH WORK ON THE SKULL

*To the Editor:*—I am doing research work on the topographic anatomy of the base of the skull. I desire specimens which do not conform to the generally accepted type described in text-books. If any physician who has such a specimen will send it to me, I will return it to him and give him credit in any monograph I may publish.

L. J. Genella, M.D., 922 S. Carrollton Avenue, New Orleans.

## *Miscellany*

### Communicable Diseases Among the American Indians

It has been known for some time that conditions of sanitation and public health among the American Indians are far from satisfactory. This knowledge has been emphasized in the reports of the Commissioner of Indian Affairs and commented on in The Journal at different times (Health Work Among Indians, editorial, The Journal, May 18, 1912, p. 1515; Health of the American Indian, editorial, ibid., March 15, 1913, p. 832); but no definite information was available as to the prevalence and seriousness of communicable disease among the Indians throughout the United States until the survey made last fall by the Public Health Service. This

survey was conducted in accordance with an act of Congress of Aug. 24, 1912, appropriating $10,000 for a thorough examination "as to the prevalence of tuberculosis, small-pox, trachoma and other contagious and infectious diseases among the Indians of the United States," the final report to be made Feb. 1, 1913. This report was sent to the Senate, Jan. 23, 1913, by the secretary of the treasury (Senate Document 1038, Sixty-Second Congress, third session).

The investigation included an examination of the available data and records at Indian schools and agencies and of state boards of health, the examination of Indians in boarding-schools and reservations, the inspection of sanitary conditions having a bearing on the propagation of communicable diseases, and house-to-house visits on as many reservations as possible. The investigation extended from Sept. 28 to Dec. 30, 1912. In all, 39,231 Indians were personally examined, constituting approximately one-eighth of the total Indian population of the United States. Boarding-schools in twenty-five states were visited. The extent of this field of survey makes it probable that the results are typical for the entire Indian population, and that the conclusions drawn are accurate.

It was found that tuberculosis and trachoma are playing fearful havoc among the Indians, these being by far the most deadly diseases. Of the 39,231 Indians examined, 8,940 or 22.7 per cent. suffered from trachoma. At this rate about 72,000 Indians altogether are trachomatous. The disease is most serious in that it is a common cause of reduced physical and economic efficiency, mental retardation and actual suffering. The highest incidence of trachoma was found in Oklahoma, where it reached 68.6 per cent. In New York the lowest incidence was found of 0.2 per cent. A high rate was found also in Wyoming with 51 per cent.; Nebraska, 41 per cent.; Utah, 39 per cent.; Iowa, 32.04 per cent.; Nevada, 26.9 per cent.; Arizona, 24.9 per cent.; North Dakota, 22.9 per cent., and New Mexico, 22.3 per cent.

The Indian boarding-schools represent one of the most important agencies through which the federal government is seeking to educate and improve the condition of the Indian race. Hence it was considered that the incidence of trachoma in these schools was of the utmost concern. Data were collected from 133 of these schools with the following results: Among 16,470 pupils were found 4,916 cases of trachoma, or 29.8 per cent. The highest was in the Rainey Mountain School in Oklahoma, where 105 out of 114 pupils examined had trachoma, a percentage of 92.1. Throughout the Oklahoma Indian schools the average incidence of this disease was 69.1 per cent. Three schools alone, one in Wisconsin and two in New York, were free from trachoma. This was explained in turn by the absence of trachoma in the populations from which these schools drew their students. In 68 of the 133 schools the percentage of trachoma ranged from 25 to 90. It was found to be more generally prevalent in the schools than on the tributary reservations, and in non-reservation schools, groups of pupils from sections which were practically free from trachoma showed a high incidence of the disease. It is a fair inference that many students contracted the disease at such non-reservation schools and that they could easily spread it to new localities.

The situation in day schools is similar to that in boarding-schools. Of 3,488 day pupils examined, 752, or 21.5 per cent., had trachoma. In Arizona 41.3 per cent. of 990 Indian day schoolchildren were trachomatous. This was much in excess of the general rate for the state of 24.9 per cent. In New York 335 day pupils presented no cases of the infection. Trachoma was present in the Indian day pupils in all the states except New York. It would seem that the high incidence in the boarding-schools is due to the direct spread of the disease among the inmates.

Of 17,822 reservation Indians above and below the school age examined, 3,064, or 17.2 per cent., suffered from trachoma. In this class of Indians Oklahoma showed a trachoma incidence of 60.4 per cent.; Utah, 39.2 per cent.; Wyoming, 37.2 per cent.; Nevada, 36.5 per cent., and Montana, 30.7 per cent. In general trachoma was found most prevalent in Indians of school age, over half the patients being between 6 and 20 years of age, and it was slightly more prevalent in females than in males. Full-bloods were more prone to the disease than mixed bloods, but this is probably explained by the more prosperous condition and better living-habits of the latter.

The damage to vision from trachoma was marked. In a group of 23,560 Indians, 5,505 had trachoma and 527 had sustained serious damage to vision; 141 were blind in one or both eyes. This does not represent the total damage to vision from trachoma, as a large part of those examined were schoolchildren in whom the disease had not yet progressed far enough to produce serious complications. It is considered that 75 per cent. of untreated trachoma cases result in permanent injury to vision. It seems that trachoma has existed in the Indians in widely scattered sections for many years, but no reliable data could be obtained as to its actual origin or duration.

Trachoma has usually been considered a disease of immigrants from its known prevalence in Russia, eastern Germany, parts of Austria-Hungary, and in Italy, Greece and Spain. But it has only lately been considered as possessing dangerous endemic foci in the United States. The recent work of McMullen in Kentucky (see Trachoma in the United States, editorial, THE JOURNAL, Nov. 30, 1912, p. 1978), who found 12.5 per cent of 3,974 persons examined to be trachomatous, of Foster and Krulish in Alaska, and the present survey of the American Indians serve to show the true situation.

The reports on the prevalence of tuberculosis probably give a considerable underestimate of its real incidence because the examiners were forced by the exigencies of time and territory to examine physically only suspects, and because much of their work was done in the boarding-schools, from which tuberculous children are excluded. The result was the finding of an artificially reduced prevalence in a proportionately large group of Indians, but even so tuberculosis shows a wide incidence. The infection was more common in the primitive and less civilized Indians, as among the Nevada Piutes, with a rate of infection of 32.6 per cent. Certain Oregon reservations were highly affected, as the Siletz reservation with 24.5 per cent., Klamath Lake with 20.2 per cent., Umatilla with 20.6 per cent., and Warm Spring with 22.7 per cent. New York had the lowest state incidence with 1.2 per cent. These Indians are prosperous and live very much like their rural white neighbors.

In the north and northwest the incidence of tuberculosis ranged from 15 per cent. among the Sac and Fox Indians of Iowa, and 12.1 per cent. among the Montana Indians, to 2.3 per cent. in Michigan. In the southwest the highest incidence was shown by the Jicarilla Apaches of New Mexico and the Walapais of Arizona with 9.4 per cent. and 14.9 per cent., respectively. The well-fed and prosperous Navajo and Zuñi tribes of New Mexico had a low incidence. In New Mexico 1,225 Indian schoolchildren were tested by the von Pirquet tuberculin reaction, with a great variation in percentage of positive results in different tribes. Among the Jicarilla Apaches 95.5 per cent. of the children over 11 years of age gave positive reactions. On the other hand, the percentage of positive reactions in the Taos Indian children was only 1.4 per cent.

The conclusion is drawn that tuberculosis is much more common among Indians than in the white race, depending on the locality, and that the situation is so serious as to require the prosecution of vigorous measures for its relief.

As among the whites, the prevalence of small-pox in the Indian population seems to bear a close relation to the thoroughness of vaccination. Only six actual cases of small-pox were found among the 39,231 Indians examined. Superintendents and reservation physicians should be held to strict account for the thoroughness of vaccination in their respective districts.

Strangely enough, typhoid fever is surprisingly rare among the Indians. No cases were found in the survey. In part at least this rarity is explained by the facts that the disease has not yet been extensively introduced among the Indians, that the water-supply is comparatively safe, and that the Indian is not a milk drinker. Closer contact with whites, however, will determine a greater prevalence of typhoid.

Scarlatina and diphtheria are uncommon with the Indians, while measles is frequent and is apt to be attended with a

considerable mortality. Whooping-cough, chicken-pox and mumps are common. Among the reservation Indians venereal disease is rather infrequent, syphilis being less common than gonorrhea; but neither disease is found extensively.

In general, sanitary conditions on reservations are unsatisfactory. Small, overcrowded, ill-ventilated and dirty houses are the rule. Personal and social habits favor the spread of disease. In most schools trachomatous pupils mingle freely with the others, and washing and toilet facilities were often inadequate and obsolete. Imperfect screening against flies was noted, and medical and sanitary supervision were not satisfactory.

The Indian is being brought into constantly closer relations with whites by the opening to settlement of Indian lands, by improved transportation facilities, and by the gradual process of assimilation with the general population. These facts make the control of communicable disease among Indians, and the prevention of their spread to neighboring races, an important public health problem. The great point is not so much the treatment of individual diseases and patients—work which is in large measure nullified by the ignorance and indifference of the Indian—but the improvement of sanitary conditions which are responsible for these diseases. The collection of vital statistics was found to be very imperfect on most reservations, and often they were not preserved and compiled with proper care.

Indian boarding-schools have without doubt been an important factor in the spread of trachoma, as also the presence of flies in the spread of trachoma and tuberculosis. The insanitary condition of most Indian schools is laid to the presence of one or more of the following factors: overcrowding, inadequate equipment, imperfect sanitary supervision and lack of observance of necessary sanitary precautions. The conclusion is stated in the report that the medical branch of the Office of Indian Affairs is hindered from doing effective work by (*a*) insufficient authority in medical and sanitary affairs; (*b*) existing obstacles such as racial characteristics, present economic status of the Indian and varying physical conditions on the reservations, and (*c*) inadequate pay, absence of reasonable expectation of promotion, and lack of *esprit de corps* and coordinated organization (see Organization of Physicians in the Indian Service, news department, The Journal, Feb. 8, 1913, p. 458; Physicians in the Indian Service, current comment, ibid., p. 454).

The recommendations embodied in the report to the Senate are general, and indicate broad principles of action capable of modification to meet diverse local requirements. The improvement of sanitary conditions among the Indians should be effected by (1) improving the economic status of the Indian, as fast as possible making him self-supporting and a property owner; (2) education in personal and domestic hygiene, and the prevention of contagious and infectious disease; (3) improvement of housing conditions, including the preparation of designs for the cheapest and most sanitary dwellings for the various climatic conditions of the various reservations, and the requirement that all dwellings built in the future should conform to approved designs; (4) so far as practicable restriction of one family to one house; (5) provision of sanitary privies for permanent houses and camps; (6) division of reservations into sanitary districts according to size and density of population, each district to be under the control of a medical officer who should be held to strict account for the sanitary condition of his district; (7) an accurate census of each sanitary district, including the sanitary condition of all dwellings and the physical condition of all persons; (8) regular sanitary inspections of all districts, dwellings, boarding-schools and day schools for the discovery and abatement of nuisances; (9) giving medical officers full authority as sanitary officers; (10) placing medical officers under the control of a distinctly medical bureau; (11) the permanent recording of vital statistics, and (12) practically a reorganization of the Indian Medical Service with increased pay in order to increase efficiency.

Special hospitals and clinics for tuberculosis and trachoma should be instituted, and victims of these diseases should be in separate schools and away from chances to extend the infection. An excellent suggestion is that steps be taken at once to put in thoroughly good sanitary condition some one reservation now having a high incidence of disease. This would serve as a demonstration of the practicability and benefits of sanitation.

This survey is most timely, and its conclusions merit sober consideration. It has been pointed out in The Journal that the Indian race in America is increasing (Health of the American Indian, editorial, The Journal, March 15, 1913, p. 832). The misinformation in the past regarding actual disease among them is well exemplified in the erroneous idea of the wide prevalence of venereal disease. Now with a positive basis of knowledge as to actual conditions obtaining, it is possible effectively to meet the situation. The recommendations embodied in the report from the Public Health Service are based on definite facts and should be carried into effect without delay.

---

## U. S. Senate Asked to Investigate von Ruck Remedies and Methods

The following is taken from the *Congressional Record* of May 26, 1913:

TREATMENT OF TUBERCULOSIS IN NORTH CAROLINA

Mr. Overman: I submit a resolution, which I ask may be read, and I ask unanimous consent for its present consideration.

The resolution (S. Res. 89) was read, as follows:

> *Resolved*, That the Secretary of the Treasury be, and is hereby, requested to institute, through the Bureau of the Public Health, an investigation of the practices and methods employed by Drs. Karl and Sylvio von Ruck, of Asheville, N. C., in treating tuberculosis and in rendering persons immune from tuberculosis, and to report to the Senate as soon as practicable whether the vaccine used by the said Drs. von Ruck in attempting to render persons in health immune to tuberculosis is successful in immunizing those thus vaccinated.

Mr. Gallinger: Mr. President, I do not rise to object, because we want all the light we can get on this important subject; but it occurs to me that this tuberculosis-vaccine controversy seems to be running riot. We have Dr. Friedmann making claims for a remedy that has been shown to be practically worthless, and we have now a physician in Chicago, Dr. Duket, who assures the country that he has a serum that is a certain cure for tuberculosis. I have very grave doubts myself as to the efficacy of any of these serums; but the Senator from North Carolina thinks that the resolution ought to pass and I will not object, although I doubt the propriety of the government officially engaging in such investigations.

Mr. Overman: Mr. President, I wish to suggest that with Dr. von Ruck this is no new matter. He has a hospital in western North Carolina, and numbers of patients have been cured by him. There is a Senator on this floor who could rise and testify that he has been cured by this treatment. If we can investigate a foreigner and his methods, I do not see why we should object to the examination of those of an American who, I think, has really the vaccine matter that will do the work.

Mr. Gallinger: As I heard the resolution, Mr. President, I understood it to mean that this is a serum that makes persons threatened with tuberculosis immune from the disease. Is that it?

Mr. Overman: Yes.

Mr. Gallinger: Is it also claimed to be a cure for the disease when it actually exists?

Mr. Overman: It has really cured many people, and our leader, the Senator from Indiana (Mr. Kern), I do not mind stating, says that he was cured by it and that he would be willing to give testimony to that effect.

Mr. Gallinger: We can readily get testimony that men have been cured of all sorts of diseases by all sorts of remedies, but that really proves very little.

MR. OVERMAN: There is no harm in adopting the resolution.

MR. GALLINGER: There is no harm in it, except that it establishes a bad precedent; but I will not object.

MR. OVERMAN: There is no harm in allowing the government to investigate the matter.

The VICE-PRESIDENT: The question is on agreeing to the resolution.

The resolution was agreed to.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
Amer. Medico-Psychological Assn., Niagara Falls, Can., June 10-13.
American Proctologic Society, Minneapolis, June 16-17.
Conf. of State and Prov. Boards, St. Paul, June 13-14.
Maine Medical Association, Portland, July 2-3.
Massachusetts Medical Society, Boston, June 10-11.
New Jersey Medical Society, Spring Lake, June 10-12.
North Carolina State Medical Society, Morehead City, June 17.
Washington State Medical Association, Everett, July 14.

## AMERICAN ORTHOPEDIC ASSOCIATION

*Twenty-Seventh Annual Meeting held in Washington, D. C., May 6-8, 1913*

Under the presidency of DR. A. R. SHANDS, Washington, D. C.

The following officers were elected for the ensuing year: president, Dr. G. G. Davis, Philadelphia; vice-presidents, Dr. T. L. Starr, Toronto, and Dr. L. W. Ely, Denver; secretary, Ralph R. Fitch, Rochester, N. Y.; treasurer, Dr. John L. Porter, Chicago. The meeting next year is to be in Philadelphia.

### SYMPOSIUM ON SCOLIOSIS

#### The Normal Positions of the Spine and Their Relation to Lateral Curvature

DR. E. G. ABBOTT, Portland, Maine: The normal spine may be flexed in almost any position. In childhood, the vertebral column is very flexible. The adult spine has no such free motion, so that the changes from one direction to another are not so noticeable in it. It is easy to place the normal spine in any position or combination of positions. In the scoliotic spine, on the contrary, it is often necessary to use considerable force in order to accomplish this in certain directions. A normal spine may be held in a wrong position until typical changes of scoliosis take place and the deformity becomes fixed. The position, which at first is actively assumed through the muscular effort, soon becomes habitual; and habitual assumption of it seems to develop a typical scoliosis. In the latest experiments for proving the effect of muscular action on the spine not all methods of arriving at final conclusions have been exhausted, and the subject still demands further consideration before absolute statements should be made.

#### Prognosis in the Treatment of Lateral Curvature

DR. JOHN L. PORTER, Chicago: There are some general facts which have a bearing on prognosis which should be considered: (1) the cause of the deformity; (2) age at onset; (3) age of the patient; (4) type of the deformity; (5) the patient, and (6) incidental benefit of treatment. We have all found our greatest success between the ages of 12 and 20, and in cases not due to congenital bone defects. We all know what a help it is to deal with an optimistic, alert, interested patient who is anxious to help. Low general health, disposition, etc., often improve with improvement of the scoliosis.

#### Correction of the Fixed Types of Lateral Curvature, Complicated by Visceral Derangements

DR. ROLAND O. MEISENBACH, Buffalo, N. Y.: It is a well-known fact that in most of the cases of lateral curvature there are necessarily secondary changes in other parts of the body. We should not attempt to build the patient up by medication and thereby lose time, but after the spine is corrected other measures may be undertaken with better results. Cardiac lesions, especially functional, due to pressure, may improve after correction, and are not increased. In cases of the severest type with greatest deformity of the spine and derangement of the viscera, treatment should be undertaken cautiously, with a view to improving the general condition of the patient.

#### The Rotation Treatment of Lateral Curvature

DR. A. MACKENZIE FORBES, Montreal: The rational treatment of scoliosis is to place the parts in a position as far removed from deformity as possible, and to retain them in this new position until they shall have become changed by Wolff's law. In the past our results in treating scoliosis have not been brilliant; this is because it is not a deformity of the spine alone, but also of the trunk and thorax. We have assumed that the spinal deformity was the cause of the other two, and our treatment has been directed wholly against this. The usual form of treatment was by side-bending, but I prefer rotation, because I can obtain as much correction as possible by rotation, and because the position of rotation is well borne. Rotation can be secured without any apparatus at all, but I use a more or less complicated apparatus and am constantly changing it. The accepted form of treatment is the production of physiologic scoliosis by rotation on the side opposite to the pathologic scoliosis.

##### DISCUSSION

DR. WALTER TRUSLOW, Brooklyn: Dr. Abbott has presented a decided advance in the treatment in giving us the flexed position. I wish to emphasize the importance of a third plane of space in which this deformity lies, the anteroposterior plane. If we extend the patient forward, we overcome the body lean backward. If we get the right final method, it will be a two-stage process. We shall overcome these secondary conditions first, and then the main trouble, the rotation, afterward.

DR. Z. B. ADAMS, Boston: The differences between Forbes' and Abbott's methods is that Dr. Abbott puts his patient in flexion; then he puts a circular strap around the thorax and pulls down. That increases the rotation.

DR. A. H. FREIBERG, Cincinnati: Cook takes the most convenient situation for the correction of his crook—about the middle of the dorsal region; there the deformity is most amenable to any mechanical control; but it is evident that his method would be inefficient for any other portion of the spine. His statement that if you correct the dorsal curve, the lumbar curve will take care of itself, is not well taken. On the contrary, I think that if we confine our efforts to the dorsal curve when there is a well-marked lumbar curve, it will increase the latter—simply from the action of gravity. We always find torsion and lateral deviation together, and the torsion element of the deformity is the more difficult to dispose of.

DR. S. KLEINBERG, New York: Out of fifty-two cases which I have treated by the Abbott method, seven have been overcorrected, twenty-two have been markedly improved, and twenty-one have not improved at all, while two have been made worse. It is impossible to say in advance at what point improvement is going to appear. We have to depend a great deal on the posture. The breathing has a great deal to do with the cure also. It seems impossible to influence the high cervicodorsal deformity, and even with severe lumbar curves I have had but little success.

DR. MICHAEL HOKE, Atlanta, Ga.: Some methods named after the men who devised them seem to fail to give satisfaction in the hands of others. This is because one cannot apply these methods universally to a given number of cases, without carefully differentiating between the details of the given cases. In many instances in which failures occur, it is the fault of the operator and not of the method. It is good to advocate the rotation, the breathing, the fixation and the

lateral pressure treatments in scoliosis. Different forces have to be applied to different parts. The method should not be attacked, but the good in each method should be utilized; and when there is failure we should criticize our way of applying the method.

DR. JOHN DANE, Boston: Dr. Meisenbach has done a wise thing in drawing our attention away from the side of the spinal deformity and toward the side of the deformity of the trunk and thorax in scoliosis. I believe that it is impossible to have any irritation around the dorsal branch without having a reflex sent to the anterior branch. Bronchial, stomach, intestinal and all sorts of functional troubles come from scoliosis.

DR. G. G. DAVIS, Philadelphia: Three different methods for obtaining correction in lateral curvature have already been published: the Abbott frame, the Forbes frame and the Adams. Dr. Elmer, in my clinic, is trying to accomplish the same object with the patient in a sitting position, using two uprights with a seat to which the patient is strapped.

DR. S. M. CONE, Baltimore: I had a case of scoliosis produced by chronic appendicitis, with a fecal impaction of the colon, which disappeared entirely with the removal of the cause.

DR. COMPTON REILLY, Baltimore: The starting-point of scoliosis is in the pelvis. I think it starts with a twist. I have been using the same apparatus to correct this deformity that I use for the spine in Pott's disease. The time is coming when we shall use no apparatus for the application of the jackets in lateral curvature, but shall simply prop up the foot, which is apparently short, have the patient bend forward, and apply the jacket in that position without any forcible apparatus.

DR. DAVID SILVER, Pittsburgh, Pa.: A great deal of improvement has come from the Abbott method. In stiff cases I have been having the patient remove the jacket morning and evening and take exercises. It has proved a good thing. In cases of paralytic curvature we must concomitantly use the exercises and movements to increase spinal flexibility.

DR. S. KLEINBERG, New York: There is a question as to whether or not the lumbar curve is associated with any pelvic deformation. In a series of twelve cases there were three or four in which there was a difference between the measurements on the two sides from the posterior superior to the anterior superior spine of the ilium.

DR. S. J. HUNKLIN, San Francisco: In cases of great rigidity I find that by having the assistant stand on a platform two feet above the floor, his back against the wall, he is able to produce side bending and flexion until the deformity disappears. Then the jacket is put on. No force is applied to the patient, and rotation is easy.

DR. H. AUGUSTUS WILSON, Philadelphia: We are at present without a standard by which to judge our results. We cannot rely on roentgenography as a means of recording conditions before and after treatment. The patients will judge our results by their personal feelings, and the parents by their children's capabilities. We should try to know accurately the conditions before, during and after treatment, the real changes that take place—not in function or in appearance, but in measurement.

DR. E. G. ABBOTT, Portland, Maine: It makes no difference what kind of apparatus a man uses so long as he can place his patient in the proper position by means of it. The position desired is that of flexion and lateral bending, with elevation of one shoulder and depression of the other. If you have a lumbar curve it is necessary to put on an additional strap to make traction and rotation there. When the curve is in the lumbar spine you must be careful in correcting it, that you do not develop a curve in the dorsal region—which should be held by a strap and prevented from bending or becoming crooked.

DR. JOHN RIDLON, Chicago: My advice is treat the cases as they seem to demand. It is absurd to undertake to treat them all one way.

DR. B. E. MCKENZIE, Toronto: In treating these cases one should bear in mind the fact that he is dealing with an individual, and not simply with a deformity. In treating postural deformities I should exclude mechanical means, such as brace, jacket, etc. We are using the Abbott jacket, and I am satisfied that in difficult structural cases it is of great benefit.

DR. JAMES K. YOUNG, Philadelphia: We are using the Abbott method and are much pleased with the results obtained from it, but the cases must be selected carefully. The age of the patient is important. A patient of 22 does much better than one of 14.

DR. D. D. ASHLEY, New York: I believe that there is a great deal in the technic for every one of us to learn. I have secured better results with my growing patients. I have found girls of 16 or 18, very small and thin-ribbed, whom it has been impossible for me to correct. Their ribs are elastic and will bend into apparent correction, but when we put the Roentgen ray on such patients we find but little modification of our scoliosis.

DR. H. P. GALLOWAY, Manitoba: We have all encountered those difficult cases in children whose deformity is due to poliomyelitis, and watched them grow worse, year after year, and felt the difficulty of controlling them. I have thought of trying the experiment of bone-grafts in producing a fixation of the spine in such cases. I do not think we should be doing a great deal of harm by fixing or solidifying the vertebrae in the corrected position. I hope that some one will try that method of treatment.

DR. ROBERT SOUTTER, Boston: Dr. Sever's work, at the Children's Hospital at Boston, with these difficult structural cases has been wonderfully successful. He used a method of traction on the head and corrective gymnastics. In using the Abbott method I often find that in putting on a second or third jacket I obtain a correction that I could not obtain in the first or second.

DR. JOSEPH E. ROOT, Hartford, Conn.: If you will give a proportionate amount of time to the older and stiffer cases, I think that you will obtain the same results. I put all my patients in the hospital now. They can be examined every day. I have those in whom the curves are hard put in the Abbott frame every day and stretched. The breathing method is also helpful. Change the jacket every week, if necessary, and put the patients through exercises with the jacket on and off. By constant attention in the hospital, I have accomplished in one month what I have worked for two or three years to get. Such treatment means hard work, but fine results. Do not apply the jacket and then not see the patient for a week or two. The improvement is not the result of any particular method, nor is any particular method at fault when there is poor result.

DR. J. E. SEVER, Boston: I have had more experience in treating lateral curvature with the head suspension, although I think that the flexion is mechanically better. The simpler the apparatus the easier it is to put on and the better the result.

*(To be continued)*

## AMERICAN NEUROLOGICAL ASSOCIATION

*Thirty-Ninth Annual Meeting, held at Washington, D. C. May 5-7, 1913*

The President, DR. PEARCE BAILEY, New York, in the Chair

### Present Status of Neosalvarsan in Parasyphilis of Nervous System

DR. EDWARD D. FISHER, New York: Since the finding of the spirochetes in the brain and cerebrospinal fluid in general paresis and tabes, the term "parasyphilis" must be discontinued. All diseases of the nervous system, due to syphilis are due to the same active agent which is the cause of the pathologic changes both in cerebrospinal syphilis and in the more chronic manifestations formerly classed under the head of parasyphilis. The discovery of the spirochetes gives us a rational basis for the use of neosalvarsan. The question arises: What is the relative efficiency of this remedy in the later manifestations of syphilis of the nervous system, that is, in tabes and general paresis? In my experience the hopes

raised by Ehrlich's discovery have not been fully realized and cannot be. We have only to consider the pathologic changes in these diseases to understand the reason. With the Wassermann test, however, we have a rational plan of treatment in the use of neosalvarsan and mercury and the iodids. As we find the Wassermann test negative we can stop our medication and resume it as it becomes again positive. It is certainly rational to remove the active agent of disease, as we can by the use of neosalvarsan, and thus prevent extension of disease. In the light of our present knowledge, we are in a position to make an early diagnosis, and the importance of beginning treatment early is emphasized. The importance of being conservative in our claims for this most valuable remedy should be emphasized as it must be many years before we can know whether its early employment, that is, at the time of the initial lesion, prevents the later manifestations of syphilis of the nervous system.

DISCUSSION

DR. JOSEPH COLLINS, New York: I am in accord with Dr. Fisher in regard to the necessity of dispensing with the terms "parasyphilis" and "metasyphilis." I am not sure that we all recognize that tabes, general paresis and meningeal syphilis are syphilis, not nervous diseases.

DR. PHILIP COOMBS KNAPP, Boston: The clinical and pathologic distinctions thus far justify the division into ordinary syphilis and parasyphilis; this is a convenient division which I think might still be held. My experience with neosalvarsan and salvarsan has been that there is a good deal still in Ehrlich's original contention that the results are not so likely to be beneficial in syphilis of the nervous system as in the early stages of syphilis manifesting itself in other organs of the body. My experience with neosalvarsan and salvarsan in syphilis of the nervous system has not, on the whole, led me to believe that we have obtained much better results than we did with the use of mercury and iodin. In the last two months I have been trying the intraneural method, and thus far the benefits seem to be uncertain and possibly not of sufficient value to warrant the increase of danger that accompanies the use of that method.

### Case of Juvenile Tabes

DR. C. EUGENE RIGGS, St. Paul, Minn.: A boy aged 7½, with no luetic history in either parent and no symptoms of hereditary syphilis, began to have gastric crises when 10 months old; they now occur every three months. There are marked ataxic gait and muscular weakness, but knee- and Achilles-jerks are absent. The Wassermann is positive in blood-serum and spinal fluid; there is no lymphocytosis and no globulin excess.

DISCUSSION

DR. PHILIP COOMBS KNAPP, Boston: Cases of juvenile tabes are very rare. I have a case now which, although not confirmed by necropsy, seems to me probably a case of juvenile tabes, in a girl of 16 of whose family history nothing can be learned. At the age of 5 her head was injured. She sustained several scalp wounds and was unconscious for a day. After that there was no trouble at all until the age of 11, when her sight began to fail. At 12 she had lost vision completely. Some one examining the eyes found optic atrophy of so-called traumatic origin. There had been a history for one or two years of typical tabetic pains, sharp, shooting pains of brief duration. On examination some perception of light and well-marked primary atrophy of both disks were found, but no indications of any keratitis and no radiating scars about the lips. The two central upper incisors were peculiar in that they were somewhat broad, but not characteristic of Hutchinson's teeth. The knee-jerks were absent on one side, and obtained only by reinforcement on the other. There is a marked Wassermann reaction in the blood and the cerebrospinal fluid, and a globulin reaction, but no increased lymphocytosis.

DR. H. M. THOMAS, Baltimore: A boy of 7 was sent to Johns Hopkins Hospital with the diagnosis of tumor, probably of the cerebellum. The child had been extremely bright up to the fifth year, when he had begun to deteriorate and then it was thought that he had an injury. His deterioration took the form of being unable to speak so well as he had before; he had been loquacious; he became noisy and fretful and hard to manage, and his walk became so unsteady that he could hardly get about. On examination, he showed no sign of hereditary syphilis. He had no choked disk; his walk was distinctly cerebellar; his pupils were distinctly unequal and did not react to light, and his reflexes were exaggerated. The boy's blood gave the positive Wassermann reaction and the diagnosis of cerebral syphilis was made. He was given two doses of neosalvarsan and changed markedly. He became quieter; his walk became steadier, and he left the hospital having done pretty well. On arriving home, however, he became extremely quiet, and in a week he was brought back in a different condition. At that time he was speechless; his walk was perhaps a little less ataxic; still he made no attempt to walk. The physical signs were the same. We did a lumbar puncture. He had a cell-count of 33, positive globulin and positive Wassermann, and a Wassermann in his serum was also positive. The case then seemed to be one of juvenile general paresis, and, as it was the only case, we did not venture to make that diagnosis.

### Two Cases of Removal of Extradural Tumor of the Spinal Cord

DR. PHILIP COOMBS KNAPP, Boston: In 3,617 necropsies at the Boston City Hospital a tumor was found only four times, but the spinal cord was not always spared. In 1,294 patients in the neurologic service a tumor was diagnosticated ten times. In eleven cases operation has been performed, in six cases with fatal results, in four with some improvement so that the patient could get about on crutches, and in the fifth case with marked improvement followed by a return of symptoms and a second operation. Data on the operations done in Boston, fourteen of which have been reported, were collected, and showed the following results: tumor removed 8, 6 improved, 2 died; tumor partly removed 7, 3 improved, 4 died; tumor found, not removed 4, 2 improved, 2 died; lesion found, not tumor 6, 3 improved, 3 died; nothing found 6, 3 improved, 2 died, 1 result uncertain. Shersburg collected statistics of 119 operations, in which 49 patients were benefited and 42 died.

### Peculiar and Undescribed Disease of the Nerves of the Cauda Equina

DRS. FOSTER KENNEDY and CHARLES A. ELSBERG, New York: During the last five years, in a large number of spinal operations, we have observed five cases alike in their histories, their clinical findings and in the peculiar swelling and discoloration of the roots of the cauda equina. We have been led to class them together in the belief that they form a definite clinical and pathologic entity. Pain was present in the back of the thighs and legs in all of the patients; atrophy of the anterior muscles with loss of the power of dorsal flexion of the foot was present in four; the objective sensory changes consisted of loss in the sacral and lowest lumbar nerves. The disorganization of the functions of the bladder and rectum was complete in four patients. The abdominal reflexes were regularly present, while the ankle-jerks were lost in four; the knee-jerks became lost coincident with the upward progress of the disease. The conditions found at operation were mainly a swelling and reddish-blue discoloration of many or all of the roots of the cauda equina. A thorough search of the literature failed to reveal any proved cases like those described. A few cases have been reported in which a clinical diagnosis of neuritis of the cauda equina was made and the condition believed to be syphilitic, but in none of these was the diagnosis verified by operation or autopsy. A similar disease has been described in the horse, and in this animal the post-mortem examination revealed a condition like that found in the patients operated on and reported. The Wassermann test both in the blood and in the cerebrospinal fluid was negative in all of the cases; therefore the condition is not luetic; nor were there any signs of a meningeal lesion.

*(To be continued)*

## PEKING MEDICAL CONFERENCE

*Meeting held in Peking, China, January, 1913*

The Vice-President, DR. O. T. LOGAN, in the Chair

### Officers Elected

The new officers are: president, Dr. D. D. Main, Hangchow; vice-president, Dr. C. F. Johnson, Tsinanfu; secretary and treasurer, Dr. H. H. Morris, Shanghai.

The next meeting is to be held in Shanghai.

### The China Medical Missionary Association

This is the only national medical organization in China. It has over 500 members, all foreigners, at work in every province. On this organization, to a large extent, depends the rapidity with which the ideas of western medical science will permeate China's 400 millions.

This association holds a convention every three years. The last one took place in January at Peking. The Chinese Government did all in its power to show an appreciation of the work done by the organization throughout China.

### Address by President of Chinese Republic

PRESIDENT YUAN SHI K'AI gave a reception to the delegates and in the course of an address expressed thanks for the work done, especially in those regions where the importance of sanitation is not realized. He said that through the efforts of the association sanitary knowledge and methods were being widely spread; the poor and the destitute women and children were being cared for and given the elements of an education; the plague in Manchuria two years ago had been checked; in the war between the north and the south of China the wounded were cared for; for this work the president was glad to be able to express his thanks in person. He hoped that the work would be carried on with the same zeal as heretofore for the good of all and indirectly for the strengthening of the bonds of friendship between China and the countries represented by the foreign medical missionaries.

### Medical Education

The keynote of the convention was medical education. The foreign doctor in China is but a temporary necessity. What happened in Japan will some day happen in China. The preponderance of foreign doctors will decrease each year, but medical schools must first be established. The association made plans along this line to hasten the time when the Chinese will be able to care adequately for their own sick without depending on foreign assistance.

The Chinese themselves realize that for many years the help of foreigners will be needed. The problem of medical education presents a twofold difficulty. As yet there is no complete and uniform medical nomenclature, and there are but few well-equipped medical schools. The Surgeon-General of the Army and a secretary of the Bureau of Education appeared before the convention. They expressed the desire of the government for cooperation in the adoption of a uniform nomenclature as well as in the training of medical students.

Fortunately there is at present the closest sympathy between foreign doctors and the Chinese. The convention passed the following resolutions:

A most important feature of the work of medical missions in China at the present juncture is the work of training Christian young men and women that they may take their place as thoroughly qualified medical missionaries to perpetuate the work we have begun, and occupy positions of influence in the service of their country.

The association therefore considers that the object of our presence here can now best be advanced by concentrating our energies largely on the important centers approved by the association, and forming there efficient union medical colleges and specially equipped hospitals. And we would strongly recommend that all such colleges be affiliated and coordinated with other existing missionary educational institutions.

The association recommends that much of the work done in the less important stations should, wherever practicable, be placed under the charge of qualified Chinese; that missionaries of ability and experience in certain instances should be called in from these stations to the teaching centers to take part in the work of the colleges and large hospitals; and that the staffing and thorough equipment of these centers should take precedence of the opening up of new medical work throughout the country.

Recent movements in China have developed a natural desire in the people to carry out their own educational reform, and this we must recognize, and make the foreign element in our work as little prominent as possible, by having our colleges gradually and increasingly staffed and supported by the Chinese themselves.

The association considers that the minimum staff for efficient work in a medical college should be ten men on the field giving full time. This means, when furloughs, language study, etc., are taken into account, a total staff of at least fifteen fully qualified teachers, foreign or Chinese.

The association recommends that sufficient lecture and laboratory accommodation should be provided, and as liberal an equipment as possible in microscopes, models, pathologic specimens, etc.; also that clinical opportunities to the extent of three beds to each student in the final two years be considered the minimum.

The association strongly recommends that until union medical colleges mentioned below are efficiently staffed and equipped, no new medical colleges be started in China. The schools referred to beginning with the north, are Mukden, Peking, Chinanfu, Chengtu, Hankow, Nanking, Hangchow, Foochow and Canton.

As medical books in Chinese are necessary in order to carry on the instruction in our colleges and to provide medical literature for graduates, the association would urge on the missionary societies the need for arranging that suitable men should devote a large part of their time to the work of translating and preparing such books, and also the necessity for money grants for this purpose.

We have no desire to create permanently foreign institutions, and we aim and hope that these medical colleges will gradually and ultimately be staffed, financed and controlled by the Chinese themselves.

We are desirous of bringing our teaching work into line with the regulations of the Ministry of Education, and in all ways to cooperate with and assist the government of the republic in medical education so that a strong and thoroughly equipped medical profession may be established in this great land.

In the absence of the president, Dr. Philip B. Cousland, who was detained in Scotland by ill health, the vice-president, Dr. O. T. Logan of Chengteh, Hunan, presided at the various sessions of the convention.

Papers on the following were read by delegates and invited guests: "Climatic Bubo," "Vesical Calculus;" "The Behavior of the Organisms in Relapsing Fever," "Notes on the Life-Cycle of Clonorchis," "Gunshot Wounds," "Asiatic Cholera," "An Experimental Study of Racial Immunity," "Sanitary Organization of China," "A Sanitary Propaganda for China," "Medical Inspection of Schools" and "The Need for Physical Training and the Establishment of Physiologic Standards in Schools."

---

## AMERICAN SOCIETY OF TROPICAL MEDICINE

*Tenth Annual Meeting Held at Washington, May 6-8, 1913*

The President, DR. EDWARD R. STITT, U. S. Navy, in the Chair

### Officers Elected

The following officers were elected for the ensuing year: president, Dr. Richard P. Strong, Boston; vice-presidents, Dr. Creighton Wellman, New Orleans, Dr. Charles F. Craig, Washington, D. C.; secretary, Dr. John M. Swan, Rochester, N. Y.; assistant secretary, Dr. Allen J. Smith, Philadelphia; treasurer, Dr. Joseph D. Weis, New Orleans.

Boston was selected as the place for holding the next annual meeting.

### The Value of a Course in Tropical Medicine for the Training of the Internist

DR. EDWARD R. STITT, Washington, D. C.: In the study of tropical medicine there is considerable advantage in having a school located in a temperate climate in order to warrant the necessary amount of work for mastering the subject. Marked advances have been made in the study of the diseases of the tropics by men who were not residents of tropical countries. The work of Robert Koch on the spirillum of cholera, on malaria in various parts of the world, on plague, on amebas, on the spirochete of African tick fever, and on sleeping-sickness is an example of the possibilities for original work open to men residing in temperate climates. If Koch could accomplish such signal service in the interest of tropical medicine, why cannot every internist find something of interest in the diseases of the tropics? There are great possibilities for the internist at home to check the development of infections which are brought to this country by returning soldiers, sailors, business men, missionaries and others. Rare cases of disease fail to be diagnosticated because

the physicians at home are not familiar with the possibilities of tropical pathology. In the tropics diagnosis is made almost exclusively in the laboratory. In temperate climates the diagnosis is made partly by bedside study and partly by laboratory work. In an individual who has returned from the tropics, amebiasis, filariasis and syphilis may be present and the patient may be about attending to his ordinary business. It is the duty of the internist who sees such a patient to decide which infection is of greatest importance in the causation of the symptoms of which he complains. It is often difficult to determine the infection which is causing the most trouble and to exclude those that are of less importance. It must be remembered that pneumonia, kidney disease and heart disease are as common in the tropics as they are in the temperate climates. It is possible to give outside of the tropics that instruction which best correlates laboratory work and ward work.

### Certain Features of the Physiologic Activity of White Men in the Philippine Islands

DR. WESTON P. CHAMBERLAIN, New York: Three thousand temperature observations were made in order to determine the effect of continued high atmospheric temperature on the physiologic activity of healthy white men. The average of these temperatures was 98.7 F. Sometimes an elevation of one or more degrees was found without apparent cause. The average body temperature of white men at Vancouver was 98.7 F. before drill and 98.8 F. after drill. Blonde men showed no difference in body temperature from that of brunettes. There is no apparent effect of season on the pulse- or respiration-rate and there seems to be no difference in the pulse- and respiration-rate after a year's residence in the tropics. The complexion seems to have no influence on these rates. The average pulse-rate in the men observed was 77.3 per minute. The average respiration-rate was 19.3 per minute.

On the systolic blood-pressure 5,368 observations were made. A 5-inch cuff was used. The average age of the individuals tested was 26.6 years; the average systolic pressure was 115.6 mm. On the weight, 3,040 observations were made. The first observation was made after the person had resided seven months in the tropics, and the second observation was made a year later. The amount of weight lost averaged 3 pounds, or 1.7 per cent. of the original weight. The complexion type of the person seemed to have no influence on the weight. The large men appeared to show no greater change in weight than the small men.

Blood-counts were made in 1,418 men. The red cells averaged 5,200,000 after nineteen months' residence. The hemoglobin averaged 89.6 per cent. The color index was between 0.86 and 0.87. In seventy-two soldiers the leukocytes averaged 7,304. There was an increase in the lymphocytes, 31.7 per cent. small lymphocytes, 6.9 per cent. large lymphocytes. The polymorphonuclear cells averaged 56.8 per cent. In the Arneth count there was a slight deviation to the left. The so-called tropical anemia is due to infection and not to the influence of climate. The pale color of the white men residing in the tropics is due to a cutaneous ischemia.

Urine examinations were made in 576 men, at the beginning of tropical residence and at the end of one year. In five albumin was found at the beginning of tropical residence and in six at the end of one year's residence. Casts were found in the urine of ten men at the beginning of tropical residence and in thirteen at the end of the year's residence. The specific gravity averaged 1.01 0 at the beginning of tropical residence and 1.0197 at the end of one year's residence. Tropical renal insufficiency does not exist.

After moderate exercise there is a slight acceleration of the pulse-rate and a slight increase of systolic blood-pressure, a slight increase of respiration-rate and a slight increase of temperature, as would be expected. Exercise is as beneficial in the tropics as elsewhere. A great amount of sickness is found among the women who do not go out in the daytime. The influence of tropical residence on the nervous system under the improved conditions existing in the Philippine Islands seems to be no different from the influence of residence in the United States. The diet in the tropics is to be regulated by the patient's appetite. Men who had lived five and a half years in the Philippine Islands seem to show no difference in weight from those who had lived there nineteen months. The injurious effect of residence in the tropics commonly supposed to be due to light is probably due to excessive heat and humidity. Malaria, intestinal parasites, venereal diseases and alcohol are the causes of bad health from tropical residence.

DISCUSSION

DR. MALCOLM WATSON, Klang, Federated Malay States: As a result of thirteen years' residence in the Federated Malay States, it is my opinion that if certain infectious diseases can be excluded, the white men keep in excellent health. The real difficulty lies in avoiding infectious disease. There is more difficulty with children than with adults. Children cannot be kept away from the natives, and the standard of native thought is so different from our standard that it is almost impossible to rear children in the tropics. The association with the natives in addition to its moral aspect gives greater likelihood for the contraction of infection.

DR. CHARLES F. CRAIG, Washington, D. C.: In the Canal Zone it is a rule that every white man shall take a vacation once a year and go north. It has been found that the men lose energy after they have stayed for a long time in the Zone.

DR. CREIGHTON WELLMAN, New Orleans: The question of staleness, nostalgia and moral and social problems will be at a minimum when the facilities for amusement now to be found in the temperate climates are accessible in the tropics. Granting the control of infectious diseases, the world is open to colonization by the white man.

DR. ELMER F. OTIS, Peñuelas, Porto Rico: There are certain special infectious diseases that are more fatal to the white man in Porto Rico than to the native. Sprue is one of these infections.

DR. HENRY J. NICHOLS, Washington, D. C.: In any discussion of this question, the white woman and the white child must be considered. I accept the data that Dr. Chamberlain gives for troops, but I would not be willing to see the conclusions transferred to women and children. In the Philippine Islands the women are actually damaged by the climate. I have seen women who were interested in the life, who had had no infectious disease, and who wanted to stay; but who were unable to do so on account of the influence of climatic conditions on them. Many of them had menstrual disturbances. As woman is the foundation of the home, I can entertain no great hope of the colonization of the tropics by the white race.

DR. HENRY R. CARTER, Baltimore: The white man who does not drink, who contracts no infectious disease and who takes sufficient exercise, will do well in the tropics. Babies, as a rule, do better in Panama than in the United States; but from the age of 3 or 4 years to 14 or 15 years children do not have enough exercise. They become too fat, have a pasty complexion and do not do well. It is a question in my mind whether under ordinary living conditions, white people will keep well in the tropics.

DR. C. S. LUDLOW, Washington: American women in the Philippine Islands commonly lose interest in the things that they are interested in at home. They do not take sufficient exercise to keep them well.

### Taenia Saginata with V-Shaped Proglottides

DR. GEORGE DOCK, St. Louis: The patient was a negro woman who was treated for tapeworm in the dispensary. The greater part of the worm was removed, but the head was not obtained. Two other attempts were made to get the head, but both failed. In the three attempts 280 cm. of worm were obtained, consisting of 700 proglottides. These varied in width from 2 to 22 mm. Forty-five of the proglottides were asymmetric. The asymmetry resembled what would be obtained by putting two worms together at an angle. Each proglottis contained one genital pore usually

situated on the stem of the Y or at the apex of the V. Twenty-one cases have been reported in the literature. In a few cases the heads have been found; but in the majority of cases the heads have not been found. In cases in which the heads have been found, there have been six suckers. These worms are usually considered to be double monsters in which two suckers have fused. Histologic examination seems to throw no light on the details of the monstrosity.

### Case of Trypanosomiasis

DR. J. A. CHATARD and DR. C. G. GUTHRIE, Baltimore: The patient was a man, aged 37, a native of Belgium. At the age of 22 he went to the Congo where he served twelve years. While there he had two severe attacks of amebiasis, one severe attack of blackwater fever and malaria constantly. On one occasion after a battle between eight Europeans and several hundred natives in which the mortality of the natives was high, so that their bodies remained unburied for several days, he had an obscure exanthematous disease, which many of the natives also had. This attack was characterized by high fever for four days, followed by a period of apyrexia; this was followed by the appearance of a papular eruption on an erythematous base, which was accompanied by a high fever and delirium. As he had been vaccinated he did not think it was small-pox. For eleven years he was located in the forest where sleeping-sickness was unknown, but later he was located in a sleeping-sickness country. There he had a febrile attack, which was followed by cervical lymphadenitis, depression, dizziness, lassitude, fever without chills, and increased appetite.

Aspiration of one of the cervical lymph-nodes revealed living trypanosomes. He was treated with atoxyl intramuscularly and tartar emetic intravenously. In nine weeks his symptoms disappeared. He was sent home to Antwerp and during the voyage the treatment was continued. When he reached Brussels the trypanosomes were absent. Although he was told that he must continue the treatment indefinitely he discontinued it at the end of the month because he had no symptoms. He came to the United States in 1909. In 1910 he had an attack of fever which was cured by quinin. In July, 1912, he became drowsy and his cervical lymph-nodes again enlarged and his other symptoms returned. He was very emotional and had some ataxia. The spleen was enlarged and hard and there was general enlargement of the superficial lymph-nodes. His blood showed a secondary anemia; there was a leukocyte count of 1,400; polymorphonuclear neutrophils, 40 per cent.; small mononuclears 54 per cent. Examination of the fresh blood was negative for parasites. Concentration methods were negative for trypanosomes. Aspiration of one of the enlarged cervical lymph-nodes showed no motile trypanosomes. Then one of the enlarged cervical lymph-nodes was removed and implanted into six rats. All six rats developed trypanosomes. Inoculation of rats with the patient's blood and the sediment of the cerebrospinal fluid failed to produce trypanosomes in the inoculated animals. After the intravenous injection of salvarsan the symptoms disappeared. The patient had a relapse two months later. He has been lost sight of.

DISCUSSION

DR. JOHN M. SWAN, Rochester, N. Y.: It seems likely that the beginning of the infection in this patient may be detected in the attack of fever followed by the papular eruption which occurred just after the battle between the Europeans and the natives. This exanthem would correspond pretty closely to the eruption described as being one of the early manifestations of trypanosomiasis.

DR. EDWARD R. STITT, Washington: It is well known that perfectly well people can have trypanosomes in their peripheral blood without showing evidences of infection.

### The Species of Anophelines Concerned in the Transmission of Human Malaria

DR. FREDERICK KNAB, Washington, D. C.: The habits of all anophelines are not alike. The study of malaria will be advanced by the study of the habits of these mosquitoes, and such a study ought to help to solve the remaining problems in the natural history of malaria. There are thirty-four species of Anopheles mosquitoes in the United States, of which eight are known to transmit malaria. Other species may be proved in the future to be potential hosts of the malarial parasites. The appetite for blood varies very much in the different species of anophelines and efficient hosts may be found among those mosquitoes having such an appetite. The association of certain species with men, the longevity of the species, and the topographic conditions of the country are also factors in the solving of the malarial problems. No phase of the life-cycle of the mosquito should be neglected in the study of the disease; it is just as important to study the larva and the pupa as it is to study the imago.

DISCUSSION

DR. CREIGHTON WELLMAN, New Orleans: A study of the lists of mosquitoes which have been published as being indigenous to New Orleans makes one suspect that a great deal of careless determination of species has occurred. The careful determination of species and the locality in which they occur cannot be too particularly insisted on.

DR. MALCOLM WATSON, Klang, Federated Malay States: It is quite important to determine the species of Anopheles mosquitoes found in certain localities. It is useless to say that because Anopheles mosquitoes are present, therefore malaria must also be present. In the Federated Malay States the determination of species is absolutely essential if antimalarial measures are to be successful and economical. We cannot say from experience in one country what sanitary measures will be required in another.

DR. C. S. LUDLOW, Washington, D. C.: *Myzomyia ludlowi* is not thought to breed in fresh water, but the specimens from which the species was originally named were taken from fresh water. There is a species of malaria-carrying mosquito in the Philippine Islands which breeds in soap-suds water.

DR. H. R. CARTER, Baltimore: The determination of anophelines is frequently of importance in telling the sanitarian what he need not do. For instance, *Anopheles malefactor*, which breeds in collections of water, in hollow stumps on the Isthmus of Panama, is not a malaria carrier, and this knowledge is estimated to have saved the Canal Commission from $150,000 to $200,000 in its malarial work.

DR. EDWARD R. STITT, Washington, D. C.: At Canacao no malaria-carrying mosquito other than *Myzomyia ludlowi* is found. The highest salt content of the water at that place was 400 parts per million.

DR. ELMER F. OTIS, Peñuelas, Porto Rico: Malaria is restricted to the coast regions in Porto Rico, with one exception. In the hilly region in which malaria is present, the disease is brought from the coast by the natives who travel from the latter to the former.

### Recent Observations on Malarial Plasmodia

DR. C. C. BASS, New Orleans: The development of malarial parasites in cultures is exactly similar to their development in the blood of man. There is no discoverable difference between the first generation and the fourth generation of parasites grown in culture mediums. If the tubes in which the parasites are growing are shaken, the parasites will be killed. Addition of blood-serum and polymorphonuclear leukocytes to the culture-medium will kill the parasites. When the parasites are liberated from the red blood-corpuscles most of them die and a great deal of débris is left behind. It is probable that not more than two parasites can develop in one red cell. If the red cell is infected with more than two parasites, when the organisms have reached a certain size they cause the red blood-corpuscles to rupture and they are destroyed. The benign tertian parasite is irregular in outline and is elastic, so that a red corpuscle containing such an organism can pass through the smallest capillaries. The estivo-autumnal parasite, on the other hand, is not elastic and will not pass through the smallest capillaries. Consequently, when a red blood-corpuscle containing such parasites reaches the smallest

capillaries it is stopped in its journey by the narrowing produced in the lumen of the capillary by the projection of the nuclei of the endothelial cells. Fifty per cent. of the deaths from malaria are due to cerebral plugging. After the capillaries have been plugged quinin will not reach the parasites; but if the capillaries can be dilated with nitrites then the quinin in the blood-stream may reach the parasites and kill them. The facts concerning cerebral plugging with malarial parasites have been determined by the injection of pure cultures of parasites through the carotid arteries of small animals, which, after a varying time, have been killed and their brains sectioned.

### Beriberi

DR. WESTON P. CHAMBERLAIN, Plattsburg Barracks, N. Y.: Beriberi and polyneuritis gallinarum are identical diseases. There is no doubt of the correctness of the theory of the production of beriberi by rice, at least in the Orient.

### Researches on the Etiology of Beriberi

DR. CREIGHTON WELLMAN, New Orleans: In feeding rice to fowls, if the pericarp is removed, the fowls develop polyneuritis. Legislation has been enacted in various countries and in California establishing a rice standard which classifies rice as beriberi-producing rice and non-beriberi-producing rice. In the United States this legislation prohibits the sale of rice when coated with glucose and talc, so-called polished rice. Polyneuritis gallinarum has been produced experimentally with milled rice, both cooked and uncooked; corn grits, containing 8.5 per cent. proteid; white wheat flour; a mixed diet containing oxalic acid; cane-sugar; puffed rice; cream of wheat, containing 11.75 per cent. of protein; sago; white potato; sweet potato; macaroni, and corn-starch. Fowls have been fed with many times the amount of glucose and talc which could be taken by the animals when on a diet of polished rice, without producing polyneuritis, provided the animal received at the same time a mixed diet. Fowls and pigeons, which are equally good for experimental purposes, have been fed on a mixed diet with the addition of 2 gm. of glucose and 1 gm. of talc a day for fifty-three days without producing the disease. When polyneuritis is produced, it appears on an average in about sixteen days, and is not cured by protein.

DISCUSSION

DR. CHARLES F. CRAIG, Washington, D. C.: In countries in which rice is the staple article of diet, laws should be passed prohibiting the sale of milled rice. In the United States, on the other hand, such legislation is absurd. If laws are passed in this country against milled rice it will subject us to much ridicule.

DR. WILLIAM S. KRAUSS, Memphis, Tenn.: In Memphis, during one of the Mississippi river floods, two boys were marooned on a levee for several days and had nothing to eat but beans. Both of these boys had paralysis of both legs as a result of this diet.

### An Epidemiologic Study of Pellagra

DR. J. F. SILER and DR. P. E. GARRISON, New York: Spartanburg County, South Carolina, was selected on account of railway conveniences and because an excellent county map was in existence. From June 1 to Oct. 15, 1912, 282 cases of pellagra were reported. The morbidity in 1912 was between 35 and 45 per ten thousand population. In the ten townships of the county the existence of pellagra was greatest in Spartanburg and the surrounding townships. In every township pellagra is in excess in the cotton mill villages. In the city of Spartanburg the rate was slightly in excess of that in the mill villages. In the county of Spartanburg the cases among the white population exceeded those in the negro population in proportion of two to one. The morbidity of the disease among the whites was 45 per 10,000, and among the negroes 9.5 per 10,000. The density of the population alone does not offer an explanation for the incidence of the disease. The excess of the disease in the mill-village population is in the women and children who remain at home during the day. The incidence in the adult females is high. Pellagra appeared in Spartanburg in 1908 and increased progressively until 1911. There has been no recrudescence in the spring and in the fall. Climatic conditions influence the appearance of the symptoms. The majority of the cases occurred among the poorer families. In the families in which cases of pellagra occurred the absence of properly constructed privies, the absence of effective screening against flies, the limited use of fresh meat and the unhygienic preparations of food were noted. The importance of corn products seems to be less than was originally supposed.

### Is the Importance of Intestinal Parasites in Tropical Pathology Exaggerated?

DR. EDWARD R. STITT, Washington, D. C.: Some writers take the ground that intestinal parasites are of no importance. On the other hand, the reduction in the death-rate in Bilibid Prison, from 75 per thousand to 9 per thousand after the quarantining of persons harboring intestinal parasites seems to indicate that there is some importance to be attached to their presence.

DISCUSSION

DR. CREIGHTON WELLMAN, New Orleans: Many men working in the tropics underestimate the importance of intestinal parasites, and some probably overestimate their importance. The idea that they amount to nothing is wrong. It would first seem necessary to define what is meant by the question, whether it applies to metazoan parasites alone or whether it includes protozoa as well as metazoa. Some years ago I investigated a disease which occurred among the fishermen of Western Africa. This disease was characterized by a severe anemia and was attended with a high mortality. It was found to be due to *Dibothriocephalus latus*. In one district in West Africa 13 per cent. of the population was incapacitated by uncinariasis. The activities of the Rockefeller Commission have been highly beneficial in relation to uncinariasis. In highly malarious countries the presence of intestinal parasites affects the mortality in two ways. The presence of hookworm infection increases the mortality from malaria; but, on the other hand, overzealous treatment of hookworm disease increases the mortality from malaria. Amebiasis is an important factor in the morbidity and mortality in the tropics. On the other hand, some parasites have been taken too seriously, such as *Strongylus subtilis*, *Hymenolepis nana* and *Trichuris trichiura*. It is possible that heavy infection with these parasites produce some anemia. In some districts in the tropics 100 per cent. of the children suffer from ascaris infection. This worm produces convulsions and even stimulates recrudescences of malaria. It is a difficult question to answer categorically; but I believe the importance of intestinal parasites is not exaggerated. Neglect of routine examination for intestinal parasites is reprehensible.

DR. HENRY J. NICHOLS, Washington: The importance of helminths is exaggerated. It is easy to discover an infection with intestinal worms; it requires no skill or special knowledge. These parasites have not the serious influence that other parasites have because they cannot reproduce themselves in the intestines. Intestinal worms are limited in their capacity for pathogenicity. As a general rule, it may be said that intestinal parasites are injurious in inverse proportion to their size and that intestinal worms are of the least importance. The helminthologists have justified the importance of these parasites, but their bearing on clinical medicine is not apparent. In the tropics a man is likely to suffer from infection with four or five parasites, and the relative importance of these infections must be decided by the clinician. He should be able to recognize the various worms and their possibilities for harm to the organisms. In some instances endeavors have been made to convince well persons who have been discovered to harbor intestinal parasites that they are sick. Of course the intestinal parasite has been used as a text for agitation in order to interest the public and legislators in the necessity for public health measures. For this purpose it is perhaps necessary to exaggerate the importance of the parasites. On the other hand, it is not necessary for medical men to accept this exaggeration.

DR. CHARLES F. CRAIG, Washington, D. C.: It is exceedingly difficult to give a categorical answer to the question of the importance of intestinal parasites. The conditions vary in different localities. In Porto Rico, for example, the importance of the hookworm is not exaggerated. The only intestinal worm of great importance in tropical pathology is the hookworm. *Schistosomum* is important but its locale is limited and the number of cases is small. The whipworm and strongyloides are of no importance whatever. Cochin China diarrhea is not due to strongylus infection. Ascaris is of no importance. In the Philippine Islands hookworm infection is light and has little to do with the sickness of the natives. We might say that in Porto Rico one has hookworm disease; but that in the Philippine Islands one has only hookworm infection. In the southern part of the United States the importance of the hookworm is exaggerated. The great stress laid on the influence of intestinal parasites takes no account of other infections, like malaria, which have more influence on the morbidity than uncinariasis. The hookworm campaign has improved the health of the people in districts in which there is no malaria, but there is a question whether or not anything has been accomplished in districts in which malaria is present. Leaving amebiasis and other protozoa out of the question, I am inclined to believe that the importance of intestinal parasites in tropical pathology is exaggerated.

DR. EDWARD R. STITT, Washington, D. C.: In cases of hookworm disease, finding the ova in the feces frequently puts the clinician off the track. When the eggs of this parasite have been found in the stool, the clinician is prone to think that the cause of the disease has been discovered, and it takes a long time to get over the idea. I have noticed that in the southern part of the United States men interested in tuberculosis take the tuberculosis attitude rather than the hookworm attitude, while, on the other hand, men interested in hookworm take the hookworm attitude to the exclusion of tuberculosis or other infection.

DR. PHILIP E. GARRISON, New York: The importance of intestinal parasites in tropical pathology is exaggerated. The subject has not been sufficiently studied from the point of view of relative importance, and it is time that an attempt was made to determine the position that the various parasites occupy in their power for producing disease. It is sometimes remarkable how a bacteriologist, for example, will go into a new field, use his own methods and expect the same results. A bacteriologist cannot see the reason for investigating intestinal worms, which are common, while he can see the use of investigating rabies, which is very rare. Intestinal worms are of importance in public health work, although we do not know just what their importance is. For a discriminating view further study of the subject should be encouraged. The relative importance of malaria and uncinariasis in the South should receive careful study. A hookworm carrier is as potential for the spread of hookworm disease as a typhoid carrier is for typhoid fever. The movement to make the hookworm campaign world-wide is thoroughly scientific. In the discussion of the entire subject we must be careful not to confuse the zoologic side with the public health and preventive-medicine side of the subject. I strongly urge that further discriminating emphasis be placed on the subject so that a proper conception of its true significance may be obtained.

DR. JOHN M. SWAN, Rochester, N. Y.: I recall two cases of chronic arthritis in which I thought that intestinal parasites were responsible for the joint conditions. One of these patients was a boy aged 10, a resident of Florida, who had a low-grade multiple arthritis of the finger-joints. On examination, the feces were found to contain hookworm ova. The removal of the intestinal parasites improved the joint condition but did not cure it. In another patient who had spent considerable time in the Far East, an examination of the feces showed numerous ascaris eggs. I told the patient that intestinal parasites were probably responsible for the arthritis; but was much chagrined to find only one unimpregnated female in the intestine. The removal of this parasite did not benefit the joint condition. We must not be too sure, however, that infection with similar harmless parasites is not productive of serious disease. Some years ago a paper on trichocephaliasis appeared in the *Philippine Journal of Science* in which a case was recorded of plugging at one of the coronary arteries by an adult trichuris. It has occurred to me that a good many obscure disturbances of health are brought about by the presence of intestinal worms, when the parasites first gain entrance to the intestinal tract; but it is likely that after they have been present for a varying period, a certain amount of immunity is developed by the host. I have often thought that the development of this immunity influenced the eosinophilia.

DR. BRAYTON H. RANSOM, Washington, D. C.: From the point of view of the helminthologist the question should read: Is the importance of intestinal parasites overestimated? The answer to this question depends much on local conditions. We are less informed regarding the importance of intestinal worms in animals than we are of their importance in man. At present it is impossible to say that any intestinal parasite is of paramount importance in relation to animal disease.

DR. WESTON P. CHAMBERLAIN, Plattsburg Barracks, N. Y.: A question such as that propounded for this discussion cannot be answered categorically. Some authors have exaggerated the importance of intestinal parasites and some have underestimated their importance. As a whole, it is probable that their importance has not been exaggerated. The subject needs further careful attention until the relative values of the different infections are understood. There is a great deal of difference between light and severe hookworm infection. The importance of these infections in the Philippine Islands is apparently not great. As I have reported elsewhere the polymorphonuclear leukocytes are reduced in the blood of white men residing in the Philippine Islands. The Arneth formula is the same in white men in the Philippine Islands as in the United States. In the native, on the other hand, there is a distinct shift to the left in the Arneth formula. This seems to be due to the lowering of the resisting power of the individual. The cause, however, is unknown; but it is worthy of further research.

DR. ELMER F. OTIS, Peñuelas, Porto Rico: In Porto Rico it does appear that infections with intestinal parasites produce a physical, vital and nervous effect that classifies children, particularly, as deficient. Other intestinal parasites appear to produce a toxemia.

## The Cultivation of Filaria Embryos in Vitro

DR. CREIGHTON WELLMAN, New Orleans: By using various mediums, such as dog serum and dextrose, human serum, artificial serum, ascitic fluid and salt solution with carbohydrates it has been found possible to cultivate the embryos of *Filaria immitis* and *Cetaria labiata papillosa*. The development of the embryos in the artificial mediums has gone on so that the alimentary canal has been differentiated, and in some cases the spicules of the male have been seen.

## Free-Living and Parasitic Amebas and Their Relation to Dysentery

DR. EUGENE R. WHITMORE, U. S. Army: As a result of the study of various cultures of parasitic and free-living amebas, the conclusion has been reached that *Entamoeba histolytica*, *Entamoeba tetragena* and *Entamoeba minuta* are identical. The nucleus of a typical *Entamoeba histolytica* is a senile nucleus of *Entamoeba tetragena*. Spore formation in amebas is due to the extrusion of chromatin granules into the cytoplasm in the old age of the cell. Cultural amebas are not identical with pathogenic amebas and have nothing to do with dysentery. The exposure of the Petri dishes to the air in India will result in the growth of numerous amebas. There are two well-defined species of amebas, *Entamoeba coli* and *Entamoeba histolytica*.

### DISCUSSION

DR. CHARLES F. CRAIG, Washington, D. C.: I am convinced that *Entamoeba histolytica* and *Entamoeba tetragena* are identical.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

DELAWARE: State Society and Homeopathic, Dover and Wilmington, June 17-19. Secretary of the Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

ILLINOIS: Coliseum Annex, Chicago, June 17-19. Acting Sec., Mr. Amos Sawyer, Springfield.

KANSAS: Topeka, June 10. Sec., Dr. H. A. Dykes, Lebanon.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. Sec., Dr. J. McP. Scott, Hagerstown; Homeopathic, Baltimore, June 13-14. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

MONTANA: Senate Chamber, Capitol Bldg., Helena, July 8. (First special examination held aside from regular semi-annual examinations.) Sec., Dr. William C. Riddell, Helena.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Morehead City, June 12. Sec., Dr. Benjamin K. Hays, Oxford.

PENNSYLVANIA: Harrisburg, Philadelphia and Pittsburgh, June 23-25. Sec., Mr. Nathan C. Schaeffer, Department of Public Instruction, Harrisburg.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St.

TEXAS: Capitol Bldg., Austin, June 24-26. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WISCONSIN: Milwaukee, June 24-26. Sec., Dr. J. M. Beffel, 3200 Clybourn Street.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

## California April Report

Dr. Charles B. Pinkham, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, April 1-4, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 106, of whom 76 passed, including 12 osteopaths, and 30 failed, including 12 osteopaths. The following colleges were represented:

| PASSED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| University of California | (1902) 93.6, (1907) 80.2, | 84 |
| Coll. of Physicians and Surgeons, San Francisco | (1909) | 87.1 |
| Cooper Medical College | (1912) 75, 81.6, | 89.9 |
| Hahnemann Medical College of the Pacific | (1912) | 75.6 |
| Gross Medical College | (1893) | 91.1 |
| Denver College of Medicine | (1888) | 85.6 |
| Denver and Gross College of Medicine | (1910) | 88.5 |
| University of Colorado | (1909) 89.8; (1910) | 83.8 |
| Northwestern University Medical School, (1894) 84.7; (1905) 88.3 (1908) 85.7; (1911) 79, 84.4, 86.8. | | |
| Northwestern University Woman's Medical School, (1897) 88.1; (1899) 81.4. | | |
| Hahnemann Medical College and Hospital, Chicago | (1902) | 81.2 |
| Chicago College of Medicine and Surgery | (1912) | 84 |
| Rush Medical College, (1893) 91.8; (1899) 86.9; (1902) 91; (1911) 88.1; (1912) 86.9. | | |
| College of Physicians and Surgeons, Chicago, (1896) 82.8; (1900) 84.8; (1902) 80.8; (1906) 77.5; (1907) 90.3; (1912) 75. | | |
| Bennett Medical College, Chicago | (1900) | 85.1 |
| State University of Iowa, College of Medicine | (1908) | 86.4 |
| Hospital College of Medicine, Louisville | (1901) | 85.8 |
| University of Maryland | (1909) | 81.6 |
| Johns Hopkins University Medical School, (1909) 93.7; (1910) 93.3. | | |
| Baltimore University School of Medicine | (1899) | 80.5 |
| University of Michigan, Dept. of Med. and Surg., | (1912) | 88.4 |
| Detroit College of Medicine | (1893) | 94.8 |
| Univ. of Minnesota, School of Med., | (1901) 82; (1911) | 89.9 |
| Univ. of Minnesota, Homeopathic College | (1895) | 81.6 |
| University Medical College, Kansas City | (1899) | 80.4 |
| Central Medical College, St. Joseph | (1898) | 82.5 |
| Creighton Medical College | (1911) | 77 |
| Lincoln Medical College | (1906) | 77.2 |
| Bellevue Hospital Medical College | (1897) | 90.9 |
| Cornell Univ. Medical College | (1907) 81.1; (1911) | 83.5 |
| Syracuse University | (1912) | 84.5 |
| Columbia University | (1910) | 90.5 |
| Long Island College Hospital | (1911) | 82.3 |
| Cleveland Homeopathic Medical College | (1904) | 78.9 |
| Willamette University | (1904) | 81.6 |
| Jefferson Medical College, (1888) 86.7; (1907) 95.1; (1908) | | 89.6 |
| University of Pennsylvania | (1904) | 77 |
| University of Montpellier, France | (1910) | 78.3 |
| University of Edinburgh, Scotland | (1906) | 85.3 |

| FAILED<br>College | Year Grad. | Per Cent. |
|---|---|---|
| Hahnemann Medical College of the Pacific | (1912) | 72.5 |
| College of Physicians and Surgeons, San Francisco, | (1911) | 15.1; 67.3; (1912) 70.6. |
| Denver and Gross College of Medicine | (1906) | 73.1 |
| College of Physicians and Surgeons, Chicago | (1912) | 70.2 |
| Medical College of Indiana | (1904) | 62.6 |
| Hospital College of Medicine, Louisville | (1896) | 74.3 |
| University of Maryland | (1883) | 79.5* |
| Medical School of Maine | (1896) | 61.3 |
| Missouri Medical College | (1886) | 70.1 |
| Barnes University | (1908) | 67.6 |
| Omaha Medical College | (1895) | 74.3 |
| Laura Memorial Woman's Medical College | (1903) | 60.9 |
| Eclectic Medical College, Cincinnati | (1903) | 69.5 |
| University of Pittsburgh | (1911) | 70.9 |
| University of Nashville | (1902) | 79.2* |
| Tennessee Medical College | (1908) | 63.8 |

* Fell below the required average in certain subjects.

The following questions were asked:

### PATHOLOGY

Answer ten questions only: 1. Describe the difference between infiltration and atrophy. 2. Describe the difference between simple atrophy and brown or pigmentary atrophy. 3. What changes are likely to take place in the musculature of the heart as the result of debilitating or lingering disease? 4. Describe the changes in the heart muscle from (*a*) partial coronary obstruction, (*b*) complete coronary obstruction. 5. What pathologic condition causes hemoglobinuria? 6. Describe the difference you would expect to find between the pathologic finding in nephritis caused by acute infection and nephritis caused by arteriosclerosis. 7. Describe the pathologic changes resulting from destructive disease of the adrenals. 8. Describe the difference in the pathologic changes which take place in the lung in acute bronchitis from those which occur in bronchopneumonia. 9. Describe the condition you would expect to find in the lung after death from acute pulmonary edema. 10. What pathologic changes in various parts of the body result from destructive disease of the pancreas? 11. How do the structural changes found in the thyroid in exophthalmic goiter differ from the changes which occur in the simple or more benign forms of goiter? 12. Describe the pathologic findings in the brain after death resulting from senile dementia.

### ANATOMY

Answer ten questions only: 1. Describe the greater omentum. 2. (*a*) Name the important structures in relation with the inferior thyroid artery. (*b*) Give the branches of the inferior thyroid artery. 3. (*a*) Name the vessels and nerves of the pericardium. (*b*) Describe the serous pericardium. 4. What are the main channels for carrying on the circulation when the common femoral artery is tied? 5. Describe the deep palmar fascia. 6. Name five forms of joints and give one example of each. 7. Describe the arrangement of the bones of the foot. 8. Locate the following structures with reference to the anterior abdominal wall: (*a*) jejunum; (*b*) ileum; (*c*) hepatic flexure; (*d*) cecum; (*e*) sigmoid flexure. 9. Describe the azygos veins. 10. Describe the suprarenal glands. 11. (*a*) Name the muscles of the posterior humeral region; (*b*) the anterior radio-ulnar region. 12. Give the surface markings of the heart and locate the valves with reference to anterior chest wall.

### HISTOLOGY

Answer ten questions only: 1. What microscopic features would enable you to distinguish a section of the cornea from one of the epiglottis, both made perpendicularly to the surface? 2. Name the varieties of cartilage, a location where each is found and describe in detail one variety. Make a drawing. 3. Describe the several varieties of white blood-corpuscles found in the human blood. Make drawings. 4. What microscopic features would enable you to distinguish a section through lung tissues from one through omental tissue? Make drawings or diagrams. 5. How would a section from the cortex of the kidney differ microscopically from one from the pancreas? 6. What microscopic characteristics would enable you to distinguish between a longitudinal section through voluntary-muscle tissue and a transverse section through dried bone? Make drawings or diagrams. 7. Describe the most prominent microscopic feature of a section of the scalp made perpendicularly to the surface. Make drawing or diagram. 8. Compare a section from the sublingual gland with one through a sebaceous gland, describing the microscopic features. 9. Compare the microscopic structure of the uterine mucous membrane with the mucous membrane of the cardiac end of the stomach. Illustrate differences with drawings. 10. Describe a nerve fiber such as is found in a peripheral nerve distributed to a voluntary muscle, and compare it with one distributed to an involuntary muscle. 11. Describe all the bile passages *in* the liver. 12. Describe a cell found only in the (*a*) cerebellum; (*b*) cerebrum; (*c*) spinal ganglia. (*d*) Name a structure found only in the thymus gland, and (*e*) ovary.

### BACTERIOLOGY

Answer ten questions only: 1. Discuss, not over one page, *Bacillus diphtheriae*. 2. Define ptomain, leukomain, symbiosis, complement, hemolysis. 3. From whence and how is small-pox vaccine obtained? 4. How would you confirm a diagnosis of typhoid fever? Give detail. 5. How do malarial parasites enter the blood? Give exact detail. 6. How does the *Taenia solium* propagate? 7. How would you distinguish between *Uncinaria americana* and *Trichocephalus dispar?* 8. Name five bacilli which are the cause of acute infectious diseases. 9. What rôle do amboceptors play in the destruction of bacteria in the body? 10. How would you vaccinate an individual against typhoid fever? 11. Draw a picture of a trypanosome. What disease do they cause in man? How does the infection take place? 12. Name five pathogenic germs which are motile.

### CHEMISTRY AND TOXICOLOGY

Answer ten questions only: 1. (*a*) What are amalgams? (*b*) What are indicators? (*c*) What are alexins? (*d*) What are ptomains? 2. Give the formula of each of the following: (*a*) hydrogen peroxid; (*b*) calomel; (*c*) hydrocyanic acid; (*d*) arsenious acid; (*e*) benzene. 3. How can nitrous oxid be distinguished from oxygen? 4. What keeps casein in solution in milk? What effect does carbon

dioxid have on casein? 5. Discuss the constituents of urinary calculi. 6. Describe in detail three methods for determining the presence of glucose in a mixture. 7. Mention at least ten ways by which a poison is influenced. 8. Explain how a mixture of borax and milk is a good general antidote. 9. Why should alcohol never be given when tannin in any form is used as an antidote? 10. How would you detect the presence of salicylic acid in food? 11. What poison would you suspect had caused death, if the odors became more marked on opening the body? 12. Under what conditions may fatal poisoning be caused by tomatoes and potatoes?

OBSTETRICS

Answer ten questions only: 1. Describe proper methods of administering an anesthetic during labor, with indications for its use. 2. Discuss the matter of spinal anesthesia during labor. 3. Describe the proper procedure in threatened mammary inflammation. When abscess follows, what is the usual source of infection? 4. Give etiology of and description of puerperal psychosis. 5. How does primary and secondary abdominal pregnancy differ? Which is most common? 6. In diagnosis of transverse position, shoulder presenting (D. L. A.) where would the (*a*) head be found? (*b*) the breech? (*c*) the back? 7. How would you proceed to convert a presenting shoulder into a vertex position? 8. Describe case of decidual endometritis, giving its influence on pregnancy. 9. Give the conjugate diameter of the pelvis below which you would consider the induction of premature labor advisable. 10. Give the more common successful methods of dilation of the cervix during labor. 11. Give the names of the bones and articulations of the obstetric pelvis, describing what constitutes the true and false pelvis. 12. Discuss matter of intra-uterine irrigation following complete abortion.

GENERAL DIAGNOSIS

Answer ten questions only: 1. Differentiate auricular fibrillation from heart-block. 2. Give the symptoms and physical findings in prostatic hypertrophy. 3. Differentiate acromegaly from myxedema. 4. Give a clinical description of erysipelas. 5. A patient, otherwise in good condition, who has been operated on a few days previous for varicose veins of the thigh, suddenly develops dyspnea, cyanosis, unconsciousness and death. What is the probable diagnosis? 6. Differentiate cerebral hemorrhage from the syncope of acute alcoholism. 7. Describe the sequence of symptoms and signs in tuberculosis of the hip-joint. 8. Name five acute infectious diseases characterized by a skin eruption, and give the time it occurs in relation to initial symptoms and the appearance of the eruption in each. 9. Give the diagnostic, chemical and microscopic findings in the urine in a case of chronic parenchymatous nephritis (large white kidney). 10. Describe a case of chlorosis. 11. Give the symptoms and physical findings in acute pericarditis. 12. Name the clinical varieties of liver hypertrophy and give the diagnostic points in abscess of this organ.

GYNECOLOGY

Answer ten questions only: 1. Describe the structures composing the pelvic floor. 2. What are the anatomic conditions which may lead to retroversion of the uterus? 3. Name and describe the ligaments of the uterus. 4. In what portion of the genito-urinary tract is cancer most likely to occur and what conditions predispose thereto? 5. Give the diagnosis of cervical carcinoma, (*a*) clinical, (*b*) microscopic. 6. Differentiate a right salpingitis from appendicitis. 7. Give the clinical and physical findings in a ruptured ectopic gestation. 8. Name the conditions which may cause metrorrhagia. 9. A patient states that she has not menstruated for six weeks; differentiate two conditions that might be causing the amenorrhea. 10. Name the instruments required and the positions in which the patient may be placed for a thorough gynecologic examination. 11. Differentiate a strangulated femoral hernia from inguinal lymphadenitis. 12. Give a diagnosis in detail of gonorrheal infection of the female genito-urinary tract not including the kidney.

PHYSIOLOGY

Answer ten questions only: 1. Give evidence of tonic activity of the spinal cord. 2. What phenomena occur following section of a lateral half of the spinal cord? 3. Why are the muscles of respiration not affected in hemiplegia? 4. Describe the natural defect of the eye known as astigmatism. 5. What is the approximate time required for a complete circulation of the blood? 6. Discuss the automatic action of the heart. 7. Discuss the regulation of the circulation in the brain. 8. To what structures are (*a*) vasoconstrictor nerves, (*b*) vasodilator nerves distributed? 9. Is the exchange of gases in the lungs entirely explained by the laws of diffusion? Give reason for your answer. 10. Describe intestinal peristalsis. 11. What is the digestive action of saliva? 12. What is the composition of sweat and to what extent may it be compensatory for lack of activity of the kidneys?

HYGIENE

Answer ten questions only: 1. What causes tetanus? Under what conditions is tetanus most likely to develop? What would you do to prevent the development of tetanus in an individual case? 2. Name diseases that may be carried by water. 3. What classes of patients should avoid living in altitudes of over 5,000 feet? 4. What is the most common cause of blindness in infants? How would you combat it? 5. Name three diseases that are spread by the improper disposal of human excreta. How does each of these diseases get into the human body? How should excreta be disposed of in order to eliminate these diseases? 6. Who first discovered and announced the value of vaccination for the prevention of small-pox? What observation of his led to this discovery? Give approximate date of his discovery. 7. How is diphtheria disseminated; how does it enter the system and what should a municipality do to eliminate it? 8. Name three diseases that are spread by flies. What methods should be used to prevent and kill flies? 9. What other insects besides flies carry diseases to human beings? What variety of mosquito carries yellow fever; What variety of mosquito carries malarial fever? What should be done to rid a community of the mosquito? 10. What sanitary measures should be adopted in the care of a typhoid patient? 11. What is the difference between asepsis and antisepsis? Who first announced a system of antiseptic surgery? Approximate date of his birth and death. 12. What should be done to prevent spread of venereal diseases in a municipality? In the army and navy?

## Illinois January Report

Mr. Amos Sawyer, acting secretary of the Illinois State Board of Health, reports the written examination held at Chicago, Jan. 22-24, 1913. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of physicians examined was 106, of whom 57 passed and 43 failed. Six candidates did not complete the examination. Of "other practitioners" 49 were examined, of whom 15 passed, 33 failed and one withdrew. There were also 42 midwives examined, of whom 26 passed and 16 failed. For the physicians examined, the following colleges were represented:

PASSED

| College | Year Grad. | | Total No. Examined |
|---|---|---|---|
| George Washington University | (1906,1) | (1910,2) | 3 |
| Northwestern University Medical School | (1910,1) | (1911,1) (1912,3) | 5 |
| Rush Medical College | | (1912) | 4 |
| University of Illinois | | (1911,3) (1912,6) | 9 |
| Bennett Medical College | (1911,2) | (1912,7) (1913,4) | 13 |
| Chicago College of Medicine and Surgery | (1911,2) | (1912,5) (1913,2) | 9 |
| Hahnemann Med. College and Hospital, Chicago | | (1912) | 1 |
| Illinois Medical College | | (1910) | 1 |
| Reliance Medical College | | (1911) | 2 |
| State University of Iowa, College of Medicine | | (1908) | 1 |
| Harvard Medical School | | (1910) | 1 |
| University of Michigan, Dept. of Med. and Surg. | | (1910) | 1 |
| Barnes Medical College | | (1898) | 1 |
| Albany Medical College | | (1909) | 1 |
| New York University Medical College | | (1893) | 1 |
| Syracuse University | | (1909) | 1 |
| Jefferson Medical College | | (1912) | 1 |
| Baylor University | | (1910) | 1 |
| Milwaukee Medical College | | (1910) | 1 |

FAILED

| College | | | Total No. Examined |
|---|---|---|---|
| Hahnemann Medical College and Hospital, Chicago | (1910,1) | (1911,1) (1912,1) | 3 |
| Bennett Medical College | (1911,1) | (1912,5) | 6 |
| American College of Medicine and Surgery, Chicago | | (1905) | 1 |
| Chicago College of Medicine and Surgery | | (1911,2) (1912,5) | 7 |
| Hering Medical College | | (1912) | 1 |
| Illinois Medical College | | (1910) | 1 |
| Jenner Medical College | (1910,1) | (1912,2) | 3 |
| National Medical University | (1903,1) | (1909,2) | 3 |
| Reliance Medical College | | (1911) | 2 |
| University of Illinois | | (1912) | 5 |
| Hospital College of Medicine, Louisville | | (1904) | 1 |
| Barnes Medical College | (1898,1) | (1905,1) (1910,1) | 3 |
| St. Louis College of Physicians and Surgeons | | (1910) | 1 |
| Meharry Medical College | (1904,1) | (1910,1) (1912,2) | 4 |
| Medical College of Virginia | | (1877) | 1 |
| University of Naples, Italy | | (1907) | 1 |

## Georgia Homeopathic May Report

Dr. R. E. Hinman, secretary of the Homeopathic Board of Medical Examiners of Georgia, reports that at the meeting held at Atlanta, May 8, 1913, three candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Maryland Medical College | (1905) | Maryland |
| New York Homeopathic Medical College and Hospital, | (1884) | New York |
| Cleveland Homeopathic Medical College | (1901) | Michigan |

## Nevada May Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 5-7, 1913. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 3, all of whom passed. Seventeen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

| College | Year Grad. | Per Cent. |
|---|---|---|
| College of Physicians and Surgeons, Baltimore | (1883) | 75.2 |
| Columbia University, College of Phys. and Surg. | (1907) | 90.8 |
| Ohio Medical University | (1904) | 76.4 |

LICENSED THROUGH RECIPROCITY

| College | Year Grad. | Reciprocity with |
|---|---|---|
| Georgia College of Eclectic Med. and Surgery | (1912) | Georgia |
| Rush Medical College | (1904) | Illinois |

| | | |
|---|---|---|
| Bennett Medical College | (1909) | Illinois |
| Indiana University | (1910,2) | Indiana |
| University of Kansas | (1907) | Missouri |
| University of Louisville | (1908) | Georgia |
| Maryland Medical College | (1911) | Penn. |
| Atlantic Medical College | (1909) | W. Virginia |
| University Medical College, Kansas City | (1904) | Kansas |
| St. Louis College of Physicians and Surgeons | (1895) | Iowa |
| Cleveland Homeopathic Medical College (1904) Kentucky; | (1905) | Penn. |
| Western Pennsylvania Medical College | (1901) | Penn. |
| University of the South | (1899) | Oklahoma |
| University of Vermont | (1911) | Vermont |
| Laval University, Montreal | (1898) | Minnesota |

# Book Notices

THE INTERPRETATION OF RADIUM. Being the Subject of Six Free Popular Experimental Lectures Delivered at the University of Glasgow. By Frederick Soddy, M.A., F.R.S., Independent Leeturer in Physical Chemistry and Radio-Aetivity in the University of Glasgow. Third Edition. Cloth. Price, $2. Pp. 284, with 32 illustrations. New York: G. Putnam's Sons, 1912.

The great generalizations of seienee and their interpretation are among the finest exercises of the human mind. It would be rash to speak of any one of them as the most fascinating. Newton's law of gravitation, Joule's law of the conservation of energy, Dalton's atomic theory, all these in their applieation to the interpretation of physieal phenomena offer exercises of the mind that are unsurpassable in their appeal to the imagination. The latest achievement of this sort is the interpretation of the phenomena of radio-activity, as manifested by a few chemical elements of whieh radium is the most notable. These phenomena have brought us face to face with new and absolutely unexpected facts; here are substances which have all the characteristics of chemical elements, but are the source of relatively enormous quantities of spontaneous energy —a new source of energy in our universe; a new fundamental fact in physies, of application so wide as to stagger the imagination. The interpretation of these phenomena has brought an equally startling shoek to our ehemical concepts. The atom has stood through all the development of modern chemistry as the final analysis of matter—the prototype of the unchangeable. In Clark Maxwell's famous words, quoted by Soddy, "None of the processes of Nature, sinee the time when Nature began, have produced the slightest difference in the properties of any molecule (atom)." And now we have the fact that the energy arising in radio-aetive substances is nothing less than the product of spontaneous disintegration of these selfsame atoms. We have a faet in physics that leaves us no longer in want of a satisfactory explanation of all of the energy that the astronomical universe manifests. It may not all be derived from this souree, but this source might easily supply it. There may be more faseinating and far-reaching conceptions in seienee than those arising from the interpretation of radio-activity, but they are hard to imagine.

Soddy is one of the ereators of this faseinating subject; to him with Rutherford is due the explanation of the origin of the energy of radio-activity elements in their spontaneous disintegration. In addition to his high scientifie originality, he is one of those rare men, apparently the peeuliar product of English genius, who have the eapaeity of putting great scientific faets into vivid popular form. This eombination of qualities has produced in this book an engrossing narrative of seienee. When delivered in lecture form it must have earried his hearers back to the gre.. popular lectures on physieal scienee by Humphry Davy a hundred years ago. The work is commended to every one who has any seientifie imagination.

OCCASIONAL PAPERS ON THE PREVENTION OF SOME COMMON DISEASES IN CHILDHOOD. By J. Sim Wallace, D.Sc., M.D., L.D.S., Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital. Cloth. Price, 3 shillings, 6 pence. Pp. 103. London: Baillière, Tindall & Cox, 1912.

Approving the reputed dietum of Osler that more physieal deterioration is produced by defective teeth than by aleohol, Wallace in several chapters expresses some rather unusual ideas regarding certain eommon diseases of infancy and childhood. He emphasizes particularly the error in the accepted modes of feeding children on a soft or "slop" diet, with a resulting earies of the first set and imperfeet development of the permanent set of teeth. He says that from 95 to 100 per cent. of children 6 years old or less have carious teeth, with resultant defective development and disease. He also says that 15 per cent. of children 14 years old also have defective teeth. His statisties may be correct so far as they apply to Great Britain; they are certainly exaggerated so far as the United States is eoncerned. He then proceeds to outline a physiologie diet to be taken in a physiologieally arranged manner, so that the first set of teeth will be eonserved and that the permanent set will be properly developed and not subject to caries. He lays emphasis on the necessity of giving food whieh gives exercise to the teeth and gums and at the same time has a eleansing effect, so that food partieles may not be allowed to remain in the mouth. He also insists that the diet as arranged by him will not only prevent the overgrowth of pathogenie baeteria, but will also encourage saprophytes which are really beneficial. Wallace also expresses the belief, and gives figures to show, that adenoids occur most frequently in children who sleep in open, well-ventilated rooms rather than among those who sleep in closed rooms during damp and cold weather. Among the other subjeets treated in this book are the prevention of tuberculosis, a further ehapter on prevention of dental earies, and one on infant mortality and milk. The author has definite ideas on all these subjects, and one must give him eredit for expressing them vigorously, whether one believes them or not.

DOC WILLIAMS. A Tale of the Middle West. By Charles H. Lerrigo. Cloth. Price, $1.25 net. Pp. 329. New York: Fleming H. Revell Company, 1913.

An uneducated old man of high principles, great knowledge of human nature and most lovable charaeter practices medicine by virtue of the years of practice clause in a way which we would ordinarily eall quackery, but which is highly satisfaetory to a large following of people. He raises a foundling and sends him to medical school. The eonflict in the young man's mind between scientific medieine on the one hand, and his loyalty and devotion to the old man in spite of his questionable methods on the other, form an interesting part of the book. We are glad to see this book before the people. Well written, with a love story and deteetive complieations eleverly interwoven, it will bring to its readers some very pertinent truths concerning quackery and seientific medicine. The sueeess of the lovable old man, in spite of his lack of training, comes out very clearly and the reader realizes the great power for benefit that there is in the patient's confidence in his attendant, even though the attendant lack modern methods. The importance of vital statisties, a national department of health, and serum therapy are made clear on the one hand, while on the other are brought out the value of eommon sense, natural living, old-fashioned philosophy and faith in God. The author, Dr. Lerrigo, is a member of the Kansas State Board of Health, and we eongratulate him on his work.

CARDIOVASCULAR DISEASES. Recent Advances in Their Anatomy, Physiology, Pathology, Diagnosis and Treatment. By Thomas E. Satterthwaite, A.B., M.D., LL.D., Consulting Physician Postgraduate Hospital. Cloth. Price, $2 net. Pp. 166, with 80 illustrations. New York: Lemcke & Buechner, 1913.

This is a revision of twelve brief essays previously published in medical journals. Topics sueh as the arhythmias, malpositions of the heart, eardiovascular thromboses, myoeardial disease and malignant endocarditis are discussed. There is also consideration of some of the newer diseoveries relating to the anatomy and physiology of the heart, as well as of instruments used in studying the heart and vessels, the various sphygmomanometers, polygraphs, the eleetrocardiagraph, etc. Much of what is said is excellent; much seems to have been gathered from reading rather than from actual laboratory or clinical experience. The book is not one to be consulted for eomplete and aeeurate knowledge eoneerning these topics, though it contains a great deal that is suggestive and of interest.

Travaux de Chirurgie Anatomo-Clinique. Par Henri Hartman. Professeur à la Faculté de Médecine: Chirurgien de l'Hôpital Bichat. Avec la Collaboration de B. Cunéo et Paul Lecène, professeurs agrégés, chirurgiens des hôpitaux; Küss, prosecteur à la Faculté; Delamare. V. Henry et Lebreton, anciens internes des hôpitaux. Series 4: Voies Urinaires. Paper. Price, 16 francs. Pp. 472, with 132 illustrations. Paris: G. Steinheil, 2, Rue Casimir-Delavigne, 1913.

This volume is a review of 1,787 operations performed by Dr. Hartman on the organs of the urinary tract; 113 patients died. The deaths are detailed, giving the operation performed, the cause of death and usually the necropsy findings. Operative technic is minutely described, and indications and contra-indications for operation carefully reviewed. The term "periurethral adenomyoma" is suggested to displace the commonly used term "hypertrophy of the prostate." Perineal prostatectomy by a lateral incision is described and condemned as giving 50 per cent. of incontinence.

An operation for exstrophy of the bladder is described which consists in making an artificial bladder with a piece of intestine; one end of this intestinal segment is implanted between the rectal mucous membrane and the rectal sphincter, giving the individual control of the urine. The operation is done in two stages, and the result in two cases has been good. The patient is able to hold the urine two or three hours during the day, but during the night there is incontinence. In neither of these two cases has there been any sign of urinary infection. Among the 133 nephrectomies reported, the pleura was never injured. The only complications were opening of the peritoneal cavity and hemorrhage: the hemorrhage was due in one case to the tearing of the vena cava. In this series there were four deaths. This work is an excellent contribution to the surgery of the genito-urinary tract.

Diseases of the Heart and Aorta. By Arthur Douglass Hirschfelder, M.D., Associate in Medicine, Johns Hopkins University, with an Introductory Note by Lewellys F. Barker, M.D., LL.D., Professor of Medicine, Johns Hopkins University. Second Edition. Cloth. Price, $6. Pp. 738, with 334 illustrations. Philadelphia: J. B. Lippincott Company, 1913.

It is a pleasure to note that the favorable comment made by us in reviewing the first edition of Hirschfelder's work has been justified by its cordial reception, and a demand within a short space which has made necessary the publication of a second edition. It is with added pleasure that we find that this edition is more than a reprint of the first. Something like 100 pages have been added and there has been a sincere and successful effort to bring the subject up to date. There is much new material concerning the electrocardiagraph and its bearing on questions of cardiac physiology, pathology, symptomatology and the effects of drugs, notably digitalis. The subject of arteriosclerosis has been revised; consideration has been given to acapnia and kindred topics. New illustrations, many of them Hirschfelder's own, are added. There is a touch of originality about Hirschfelder's diagrams. While some may not be classed as artistic there are few that are not instructive, and many of them are truly ingenious. The book has an individuality of its own, is not made after the stock pattern and is to be most highly commended to the student seeking scientific knowledge concerning the heart and its diseases.

Tabular Diagnosis. An Aid to the Rapid Differential Diagnosis of Diseases. By Ralph Winnington Leftwich, M.D. Cloth. Price, $2.10 net. Pp. 359. New York: Longmans, Green and Company, 1913.

This is a very complete presentation of the contrasting differentiating symptoms of diseases. On each page two diseases are contrasted. In addition to the differentiating symptoms thus given, symptoms common to both are enumerated at the bottom of the page, with frequent references to similar diseases contrasted elsewhere in the volume, and explanations of new or imperfectly known signs which have been named. The tables include contrasting signs obtained by microscopic and other laboratory methods. The book is the most complete of any of the kind that has come to our notice and seems to be brought well up to date. A careful reading of many of the tables has not revealed errors.

The International Medical Annual. A Year-Book of Treatment and Practitioners' Index. Thirty-First Year. Cloth. Price, $3.50. Pp. 628, with 152 illustrations. New York: E. B. Treat & Co., 1913.

An examination of this year-book shows a wealth of material well arranged and presented in a form for ready reference. The articles are alphabetically arranged but classified in different sections according to the general subject to which they relate. Much prominence is given to new remedies, and a large number of articles in connection with them are abstracted. While some allowance must be made for a certain neutral attitude of the abstracter or reporter, the impression is nevertheless gained that a more critical selection of the material should have been made. The article on digalen by Moore has received severe criticism by Hatcher, but no notice is taken of this criticism.

On the whole, the book is well made and the illustrations are excellent. It is presented in a single convenient volume.

Medical Laboratory Methods and Tests. By Herbert French, M.A., M.D., F.R.C.P., Assistant Physician, Guy's Hospital. Third Edition. Cloth. Price, $1.50 net. Pp. 202, with 88 illustrations. Chicago Medical Book Company, 1912.

Since this manual has reached its third edition, it has evidently given good service to those who need an elementary guide in urinalysis and blood examinations. The ordinary processes of urinary examination are well described. Gastric analysis, on the other hand, appears to have been regarded as a sort of rare exercise which the doctor might try if the patient should happen to vomit. Incidentally the composition of test-meals is given and the use of the stomach tube recommended in cases requiring particular investigation. A similar limited view of examination of the feces appears to prevail in the author's neighborhood. Nevertheless the book is a handy volume which may supply the need of some diagnosticians.

Milk and Its Products. A Treatise on the Nature and Qualities of Dairy Milk and the Manufacture of Butter and Cheese. By Henry H. Wing, Professor of Animal Husbandry in Cornell University. Cloth. Price, $1.50 net. Pp. 433, with 61 illustrations. New York: The Macmillan Company, 1913.

This book is intended primarily for the dairyman, and tells about the judging of cows and the production of milk, butter and other milk products, from the point of view of the dairyman. Interesting chapters are those on the bacteriology of milk, the production of certified milk, the manufacture of ice-cream and of the various cheeses, legal standards for dairy products, dairy laws, etc. Numerous references to reports and bulletins bearing on the production of milk are also given. The book is one of the rural science series of Cornell University, and in its revised and enlarged form, after many printings, is a standard book on dairy practice.

Aids to Tropical Hygiene. By Major R. J. Blackham, D.P.H. (Lond.), R.A.M.C., Divisional Sanitary Officer, First Division, Indian Army. Cloth. Price, $1.25 net. Pp. 192. New York: William Wood & Co., 1912.

Major Blackham, for many years on duty in India, presents a vast amount of information regarding tropical hygiene. He takes up successively climate and meteorology; air and ventilation; water and water-supplies; food and feeding; clothing; sites, soils and houses; disposal of refuse; disposal of the dead; insects and disease; animal parasites; prevention of malaria, and disinfectants and disinfections. Appended are two valuable tables, one indicating the preventive measures in tropical diseases, and the other showing the distinctive characters, in the various stages, of the more important species of flies found in houses.

Jahrbuch für orthopädische Chirurgie. Von Dr. Paul Glaessner, orthopädischer Assistent der chirurgischen Universitäts-Poliklinik in der Kgl. Charité zu Berlin. Volume 3, 1911. Paper. Price, 6 marks. Pp. 122. Berlin: Julius Springer, 1912.

This is a summary of orthopedic publications appearing during 1911. It reviews in a brief, concise and critical manner a large number of articles covering the orthopedic field. An extensive bibliography is appended.

# *Medicolegal*

## Joining Causes of Action for Unauthorized and Unskillful Performance of Operation—Sufficiency of Consent to Operation before Examination—Measure of Damages—Skill Required

(*Van Meter vs. Crews (Ky.), 148 S. W. R. 40*)

The Court of Appeals of Kentucky reverses a judgment rendered for Miss Crews, the plaintiff, who charged that the defendant had operated on her without her consent and had performed the operation unskillfully, by reason of which she had suffered great pain and her health had been permanently impaired. The court says that Miss Crews had been suffering with a pain in the right side of the abdomen for about twelve or eighteen months and for two months she had been suffering with a pain on the left side of the abdomen. She called Dr. Van Meter, who, after making an examination of her, prescribed for her. After that she did not improve and he told her he was not satisfied with the examination he had made at his office and would like for her to go to the hospital, where he could make the examination more satisfactorily. She went to the hospital, and there, after the usual preparations had been made and several of her relatives had been summoned, she was placed under an anesthetic and an operation performed, which consisted in his taking out one of the ovaries and making an adjustment of the other. After that she remained at the hospital until the wound healed and then went home, but she was unable to stand straight and later had to submit to another operation, all of which, it was charged, was due to the unskillfullness of the first. The proof for the defendant showed that there was no neglect on his part and that what he did was according to the approved practice in such cases, although it turned out, in Miss Crews' case, not to relieve her.

It was insisted for the defendant that the plaintiff could not unite in the petition the allegations that the defendant performed the operation without her consent, and that he performed it unskillfully. It was said that if he performed the operation without her consent that was a trespass on her person, and that if he undertook to perform the operation with her consent, and performed it unskillfully, that was a cause of action for a breach of contract, which could not be united with an action for trespass to the person. But the court cannot see the force of this. The plaintiff had employed the defendant as her physician and had placed herself in his charge. If he operated on her without her consent, that was a breach of his duty to her; if he performed the operation unskillfully, that was also a breach of his duty. In other words, all that the defendant did was done by him as a physician, and under his employment as such. The status of physician and patient existed, and all that he did was done under that relationship. If the plaintiff was to recover at all, she must recover all her damages in one action; for, manifestly, she could not bring one action, alleging that the operation was performed without her consent, and another, alleging that it was performed unskillfully. If she could not present her whole case in one action, therefore, she would be denied remedy. Her whole case arose from the defendant's breach of duty as a physician, and she might, in one action, set up as many breaches of duty as existed. The court therefore properly refused to require the plaintiff to elect between the two grounds of recovery sued on.

The evidence heard on the trial tended very strongly to show that, though the plaintiff was averse to the operation, it was understood by her and her relatives, who were summoned to the hospital and consulted, that if, on the examination by the defendant, it was found that an operation was necessary, he would perform it while she was under the anesthetic. Both her uncle and her brother were sent for, and the matter was discussed carefully, not only with them, but with her; and, while there was some conflict in the testimony, there was evidence warranting the jury to conclude that the defendant understood, and had the right to understand, from all that passed between him and the plaintiff, that he was to perform the operation while she was under the anesthetic if, on the examination, he found that necessary. There was nothing in the evidence warranting a recovery in this action of punitive damages, as there was no evidence of bad faith, recklessness or oppression on the part of the physician.

The jury should have been instructed that, if the defendant understood, and had reasonable grounds to understand, from the words or conduct of the plaintiff that she was willing for the operation to be performed while she was under the anesthetic if, on his examination of her, he found it necessary, and on the examination he found the operation to be necessary, and he so performed it, then he had the right to perform the operation as by her consent. Reasonable grounds are such grounds as would warrant a man of ordinary prudence to so understand under the circumstances.

An instruction was radically erroneous which allowed the jury to find for the plaintiff such a sum as would fairly compensate her for her loss of health. Such a standard was too uncertain; for a jury might justly think that no reasonable amount of money would compensate a young woman for the loss of her health, and to give the jury such a measure of damages would be in effect to turn them loose without any criterion to guide them. The court should have told the jury that, if they found for the plaintiff, they should find for her in such a sum as would fairly compensate her for her pain and suffering, if any, and the permanent impairment, if any, of her power to earn money, which was the natural and proximate result of the operation being performed unskillfully, or without her consent, if it was so performed.

On another trial, the jury should be instructed that the defendant, in performing the operation on the plaintiff, was not required to possess or exercise the highest degree of skill, but in performing such operation he was bound to possess and exercise that degree of skill usually possessed by the profession of surgeons generally in that section of the country, and if the operation was performed by him with such skill, then it was not unskillfully performed, within the meaning of these instructions.

## Dying Declarations Made after Refusal of Physician to Treat Abortion Case Without History—Construction of Amended Statutes with Reference to Privilege and Competency of Witnesses

(*State vs. Law, (Wis.), 136 N. W. R. 803*)

The Supreme Court of Wisconsin overrules all exceptions to rulings in this case wherein there was a conviction of a licensed physician of criminal abortion. The court says that one contention was that a refusal of a Dr. Dean to treat the patient until he procured from her a history of the case, either to enable him to treat her, or in his own protection, was such coercion of the patient or such inducement as to render incompetent, not only what she then and there told Dr. Dean, but all dying declarations thereafter made by her at the hospital to the same effect and under the same influence. It was argued that, having that origin, the dying declarations were tainted; no matter how frequently repeated thereafter, because of the nature of the inducement held out, the feeble condition of the declarant, and because it was shown by evidence that a person in such advanced stage of peritonitis, when septicemia has already set in, is not sufficiently conscious or intelligent to make a competent dying declaration. If the testimony relating to her mental condition were without dispute, and if the statement made to her by Dr. Dean was plainly a threat or inducement for her to make a charge against the accused, and it appeared she was still in that condition when she made the dying declarations, and still laboring under the duress or inducement of what Dr. Dean said to her, it would have been the duty of the trial court to exclude the dying declarations. But that was not the case. The statement of Dr. Dean did not suggest that she charge the accused with any crime. It was a very proper request for him to make under the circumstances. It probably had influence in inducing her to make disclosure

and to tell the truth. But that was merely incidental and a charge against the accused was not the direct result of the request at all, in case the accused had done nothing wrong or criminal. Several witnesses, who saw and talked with Mrs. O'Brien, the patient, at the hospital prior to and at the time of the dying declarations, testified to her mental competency in no uncertain language. Under such circumstances, the trial court would not be justified in excluding the dying declarations, but very properly admitted them in evidence.

Two physicians, Drs. Dean and Donovan, were in attendance on Mrs. O'Brien, and learned of the facts in the case by reason of their being in attendance. This information so acquired by them, and each of them, was necessary to enable them to prescribe for her. Each was sworn as a witness for the state, and testified concerning her mental capacity at the time she made the declarations mentioned, as to the symptoms observed and treatment given her, and also to what was discovered in the autopsy conducted by them on the body of Mrs. O'Brien. There was no error in that.

Section 4075 of the Wisconsin statutes, as amended in 1911, provides: "No person duly authorized to practice physic or surgery shall be permitted to disclose any information which he may have acquired in attending any patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician or to do any act for him as a surgeon." Before the amendment of 1911, the words "shall be compelled" appeared in this statute, instead of the words "shall be permitted," as the statute now reads. The amendment of 1911 brought Section 4075 more nearly in form with Section 4074, relating to confessions to clergymen, and with Section 4076, relating to communications by client to attorney. But Section 4078d provides: "No person shall be excused or privileged from testifying fully under oath in any prosecution brought under the provisions of Sections 4352 or 4583 of the statutes of 1898 or for any of the causes mentioned in either of said sections when so ordered to testify by a court of record or any judge thereof; but no person shall be prosecuted or subjected to any penalty or forfeiture for or on account of any transaction, matter or thing concerning which such person may so testify or produce evidence, except for perjury committed in giving such testimony."

This prosecution was under Section 4352 mentioned. It will be observed that the opening sentence of Section 4078d is broad enough to sweep away all privilege in such cases. Whether it should be interpreted and applied as broadly as its words might indicate need not be decided here. All that is necessary to consider in this case is whether the provisions of this section take away, in prosecutions for abortion, the privilege conferred by Section 4075, as amended in 1911. The court thinks it does. Counsel for the accused sought to limit the scope of Section 4078d by the concluding sentence of that section, which provides that no person shall be prosecuted or subjected to any penalty or forfeiture for or on account of any transaction, matter, or thing concerning which such person may so testify or produce evidence. The effect of such a construction would be to limit the sweeping words contained in the first sentence of the section to the privileges against self-incrimination. This the court cannot do. It restrains the statute unduly. The more reasonable interpretation is that the privilege against self-incrimination and the professional privilege of a physician are both taken away by Section 4078d; but, in order to render it valid and constitutional as to the first, the legislature added the last sentence in the nature of a proviso. This immunity from prosecution on account of anything which the accused is compelled as a witness to disclose is provided for in actions relating to miscarriage or abortion, by Section 4078d, although in this section this particular privilege is not mentioned, nor is the immunity confined to an accused person, but all privilege is apparently abolished as to all persons in respect to such criminal prosecution. Because of the nature of the crime and the necessity of resorting to medical evidence in order to establish its commission the court is satisfied that the privilege accorded by Section 4075, as amended in 1911, is, in cases like this, taken away by Section 4078d.

Testimony in the case was given by a director of the State Hygienic Laboratory and professor of bacteriology in the university, by the dean of the medical college at the state university, and by the professor of pathology at the university. None of these gentlemen had any license or certificate of registration as a physician in Wisconsin, and their testimony was challenged as incompetent under Section 1436 of the Wisconsin statutes, as amended, which reads: "No person practicing medicine, surgery or osteopathy shall have the right . . . to testify in a professional capacity as a physician or surgeon, or insanity expert in any case, unless he or she holds a license from the Wisconsin Board of Medical Examiners, or the certificate of registration hereinbefore referred to, with a diploma from a reputable medical college or society or a certificate of membership in a medical society, and has been duly recorded as a practitioner in the state of Wisconsin; provided, that nothing in this act contained shall be construed as restricting any court in a criminal action from receiving the testimony of any person as a witness." But the gentlemen mentioned were not within the statute quoted, because they were not persons practicing medicine, surgery or osteopathy; and they did not testify in a professional capacity as physicians, surgeons or insanity experts. The proviso of the statute would also remove the disqualification theretofore mentioned, so far as criminal cases are concerned. The mere fact that the science of medicine covers, includes or requires some knowledge of bacteriology, or chemistry, or botany or biology, or embryology would not exclude an expert in either of those sciences, under Section 1436 as amended.

### Privilege Not Waived nor Statute Modified

*(Cohodes vs. Menominee & Marinette Light & Traction Co. (Wis.), 135 N. W. R. 879)*

The Supreme Court of Wisconsin says that in this personal injury case the defendant sought to elicit from the plaintiff's attending physician for about a week evidence tending to show that there was nothing serious about the alleged injuries, and that the plaintiff was endeavoring to perpetrate a fraud on the defendant, and was malingering as to her injuries for the purpose of increasing the damages. The inquiries propounded to the physician for this purpose necessarily embraced information acquired by him while he was attending the plaintiff in his professional capacity, to enable him to prescribe for her. He testified that he was called to attend her, and that whatever information he had as to the nature and extent of her injuries had been acquired by him while attending her as her physician. Such information is within the provisions of Section 4075 of the Wisconsin statutes and could not be disclosed over the plaintiff's objection. She did not waive her rights under this statute by testifying concerning her condition and the nature and extent of her injuries. Nor does the court perceive any basis for the claim that legislation requiring physicians to file death certificates in a public office and to make report of certain accident cases to local registers of vital statistics is a legislative declaration that the secrecy, as formally enjoined by the provisions of Section 4075, has been relaxed, and that the privilege thereof, in cases like this one, should be more restricted than formerly. There was no question of receiving evidence of facts embraced in any such certificate or report of the witness. The court properly restricted his examination on the points involved.

### Writ of Prohibition Cannot Be Employed against Board of Examiners

*(Jamieson vs. State Board of Medical Examiners (Okla.), 130 Pac. R. 923)*

The Supreme Court of Oklahoma holds that the State Board of Medical Examiners in hearing charges filed before it pursuant to sections 4242-4246 of the compiled laws of Oklahoma of 1909 for the purpose of having revoked a license issued by it to practice medicine and surgery in the state, on the ground that the same was obtained through fraud, and also charging the certificate holder with unprofessional con-

duct, is engaged in the performance of a ministerial duty, and does not exercise judicial power, and a writ of prohibition thereto will not lie. The court says that the plaintiff in this case filed his petition in the district court of Logan county, and prayed for a writ of prohibition against the State Board of Medical Examiners, prohibiting the board from proceeding to hear and determine certain charges set forth in a certain complaint filed by the president and the secretary, respectively, of the board, the object of which was to have revoked the license of the plaintiff, theretofore issued by the board, to practice medicine and surgery in the state, on the ground that the same had been obtained through fraud; also from proceeding to hear and determine the complaint of the secretary charging him with unprofessional conduct, with the same object in view. The trial court, in effect, held the defendant to be an executive or ministerial board, to which the writ could not run. There was no error in that. The inquiry sought to be prohibited by the writ was in no sense the exercise of a judicial function by the board, and hence the writ could not rightfully run against it. A writ of prohibition will not lie to an executive or ministerial board to prohibit it from performance of ministerial or executive functions.

---

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

*May, LXVII, No. 425, pp. 849-1064*

1 *Is Albuminuria Likely to Recur in Successive Pregnancies? J. M. Slemons, Baltimore.
2 *Treatment of Uterine Hemorrhage by Means of Roentgen Rays. G. E. Pfahler, Philadelphia.
3 Drug Treatment of Uterine Hemorrhages. H. C. Wood, Philadelphia.
4 Surgical Treatment of Uterine Hemorrhage from Non-Pregnant Uterus. W. Krusen, Philadelphia.
5 Thymus Death in New-Born, with Report of Case. E. P. Davis, Philadelphia.
6 Abstraction of Calcium Salts from Mother's Blood by Fetus, Cause of Rapid Progress of Tubercular Processes. J. G. Drennan, New York.
7 Idiopathic Peritonitis. A. Grotti, Columbus, Ohio.
8 Operative Treatment of Puerperal Septicemia. W. E. Darnall, Atlantic City.
9 Reaction in Those Operated on for Tuberculous Conditions. H. D. Furniss, New York.
10 Appendicitis During Pregnancy. B. Van Swearingen, Fort Wayne, Ind.
11 Ammonia Coefficient in Pregnancy with Report of Sixty Cases. A. S. Hotaling, Syracuse, N. Y.
12 Methods of Diagnosis in Lesions of Upper Urinary Tract. G. V. Brown, Detroit.
13 Rapid Dilatation and Accouchement Forcé. H. S. Lott, Winston-Salem, N. C.
14 Influenzal Meningitis. T. S. D. Grasty, Washington, D. C.

1. **Albuminuria of Pregnancy.** — From observations on twenty patients who were recovering from toxemia of pregnancy, Slemons found that, using the blood-pressure as a criterion, three groups can be distinguished, just as they may be from studying the urine. In every case when the toxemia was at its height the blood-pressure was high, rarely below 180 mm. Typically, the blood-pressure was higher in nephritis toxemia than in eclampsia; in the former he frequently noted a pressure of 250 mm. Furthermore, as each of these patients recovered, no matter what the underlying cause of the toxemia, the blood-pressure finally fell, but in some instances reached normal more quickly than in others. Fifteen of the twenty patients presented a blood-pressure curve which was near the normal at the end of two weeks. At this time, their general clinical condition was satisfactory and they were discharged from the hospital, though in many instances there was still a faint trace of albumin in the uncatheterized urine.

The opinion that these women had suffered from eclampsia, not from nephritis toxemia, and that they were unlikely to experience a toxemia again, has been verified in a number of instances. Two of the twenty patients in this series were observed throughout a month, and, at the end of that time, presented a blood-pressure of 175 mm. There was also a measurable amount of albumin in the urine, somewhat less than half a gram; in spite of these facts, and against advice, both these women left the hospital, insisting that they were well. One of them, however, has since passed through a normal pregnancy. The other died later and no autopsy was performed. Three of the twenty patients ran a persistently high blood-pressure for eight weeks and, therefore, seemed to the author to have some permanent kidney defect. The final observations of the blood-pressure before these patients left the hospital were, respectively, 160, 200 and 250 mm. The first had a marked albuminuric retinitis; the second gave a history of severe scarlet fever during childhood; the third has since suffered from albuminuria and coma in a second pregnancy. The author believes that such clinical facts support the conclusion based on the blood-pressure, that the kidneys were defective in these three cases.

Reviewing his observations in this series of twenty cases, Slemons is inclined to attach great importance to blood-pressure estimations during the convalescence from a toxemia of pregnancy. In this series, it appears to him that 75 per cent. of the women suffered from eclampsia and are unlikely to do so again; whereas, in 15 per cent. there was a strong presumptive evidence of a defect in the kidneys which will always complicate pregnancy. He was uncertain of the prognosis in 10 per cent. of these cases, because the pressure remained high for a month; but the subsequent experience of one of them has demonstrated that such a condition does not necessarily mean that a toxemia of pregnancy will recur.

2. **Treatment of Uterine Hemorrhage.**—Roentgenotherapy is regarded by Pfahler as the method of choice for the control of hemorrhage in patients approaching the menopause, in whom carcinoma can be eliminated. It is not the method of choice in patients under 40 years of age. It can be recommended in all cases of any age in which operation is contra-indicated. For the differential diagnosis, in order to determine the indications for this treatment, special skill in gynecology is required; and for the proper administration of the rays, special training in Roentgen technic is necessary. It is possible for a gynecologist to become a roentgenologist. It is also possible for a roentgenologist to become a gynecologist, but it is very unlikely that either one will master both. Therefore, Pfahler believes that each patient should be examined by a gynecologist and treated by a roentgenologist.

### American Journal of Public Health, New York

*May, III, No. 5, pp. 413-512*

15 Necessity for Uniformity in National, State and Municipal Vital Statistics Reports. C. I. Wilber, Washington, D. C.
16 Relation of Morbidity Reports to Public Health Administration. J. W. Trask, Washington, D. C.
17 Misleading Mortality Statistics on Tuberculosis. P. P. Jacobs, New York.
18 Two Ways by Which Vital Statistics Can Be Made Useful to Health Office. G. W. Atherholt, Philadelphia.
19 Practical Value of Vital Statistics in South. W. S. Rankin, Raleigh, N. C.
20 Identification Records for Unknown Dead. T. H. D. Griffitts, Springfield, Ill.
21 Statement of Duration of Disease on Death Certificates as Determining Factor in Classifying Causes of Death. G. H. Van Buren, Washington, D. C.
22 Some Newer Problems and Some Newer Phases of Antituberculosis Warfare in United States. S. A. Knopf, New York.
23 Experiment in Schoolroom Ventilation. F. Bass, Washington, D. C.
24 Outbreak of Typhoid in Belleville, Ill. H. N. Parker, Champaign, Ill.
25 Methods for Eradication of Uncinariasis. J. A. Ferrell, Raleigh, N. C.

### Annals of Surgery, Philadelphia

*May, LVII, No. 5, pp. 593-783*

26 *Arthroplasty. J. B. Murphy, Chicago.
27 Identity of Cause of Aseptic Wound Fever and So-Called Postoperative Hyperthyroidism and Their Prevention. G. W. Crile, Cleveland.

28 *Surgical Significance of Accessory Pancreas. T. Carwardine and A. R. Short, Bristol, England.
29 Cysts of Spleen. R. H. Fowler, Brooklyn.
30 *Pathologic Data Obtained from Ulcers Excised from Anterior Wall of Duodenum. W. J. Mayo, Rochester, Minn.
31 *Fatal Hemorrhage from Erosion of Gastroduodenal Artery by Duodenal Ulcers. J. E. Thompson.
32 *Acute Perforated Duodenal and Gastric Ulcers. J. B. Deaver, Philadelphia.
33 Resection of One-Third of Colon for Irreducible Intussusception in Infant Five Days Old. C. N. Dowd, New York.
34 Complications Following Surgical Operations. E. H. Beckman, Rochester, Minn.
35 Abolishing Pain After Operations with Nerve Block à Distance. L. Watson, Oklahoma City, Okla.

26. **Arthroplasty.**—Murphy discusses arthroplasty from the basis of his personal observations and experiences, describing in detail his technic for operation and after treatment. The subject is covered fully. He reports sixteen cases illustrating arthroplasties on all joints except the shoulder. The paper is well illustrated but its length and detail prohibit making an abstract for these columns which would do justice to the article. Therefore the reader is referred to the original. His conclusions are: The great majority of cases of ankylosis, the result of a metastatic arthritis ("inflammatory rheumatism" which is initiated with a chill) are avoidable. He is absolutely convinced that the contortion deformities following metastatic arthritis are avoidable. The acute arthritides, and especially those that have an initial chill, are surgical lesions from the very first day. The initial chill is a warning that ankylosis probably will occur, and therefore the limb must be kept in a good position from the very beginning and the interarticular pressure produced by involuntary muscle contraction must be overcome. This is best accomplished by some type of Buck's extension. This not only prevents the deformity, but greatly alleviates the suffering of the patient, and usually, we believe, prevents the occurrence of the ankylosis. The plaster cast in acute infections always favors ankylosis and should never be used. In tuberculosis it favors repair and therefore lessens the likelihood of ankylosis. Extension of sufficient weight to overcome the muscular contraction is the ideal means of preventing deformity and avoiding ankylosis. His final conclusion with regard to arthroplasty is that where the technic of the operation is carried out properly, in a primarily sterile field, the results for exceed orinal expectations. They can be secured uniformly, and when they are not secured the failure must be charged to some defect in technic or in the subsequent management of the case.

28. **The Accessory Pancreas.**—According to Carwardine and Short thirty-nine cases of accessory pancreas were on record in 1908. It was first described by Klob in 1859. The accessory pancreas is a small, rounded nodule which may be as large as a filbert, situated somewhere in the wall of the alimentary canal, though there is one case on record in which it was found to lie close to the umbilicus in the abdominal wall. More commonly, it is situated: (1) in the wall of the stomach, either near the pylorus, or the greater or lesser curvature; (2) in the wall of the duodenum, but detached from the true pancreas; (3) in the first eight inches of the jejunum; this is the commonest location, and both of the authors' cases fall into this class; (4) in the lower jejunum or ileum. In several instances it has been found near the ileocecal valve. In some cases it has been covered by a normal mucous membrane and serous coat; in others no villi have been present over it but it has bulged into the lumen of the bowel, as in the case figured. Histologically, it shows typical pancreatic structure and well-defined ducts. The accessory pancreas may give trouble in four ways: 1. It may produce mechanical alterations in the walls of the alimentary canal. 2. The accessory pancreas is liable to acute pancreatitis. 3. Accessory pancreas may develop chronic interstitial pancreatitis. 4. Accessory pancreas may complicate the diagnosis of the cause of abdominal symptoms.

30. **Ulcer of Anterior Wall of Duodenum.**—So far as Mayo has been able to observe, ulcers of the posterior wall of the duodenum present the same characteristics as those of the stomach; that is, a clean-cut, definitely punched-out area, attached closely to the pancreas and usually completely perforating the duodenum. They are protected posteriorly by a callus which forms the base of the ulcer. In such cases, however, an anterior contact ulcer will usually be found just opposite the lesion on the posterior wall. In four instances Mayo excised an ulcer on the posterior wall, suturing the defect from the mucous side. In each case the base of the ulcer was closely attached or fused with the pancreas and, since it was impossible to get at the posterior wall to apply an outer row of sutures, Mayo contented himself in two cases with a protecting suture at the upper and lower peritoneal angles. In one case a complete division was made of the duodenum after excision of the ulcer with direct union of the end of the duodenum to the end of the stomach. In the fourth case devitalizing mattress sutures were applied from the mucous side in such manner as to cut out the ulcer. The excision of these four posterior ulcers of the duodenum proved to be so difficult as contrasted with gastro-enterostomy that Mayo is not encouraged to continue the practice, although the patients recovered and remain well. He believes, therefore, that the excision of duodenal ulcers should be limited to those occurring on the anterior wall.

31. **Erosion of Gastroduodenal Artery.**—Two fatal cases of bleeding from duodenal ulcers in spite of the operation of gastro-enterostomy are cited by Thompson. In both cases the ulcer was situated on the posterior surface of the first portion of the duodenum, and in both the hemorrhage, which proved fatal, came on at a time when it looked as if the patients would recover from the operation. The first patient died thirty-four hours after the operation with all the symptoms of concealed hemorrhage, but as no autopsy was allowed it could be only surmised, from the position of the ulcer, that the gastroduodenal vessel was eroded.

32. **Perforated Duodenal and Gastric Ulcers.**—The criterion of value of any method of treatment, says Deaver, is the result obtained by its application. The combined statistics of many leaders in upper abdominal surgery show not only a smaller primary mortality with the complete operation in acute perforation of gastric and duodenal ulcers, but a smaller postoperative morbidity. Deaver has lost only one patient, a late case, with simple closure of the perforation. Seventeen patients with primary, and one patient with secondary gastrojejunostomy recovered and were discharged from the hospital in good health. This result, he believes, is sufficient argument and justification for his faith in primary gastrojejunostomy. Its application leads to a speedy, safe and complete cure with the least jeopardy to future health.

## Archives of Internal Medicine, Chicago

*April, XI, No. 4, pp. 365-467*

36 Vasomotor Reflexes Elicited by Heat and Cold from Regions Devoid of Temperature Sensibility (an Unusual Case of Post-Typhoidal Neuritis). G. N. Stewart and W. B. Laffer, Cleveland.
37 Vasomotor Reflexes Elicited by Heat and Cold from Areas Deprived of Temperature Sensibility by a Traumatic Lesion. G. N. Stewart and O. C. Walker, Cleveland.
38 Method for Quantitative Determination of Pepsin by Using Colloidal Suspension of Egg Albumin. C. H. Neilson and E. Bonnot, St. Louis.
39 *Heart Size and Heart Function in Children Showing Orthostatic Albuminuria: Orthodiagraphic Study. M. H. Bass and H. Wessler, New York.
40 *Effect of Strychnin and Digitalis on Man. D. Marvin, Burlington, Vt.
41 Human Botryomycosis of Liver. E. L. Opie, St. Louis.
42 *Case of Foreign Body (Toothpick) in Heart. C. H. Bailey, New York.
43 *Respiration and Circulation in Epilepsy. L. J. Pollock, Galesburg, and W. L. Treadway, Jacksonville.
44 *Modification of Russo's Urinary Typhoid Test, with Report of Its Use in One Thousand Cases, and a Complete Bibliography. L. Neuman and E. B. Behrend, Washington, D. C.

39. **Heart Size and Heart Function in Children.**—In a series of cases of orthostatic albuminuria selected at random, Bass and Wessler say it will be found that a considerable number present evidence of relative cardiovascular insufficiency. These

symptoms, in the great majority of cases, are not associated with any hypertrophy or dilatation of the heart. On the contrary, the heart is in many cases smaller than normal; nor does it show any gross evidence of weakness as dilatation after exercise, an explanation suggested by previous investigators. Although the hearts do not dilate after exercise, a considerable number of them fail to become smaller under these conditions. This failure to contract may perhaps be looked on as a restriction of the field of cardiac response. The condition known as the juvenile heart or "*Wachstumshypertrophie*" occurred three times in the authors' cases and can be distinctly recognized. The conception of pulse or heart instability must be restricted to a tendency of the pulse to become smaller and impalpable after exercise, a condition which they have found very common. In 30 per cent. of the cases they have found hearts of the drop type, especially associated with other stigmata of constitutional maldevelopment.

40. **Effect of Strychnin and Digitalis on Man.**—No effect on the rate of respiration was noted by Marvin in his strychnin experiments except from 1/20 grain, which produced an average increase of one per minute. This effect was not constant, a drop occurred occasionally, which was due largely to individual fluctuations occurring at the same time and without apparent cause. A slowing of the pulse-rate from all doses was noted, also a marked increase in blood-pressure from 1/30 to 1/20 grain. Practically no effect from 1/40 grain. Digitalis had no effect on the rate of respiration, but produced a slowing in the pulse-rate of eight beats per minute and a marked increase in blood-pressure which reached its maximum in five hours, gradually returning to normal after fifty hours. A persistence of action for fifty hours from a single dose of 14 minims of a standard tincture of digitalis was an interesting observation.

42. **Foreign Body in Heart.**—The foreign body in Bailey's case was proved to have reached the heart by way of the blood-stream, its point of entrance into the latter from the intestine having been demonstrated. The route traveled by the toothpick was a short one. Necropsy was performed six hours post mortem. Protruding 1.5 cm. from the posterior tip of the right auricle was the end of an ordinary wooden toothpick which measured 6.8 cm. in length. The other end could be felt within the auricle, pressing against its anterior wall at the right auricular appendage. Over this end the wall was thinned, white and covered with fibrin over a small area about 3 mm. in diameter. The toothpick was held in place within the auricle by a soft "chicken fat" clot. At the upper part of the pericardium posteriorly there was an area, 1 cm. in diameter, which was abraded, but not pierced, by contact with the end of the toothpick. On the posterior wall of the duodenum, 14 cm. beyond the pylorus, at the lower part of the descending portion where it lay directly over the inferior vena-cava, was a small ulcerated area, about 5 mm. in diameter. Extending backward and upward from the base of this ulceration was a sinus, 1.5 cm. in length, which easily admitted a probe 2 mm. in diameter, leading directly into the inferior vena cava. The intestine was otherwise normal. In the anterior wall of the inferior vena cava, 8 cm. below the entrance of the hepatic vein was the opening of the sinus from the duodenum previously described. Surrounding this opening the wall over an area 5.5 cm. lengthwise of the vessel and 2.5 cm. transversely, showed a rough, eroded surface covered with a small amount of loose fibrin of a greenish color, suggesting bile staining. A small fibrin clot adherent to the edge of the sinus had evidently plugged it before death.

43. **Respiration and Circulation in Epilepsy.**—The authors claim that there are present in many cases of epilepsy rhythmic variations of blood-pressure other than those due to respiratory movements. The sequence of events relative to a convulsion is as follows: A preliminary rise in blood-pressure followed in series by a sudden drop of blood-pressure, a period of apnea, and then the convulsion. The blood-pressure was relatively low during convulsions of petit mal type and during some of the corresponding periods of the fits of the grand mal type. The pulse was rapid during the convulsions. A study of the changes in the respiratory and circulatory systems in some of the cases of epilepsy suggests that the site of discharge is in the medulla and pons (the "lowest level of fits" of Hughlings Jaekson). Likewise it points to the medulla as participating in the discharge in all cases of epilepsy whether this discharge originates there or not.

44. **Modification of Russo's Urinary Typhoid Test.**—The modified technic, as used by the authors, is as follows: Make an aqueous solution of methylene-blue of such concentration that when thoroughly mixed, it will just be translucent. Using the ordinary test-tube, use a sufficient quantity of the methylene-blue solution to fill the test-tube just above the bowl. Then fill the test-tube with urine, and after thoroughly mixing, examine against a good daylight and note the color reaction. Emerald or mint green indicates a positive reaction, while any tinge of blue renders it negative. The constant positive reaction in typhoid and its rare appearance in other conditions, the authors believe, give this test marked corroborative value. A negative reaction is very good evidence that the condition is not typhoid. Its prognostic value is to be doubted, but its continued appearance in severe cases, and reappearance in relapses is important. Its simplicity strongly recommends it, with certain limitations, to wit, that a differentiation of the true greens from the bluish-greens is a matter of practice and experience. Its very early appearance will aid in isolating a suspected patient at once, and general prophylactic measures will be instituted.

## Boston Medical and Surgical Journal

*May 22, CLXVIII, No. 21, pp. 749-784*

45 Treatment of Laryngeal Stenosis Following Diphtheria. D. L. Richardson, Providence, R. I.
46 Treatment of Chronic Stenosis of Larynx and Trachea. H. L. Lynah, New York.
47 Dietetic Treatment of Constipation. L. H. Newburgh, Boston.
48 *Favorable Influence of Periods of Protein Free Diet in Chronic Nephritis. H. W. Goodall, Boston.
49 Jackson Membrane. H. W. Baker, Boston.

48. **Protein-Free Diet in Chronic Nephritis.**—It is held by Goodall that a protein-free diet for a continuous period of from five to ten days can be maintained without harm to the individual With such a restriction the accumulated end-products of protein metabolism in the blood are promptly eliminated, the nitrogen content of the blood falls to normal and the kidneys and heart are given an opportunity to rest. Such a restriction may be followed by a low-protein diet for a considerable period of time, even in advanced cases, without a return of the disagreeable symptoms.

The following procedure, which was followed in the cases reported by Goodall, is advised as the dietary treatment of chronic diseases in which there is a retention of nitrogenous end-products. A protein-free diet should be given for a period of from five to ten days, according to the severity of the disease. At the end of this period amount of protein not exceeding 60 gm. daily should be added and maintained until (a) the resulting improvement of the patient will permit of a further protein increase (up to 90 gm. or 100 gm. as a maximum) or until, (b) the signs and symptoms indicate that there is a reaccumulation of waste products. In the latter event the protein free diet should be repeated. This same procedure may be employed at intervals of not less than six or eight weeks, or a single protein-free diet may be given as often as once in seven days, without injurious effects. As a caution it is to be advised that the diet be given under supervision, or controlled by the urinary nitrogen.

## Colorado Medicine, Denver

*May, X, No. 5, pp. 147-174*

50 Intestinal Diverticulitis. D. P. Mayhew, Colorado Springs.
51 Desirability of Abdominal Exploration. L. Freeman, Denver.
52 Abdominal Adhesions and Kinks. F. Finney, La Junta.
53 Tumors of Bone. S. B. Childs, Denver.
54 Glaucoma: Diagnosis and Present Methods of Treatment. W. H. Crisp, Denver.
55 *Prevention of Typhoid. L. P. Barbour, Rocky Ford.

55. **Prevention of Typhoid.**—The following are the recommendations made by Barbour: First, compulsory sewer connection. Nothing you can do will improve health conditions so much as this one measure. Sewers should be extended to the uttermost limits of the town, and the town should be extended to take in all the suburbs, including the fair grounds. Second, where there are no sewers, and until sewer connection can be made, all privies should be made fly-tight. The room should be screened, but especially should it be impossible for flies to enter the vault. Third, privy vaults, though fly-tight, are still a menace to the cisterns of the neighborhood. Built as most cisterns are the walls often crack, but oftener become worn so thin as to permit seepage of soil water. It is this soil water that contaminates our cisterns. Therefore, the water from all cisterns should be tested each spring and as frequently thereafter as the health officer or householder may think necessary. Either this or close all cisterns. Fourth, careful protection of the city reservoir. Fifth, regulation of the selling of milk in the city. As a condition for receiving a license to sell, each seller should be rigidly required to report promptly all cases of sickness in his family, among his employees or the families of his employees. Sixth, strictly enforced measures for preventing the breeding of flies. To this end there should be compulsory cleaning of every lot, corral, stable yard, stable and barn every week from April to October, the refuse to be burned or hauled to a suitable place beyond the city limits. Seventh, proper quarantine of each typhoid patient. This implies thorough sterilization of the discharges of the patient, of all clothing worn by him, and of all eating utensils used. None but necessary nurses should touch the patient or handle any of the aforesaid clothing, etc., until after disinfection. Eighth and finally, antityphoid vaccination.

These measures, Barbour states, will prevent the spread of typhoid within the town. They will not prevent its introduction from without. No community can be absolutely safe from typhoid until the larger community surrounding it is free. There is now everywhere more typhoid in the rural districts, proportionately, than in the urban. This calls for action by county authorities. Supervision and control of sanitary conditions of farms is needed. The county authorities should especially watch all the construction camps on railroads, reservoirs and ditches. These have been the starting point of more than one epidemic. The sanitation of fair grounds, athletic parks, etc., should, where these are outside the city limits, be guarded by the county health officer. The best work could be done if there were cooperation of town and county authorities in a statewide campaign under the supervision of the State Board of Health. By such a campaign the disease could be driven from any state in two years' time; and the same measures that would eliminate typhoid would lessen other diseases.

## Georgia Medical Association Journal, Augusta

*May, III, No. 1, pp. 1-36*

56 What General Practitioner of Medicine Can Do for Public Health. C. P. Wertenbaker, Norfolk, Va.
57 Health Conditions as They Exist in Most South Georgia Municipalities. A. D. Little, Thomasville.
58 County Boards of Health. R. V. Nottingham, Macon.
59 Need of Full Time County Health Officers. A. G. Fort, Atlanta.
60 Sanitary Disposal of Municipal Waste. R. L. Russel.

## Illinois Medical Journal, Springfield

*May, XXIII, No. 5, pp. 471-594*

61 *Rationale of Hydrotherapy. F. P. Norbury, Springfield.
62 Sterilization of Insane, Criminal and Delinquent. H. D. Singer, Kankakee.
63 When Is Operative Treatment Indicated in Chronic Dyspepsia? W. H. Wathen, Louisville, Ky.
64 Practical Studies in Tuberculosis. C. L. Wheaton, Chicago.
65 Injuries to Lungs and Pleura; Report of Case. P. Z. McDonald, Chicago.
66 Technic of Surgery of Gall-Bladder and Bile Ducts. F. C. Eggert, Chicago.
67 Rationale of Salvarsan Treatment of Syphilis. E. A. Fischkin, Chicago.
68 Cardiac Arhythmia. E. K. Kerr, Chicago.
69 Road to Rational Medicine. E. P. Lyon, St. Louis.
70 Medical Men of To-Day. G. A. Zeller, Peoria.

61. **Rationale of Hydrotherapy in Mental Disease.**—Hydrotherapy, according to Norbury, is the most valuable and most generally available means of practice now in vogue. The effects noticed are sedative, tonic and eliminative. The sedative effects are secured through the application of the warm bath, the pack, the continuous or prolonged bath. Insomnia, restlessness, excitement, manic phases, etc., are the indications for the use of sedative treatment. Tonic effects are secured through the cold pack for fifteen minutes followed by the douche, massage, etc. These measures are indicated in depressed states, in dementia praecox cases, certain phases of paresis. Elimination is obtained through the douche, etc. These baths are taken daily and for a sufficient length of time to get results. An exact technical consideration of indications is necessary first as to form of bath, the manner of giving and clinical detail to be observed in each case. There are many physicians, Norbury continues, including some hospital managing officers even in Illinois, who do not appreciate the value of hydrotherapy, and who look on the apparatus and routine of practice as "fuss and feathers"—the apparatus as an "expensive toy"—and all because of ignorance, the lack of definite information and a tendency to cling to old idols. The treatment of mental disease has, through hydrotherapy, been revolutionized, the burdens of responsibility in treatment lessened by providing more precise, more scientific, more reliable methods of securing the three great indications in such treatment, viz., sedative, tonic and eliminative results without the undesirable results not infrequent in the train of certain drugs which are used to secure sedation, etc.

Illinois proposes to train her own operatives in hydrotherapy. She has decided to have a training station at Kankakee where a graduate in physical therapeutics will teach the practical technic and where physicians familiar with the principles and practice of hydrotherapy will conduct the class work. Norbury states most emphatically that general hospitals, private sanatoriums and even physicians' offices should have at hand the facilities to meet the indications for hydrotherapeutics as we now see them to-day. Every community of at least ten thousand inhabitants should have a complete equipment, which could be conducted as a private hydriatic institute, to which patients could be sent for treatment. Water companies could cooperate to make such an institute a credit not only to the community, but to the company and all who would cooperate in making water as a therapeutic agent available and serviceable to that community.

## Iowa State Medical Society Journal, Clinton

*May, II, No. 11, pp. 769-848*

71 Medical Education at Iowa State University. D. S. Fairchild, Clinton.
72 Medical Department, Iowa State University. W. D. Middleton, Davenport.
73 University of Iowa, Medical Department, Since 1876. J. R. Guthrie, Dubuque.
74 Future of College of Medicine. J. G. Bowman, Iowa City.
75 What State Should Expect of Its Medical College. J. H. Trewin, Iowa City.
76 Pathogenicity of Waldeyer's Ring Relative to Aural Disease. P. R. Wood, Marshalltown.
77 Accessory Nasal Cavities. W. W. Pearson, Des Moines.
78 Pharyngeal Tonsils. B. D. La Force, Ottumwa.
79 Non-Suppurative Catarrhal Otitis Media. F. G. Murphy, Mason City.
80 Cases of Pernicious Anemia. W. L. Bierring, Des Moines.
81 Differential Diagnosis in Abdominal Trauma. O. J. Fay, Des Moines.
82 Thymus. J. F. Herrick, Chicago.

## Journal-Lancet, Minneapolis

*May 15, XXXIII, No. 10, pp. 275-300*

83 Semeiotic Significance of Pathologic Findings in Infant Feces C. P. Robbins, Winona, Minn.
84 Tumors of Testicle and Epididymis. H. T. Kenney, Pierre, S. Dak.
85 *Eclampsia: Its Cause and Treatment. W. Reid, Deerwood, Minn.
86 Vaginal Cesarean Section in Certain Cases of Eclampsia, Placenta Praevia, Pernicious Vomiting and in Hemorrhage Due to Premature Separation of Placenta. H. C. Cooney, Princeton, Minn.

85. Abstracted in The Journal, Aug. 31, 1912, p. 745.

## Kentucky Medical Journal, Bowling Green

*May 15, XI, No. 10, pp. 393-426*

87 Fifteen Hundred Cases of Tuberculosis. D. S. Wilson, Louisville.
88 Suppurative Conditions of Upper Abdomen. B. F. Zimmermann, Louisville.
89 Renal and Ureteral Calculi. I. Abell, Louisville.

## Medical Record, New York

*May 24, LXXXIII, No. 21, pp. 921-966*

90 *Abortive Pulmonary Tuberculosis. M.Fishberg, New York.
91 Therapeutics of Intestinal Auto-Intoxication. W. H. King, New York.
92 Blunders Made by Nature. A. Maverick, San Antonio, Texas.
93 Compulsory Detention of Homeless Tuberculous. E. G. Rankin, New York.
94 Tuberculides, W. P. Cunningham, New York.
95 Prevention of Adenoids. W. Brady, Elmira, N. Y.
96 Drop Method of Giving Ether with Closed Inhaler. C. P. Bull. Cananea, Mexico.

90. **Therapeutics of Intestinal Auto-Intoxication.**—King describes a form of local treatment for the eradication of putrefactive conditions when located within the large intestine, an eradication which he has found to be more or less permanent in its action, according to the thoroughness of the treatment, and the subsequent care of the patient's diet and hygiene. Starting with the premises that the colon bacilli feed on oxygen, that the putrefactive bacilli are destroyed by the same agent, and that the former must utilize all the available oxygen in the intestine before the latter can materially manifest themselves, King thoroughly oxidizes not only the surface of the lining of the large intestine, but also carries this oxidation within the glandular cells and tissues of the membranes. He first gives a high enema to empty the bowel of fecal matter, so that the antiseptic afterward employed will not be utilized solely in destroying this dead matter, as well as to clear the membrane that the action may be unimpeded on its surface, and thus enable a better osmosis or anaphoresis to take place. A colon rectal tube is employed. The tube should be well lubricated so that it will not impinge on the sphincter, as its easy passage through this muscle is necessary in determining whether it is progressing straight up the bowel.

The next point is the slow and careful introduction of the water. The bag is placed but little higher than the body of the patient. The water should flow very slowly to prevent a sudden damming up at the end of the tube, but be allowed to work its way back beyond the fecal mass, and at the same time to soften and percolate through it. For this preliminary injection King uses only plain water. If possible the patient should rest for a few minutes before going to the closet, where the bowl is thoroughly emptied. The patient is again placed in position and the tube is reintroduced. With this second injection an electric current is employed. A large electrode, which thoroughly covers the abdomen, is placed directly over the line of the transverse colon. To this is attached the positive pole of a continuous current. The other rheophore is attached to an instrument by means of which the current is made to traverse the fluid injected, thus making it the negative pole.

King believes that there is undoubtedly a certain amount of chlorin also set free by the passage of the electric current through the normal salt solution. As chlorin is strongly anaphoretic in its electrochemical affinity, it not only acts on the surface of the membrane of the intestine, but also carries it within the glands and follicles of the membrane itself, and it is here that its action is most needed. Anaerobic bacilli cannot thrive in the presence of oxygen, and the formation of the different groups of the anaerobic bacilli is because the colon bacilli have first consumed all the available oxygen. The oxygen thus set free in this treatment not only destroys the entire group of anaerobic bacilli, including Welch's bacillus which causes the putrefaction, but it also destroys the medium on which it thrives, and at the same time furnishes food for the normal bacilli, thereby building up a strong family of the normal group. In properly selected cases, King says he has never seen such positive results as this treatment produces. The number of treatments required varies as to the condition of the patient. In most cases from eight to twenty treatments given daily will suffice. The indican and sulpho-ethers gradually disappear from the urine. The skatol disappears from the feces, the indol is decreased, and the gas volume is reduced to from 12 to 18 per cent. The clinical results are manifest by the disappearance of the insomnia and other conditions depending on the auto-intoxication.

## Missouri State Medical Association Journal, St. Louis

*May, IX, No. 11, pp. 357-384*

97 Spinal Anesthesia in Gynecology. G. Gellhorn, St. Louis.
98 Local Anesthesia in Minor Gynecology. S. J. Wolfermann, St. Louis.
99 Making of "Specialists," with Particular Reference to Oculists (Doctors) and Optometrists (Opticians). J. S. Weaver, Kansas City.
100 Julius Pagel and Pagel Collection of Books on History of Medicine in Washington University Medical School. G. Dock, St. Louis.
101 Need for State Care of Crippled Children and Advantages of System. D. C. McMurtrie, New York.
102 *Tincture of Iodin in Treatment of Fresh Wounds. T. G. Orr, New York.
103 History of Cass County Medical Society. J. S. Triplett, Harrisonville.
104 Ophthalmia Electrica; Report of Case. W. E. Shahan, St. Louis.

102. **Tincture of Iodin in Fresh Wounds.**—For eighteen months, while on the house staff at the New York Hospital, Orr has used the U. S. P. tincture of iodin in the treatment of fresh wounds, in the dispensary, on the ambulance and in the hospital. During this time he has treated nearly 1,000 patients with incised, lacerated and contused wounds, dogbite, compound fractures, traumatic amputations, etc., with excellent results. He describes the method as follows: The more simple the technic used the better. If the area about the wound needs shaving it should be shaved dry. Any loose tags of tissue or skin or foreign body should be removed with sterile instruments and not washed out. No water or watery solution should touch the wound. The tincture of iodin is first painted about the wound and allowed to dry for a short time, giving opportunity for penetration. Then with another bit of sterile cotton on a toothpick the wound itself is painted thoroughly. Dannreuther's method of injecting the deeper recesses of a wound with a medicine dropper is a good one but should not be depended on entirely in cases of puncture wound where there is a liability of tetanus infection. A sterile compress is then held firmly over the wound, if it is small, until hemorrhage is stopped, and a sufficient number of sutures applied to approximate the edges of the wound when indicated. In the large lacerated wounds the iodin may be poured into the wound after painting a free area about it. Drainage should, of course, be used when indicated, especially in the badly contused lacerated wounds where there is apt to be much oozing and the resistance of the tissues is much below par.

## Northwest Medicine, Seattle

*May, V, No. 5, pp. 119-148*

105 *Pathology and Treatment of Hemangioma Cavernosum. M. M. Patton, Spokane, Wash.
106 Apepsia: Clinical and Laboratory Study. A. P. Leusman, Seattle, Wash.
107 Psychotherapy in Pulmonary Tuberculosis. J. L. Pomeroy, Monrovia, Cal.
108 Investigation of Friedmann Tuberculosis Cure. R. W. Matson, Portland, Ore.
109 Alcoholism; Syphilis; Tuberculosis. J. E. Crichton, Seattle, Wash.
110 Pseudovariola. G. C. Emery, Preston, Idaho.
111 Ovarian Cyst with Twisted Pedicle. O. B. Wright, Portland, Ore.

105. **Hemangioma Cavernosum.**—Hemangioma, according to Patton, occurrs more frequently in females than in males. They are often multiple and a predisposition of the vessels to dilation and hyperplasia is undoubtedly present. In Patton's five cases, at least, he would say that they were congenital and present, though not noticed at birth, and that a simple telangiectatie stage probably preceded the cavernoma formation. Hemangiomata cavernosa are tumors distinct and sepa-

rate from the skin and have a blood supply of their own. The cavernous angiomata present microscopically: (a) Dilated and tortuous blood spaces with a certain amount of regularity about arrangement. (b) Endothelial lining which may be thickened and present three or four layers. (c) Interstitial substance composed of parallel fibers of connective tissue which form framework of tumor. These tumors are usually easily removed if you keep well out into the healthy tissue. Removal of angiomas about the inner canthus of the eye and forehead is particularly dangerous on account of septic embolus and thrombosis of cavernous sinus.

### Philippine Journal of Science, Manila

*December, VII No. 6, pp. 475-536*

112 Rôle of Stomoxys Calcitrans in Transmission of Trypanosoma Evansi. M. B. Mitzmain, Manila.
113 Susceptibility of Cockroaches to Plague Bacilli Inoculated into Body Cavity. M. A Barber, Manila.
114 Muscular Changes Brought About by Intermuscular Injection of Calves with Virus of Contagious Pleuropneumonia. W. H. Boynton, Manila.

### Southern Medical Journal, Nashville, Tenn.

*May, VI, No 5, pp. 289-354*

115 Publicity as Factor in Securing and Enforcing Ordinances Providing for Control of Production and Sale of Milk. V. H. Bassett, Savannah, Ga.
116 Massage. C. Pope, Louisville, Ky.
117 Roentgen Diagnosis of Intrathoracic Lesions. A. L. Gray. Richmond, Va.
118 Phthisiogenesis. E. C. Thrash, Atlanta, Ga.
119 Early Recognition of Tuberculosis with Special Reference to Its Confusion with Malaria. W. R. Kirk, Hendersonville, N. C.
120 *Clinical Value of Tuberculins in Diagnosis and Treatment of Tuberculosis. W. J. Durel, New Orleans.
121 Individualizing Tuberculous Patient. L. B. Morse, Hendersonville, N. C.
122 *Relation of Gas Embolism to Production of Artificial Pneumothorax. S. T. Harris, Highlands, N. C.
123 *Status of Climate in Phthisiotherapy. T. Frazer, Asheville, N. C.
124 Few Surgical Complications in Abdomen During Typhoid. C. M. Remsen, Atlanta, Ga.
125 *Surgical Importance of Breast. E. D. Martin, New Orleans.
126 Grape Seeds in Pelvic Abscess. C. H. Cargile, Bentonville, Ark.
127 Eclampsia and Its Treatment. A. Y. Linville, Winston-Salem, N. C.
128 Cesarean Section. J. M. Wilson, Mobile, Ala.
129 Intranasal Deformities with Their Attendant Sequelae. C. B. Wylie, Chattanooga, Tenn.

120 and 125. Abstracted in THE JOURNAL, Dec. 14, 1912, p. 2181.

122. Abstracted in THE JOURNAL, Dev. 7, 1912, p. 2090.

123. **Climate in Phthisiotherapy.**—Climate according to Frazer is of value in the treatment of tuberculosis, although it takes rank after the hygienic-dietetic regimen. Generally speaking, he says that a stimulating climate is desirable, and some degree of elevation beneficial in the average case. People react differently to climate, one being stimulated, another depressed, by similar climatic conditions. Atmospheric and meteorologic conditions alone do not constitute climate, and climatotheraphy must embrace the not less important factors of food, accommodations, hygiene and environment. The financial state, the mental attitude of the patient, and the stage of the disease must all be taken into account before a change of climate is advised. If the patient, in order to obtain the advantages of climate, is obliged to suffer for want of proper food, care and rest, treatment at home will be more satisfactory; if he is able to afford at a resort the comforts and the supervision which are so essential, then the added factor of climate cannot but prove of distinct value.

### Washington Medical Annals, Washington, D. C.

*May, XII, No. 3, pp. 161-200*

130 Contact Points Between Ophthalmology and General Medicine. H. Woods, Baltimore.
131 Hermaphroditism; Specimens. D. S. Lamb, Washington, D. C.
132 Use of Quinin and Urea Hydrochlorid as Local Anesthetic in Anorectal Surgery. L. Eliot, Washington, D. C.
133 Case of Ureteral Abscess. W. A. Jack, Washington, D. C.
134 Mentality of Alcoholics. D. P. Hickling, Washington, D. C.

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*May 10, I, No. 2732, pp. 977-1036*

1 Intussusception. H. S. Souttar.
2 *Transverse Colostomy as Operation of Election. L. McGavin.
3 Urachal Fistula: Report of Case. J. E. Mitchell.
4 Enchondroma of Manubrium Sterni Successfully Removed by Operation. W. G. Richardson.
5 *Case of Abdominal Aneurysm Operated on by Means of Colt's Apparatus. J. R. Collins and C. Braine-Hartnell.
6 Cheilotomy for Crippling Traumatic Arthritis of Hip-Joint. W. I. de C. Wheeler.
7 Interneuronic Synapse in Disease. B. H. Shaw.

2. **Transverse Colostomy.**—In twenty-six cases, colostomy was done by McGalvin in twenty cases by the transverse and six by the iliac method. Of the former three were done for non-malignant and seventeen for malignant conditions. Of the non-malignant one died of strangulation at three months, and one of phthisis at two years after operation, the third is alive and well to-day. Of the malignant cases five patients are alive to-day, one at three years, one at two years, two at eighteen months and one at a year from the time of operation; and in all of these this method of colostomy has fully justified the opinion McGavin has formed of it, as it has also done in all cases in which the patients have lived sufficiently long to allow of an honest judgment being formed.

5. **Abdominal Aneurysm.**—The aneurysm in this case extended from the right renal artery to the bifurcation of the aorta, and lay wholly to the right of the middle line. The external measurements of the aneurysm were 4½ inches in length by 3 inches in breadth. There was an oval opening from the aorta into the aneurysm, 2 inches by 1 inch, on its right wall, filled with firm clot. There was a further opening on the left and lower extremity, directed down outside the bifurcation of the left common iliac, encircling three quarters of its circumferenee. It was noted that, in spite of the fact that the man suffered from intense pain, there was no erosion of the vertebrae, and it is suggested that the pain was caused by the dissecting aneurysm along the left common iliae artery. The stomach was very dilated, its lower border reaching to the umbilicus. The thoracic viscera were normal.

### British Journal of Children's Diseases, London

*May, X, No. 113, pp. 193-240*

8 *Diagnosis of Acute Abdominal Conditions in Children. E. Cautley.
9 *Mitral Dwarfism. F. P. Weber.
10 Summer Heat and Summer Diarrhea. H. C. Cameron
11 *Diphtheria of Stomach and Diphtherial Onychia. F. E Tylecote.

8. Also published in the *Medical Press and Circular*, March 5, 1913.

9. **Mitral Dwarfism.**—Weber's patient was a girl, aged 15 years, but her size was that of a child of 10 years. Ordinary examination and roentgenoscopy showed that the heart was considerably enlarged to the left; the apex-beat was in the sixth left intercostal space in the anterior axillary line. A presystolic and diastolic thrill could be felt, and a loud double mitral murmur could be heard at the apex, showing that there was mitral obstruction, accompanied by mitral incompetenee, the mitral incompetenee doubtless accounting for the hypertrophy of the left ventricle. There was a little crepitation at the base of the left lung behind. Roentgenoscopy of the lungs with the fluorescent screen showed nothing special. Nothing abnormal could be felt by abdominal palpation. The teeth were fairly well formed. The nose was somewhat "saddle-shaped," but there was a history of past injury by a fall. The thyroid appeared to be rather small. There was no pubic or axillary hair. Menstruation had not yet commenced. The urine was free from albumin and sugar. The pulse (after examination) was 100 to the minute, of moderate pressure. Wassermann, negative; von Pirquet, negative.

There was no history of past rheumatism and no evidence of syphilis or tuberculosis. Weber had hardly a doubt that the cardiac disease was of rheumatic origin. The dwarfism in this case he regards as a sign that the mitral disease commenced at a relatively early period of extra-uterine life, long before the period of maximum normal development. Of the mitral obstruction and the mitral incompetence he considered the former to be the more important factor in the etiology of the dwarfism. This dwarfism he thinks may be best explained as the expression of a conservative adaptation or conservative hypoplasia of the whole body—Nature's attempt to limit the growth of the patient in accordance with the limited arterial blood-supply. Such a conservative hypoplasia is to be contrasted with the better-known conservative vital process known as compensatory hyperplasia, which is illustrated in this case by the hypertrophic enlargement of the left ventricle to make up for the regurgitation of blood through the leaky mitral valve.

11. **Diphtheria of Stomach.**—A male child, aged 3 years, was first seen by Tylecote on the fifth day of a very severe attack of diphtheria, and up to that time had been given no antitoxin. Patient had a subnormal temperature and was very toxic in appearance; there was false membrane covering the posterior pharyngeal wall, tonsils, uvula, the whole of the soft palate, and extending forward on the hard palate almost up to the teeth. Considering the extent of the membrane and the duration of the disease without any antitoxin treatment, the case was regarded as hopeless from the first, but in order to give the paatient any possible chance Tylecote injected 8,000 units of antitoxin at once into the left median basilic vein, following this the next morning by a similar injection into the right median basilic. In the forty-eight hours after this he gave him three more injections of a similar amount of antitoxin subcutaneously. However, he died of toxemia on the tenth day of the attack, having vomited blood the day before and having developed scattered petechiae about the body, both not uncommon signs in toxic diphtheria.

The post-mortem examination showed nothing unusual for this type of case, except the stomach. The mesenteric lymph-nodes were deeply injected; there was toxic myocarditis; the left ventricle contained adherent fibrinous clot; the superior longitudinal vein contained a thrombosis; the bulk of the blood was in the abdominal cavity—all of these the usual post-mortem findings for this class of cases. The stomach mucosa was covered by a typical diphtheritic membrane. It was loosening in places, but none had separated at the time of the examination. It was definitely limited to the boundaries of the stomach, and did not extend into the esophagus, nor yet into the duodenum. Smear preparations were made at the time from fragments of the false membrane and typical clumps of Klebs-Loeffler bacilli were easily found. At the time of the post-mortem examination considerable swelling of the mucosa was evident, and on stripping off the membrane in places the hemorrhagic injected state of the mucosa was very marked. Tylecote regards this case as true diphtheria of the stomach, or diphtherial gastritis, and not, as some of the recorded cases are, merely a membranous or diphtheritic gastritis, due to circulation of the diphtherial toxins in the blood-stream.

### Glasgow Medical Journal

*May, LXXIX, No. 5, pp. 321-399*

12 Passing of Tuberculosis. R. W. Philip.
13 *Cases Illustrating Certain Urinary Conditions in Women Associated with Frequent or Painful Micturition. D. Newman.

13. **Certain Urinary Conditions in Women.**—Newman cites eight cases: 1. *Bacillus coli* infection of bladder at fifth month of pregnancy. Incomplete recovery; continued irritation of bladder during five years, slight pyuria in acid urine, slowly and steadily increasing pain during and after urination. Thickening of mucous membrane at the neck of bladder and urethra. Application of phenol to urethra, and flushing of bladder. Cure. 2. Frequent urination for two years, with pain only on distention of the bladder, disappearing when emptied. Latterly, pain always present. Moderate pyuria; 5 per cent. pus containing tubercle bacilli; no hematuria. Marked hyperemia of bladder and caseous deposit on floor. Curetted through urethra. Tuberculin R. Well. 3. Five years persistent frequency in micturition. Relieved only by rest and heat. During last three months symptoms resembling stone in bladder. Constant pyuria. Moderate occasional hematuria. Neck of bladder and urethra congested, and small superficial erosions. Phenol applied twice. Cure. 4. Involuntary nocturnal micturation since infancy. Complete control during the day and while awake, no pain, occasional slight pyuria, very acid urine and uric acid in considerable amount. Irrigation and installations. Cure. 5. Long-standing *Bacillus coli* and staphylococcus infection of bladder. Very frequent micturition and severe pain, hematuria and pyuria variable. Marked congestion of mucous membrane of the bladder and urethra. Suprapubic cystostomy, and phenol applied to neck of bladder and urethra. Almost complete relief of symptoms. 6. Very painful and frequent micturition from staphylococcus infection of bladder. Pyuria and hematuria. Only 2 ounces of urine retained. Acute catarrh of base. Instillation of silver nitrate. Suprapubic drain. Lactic bacillus cultures and irrigation. Cure in six weeks. 7. Sudden stoppage of flow during act of micturition, followed by severe spasm of the neck of bladder. Polypi removed. Cure. 8. Movable right kidney causing severe pain at end of micturition, probably by dragging on the right ureter when bladder was emptying itself. Nephrorrhaphy. Cure.

### Journal of Laryngology, Rhinology and Otology, London

*May, XXVIII, No. 5, pp. 225-280*

14 Jarisch-Herxheimer Reaction in Organ of Hearing After Treatment by Salvarsan. K. Theimer.
15 Significance of Fever in Cases of Mastoiditis Complicating Acute and Chronic Suppurative Otitis Media. R. Verel.

### Journal of Tropical Medicine and Hygiene, London

*May 1, XVI, No. 9, pp. 129-144*

16 Effect of Drainage on Health in City of New Orleans; Statistical Study. J. B. Guthrie, New Orleans.
17 Treatment of Suppression in Blackwater Fever. H. S. Stannus, Zomba, Nyassaland.
18 Spider's Web and Malaria. F. Knab, Washington, D. C.

### Lancet, London

*May 10, I, No. 4680, pp. 1285-1362*

19 *Physiology of Open-Air Treatment. L. Hill.
20 "Colds in the Head." L. Hill and F. F. Muecke.
21 *Symmetrical Necrosis of Cortex of Kidneys Associated with Puerperal Eclampsia and Suppression of Urine. R. Jardine and A. M. Kennedy.
22 Alimentary Toxemia. W. E. Dixon.
23 Chronic Intestinal Stasis. C. H. Fagge.
24 Abnormal Intra-Abdominal Developmental Adhesions. (To be continued.) H. M. W. Gray and W. Anderson.
25 Prognostic Significance of Secondary Polycythemia in Cardiopulmonary Cases. F. P. Weber.
26 Difficult Labor Caused by Fetal Ascites. S. G. Luker.

19. **Physiology of Open-Air Treatment.**—Hill is convinced that the whole of the effect of open-air treatment is due to the movement, temperature and moisture of the air and has nothing to do with its chemical properties. Conformity to a better mode of life will enormously increase the health and happiness of everybody. Modern life is tending to put people into confined places, heated by convectors, with perfectly made windows, no draughts and that kind of thing, and it is diminishing the metabolism and vigor, health and happiness of everybody, quite apart from causing consumption. Man cannot go straight into these artificial conditions when he has been for a million years living an outdoor life, facing every element, wind, cold and rain. What must be done is to compromise and arrange matters so that we may get open-air exercise and exposure to wind and weather. Do not put up great skyscrapers or have artificial cellars for people to live in, but have facilities for open air, and playing fields, and exercises for the body.

21. **Necrosis of Cortex of Kidneys.**—The kidneys in the two cases cited by Jardine and Kennedy were in each case

the seat of symmetrical necroses of the cortex. The necrosis was more or less limited to the outer two-thirds of the cortex, and in degree it corresponded in each case with the duration of the suppression of urine. In the two older patients the necrosis was more or less uniform and separated from the living inner third of the cortex by a hemorrhagic zone, and was more advanced in the older case. There was extensive thrombosis of the cortical blood-vessels, which did not extend beyond the margin of the necrotic area, and did not involve the vascular arches, and which was more wide-spread in the oldest case. In the earliest case the necrosis was of a very patchy character, and in the neighborhood of the patches there was intense congestion. Thrombosis of the cortical blood-vessels in this case was conspicuous by its extreme infrequency; in some of the necrotic areas thrombosed capillaries were found, but only rarely were any of the minutest arterioles thrombosed. The authors are inclined to the view that the cause of the necrosis in the kidneys is the same as that which causes necrosis in the liver, and that the thrombosis in the smaller cortical renal arteries is secondary to the necrosis of the renal cells. What, then, initiates the necrosis? It is the deleterious influences on the cells of the eclamptic toxin, whatever it may really be.

## Practitioner, London

*May, XC, No. 5, pp. 777-908*

27 *Peripheral Stasis. J. F. Goodhart.
28 Diagnosis of Acute Abdominal Conditions of Children. E. M. Corner.
29 Sequel of Case of Acquired Chronic Acholuric Jaundice—Possibly Case of Tertiary Visceral Syphilis with Pyrexia and Extreme Cachexia. F. P. Weber.
30 Case of Chorion-Epithelioma of Retained Testis with Multiple Metastatic Growths. T. S. Tirumurti.
31 Hairiness or Hypertrichosis and Its Treatment. D. Freshwater.
32 Gonorrheal Urethritis Anterior. A. L. Sachs.
33 Ocular Diseases in Association with Diabetes Mellitus. D. M. Mackay.
34 Mental Suggestion by Transference. L. F. Winslow.
35 Influence of Thyroid on Blood-Pressure. H. E. Waller.
36 Testing of Symptoms. K. Digby.
37 Ovarian Dyspepsia. H. G. Webb.
38 Treatment of Erysipelas. F. S. Arnold.

27. **Peripheral Stasis.**—Under the heading "blue brains" Goodhart places instances of such people as have blue hands and, what he calls, St. Paul's fingers—for they die daily, even hourly—they have chilblains, their ears and noses may be red or blue, and associated with such surface appearances there are certain cerebral sensations on which Goodhart lays particular stress. The condition is found in males and females, adults, boys and girls, but is much more common in females than in males, and, it is clearly a part of Raynaud's disease; perhaps a mild and distributed form of that disease. But cold blue extremities and dead fingers are its most common symptoms and paroxysmalism is also a usual feature. But, besides these in the extremities, there are many other conditions associated. Looking over many of his cases Goodhart has noted, as has been shown in part, flushed and blue noses and ears, epistaxis, neuralgia, headache, migraine, all sorts of cerebral sensations, such as a cold feeling in the head, stupidity, woolliness, a far-away feeling, a double self, giddiness, dreaminess, depression, tinnitus, deafness, fainting, falling sickness.

He has seen it several times with anorexia nervosa and melancholia, and it must be a very common feature indeed in the practice of lunacy. But other conditions also have to be considered, such as asthma, breathlessness, heart attacks and arhythmia, puffiness and dropsy. They are all described by Goodhart as conditions of feeble circulation, and, more or less, at the back of their heads many of these people connote an inferior pump, a failing heart. But, he says, it is not due to a failing heart; it is a disturbed peripheral circulation. Although the effect is different, it concerns itself with the same mechanism as blushing and the phenomena of climacteric flushing of women, each clearly a peripheral phenomenon and not a cardiac one. As to treatment, he cites one case in which the abdomen was opened, the pelvis explored and a small residual abscess was found about the appendix; the pus was evacuated; the patient was completely cured, and she remained well for some three and a half years, when she died from embolism after the removal of a rapidly growing uterine fibroid. As a rule, however, the treatment is strict hygiene and a carefully regulated diet.

## Journal de Médecine de Bordeaux

*May 4, XLIII, No. 18, pp. 275-288*

39 *Destruction of Leukocytes in Nephritis and in Acute Infectious Diseases. (La fragilité leucocytaire dans les maladies infectieuses.) J. Carles and P. Mauriac.
40 *Circumcision of Leg for Varicose Ulcer. (Traitement des ulcères variqueux par la methode de Moreschi modifiée.) A. Charrier and M. Bardon.

39. **Destruction of Leukocytes in Nephritis and in Acute Infectious Diseases.**—Carles and Mauriac are convinced that the fragility of the leukocytes is an important index of the resisting powers of the organism and is thus useful for the prognosis in many conditions. They agree with Feuillié that in a certain proportion of cases albuminuria is the result less of pathologic conditions in the kidneys than of lessened resisting powers on the part of the blood corpuseles, especially the leukocytes. They have been making a special study of this question, and report the findings in fourteen cases of nephritis, in two healthy persons, and in seven cases of pneumonia, diphtheria, acute rheumatism or typhoid fever. They estimate the numbers of apparently sound and much destroyed leukocytes in a smear, counting across the field on a straight line, and state that in health the broken-down leukocytes number about 7 per cent., but in nephritis the figure runs up to 40 or even 64 per cent.; the larger numbers correspond to severe impairment of the general health. Their work was all done on adults, and they call attention in particular to the way in which the leukocyte fragility index dropped from 24 to 7 per cent. in a case of diphtheria in a few hours after injection of antitoxin. In a case of dysentery, the fragility index dropped as the patient improved, but rose again to the first high figure or above during a relapse. In a case of typhoid of a severe type, the index was very high at first but later the leukocytes became more resistant; this occurred immediately after a profuse intestinal hemorrhage, showing that loss of blood is liable to affect the fragility index. The technic for determining the index is simple: A solution of 6 gm. of sodium citrate and 7 gm. of sodium chlorid to the liter of water is the vehicle employed; 20 drops of this solution and 10 drops of distilled water are mixed and 1 drop of blood is added. After waiting twenty minutes, the tube is centrifuged and the sediment is spread on a slide with a piece of cigarette paper held by one edge and resting its weight at the other end of the specimen. With a little practice it soon becomes a simple routine procedure and permits instructive comparison of conditions, especially with charts, such as he appends, showing the albumin, amount of urine, temperature and fragility index.

40. **Circumcision of Leg for Varicose Ulcer.**—Charrier and Bardon have applied what they call Moreschi's technic in three cases of intractable varicose ulcer in two women of 48 and a man of 27. The rapid and complete cure of the distressing affection has convinced them of the superiority of this method, in cases contra-indicating excision of the saphenous vein. It can be done under local anesthesia; the healing was complete in their cases in much less than a month. A circular incision is made about 4 cm. above the ulcer, carried down to the fascia, with careful hemostasis and suture. Moreschi makes a second circumcision above the ankle, but this is generally regarded now as superfluous.

## Presse Médicale, Paris

*May 3, XXI, No. 36, pp. 357-368*

41 Diagnosis of Disease of the Chest Before Percussion and Auscultation Were Invented. E. Rist.
42 Advisability of Utilization of Insect Aids in Destruction of Noxious Species. E. Brumpt.
43 Exanthems as Symptom of Leukemia, etc. A. Nanta.

### Semaine Médicale, Paris

*April 30, XXXIII, No. 18, pp. 205-216*

44 Ileus from Compression of Intestine Between Gravid Uterus and Promontory. (Autour de l'occlusion intestinale d'origine gravidique et de son mécanisme.) R. de Bovis.

*May 7, No. 19, pp. 217-228*

45 *Behring's Vaccination Against Diphtheria. (Sur un nouveau moyen préventif contre la diphtérie.) E. v. Behring.

45. **Behring's Method of Vaccination against Diphtheria.**—Behring's communication at the recent annual meeting of German internists created quite a sensation. It was mentioned in the Berlin Letter, May 31. Behring insists that his method of immunization with a combination of antitoxin and very virulent diphtheric poison has some entirely new features. It was rendered possible by his recognition of the fact that the ass, monkey and other large animals behave differently from guinea-pigs in the matter of response to immunizing injections and human beings still more so. He reviews the various experiences that have been made with his remedy to date as it has been applied in about eighty cases. No dangerous reaction was observed in any instance. It seems to confer immunity similar to vaccination against small-pox, without injuring the health but rendering the individual long immune to the disease. Before injecting the new vaccine he examines the blood for the exact antitoxin content, and then again three weeks after the vaccination and again later at regular intervals. One child thus vaccinated had its antitoxin figure run up to 600,000, breaking the record. He states that the aim of his preventive vaccination is to confer lasting immunity and also to obtain an antitoxin of human origin which may be used on others for homogenic vaccination. Fifteen years ago he declared his conviction that a homogenic antitoxin would probably confer much more lasting immunity than a heterogenic antitoxin. His research on horses, cattle and goats has confirmed this principle of the greater permanency of the immunity when the antitoxin is derived from the species to which the vaccinated individual belongs.

### Beiträge zur klinischen Chirurgie, Tübingen

*April, LXXXIII, No. 3, pp. 451-730*

46 *Tumors in the Pineal Gland. (Zur Pathologie und Operabilität der Tumoren der Zirbeldrüse.) H. Rorschach.

47 After-Effects of Suture of Nerves. (Ergebnisse der Nervennaht.) H. Ströbel and Kirschner.

48 Scapular Cracking Sound. (Scapularkrachen.) W. Lobenhoffer.

49 The Blood-Picture with Goiter. (Das Blutbild bei Strumen und dessen Beeinflussung durch die Strumektomie.) E. Nägelsbach.

50 Local Anesthesia and Nerve Blocking. (Zur Lokal- und Nervenleitungsanästhesie.) A. W. Meyer.

51 Fractures of Joints. (Zur Diagnose und Behandlung einiger Frakturen besonders der Gelenke.) A. W. Meyer.

52 Operations on the Ears Under Local Anesthesia. (Die Radikaloperation des Ohres in Lokalanästhesie, ihre Technik und Nachbehandlung.) D. Kulenkampff.

46. **Tumors in the Pineal Gland.**—Rorschach reports a case in a young man who died the second day after the second step of the operation for removal of the tumor. Rorschach discusses the findings and the accessibility of such tumors and then reports the successful removal of a tumor in the corpora quadrigemina of a young man of 27. He states that forty-seven cases of pineal gland tumors are on record; the fifteen patients with sarcoma were between 10 and 20 years old and all but one were males, as also the four carcinoma patients (ages 19 to 24), the six with glioma, the five with teratoma and each of the other varieties except the eight cystoma cases which were all in women except two. The features of the cases all confirm the assumption that the pineal gland is concerned in the development of the secondary sexual characters in males. Children with pineal gland tumors show giant growth and premature development of the genitals and hair on the body. One girl of 9 was obese but the genital organs were apparently normal. Marburg is inclined to accept that insufficiency of pineal functioning leads to hypertrophy of the genitals while excessive functioning leads to the pineal type of obesity. In the personal case reported by Rorschach the young man had been employed as a kitchen chef and had been intelligent and industrious until the last two or three years when he became irritable and gradually developed hallucinations. He was placed in an asylum for the insane where symptoms developed suggesting a tumor in the pineal gland, as described in detail. He was inclined to obesity and the testicles were undescended; the case evidently belongs to the class of hyperpinealism; in fact the tumor contained large amounts of pineal gland tissue.

### Berliner klinische Wochenschrift

*April 28, L, No. 17, pp. 765-812*

53 *Arteriosclerosis. A. Fraenkel.

54 Infectiousness of Human Syphilitic Material for Rabbits. (Weitere Mitteilungen über die Infektiosität des Blutes und anderer Körperflüssigkeiten syphilitischer Menschen für das Kaninchen.) P. Uhlenhuth and P. Mulzer.

55 *Febrile Conditions in Relation to Digestion. (Infektion und Verdauung.) L. F. Meyer.

56 *Biologic Tests for Pregnancy and Cancer. (Verwertbarkeit der Abderhalden'schen Fermentreaktion bei Schwangerschaft und Carcinom.) N. Markus and A. Münzer.

57 Childbirth in Elephantiasis. (Schwangerschaft, Geburt und Wochenbett bei ausgedehnter halbseitiger Teleangiektasie und Varicenbildung mit lymphagiektatischer Elephantiasis.) H. Drews.

58 Diabetes and Non-Diabetic Glycosuria in One Person. (Diplomelliturie.) H. Stern (New York).

59 *Treatment of Neuralgia of the Trigeminus by Injection of Alcohol into the Gasserian Ganglion. A. Loevy.

53. **Arteriosclerosis.**—Fraenkel remarks that the term "atherosclerosis" describes better the mechanical changes in the walls of the vessels, and it has the advantage of being applicable to analogous processes in the veins and in the heart valves. In practice, however, the involvement of the arteries is of such paramount importance that we are justified in retaining the old term "arteriosclerosis." He emphasizes the importance of general hygiene and moderation in all things in preventing and relieving the disturbances from arteriosclerosis, and urges the necessity for tentative antisyphilitic measures in younger patients. Acute infectious diseases seem to promote the development of changes of this kind, especially influenza, as also severe and long-continued emotional stress and worry. Neurasthenics are particularly liable to develop arteriosclerosis early, according to his experience. He reviews its various manifestations in detail.

55. **Influence of Fever on Digestion.**—Meyer has been studying this subject on dogs with a Pawlow isolated stomach sac. The tests were numerous and varied, and in all the secretion of gastric juice was materially reduced, proportional to the severity of the febrile disturbance, even with aseptic fever from injection of turpentine. The gastric secretion dropped to one-third or one quarter. If these findings can be applied to human beings they readily explain the digestive disturbances with fever. In infants especially, the lack of the bactericidal hydrochloric acid permits proliferation of bacteria in the intestines which interfere with normal digestion and bring on vomiting, diarrhea and loss of appetite. It is possible that febrile infections have an inhibiting influence on other glands involved in digestion as well as on those secreting the gastric juice.

56. **Serodiagnosis of Pregnancy and Cancer.**—Markus reports the application of Abderhalden's technic to twenty pregnant women and in eleven cases of carcinoma, the results all corroboratory.

Münzer remarks that Abderhalden's work has brought into prominence the pathogenic importance of the secretion from pathologically altered gland substance; besides hypersecretion and hyposecretion of the ductless glands we must now recognize the morbid secretion, the throwing off of unfinished or morbidly altered substances from the gland. As they are not ripe to be taken into the circulation, they act as a foreign material and are liable to do great harm. Not the quantity of the secretion of the gland but its quality is the condition for health or for disease. Fauser was one of the first to apply practically the knowledge learned from serodiagnosis. He found substances foreign to the blood circulating in the blood-stream in various forms of mental disease. (Abstr. 63, p. 949, THE JOURNAL, March 22, 1913.) He found a substance from the genital glands circulating in the blood-stream in cases of dementia praecox, and Münzer regards this as pointing

the way to discovery of the causes of mental disease; we are no longer groping in the dark but have now a light to guide us. He adds that the cerebrospinal fluid should also be examined for foreign elements, testing the fluid for brain substance in dementia praecox and general paralysis. Although we have no means to act directly on the morbidly perverted glands yet we can exert an influence by administering gland substance from the antagonistic organs. It is possible that in dementia praecox a combination treatment with tissue from the adrenals, hypophysis and pineal glands might annul the disturbing influence from the pathologic glands.

59. **Alcohol Injections into the Gasserian Ganglion.**—Loevy has been applying on forty cadavers the method of injection of alcohol into the ganglion through the oval foramen and discusses special points in the technic. He then reports the successful application of the method to a man of 77 with unbearable neuralgia during the last three months, with severe arteriosclerosis and bronchitis. About 0.8 c.c. of alcohol was injected and the man said that he felt as if that side of his head had been struck by lightning but after a minute or two all pains ceased. He could eat at once without a trace of pain and there has been no recurrence during the nearly five months since. The patient regards his relief as an actual miracle.

### Deutsche medizinische Wochenschrift, Berlin

*May 1, XXXIX, No. 18, pp. 825-872*

60 Insoluble Antimony Salts in Small Doses Effectual in Treatment of Trypanosome Diseases. (Neue Prinzipien und neue Präparate für die Therapie der Trypanosomeninfektionen.) W. Kolle, O. Hartoch, M. Rothermundt and W. Schürmann.
61 Serotherapy of Tuberculosis. (Das Marmorek-Serum in der Behandlung der Lungentuberkulose.) K. Henius and M. Rosenberg. Commenced in No. 17.
62 *Hemorrhage from the Lungs After Perforation of Aortic Aneurysms. P. Hampeln.
63 *Anatomic Bases for Placenta Praevia and Their Importance for Treatment. O. Pankow.
64 Congenital Hematoporphyria and Beard Growth in Women. C. Hegler, E. Fraenkel and O. Schumm.
65 Resisting Powers of Red Blood-Corpuscles Not Reduced in Tuberculosis. (Resistenzbestimmung der Erythrozyten bei Tuberkulose.) K. Weihrauch.
66 Tumors in the Omentum. (Zur Genese der Netztumoren—Epiploitis plastica.) E. Holländer.
67 Modified Technic for Wassermann Reaction. (Zur Modifikation der Wassermann-Neisser-Bruckschen Reaktion nach M. Stern.) L. Quadflieg.
68 Herpes of the Brow with Bacteria Found in Gasserian Ganglion. A. Sundc.
69 Exanthem After Use of Copaiba. (Ueber das gehäufte Auftreten von Exanthemen nach dem Gebrauch von Copaivabalsam.) W. Fischer.
70 Correction of Outstanding Ears. (Knorpelfaltung bei abstehenden Ohren und Othämatom.) Wiemann.

62. **Bleeding from the Lower Air Passages with Aneurysm of the Aorta.**—Hampeln states that in his 108 cases of aneurysm of the aorta it had perforated into the trachea or a bronchus in fifteen, and in ten in this group the bleeding was prolonged over a considerable period before the final fatal gush. Bleeding may occur from the lower air passages or lungs with an aneurysm but due to some independent cause, or to some infarct or other trouble directly connected with the aneurysm. Or there may be long continued prodromal slight hemorrhages.

63. **Treatment of Placenta Praevia.**—Pankow analyzes the anatomy of the region calling attention to the imperfect contracting power of the segment between the internal and the external os even in normal conditions. When the placenta is implanted on or has grown into this isthmus segment it becomes very vascular and its power of contraction is practically entirely lost. After removal of the placenta the isthmus is incapable of contracting enough to arrest the hemorrhage when it has once been stretched wide. The aim in treatment, therefore, should be to avoid any stretching of the isthmus segment. The uterus therefore must be evacuated from above, preferably by abdominal cesarean section. His experience with forty cases in which treatment was applied on this principle gave only 2.5 per cent. mortality for the children while there was no mortality from hemorrhage among the mothers. Of course, the method is applicable only to the cases free from infection. In the home it must be borne in mind that any forcible dilatation of the isthmus segment is liable to entail hemorrhage and laceration. After puncture of the membranes, application of the metreurynter or version, expectant treatment should be the rule until the child is spontaneously expelled. When the hemorrhages have once been arrested, he warns expressly against saline infusion and measures to raise the blood-pressure as they are liable to start a new hemorrhage. They are indicated when the vascular system is closed by ligatures, as during an operation for tubal rupture, but not when the vessels are gaping as with placenta praevia.

### Deutsche Zeitschrift für Chirurgie, Leipsic

*April, CXXII, Nos. 1-2, pp. 1-170, with Index for Vols. CXI-CXX*

71 Paravertebral Local Anesthesia. (Experimentelle Untersuchungen über Novokain bei Paravertebralinjektion.) S. Muroya.
72 From the Seat of War. (Chirurgische Erfahrungen aus dem Balkankriege.) W. Goebel.
73 Acute Strangulation of Intestine. (Zur Aetiologie, Symptomatologie und Pathogenese der akuten Darmstrangulation.) A. Polacco and A. Neumann.
74 Radial Dislocation of the Wrist. (Luxation der Hand radialwärts mit isolierter Luxation des Kahnbeins volarwärts.) W. Speck.
75 Fascia Grafts. (Ueber freie Fascientransplantation.) O. Warschauer.
76 Cure of Erythomelalgia by Section of Posterior Spinal Roots. (Ein durch die Foerstersche Operation erfolgreich behandelter Fall von Erythromelalgie.) J. Mayesima.
77 *Infusion of Sugar Solution in Prophylaxis of Thrombosis. F. Kuhn.
78 Experimental Research on Acute Blood-Borne Osteomyelitis. F. L. Dumont.
79 Revolution in Treatment of Surgical Tuberculosis since Direct Sunlight Therapy has been Introduced. (Chirurgische Gedanken über die Heliotherapie, besonders bei tuberkulösen Erkrankungen im Kindesalter.) R. Leriche.
80 Cure of Tabetic Gastric Crises by Stretching the Solar Plexus. R. Leriche.

77. **Sugar Solution for Infusion in Prophylaxis of Thrombosis.**—Kuhn's recommendation of sugar solution as an improvement over the usual saline solution for proctoclysis, rinsing out the peritoneum, etc., has been already mentioned in THE JOURNAL. He here reports experimental research and clinical experience which confirm the assumption that the sugar solution checks coagulation of the blood, possesses decided nutritive value and antitoxic action, and raises the blood-pressure, seemingly regulating the heart-action. The best strength seems to be a 4 per cent. solution of grape sugar or a 7.9 per cent. solution of milk sugar; this corresponds to an isotonic solution and it is important to ensure this. He therefore has used a 4 per cent. grape sugar solution containing 0.85 per cent. cooking salt and regards this as a great improvement over other methods for warding off thrombosis. Any concentrations above or below this are liable to have a destructive action on the blood-corpuscles and induce collapse, as they upset the osmotic balance in the cells. He reaffirms that isotonic solutions of grape sugar have proved entirely harmless and, judging from the clinical experiences related, may be used to advantage in all surgical procedures. He adds that 1 gm. sugar to the kilogram of body weight seems the upper maximum limit. This amounts to about 50 gm. for an adult of average weight. By adding 40 gm. sugar to a liter of the infusion fluid, we thus have a 4 per cent. solution in the liter to be infused as the standard dose. He is inclined to agree with Schücking that other salts enhance the physiologic value of the infusion fluid, and hence now makes out his prescription as follows: Dextrose, 4 gm.; sodium saccharate, 0.04 gm.; potassium saccharate, 0.04 gm.; sodium chlorid, 0.85 gm., and 100 gm. distilled water. The literature on the subject is reviewed, the data all tending to confirm the harmlessness and peculiar efficiency of isotonic sugar solutions for subcutaneous or, preferably, intravenous administration.

### Medizinische Klinik, Berlin

*April 27, IX, No. 17, pp. 653-692*

81 *Regulation of the Diet at Health Resorts. (Die Diät in den Kurorten.) H. Strauss.

82 *Arteriosclerosis of Kidney Arteries. (Ueber die Störungen bei der durch Arteriosklerose der Nierenarterien bedingten Schrumpfniere und deren Behandlung.) F. Hirschfeld.
83 Treatment of Curvature of the Spine. (Skoliosenbehandlung.) E. Mayer.
84 *Bladder Stones in Diabetics. (Zuckerkrankheit und Blasensteine.) B. Goldberg.
85 Balneotherapy in Heart Disease. (Vergleichende praktische Erfahrungen in der Balneotherapie der Kreislaufstörungen im Kohlensäurestahlbad und im Solbade.) Krone.
86 Mendel's Laws Govern Hemophilia. (Erklärung der Vererbungsgesetze der Hämophilie auf Grund der Mendelschen Regeln.) G. Riebold.

81. **Diet at Health Resorts.**—Strauss urges systematic regulation of the diet, according to individual conditions, as an integral part of spa treatment. He presented a resolution at the recent International Congress on Physiotherapy urging the introduction and systematic application of rational courses of diet for the sick and that physicians should send their patients only to such health resorts where the patients will get the necessary care for their diet. This resolution was unanimously adopted by the congress and the Balneologic Association has since announced that the Heinrich Brock prize next year will be awarded for the best pamphlet on the subject of warning the managers of health resorts of the importance of dietetic regulations for persons taking courses of treatment, and outlining plans by which such regulations can be introduced and enforced.

82. **Treatment of Contracted Kidney.**—Hirschfeld refers to real contracted kidney, the result of disturbances from sclerosis of the renal arteries. His experience does not indicate that this form is particularly malignant. Its most striking feature is the small output of urine; this is encountered in the contracted kidney from arteriosclerosis as well as in that from the atrophy from advancing age. It is possible to benefit materially by limiting the intake of albumin and living mostly on oatmeal and rice, with more fat. This will relieve the disturbances and the composition of the urine comes to correspond with the urine of younger persons. By reducing the protein in the food, the kidneys are spared much work.

84. **Diabetes and Bladder Stones.**—Goldberg states that in four of his eighty cases of bladder stones the lithiasis was complicated with diabetes. In each case the disturbances from the stones were ascribed to the diabetes itself and the stones had been overlooked. The treatment should be litholapaxy alone and his experience shows that this can be done without infection of the bladder.

### Münchener medizinische Wochenschrift

*April 29, LX, No. 17, pp. 905-960*

87 Roentgentherapy of Genital and Mammary Cancers and Myomas. G. Klein and G. Hirsch.
88 Reduced Agglutination of Typhoid Bacilli in Alkaline Medium. M. Riemer.
89 Biologic Reaction in Mental Degenerates. (Ueber eine Komplementbindungsreaktion bei angeborenem Schwachsinn und anderen degenerativen Zuständen des Zentralnervensystems.) H. Froesch.
90 *Serodiagnosis of Tumors. (Ueber Serodiagnostik der Geschwülste mittelst Komplementablenkungsreaktion.) J. Halpern.
91 *Serodiagnosis of Pregnancy. (Zur Bewertung der Abderhaldenschen Schwangerschaftsreaktion.) F. Heimann.
92 Stenosis of the Small Intestine. (Bemerkungen über Dünndarmstenose.) J. E. Schmidt.
93 Fatal Peritonitis after Laminaria Dilatation. P. Hussy.
94 *Atrophic Myotonia. G. Grund. Commenced in No. 16.
95 From the Seat of War. (Vom Kriegsschauplatz in Montenegro.) E. v. Düring.

90. **Serodiagnosis of Tumors.**—Halpern reports application of von Dungern's complement deviation test in 300 cases. Of the seventy-nine carcinoma patients, 89.8 per cent. gave a positive reaction while the reaction was negative in 92.8 per cent. of fifty-six patients free from tumors. He calls attention in particular to the case of an apparently entirely healthy man whose mother had cancer of the breast; he gave a positive reaction as also the apparently healthy daughter of a woman with malignant lymphoma. Is it possible, Halpern asks, that these two healthy persons harbor a predisposition to cancer or are they in the precancerous stage?

91. **Serodiagnosis of Pregnancy.**—Heimann's experience with 100 cases confirmed in every respect Abderhalden's statements in regard to the serodiagnosis of pregnancy.

94. **Atrophic Myotonia.**—Grund reports four new cases of myotonia with atrophy of the muscles, in three men between 22 and 47 and a woman of 47, the mother of two of the other patients. The muscles most involved were those of the face and part of those in the neck and forearms. He regards it as an independent morbid entity and not merely a secondary stage of Thomsen's disease. In the familial cases, it began at the age of 10 in the boys and at 18 in the mother, and the trouble was most severe in the younger generation.

### Therapeutische Monatshefte, Berlin

*May, XXVII, No. 5, pp. 337-400*

96 Modern Treatment of Wounds in Peace and War. Graf.
97 Plastic Restoration of the Cheek. (Vorschlag zum plastischen Ersatz der Wangenschleimhaut.) V. Schmieden.
98 Prophylaxis of Lead Poisoning in Storage Battery Works, etc. (Wie können im Betriebe von Akkumulatorenfabriken Bleivergiftungen entstehen?) E. Böttrich.
99 Propaganda for Reform. (Wünsche zur Reform des Arzneivertriebes.) E. Seel.

### Therapie der Gegenwart, Berlin

*May, LIV, No. 5, pp. 193-240*

100 *Proctoclysis with Sugar Solution in Treatment of Diabetes. (Behandlung des Diabetes mit Zuckerklistieren.) H. Lüthje.
101 *Intravenous Infusion of Sugar Solution to Arrest Hemorrhage. (Stillung innerer Blutungen durch intravenöse Traubenzuckerinjektionen.) E. Schreiber.
102 *Extra-Uterine Pregnancy. R. Mühsam.

100. **Proctoclysis with Sugar Solution in Treatment of Diabetes.**—Lüthje has been very much pleased with his success in administering grape sugar to diabetics by rectal injection, a drop at a time, by the proctoclysis method. The sugar is absorbed in this way in diabetes much better than when taken by the mouth. He has repeatedly witnessed the subsidence of acidosis under the influence of the sugar enemas. The proportion of sugar in the blood increases under this sugar solution proctoclysis, while it remained unmodified in three persons given salt solution instead of the sugar, but otherwise with the same technic. He had other patients sip the sugar solution by the mouth, taking as long to ingest a liter as when it was given by protoclysis, but the proportion of sugar in the blood did not increase in the same way as when it was given by the rectum. This proved that it was absorbed and assimilated better from the rectum than from the alimentary tract, and that the effect could not be explained by the slow and gradual intake. Experiments on dogs showed further that much more sugar appeared afterward in the urine when an isotonic 5.4 per cent. solution of sugar was injected directly into the portal vein than when an equal amount was injected into the femoral vein. He remarks that this is very surprising to find that more sugar gets into the urine when the solution is introduced into the portal rather than into the general circulation. Arnheim, von Noorden, Bingel and others have confirmed the fact that diabetics bear sugar better by the rectum than by the mouth. With the proctoclysis technic most persons are able to absorb from the rectum from one to two liters of fluid during the day, and this with a 5.4 per cent. solution would amount to from 50 to 100 gm. of sugar a day. He has treated in this way ten patients with severe diabetes and gives the charts of two.

101. **Intravenous Sugar Solution to Arrest Internal Hemorrhage.**—Schreiber made an intravenous injection of 200 c.c. of a 5 per cent. solution of grape sugar in a patient with severe hemorrhage from the stomach, and the hemorrhages did not recur. He had a similarly favorable experience in a case of intestinal hemorrhages in typhoid, and since then has applied this measure in a number of cases of internal hemorrhage from various causes. Kausch thus infuses up to 2,000 c.c. of a 5 or 7 per cent. solution, but Schreiber has never injected over 200 c.c. of a 5 up to a 20 per cent. solution. No disturbances of any kind were observed either by Kausch or himself, and his patients did not develop glycosuria thereafter.

Von den Velden ascribes the benefit to the modification in the osmosis, the tissues being compelled to yield up to the body fluids substances which promote coagulation and thus reduce the tendency to hemorrhage. The result of the infusion of a hypertonic solution is a prompt hydremia and rise in the freezing-point of the blood, with increased diuresis. Von den Velden's research was made with hypertonic salt solution, but sugar deserves the preference over salt as the sugar has a nourishing value which is useful for patients debilitated by severe hemorrhages. The sugar solution is better than serum for hemophiliacs as there does not seem to be any danger of inducing anaphylaxis disturbances. In the one case of hemophilia in which Schreiber has tried it, the bleeding kept up the first day, but decreased the second day and by the third day the hemorrhagic tendency seemed definitely arrested; in all preceding bleeding periods the hemorrhages had kept up for a week, very severe. He adds that cane sugar seems to act the same as grape sugar and can be used instead of the latter.

102. **Extra-Uterine Pregnancy.**—Mühsam states that in the last series of 108 patients with tubal pregnancy at the Moabit Hospital there has been no mortality. Thus all these patients since May, 1909, have been saved by a prompt operation. In two of the last 145 cases the women had had a previous extra-uterine pregnancy; in another there was a fetus in both tubes. He ascribes the success of treatment to the early diagnosis and prompt operative measures, not even waiting for the patient to recover from collapse. In some cases he operated without general anesthesia as the patients were totally unconscious. In many cases the pulse did not become perceptible until hours later, notwithstanding the strongest stimulants. The women were generally between 26 and 35 and only twenty-eight had not had one or more previous pregnancies. The interval since the last pregnancy was three years and over in thirty, up to eleven or fifteen years in six cases. A history of irregular bleeding and pains and oppression in the lower abdomen is an aid in the diagnosis, and particularly a fainting fit or premonitory dizziness. But the most instructive differentiating procedure is puncture of the pouch of Douglas. In 117 of the 124 cases in which this was done in the last 145, the findings were positive—if not at once, then soon after the woman had been raised to a half-sitting position. The findings in one case were particularly instructive as the stomach region was extremely painful and the diagnosis had wavered between perforation of a gastric ulcer and necrosis of the pancreas; the blood found in the pouch of Douglas pointed to a tubal pregnancy, confirmed by the operation. The urobilin test and leukocytosis are useful in confirmation but not much reliance is placed on them. He punctures the pouch of Douglas through a speculum, pulling up the uterus with bullet forceps and puncturing directly in the middle, close to the cervix. In thirty-four cases the disturbances came on gradually and the patients were regarded as suspicious of tubal pregnancy and were kept under constant supervision until certainty could be attained. Even with these precautions rupture occurred in one woman with such profuse bleeding that although the physician was at hand and operated at once, yet the patient was unable to rally and died. A minute rupture was found at the uterus end of the tube. Any one who has passed through such an experience always afterward urges immediate operation, once a tubal pregnancy is recognized. In only nine of the thirty-four with the more gradual onset had the tubal pregnancy been diagnosed; in six the uterus had been curetted for supposed abortion. In other cases gall-stones, appendicitis, kidney-stones or peritonitis had been diagnosed. The comparatively rapid growth of a tumor on one side, with absence of fever, speak in favor of a tubal pregnancy rather than disease in the uterine adnexa.

### Wiener klinische Wochenschrift, Vienna

*April 24, XXVI, No. 17, pp. 649-692*

103 *Biologic Test for Cancer. (Die Abderhaldensche Serumprobe auf Karzinom.) E. Epstein.
104 *Modification of Skin Reaction under Influence of Injected Serum and Colloidal Substances. F. Luithlen.
105 *Radium Treatment at St. Joachimstal. (Kurbericht für das Jahr 1912.) F. Dautwitz.
106 Vibrio in Oriental Sore. (Ueber einen Vibrionenbefund in einem Yemengeschwür.) E. Wiener.
107 Ethyl Chlorid Anesthesia of the Mental Nerve. (Kälteleitungsanästhesie am Nervus mentalis.) A. Neumann-Kneucker.
108 *Care of Feet on Walking Tours. (Zur Behandlung des Schuhdruckes.) J. Novak.

103. **Serodiagnosis of Cancer.**—Epstein tabulates the finding in 110 persons, including 37 with cancer, to whom he applied Abderhalden's tests. The findings all confirm the latter's statements.

104. **The Skin Reaction after Injection of Serum or Colloidal Substances.**—Luithlen declares that his extensive experimental research justifies the conclusion that it may yet be possible to find some substance which has the same effect as injection of a specific serum while free from the disadvantages of serotherapy.

105. **The Radio-Active Waters at St. Joachimstal.**—This is the home of radium, and Dautwitz states that last year 1,898 persons took courses of baths in the radio-active waters. He summarizes the results, stating that in multiple sclerosis, for example, improvement was evident in about 63 per cent.; in tabes in 63 per cent.; in poliomyelitis in about 73 per cent.; in sciatica 7.14 per cent. were uninfluenced, while the others showed great improvement; in chronic rheumatism only 9.91 per cent. failed to be benefited, and 13 per cent. of those with chronic gout. The favorable effects realized have persisted to date, the longest interval four years. In many cases, he says, the benefit far surpassed that of any other previous measures in the special cases.

108. **Care of the Feet on Walking Tours, Etc.**—Novak states that blisters and erosions from the shoes can be very easily cured. Experience has shown that these lesions are not due to too narrow shoes. Tight shoes produce corns, but blisters and erosions result from rubbing, the epidermis being thus separated from the corium. The aim should be to prevent friction. This can be done by anointing the region with salve or tallow and applying a bandage which will protect the skin from all rubbing and friction. A pad of cotton spread thick with salve is applied over the lesion and above this a bandage of soft gauze is wound so tight that it cannot slip. The bandage takes up no more room than a stocking and can be worn with ordinary shoes. It is astonishing, he remarks, how the foot can be used afterward and the walking tour resumed without any further pain or disturbance of any kind from this source. If the bandage is left undisturbed two or three days, the lesion will generally be found healed over when it is removed. [Query: Would not applying a thick coat of collodion or a collodion dressing be still better?—ED.]

### Zentralblatt für Chirurgie, Leipsic

*May 3, XL, No. 18, pp. 681-712*

109 Muscle Flap to Arrest Hemorrhage from Various Sinuses of the Dura Mater. (Zur Technik der Blutstillung an den Hirnblutleitern.) W. Mintz.
110 Technic for Fascia Grafts. (Zur Technik der Fascientransplantation.) Guleke.
111 Stomach Flap for Plastic Operation on Esophagus. (Zur Oesophagoplastik aus der Magenwand.) E. Pflaumer.

### Zentralblatt für Gynäkologie, Leipsic

*May 3, XXXVII, No. 18, pp. 641-680*

112 Etiology of Amniotic Hydrorrhea. S. Dietrich.
113 Mishaps from Ventrofixation; Two Cases. Allmann.
114 Mishaps from Vaginofixation. (Placenta praevia centralis, kompliziert mit absolutem Wehenmangel und Querlage nach Vaginaefixatio.) H. v. Ortenberg. (Schwere Geburten nach Vaginafixur.) Uthmöller.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*May 1, XXXIV, No. 52, pp. 543-550*

115 *Extension in Treatment of Sciatica. (Metodo di Carnot nella sciatica.) G. Tanfani.

115. **Extension in Treatment of Sciatica.**—Great benefit and the final cure of severe chronic sciatica is reported as following extension of the limb by the same technic as for a fracture of the femur. The patient was a man of 57 and the pain was relieved within a few hours after the extension

had been applied with a weight of 3 kgm. The weight was gradually increased each day until 21 kgm. (about 46 pounds) could be borne for two hours at a time by the end of the second week. Tanfani remarks that the possibility of graduating the extension is a special advantage of this method of stretching the sciatic nerve. It proved brilliantly successful in his case; the extension was kept up for sixteen days.

### Policlinico, Rome

*May 4, XX, No. 18, pp. 621-660*

116 Phagedenic Ulcers in Tripoli. (L'ulcera fagedenica a Tripoli.) D. A. Mazzolani. Commenced in No. 17.

### Riforma Medica, Naples

*April 26, XXIX, No. 17, pp. 449-476*

117 Restoration of Urethra with Segment of Vein. (Ricerche sperimentali sul trapianti delle vene nell' uretra.) F. Cuturi.

118 Intravenous Injection of Ergot and Morphin in Hemoptysis. (L'iniezione endovenosa di ergotina e di morfina nelle emottisi tubercolari.) C. Garmagnano.

### Medizinskoe Obozrienie, Moscow

*LXXIX, No. 1, pp. 1-100*

119 *Trypsin in the Stomach. B. Kriloff.
120 *Eosinophilia in Diagnosis and Prognosis of Pulmonary Tuberculosis. I. Chuprin.
121 *Tumors of the Carotid Gland. N. Sinushin.
122 Functions of the Great Omentum. M. Shtutzer.

*No. 2, pp. 101-204*

123 *Dosage of Antitoxin in Diphtheria. A. Lund and N. Uspensky.
124 Bacteriologic Diagnosis of Diphtheria. S. Teumin.

*No. 3, pp. 205-296*

125 *Atropin in Stomach Disease. D. Pletneff.
126 *Improved Methods for Diagnosis of Gonococcus Infection. R. Fronstein.
127 *Case of Sporotrichosis; Third on Record in Russia. M. Bremener.
128 Kinking of the Sigmoid Flexure. (O zavorotye S. Romani.) N. Michelson.

119. **Trypsin in the Stomach Content.**—Kriloff studied a number of patients with different gastro-intestinal disorders for the purpose of determining in which conditions and in what amounts trypsin is found in the stomach. He did not attempt to establish the diagnostic value of its presence or absence. Gross' method for determining the presence of trypsin proved superior to other methods. This consists in preparing a 1:1000 solution of pure casein in 1:1000 solution of sodium carbonate. About 10 c.c. of this solution is placed in test-tubes to which the fluid under examination is added. In the presence of trypsin, the casein becomes digested. The stomach contents were removed an hour after a Boas test breakfast or after 75 c.c. of olive oil had been given. Of fifty-one analyses made on thirty-two patients, positive results were obtained in 63.3 per cent. In achylia gastrica the trypsin rate was found to be high, but there was no trypsin found in the cases of hysterical achylia and gastralgia. With cancer, trypsin is always present, especially with cancer of the pylorus, and in other cases of pyloric stenosis. The trypsin was present in chronic gastritis, but missing with cirrhosis of the liver, and greatly diminished with gastric ulcer. Parallel tests for trypsin, pepsin and the acidity of the stomach showed that the higher the trypsin rate the lower is that of acidity and of pepsin. As a rule the amount of trypsin in the stomach contents is small. The findings in the thirty-two cases are instructively tabulated for comparison.

120. **Eosinophilia in Diagnosis and Prognosis of Pulmonary Tuberculosis.**—Chuprin found that eosinophilia in the blood and sputum of patients with tuberculosis of the respiratory organs may be of diagnostic and prognostic value. Thus, in favorable cases of tuberculosis the eosinophils in the sputum and blood increase in numbers. He illustrates this statement by a number of clinical cases which showed a marked increase in these blood-cells when there was improvement in the patient's health, and their absence or marked decrease when there was aggravation of the disease. Diminishing proportions of eosinophils in the blood indicates spreading of the process or possible secondary infection. The eosinophilia in tuberculosis is due, in his opinion, to the same factors as in emphysema, asthma and acute and chronic bronchitis, namely, to lack of oxygen and ensuing chronic asphyxia. The result is decomposition of hemoglobin.

121. **Tumors of Carotid Gland.**—Sinushin describes the carotid gland and its tumors. It is situated at the bifurcation of the carotid artery and its tumors are usually single, the size of a hen's egg, reaching sometimes as high as the mastoid process. Sometimes they are pierced by the artery. When compressed, all the pulsation stops. Laterally they can be moved, but not vertically, nor during the act of swallowing. The sympathetic and vagus nerves are not involved. Such tumors have never been observed before the age of 18. They occur usually between 25 and 30, mostly in women, and on the left side. The growth is slow, causing no subjective symptoms. Operation gives a high mortality (20 per cent.), owing to the cerebral complications liable from ligation of the carotid artery. Yet the possibility of malignant degeneration of the carotid tumor and metastasis renders imperative their operative removal. The carotid artery can be compressed, but must not be ligated; only the external carotid should be ligated during the operation.

123. **Diphtheria.**—Lund and Uspensky report their experience with antitoxin treatment of diphtheria in a large Moscow hospital during the last three years, a total of 2,001 cases, with a mortality of 301. They lay great stress on the dosage. In the mild cases the average dose of antitoxin was about 3,000 units; improvement was evident after ten or twelve hours; repetition of injections was unnecessary; no mortality. In the severe cases, with diffuse involvement of the throat, repetition of the injections of antitoxin was necessary from twelve to twenty-four hours after the first treatment. Of the 422 in this class, seventeen patients died (myocarditis, pneumonia, nephritis). The average dose was 5,500 units, and it usually was followed by several more. This class of cases shows a slight decrease of mortality when compared with that of the previous three years. In the severest type of cases, intubation had to be resorted to several times. Secondary tracheotomy was done in fourteen cases, with 50 per cent. mortality. A primary tracheotomy, without preliminary intubation, was done in severe lesions of the pharynx, edema of the neck and severe asphyxia, and antitoxin was given in large doses (8,834) repeated several times. In this last class of cases the effect of the antitoxin was rather slow; otherwise its effect was marked almost in every case of diphtheria. Unfortunately in the epidemics of diphtheria for the last three years the severer forms were exceptionally numerous, averaging 34.5 per cent. (in 1897 25 per cent).

Excluding the gravest cases, the mortality from diphtheria was considerably lower, chiefly because of larger doses. The dosage for the graver cases was from 8,000 to 24,000 up to 60,000 units, given in ten to fifteen doses. The effect of the antitoxin became evident on the third day if the patient survived. The mortality rate even for these grave cases was lower than in former years (31.7 per cent. as compared with 49.7 per cent. mortality, 1897-99), thanks to the increased dosage. In the laryngeal cases, 300 patients were treated with antitoxin alone, with 5 per cent. mortality. Of 347 that were operated on, 106 died. In 92.8 per cent. intubation was done; in fourteen cases secondary, and in eleven cases primary tracheotomy. Intubation was done at the first signs of suffocation, not always waiting for this. Epinephrin was given in cardiac weakness and when the blood-pressure was low. It proved a life-saving aid especially in those cases of diphtheria in which paralysis developed the seventh or ninth day of the disease, followed by a rapid drop in the blood-pressure.

125. **Atropin in Stomach Disease.**—Pletneff reports his experience with atropin in twenty-eight cases of various stomach disorders. The dose was 0.001 gm. (1/60 grain) hypodermically, once a day, for a period of nine days, and in some cases two weeks. He found that atropin caused decrease of gastric secretion, decrease of its acidity, and reduced the pain and spasmodic contraction, the results corresponding

with those of Riegel's experiments on animals. The reduction in secretory functioning causes diminished acidity, which in its turn puts an end to the pylorospasm and pain. The therapeutic effects of atropin are but temporary, its action being symptomatic only; in this regard it is much superior to morphin.

126. **Improved Methods for Diagnosis of Gonococcus Infection.**—Fronstein says that a gonococcus vaccine injected hypodermically gives a general and focal reaction in patients with any gonorrheal infection. The proper dosage is of paramount importance, but must be individualized to conform to the acute or chronic form, the stage of the process and time of the preparation of the vaccine. Fronstein used several commercial vaccines. When injected into two healthy persons in the amount of 0.4 gm. there was no reaction except pain, while two gonorrheal patients responded after sixteen hours with general (elevated temperature) and local manifestations. There was no reaction whatever in persons who had had gonorrhea at one time but had entirely recovered. The reaction was called positive when about seven hours after the injection there was an elevation of temperature of 0.7 C., accompanied by local manifestations. In fourteen of thirty cases the latter consisted in increased urethral secretion in which gonococci could be found, while before the injection of the vaccine they could not be found in the secretion. In five cases there was, besides the elevation of temperature, increased pain in the testicles. This positive result was confirmed by the presence of gonocoeci in the urethral secretion after the patient was subjected to proper treatment. In two cases there was after the vaccine injection pain in the joints that had been involved three years previously. In four cases there was no reaction at all, and the diagnosis of gonorrhea was rejected. Fronstein comes to the conclusion that gonorrheal vaccination ought to be looked on as a standard diagnostic method in gonorrheal lesions.

127. **Sporotrichosis.**—Bremener gives an illustrated description of a case of sporotrichosis in a woman of 35, the first symptoms having been observed ten years before. In all the few cases on record a complete cure was realized in a few weeks under large doses of potassium iodid. (Bremener says that the first case on record was published by Schenk in America in 1898; the third case—the first in Europe—not until 1903, thus acknowledging American priority.)

### Semana Medica, Buenos Aires

*April 10, XX, No. 15, pp. 584-908*

129 *Walking Typhoid. (La forma ambulatoria de la fiebre tifoidea.) A. A. Oneta.

129. **Walking Typhoid.**—Oneto gives a historical sketch of this form of typhoid and reports two instructive cases in men. In the first case intense headache was almost the only symptom for a time; the agglutination test applied on three occasions gave a constantly negative response; influenza seemed the presumptive diagnosis, when suddenly the twelfth day there was a hemorrhage of a pint of blood from the intestines, recurring the next day, and two days later intense pain in the intestines requiring morphin. At no time did the temperature go above 37 C. until the sixteenth day, when enemas were given which evacuated the bowels and relieved the pains, but then the temperature ran up to 39 C. and the agglutination test gave positive findings. The rest of the course was that of an ordinary mild typhoid. As typhoid fever owes its principal danger to the complications, and as in the walking cases nothing is done to avert these complications, the prognosis of this form of typhoid, he says, is always grave. He discusses the differential points which permit exclusion of duodenal ulcer. Ulcerative colitis, influenza or gastritis may be deceptively simulated by an afebrile typhoid at first.

### Hospitalstidende, Copenhagen

*April 30, LVI, No. 18, pp. 473-504*

130 *Nematodes in Cancer in Rats' Stomachs. (Undersøgelser over en Nematode—Spiroptera sp. n.—og dens Evne til at fremkalde papillomatøse og carcinomatøse Svulster i Rottens Ventrikel.) J. Fibiger. Commenced in No. 16.

131 Gastric Secretion during Digestion. II. (Undersøgelser over Ventrikelsekretionen under Fordøjelsens Forløb. II.) J. P. Gregersen.

130. **Cancer in Rats Induced by Feeding with Nematodes.**—Fibiger's article is profusely illustrated. It is otherwise practically the same as the one reviewed in THE JOURNAL, March 22, 1913, p. 948, with editorial comment p. 1077.

### Nordiskt Medicinskt Arkiv, Stockholm

*XLV, Medical Section, No. 3, last indexed March 15, p. 874*

132 *Prognosis of Chronic Over-Exertion of Heart in Athletes. (Die chronischen Anstrengungsveränderungen des Herzens.) I. Jundell.

133 Action and Fate of Iodin in the Body. (Om två eliminationstyper af jod och två dermot svarande väsentligt olika arter af jodverkan.—Undersökning angående en metod att återställa normalt blodtryck.) C. J. Enebuske. Concluded in No. 4.

134 *Cerebellar Motor Symptoms in Myxedema; Four Cases. G. Söderbergh.

132. **Effect on the Heart of Long Continued Excessive Exertion.**—Jundell says that the dilated heart of long continued extremely severe exercise or manual labor does not seem to have been investigated years afterward, and he here presents a contribution in this line. He recently examined with orthodiagraphy, that is, roentgenoscopy with the rays parallel, ten men who years before had been noted athletes, winning many prizes, and then for a series of years had ceased their athletic work and had devoted their time to mercantile and other business. The findings show that when the heart is not subjected to the strain of alcohol or syphilis, it recuperates and returns in time to the normal size as a rule. Only one of the ten men had a trace of albumin in the urine, and this man had passed through a brief illness consecutive to twenty-four hours' exposure to cold and wet on a sailing trip. The urine was normal in all the others and also the heart findings. It is interesting to note that three of the men had had measles in youth; three scarlet fever and two had had no children's diseases; two had had typhoid in youth, one in this latter group belonging also in the scarlet fever group, and this man's heart was unusually large but the functional findings were normal, the sounds pure and the pulse normal. The roentgenoscopic findings are given for each, with the normal standard for each measurement added for comparison. Jundell warns that measurements of athletes taken just before and after competitive sporting events are not a true index of actual conditions as the excitement and effect of extra training modify the findings. His findings a dozen years more or less after the active exercise has been given up, failed to reveal that the former chronic over-exertion had induced any tendency to disease later. The men now are 25, 29, 33, 36, up to 48 years old; some of them gave up their athletics on account of development of a tendency to hernia.

134. **Cerebellar Symptoms in Myxedema.**—Söderbergh's patients were a man of 50 and a woman of 52 in the last two of the four cases reported, and the disturbances in the gait and other motor functioning in all the cases subsided under thyroid treatment of the myxedema which had developed during the last ten and four years, respectively. Both had a tendency to catalepsy, retaining without fatigue for five minutes the position suggested by Babinski as a test for cerebellar catalepsy. The symptoms promptly disappeared under the thyroid treatment but the mental torpor in the woman did not seem to be modified.

### Ugeskrift for Læger, Copenhagen

*April 24, LXXV, No. 17, pp. 659-704*

135 Treatment of Spastic Paralysis with Both Section of Spinal Roots and Operation to Reduce Force of Antagonist Muscles. (Om et Tilfælde af spastisk Paralyse, behandlet med Foerster's og Stoffel's Operationer.) H. S. Bilmann.

136 Favorable Experiences with Babcock's Subcutaneous Extraction Method of Treating Varicose Veins. (Om Babcock's Vencekstraktion.) H. S. Bilmann.

137 Transmission of Scabies from Horse to Man; Sixteen Cases. (Hestefnat overført paa Mennesker.) V. Holm.



J. A. Witherspoon

PRESIDENT AMERICAN MEDICAL ASSOCIATION, 1913-1914

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, NO. 24 CHICAGO, ILLINOIS JUNE 14, 1913


## THE PROBLEM OF TYPHUS IN THE UNITED STATES


JOHN F. ANDERSON, M. D.

Director Hygienic Laboratory, U. S. Public Health Service, WASHINGTON, D. C.


In a paper presented before this Association in 1911, Dr. Morris Lewis[1] reported a study of thirteen cases of "so-called Brill's disease" observed by him in Pennsylvania Hospital. He stated that he was not convinced that the disease was not an atypical typhus, but that it remained for the laboratory worker to settle the question definitely.

Not long after Lewis' paper was published the identity of the disease, described by Brill and referred to by Lewis, with typhus was definitely determined by the work of Anderson and Goldberger.[2] These workers found that the monkey was susceptible to infection with blood from patients with Brill's disease; and, by a series of cross-immunity tests, showed that monkeys that had recovered from Brill's disease could not be infected with Mexican typhus and, conversely, that monkeys resistant to Mexican typhus could not be infected with Brill's disease. This reciprocal immunity showed conclusively that the New York (Brill's) disease and Mexican typhus were identical.

Attention was first called to this symptom-complex by the papers of Dr. Nathan E. Brill[3] of New York, in which he clearly set forth the distinction between the disease described by him and typhoid. In three papers Brill reports having observed in New York 254 cases of the disease from 1896 to 1910. Louria[4] reported having observed eighteen cases in the Jewish Hospital of Brooklyn during the summer and fall of 1910. Ziegel[5] reported three cases in 1909 and 1910 from Beth Israel Hospital, New York. From a study of the medical records of the Massachusetts General Hospital for the ten years from Oct. 1, 1902, to Oct. 1, 1912, Roger Lee[6] concluded that typhus in a mild form had been present during that time in Boston and vicinity. He found in his study of the hospital statistics records of twenty-eight cases which corresponded fairly closely to Brill's description of typhus.

Strouse,[7] in 1912, reported the observation of cases in the Michael Reese Hospital, Chicago. Paullin[8] reported at the Southern Medical Association in 1912 having seen seven cases in Atlanta since 1910. Cases have also been reported by Patek[9] from Milwaukee, Warren Coleman[10] of New York and by Nicoll, Krumwiede, Pratt and Bullowa[11] from the Har Moriah Hospital, New York; by Charles[12] from Indiana and by Goldberger[13] from Virginia.

From this it is quite evident that the assertion made by Anderson and Goldberger early in 1912, that typhus is actually present at all times in certain large cities of the United States, has been verified and that the disease is even more wide-spread than they declared. Roger Lee, in his studies of the 1,404 cases of continued fever of a greater duration than seven days in the Massachusetts General Hospital, found a ratio of about one case of typhus to forty-seven of typhoid.

There is reason to believe that this same ratio would hold, not only for all the cases of typhoid in Boston, but also for typhoid in certain other large cities of the United States. According to the Public Health Reports for 1912, published by the Public Health Service, the following number of cases of typhoid were reported in certain large cities of the United States during the year 1912:

| City | Cases | City | Cases |
|---|---|---|---|
| New York City | 3,386 | Chicago | 1,039 |
| Baltimore | 1,067 | Philadelphia | 1,620 |
| Boston | 477 | Washington | 607 |

If we assume that the ratio of one case of typhus to forty-seven of typhoid, found by Lee in the Massachusetts General Hospital, holds for these cities, we may estimate that during 1912 typhus was present as follows:

| City | Cases | City | Cases |
|---|---|---|---|
| New York | 72 | Chicago | 22 |
| Baltimore | 22 | Philadelphia | 34 |
| Boston | 10 | Washington | 12 |

1. Lewis, Morris J.: So-Called Brill's Disease, Trans. Assn. Am. Phys., 1911, xxvi, p. 234.
2. Anderson, John F., and Goldberger, Joseph: The Relation of So-Called Brill's Disease to Typhus. An Experimental Demonstration of Their Identity, Pub. Health Rep., Feb. 2, 1912.
3. Brill, Nathan E.: A Study of Seventeen Cases of a Disease Clinically Resembling Typhoid, but without the Widal Reaction; Together with a Short Review of the Present Status of the Serodiagnosis of Typhoid Fever, New York Med. Jour., Jan. 8, and 15, 1898, pp. 48, 77; An Acute Infectious Disease of Unknown Origin; A Clinical Study Based on 221 Cases, Am. Jour. Med. Sc., April, 1910; Pathologic and Experimental Data Derived from a Further Study of an Acute Infectious Disease of Unknown Origin, Am. Jour. Med. Sc., August, 1911.
4. Louria, Leon: Brill's Disease, Med. Rec., New York, Aug. 26, 1911.
5. Ziegel, H. F. L.: The Affections Clinically Simulating Typhoid, with Especial Reference to and Reports of Cases of Brill's Disease, Med. Rec., New York, June 25, 1910, p. 1087.
6. Lee, Roger: Table of Twenty-Eight Cases Diagnosed as Typhus Showing a Persistently Negative Widal, Taken from the Records of the Massachusetts General Hospital for the Period Oct. 1, 1902, to Oct. 1, 1912, Boston Med. and Surg. Jour., 1913, clxviii, p. 126.
7. Strouse, Solomon: Brill's Disease, Mild Typhus, in the Michael Reese Hospital, Illinois Med. Jour., January, 1913.
8. Paullin, J. E.: Typhus in Atlanta, Ga., Pub. Health Rep., Jan. 10, 1913.
9. Patek, A. J.: Typhus, Report of a Case Occurring in Milwaukee, Wisconsin Med. Jour., 1912-13, xi, 18.
10. Coleman, Warren: [Four cases of so-called Brill's disease in one family.] Unpub. report at meeting of Academy of Medicine, New York, Feb. 15, 1910. Cited at end of article by Nicoll, Krumwiede, Pratt and Bullowa. (See Note 11.)
11. Nicoll, Matthias; Krumwiede, Charles; Pratt, Josephine S., and Bullowa, Jesse G. M.: Four Cases of Typhus (Brill's Disease) in One Family, THE JOURNAL A. M. A., Aug. 17, 1912, p. 521.
12. Charles, Etta: Brill's Disease, Indiana Med. Jour., 1912, v, p. 48.
13. Goldberger, Joseph: Report of a Suspected Case of Typhus at Petersburg, Va., Pub. Health Rep., Aug. 2, 1912, xxvii, 1232.

That this is not an altogether unwarranted assumption is evident from the fact that, according to reports from two hospitals in New York City—Mount Sinai and the Jewish Hospital of Brooklyn—cases of Brill's disease or typhus and of typhoid were treated in those hospitals as follows:

| | Years | Typhus | Typhoid |
|---|---|---|---|
| Mount Sinai ..... | 1910 | 37 | .. |
| | 1911 | 27 | .. |
| | 1912 | 36 | .. |
| Jewish Hospital.... | 1910 | 22 | 45 |
| | 1911 | 10 | 46 |
| | 1912 | 19 | 44 |

From the foregoing tables it is seen that the ratio of typhus to typhoid in the Jewish Hospital of Brooklyn for the three years 1910, 1911 and 1912 was 1 to 2.6 instead of the ratio 1 to 47 as found by Lee in Boston.

The number of cases of typhoid reported to the city department of health of New York for the year 1910 was 3,735. Estimation of the probable number of cases of typhus in the city that year by Lee's figures gives seventy-seven as the result. Now, we find that for 1910 there actually occurred in two hospitals in New York City fifty-nine cases of typhus, leaving only twenty-one more cases to be accounted for in all the other hospitals and in private practice. In view of this, it is certainly reasonable to assume that there were fully as many cases unrecognized as were recognized and that the estimated number of seventy-seven by no means covers the number of cases of typhus that actually occurred in the city.

My only excuse for thus briefly bringing the subject to attention again is the hope that cases which may come under observation may be reported and more accurate data collected as to the prevalence of typhus in the United States. While the disease, as generally observed, has had a low case mortality and shows but little tendency to spread, it is nevertheless apparently always present in our larger cities and the possibility should ever be borne in mind that it may acquire virulence and epidemic prevalence. The fact that over 321 cases of the disease have come under the observation of one physician justifies the assumption that perhaps cases may have passed unrecognized by others and that the disease exists in localities other than those from which it has been reported.

Guinea-pigs are quite susceptible to typhus when inoculated intraperitoneally with blood from victims of the disease during the active febrile period, the only indication of infection in the animal being the temperature curve, which, in its rise, duration and fall, is quite typical and readily recognized. I suggest, as a procedure of value in arriving at a correct diagnosis, the inoculation of guinea-pigs with about 3 c.c. intraperitoneally of blood from cases of continued fever giving a negative Widal and blood-culture; especially in cases in which there has been a sudden onset, an atypical eruption, intense headache, apathy and prostration. I think that it will be found that typhus is more frequently encountered, at least in our larger cities, than has heretofore been the quite general belief.

I am under obligations to Dr. Nathan E. Brill of the Mount Sinai Hospital, and Dr. C. Eugene Strasser, superintendent of the Jewish Hospital of Brooklyn, for statistics on typhus and typhoid in those institutions.

The following references also may be found of interest:

Anderson, John F., and Goldberger, Joseph: The Relation of Rocky Mountain Spotted Fever to the Typhus of Mexico; a Preliminary Note, Pub. Health Rep., Dec. 10, 1909, p. 1861; A Note on the Etiology of "Tabardillo," the Typhus Fever of Mexico, Pub. Health Rep., Dec. 24, 1909, p. 1941; The Etiology of Tabardillo or Mexican Typhus: an Experimental Investigation, Jour. Med. Research, June 1910, p. 469; Experimental Proof of the Identity of Brill's Disease and Typhus, New York Med. Jour., May 11, 1912.

Goldberger, Joseph, and Anderson, John F.: The Transmission of Typhus, with Especial Reference to Transmission by the Head Louse (Pediculus Capitis), Pub. Health Rep., March 1, 1912, p. 297; Some Recent Advances in Our Knowledge of Typhus; THE JOURNAL A. M. A., Aug. 17, 1912, lix, 514.

Twenty-Fifth and E Streets, N. W.

## IMPROVED DEVICE FOR ILLUMINATING THE OPERATING-ROOM

WILLARD BARTLETT, A.M., M.D.
ST. LOUIS

Recently I suggested a focused system of operating-room lighting.[1] The use of six automobile head-

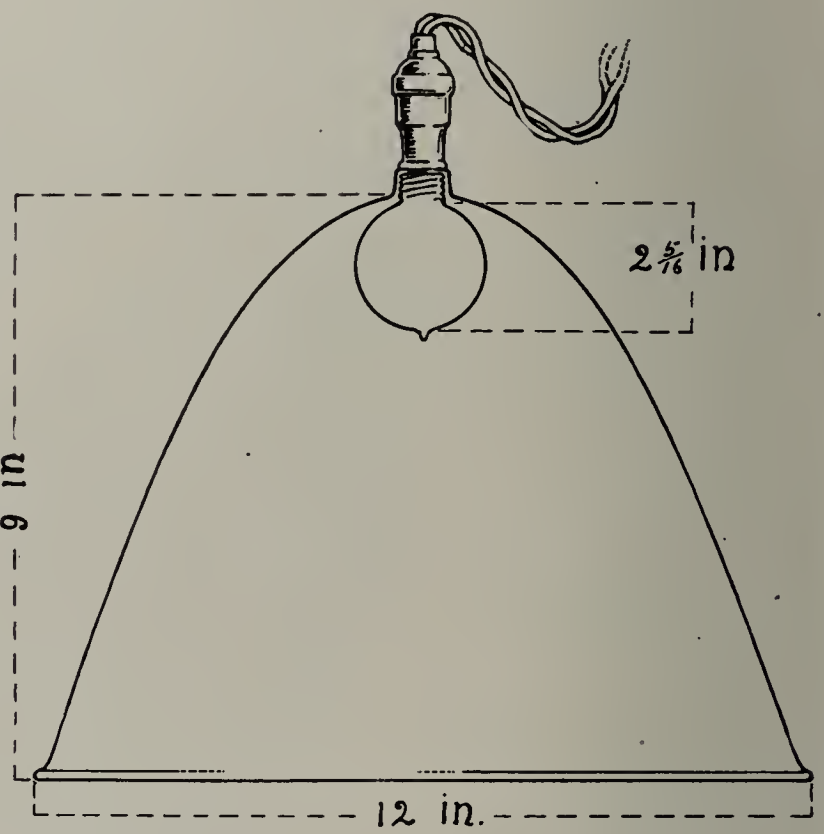



Fig. 1.—A diagram of the individual reflector, socket and lamp.

lights focused on the operation field, for the past six months, has proved so eminently satisfactory that it has seemed worth while to make the principle more generally useful by applying it to the ordinary street lighting current of 110 volts. This might seem at first thought a most simple matter until one considers that the 6-volt automobile lamp has a vastly shorter filament than the common 110-volt incandescent bulb of like candle-power and offers, for all practical purposes, the "point of light" demanded by a parabolic reflector such as automobile makers employ. The relatively long filament of a standard 110-volt lamp, though coiled as tightly as is consistent with good practice, represents a luminous object about 1 inch in diameter enclosed in a glass bulb 2 5/16 inches in diameter. This gives a 25-watt burner which is, as Mr. Fergusson, the expert lamp-maker of this city, assures me, the most compact of the durable and thoroughly useful Tungsten globes. (In order that the

1. Bartlett, Willard: A Method of Focusing Several Electric Lights on the Field of Operation, Ann Surg., January, 1913, p. 124

light may be completely diffused I make use of frosted glass only.)

The selection of a lamp by no means completed the solution of the problem, since no reflector on the market would focus its rays as desired. Experience had shown an illuminated field of 18-inch diameter, 7 feet from the source of light, to be highly useful. With these data in mind, Professor Waldo, head of mathematics at Washington University, was good enough to plat the curve of an ellipsoidal reflector which permits one to use in the desired manner about five-sixths (some 300 degrees) of the rays emanating from this lamp. Mr. Edwin F. Guth's enthusiasm led him to "spin" these reflectors for me, purely as an experiment; and thus

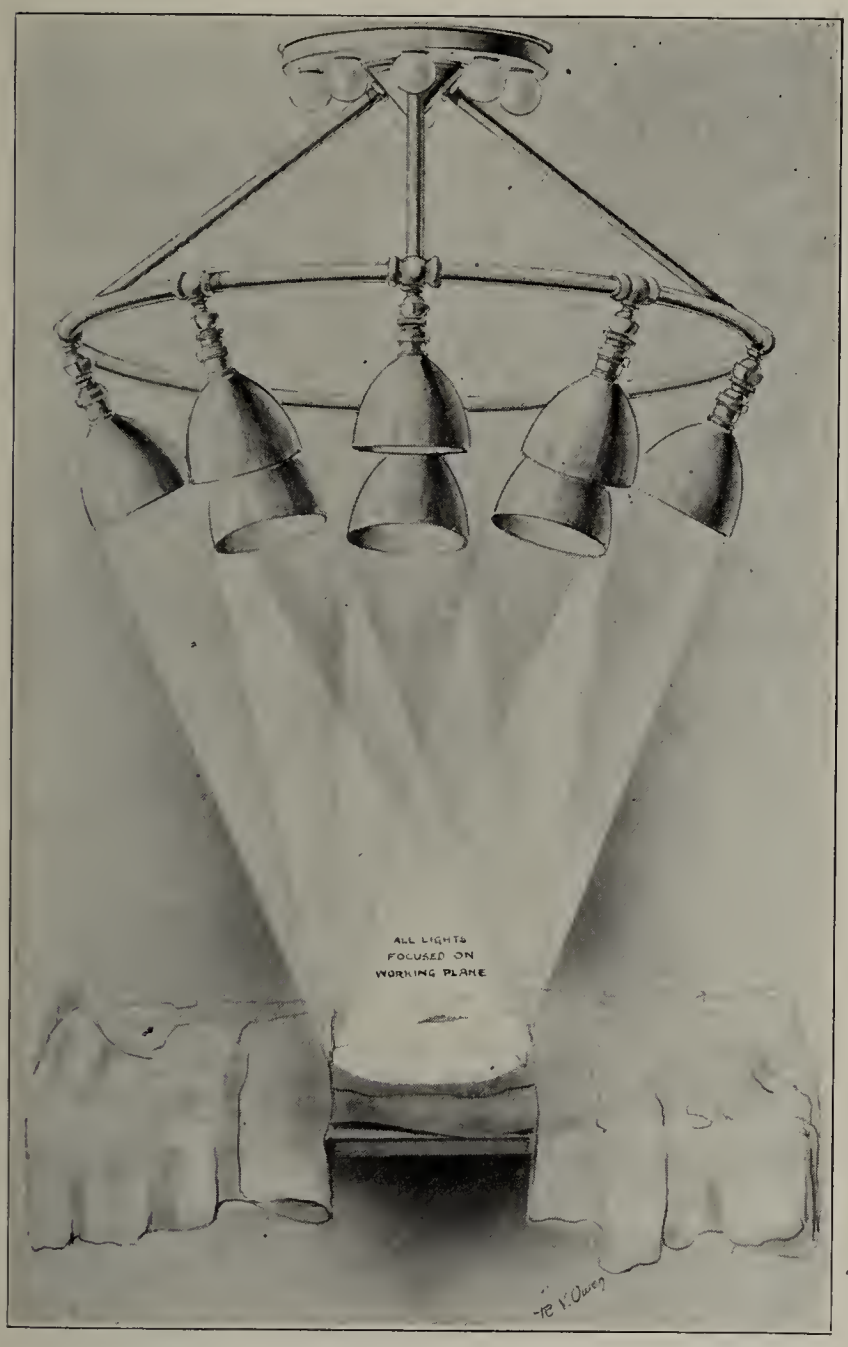



Fig. 2.—Eight lights grouped at a distance of 7 feet from the operating-table.

the cooperation of several workers resulted in a solution of the problem.

These ellipsoidal mirrors are 12 inches in diameter by 9 inches deep, dimensions which render them unwieldy, when taking the number used into consideration; hence a depth of but 6 inches is now advised. The slight loss in illumination is of no consequence since the supply that remains is more than abundant.

The accompanying illustrations will give a better idea than can any verbal description of the way in which light from eight sources, in a 6-foot circle, may be made to meet at an angle of 45 degrees on the field of operation. A group of eight other 40-watt lamps set in the ceiling plate takes care of the general room illumination.

The apparatus made up in white enameled steel tubing harmonizes perfectly with other operating-room furniture. Two sets, somewhat modified to surround rectangular mirrors, may be seen at the Mayo clinic, Rochester, Minn., at the present time.

I cannot better state the demonstrated advantages of the contrivance than by quoting from the article mentioned in my opening sentence, naming some of the desirable features which it seemed to possess when installed as an experiment:

> When six automobile head-lights, situated at different points, are focused on a given field, it stands to reason that the illumination is intense and that in this manner shadows are practically done away with. The source of the light is so near the ceiling that no heat from it is noticeable at the level of the operator's head. The globes are frosted and a soft, diffuse glow results. The satisfaction of having a known quality and constant quantity of light at all times is one which will not be fully appreciated by the operator who has not been in possession of it. The fact that beams of light from six sources meet at an angle of more than 45 degrees naturally cuts out all the shadows which obscure the depths of certain wounds. This will be especially appreciated in certain common-duct operations, pelvic procedures, attempts to reach the root of the gasserian ganglion, and others of like nature.

400 Metropolitan Building.

---

# OPERATING DEPARTMENTS FOR MODERN HOSPITALS

## WHICH PROVIDE FOR SPECTATORS WITHOUT DISTURBING THE HOSPITAL SERVICE AND PERSONNEL

JOHN R. McDILL, M.D.
Associate Professor of Surgery, Rush Medical College, University of Chicago
MILWAUKEE, WIS.

Clinical surgeons owe to their results as well as to their students, visitors and guests, facilities for observing their work that do not conflict or interfere with the operating-room technic. These advantages, when provision for them is attempted at all, are usually annulled by a mixing of all parties, to the discomfort of most of those concerned and the detriment of the patient. Since the custom of visiting the work of other surgeons has become so well established, this glaring defect is strange in these days of striving for perfection in operating arrangements when it can be so easily remedied.

The new operating departments which are being added to old hospitals, and all of the new institutions, should provide the best possible facilities for visitors, so arranged that they may come and go in the clinics without friction of any sort, and without being gowned.

This can be accomplished by a separate and preferably outside entrance and exit for all not connected with the hospital. This entrance and exit should lead into a room provided with water cooler, telephone, closet, and lavatory conveniences, which serves as a cloak-room and lounging-room; here the visitor should find a bulletin of the operations scheduled for the day, and each case should show the hospital number, so that one can write afterward and ascertain the result in cases in which one is specially interested. This room should connect with the space reserved for spectators.

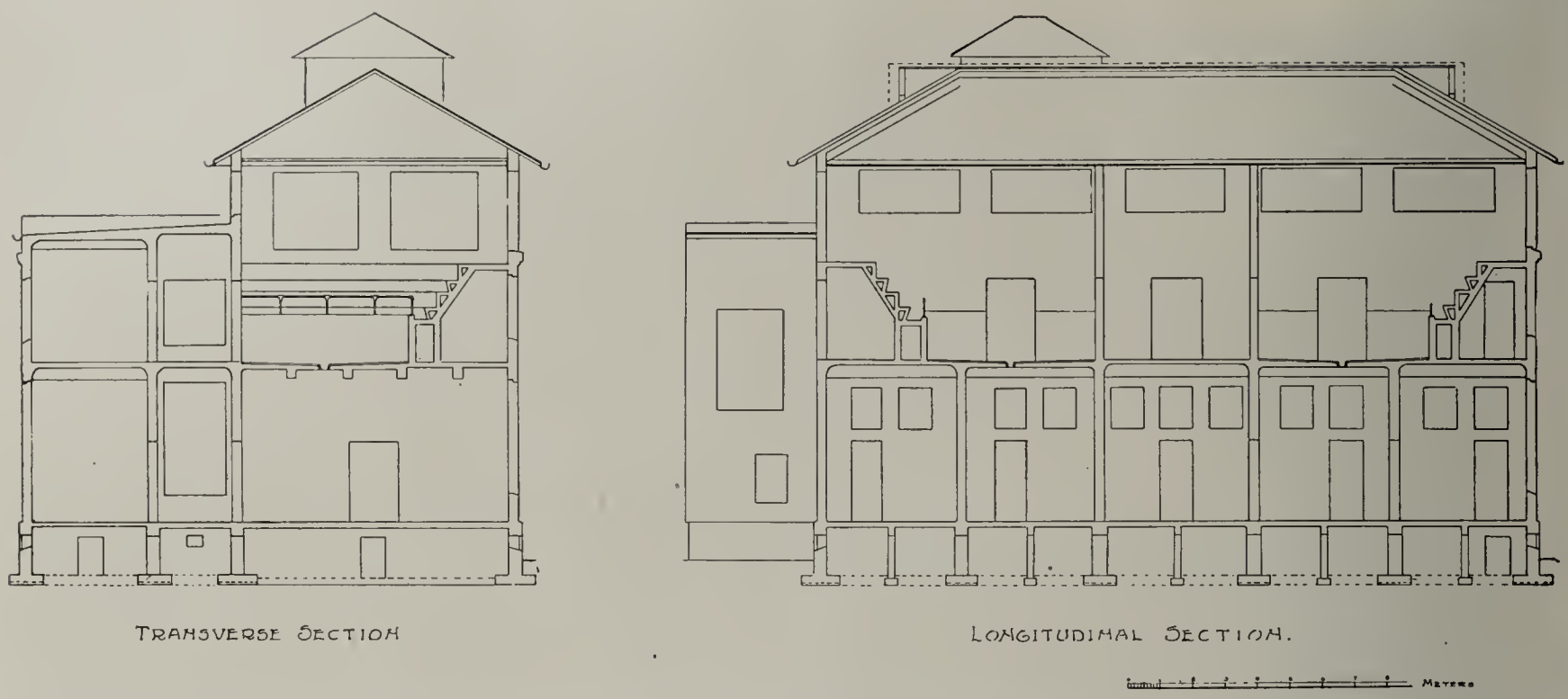
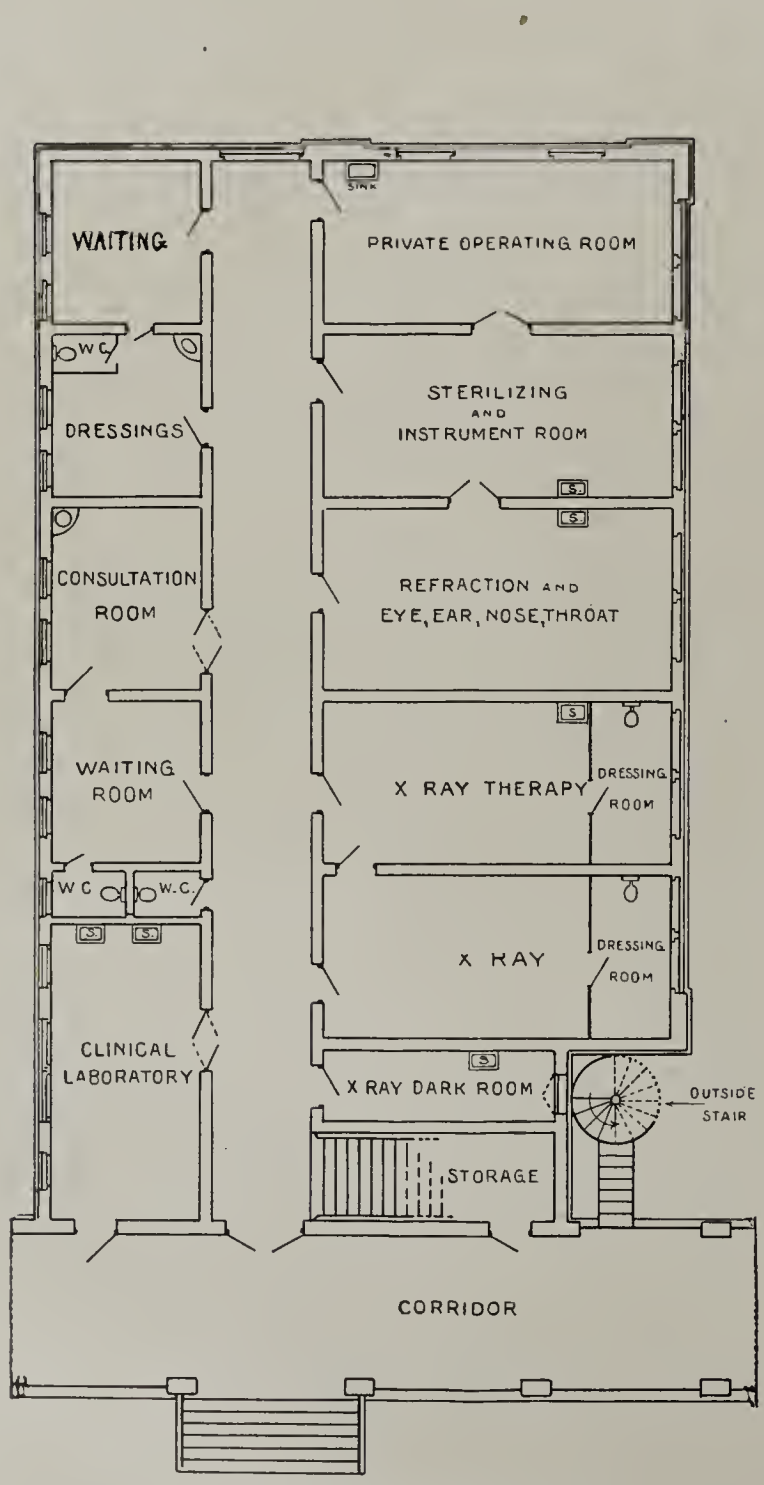
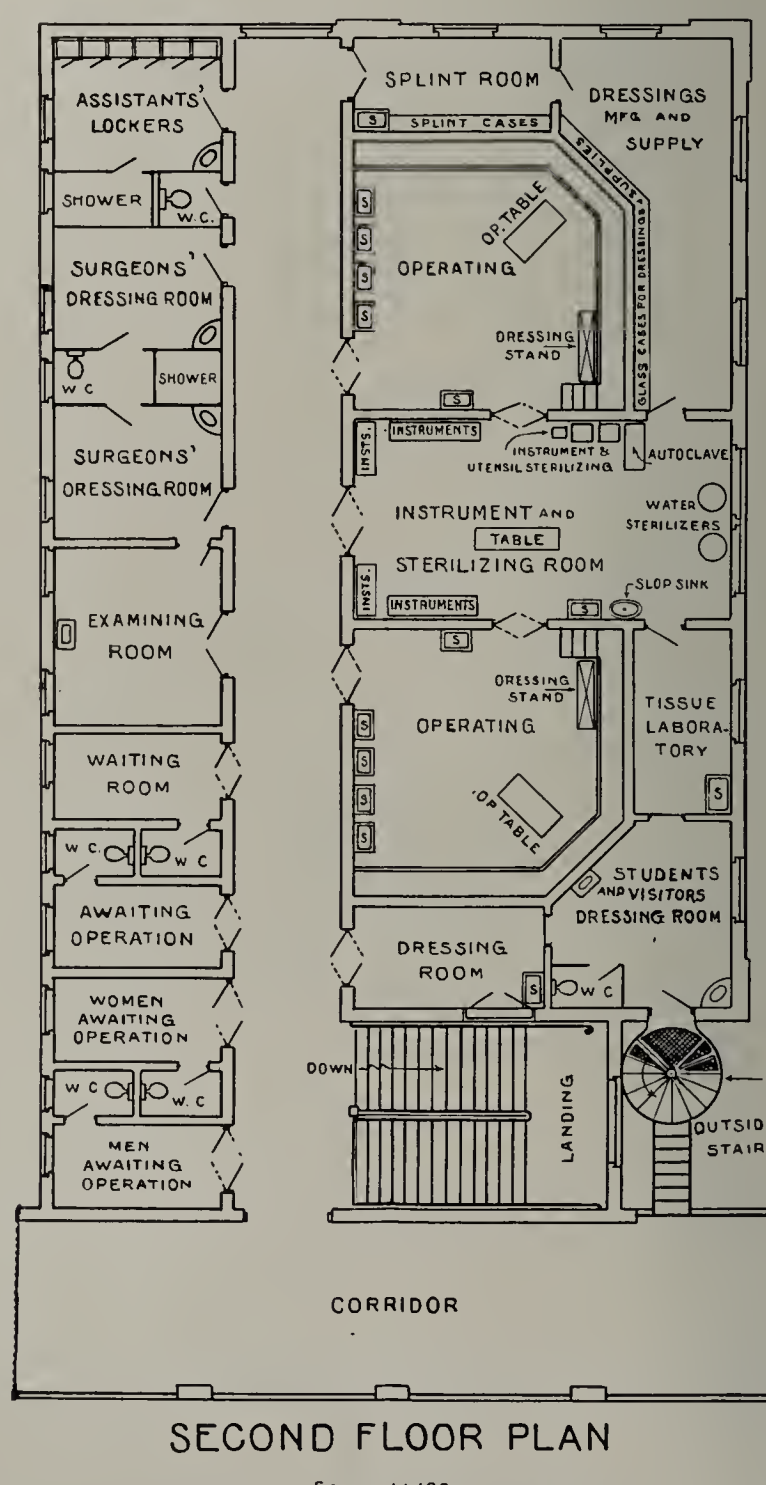



Fig. 1.—Operating pavilion of the Philippine General Hospital, Manila, P. I., of which Dr. McDill was formerly chief surgeon. Plan drawn by William E. Parsons, consulting architect, under the direction of Dr. McDill.

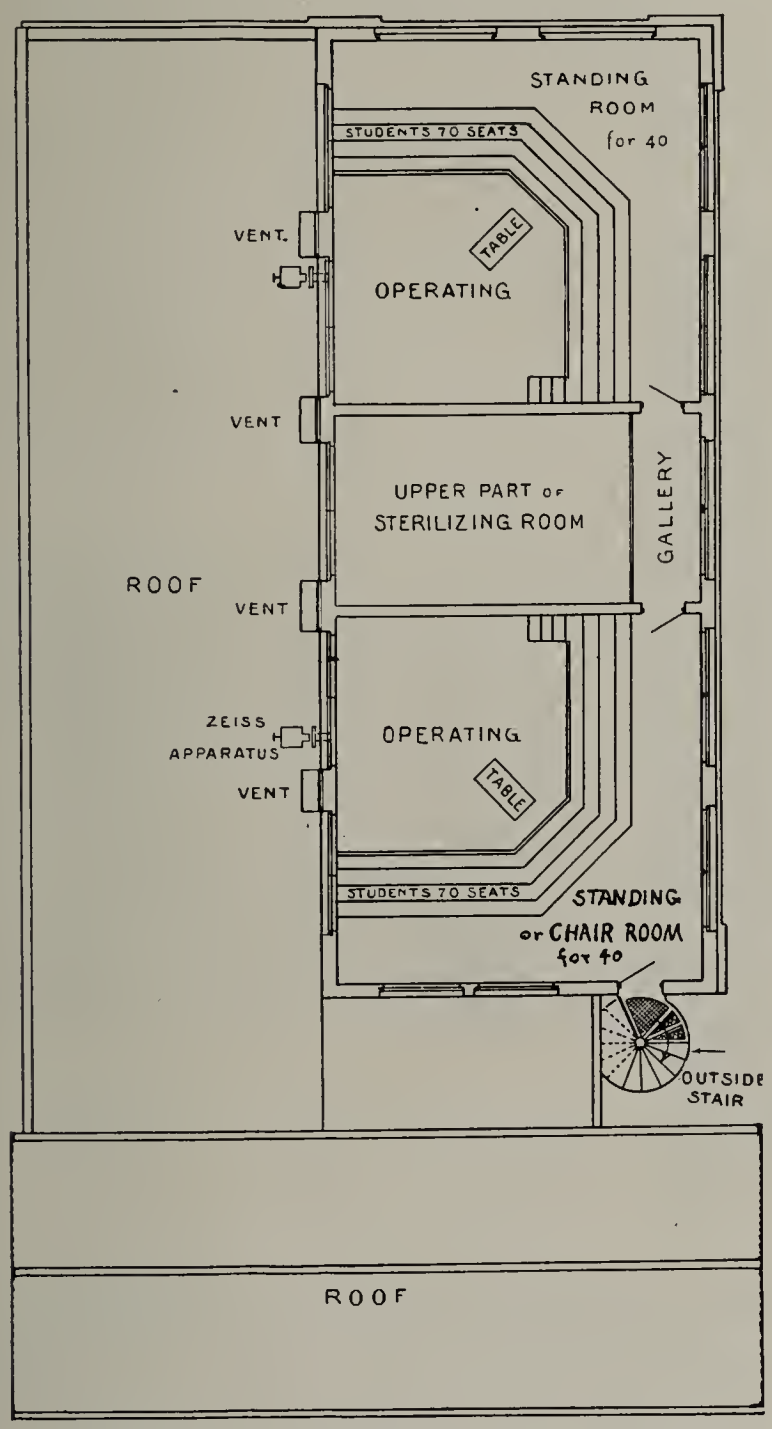



Figs. 2 and 3.—Floor plans of operating pavilion.

and each such space should connect with every other operating-room in the building by bridges (Fig. 6) or galleries several feet above the operating-room floor, and by stairs to those below or above. The seating arrangements for these amphitheaters should never resemble the old type, with its enormous waste of space, designed for spectacular performances and modeled after a Roman coliseum or a Spanish *plaza de toros*. Each visitor up to 100 ought to be provided with a seat from 6 to 25 feet from the operating-table. The accompanying tracings (Figs. 1 to 4) are from a plan which has proved very satisfactory, and the vertical section shows how each spectator is provided with a seat close to the operator. From this seat, which can be reached through a special outside entrance, the visitor can retire at any time without disturbing the hospital service in the slightest, as can be seen on the floor plans. No chairs are provided, the visitors sit on the bare painted concrete benches or steps which are projected forward in such manner as to tier the rows of spectators almost vertically above each other. When these rows are filled, the feet of each man from the second row upward rests on the seat of and between the two men immediately below him. This breaks straight rows so that the head of the person below and in front does not interrupt the view of the one just behind and above him. Although the seats are hard and there is no pretense at comfortable backs the positions are not found to be irksome, and the level space above allows the spectator to stretch a bit and move about.

For small hospitals a four-foot space railed off along the outside walls of the operating-rooms and leading across the sterilizing or other intervening rooms will be ample in which to place observation stands, which will accommodate about fifteen persons each. These stands are 30 inches wide, 66 inches high and 114 inches long.




GALLERY PLAN

Figure 4.



Fig. 5.—View of one operating amphitheater showing the target of the Zeiss illuminating device containing eight distributing mirrors, each of which catches part of the shaft of light from the 30-ampere search-light, and reflects it to a corresponding mirror attached to the ceiling; thence they converge to the desired spot on the operating-table; only five of them show in this illustration. and the horizontal light distributing mirror for perineal work is concealed by the anesthetist.

Another feature which will commend itself to the clinic visitor is the entire absence of drop lights, cranes, and other apparatus, carrying reflectors, wires, head lights, etc., to block his view. The illumination, arranged particularly for teaching, is by the use of eight converging shafts of clear white electric light (Fig. 5), filtered through water and devoid of heat, which floods the operating field and its depths from as many angles, giving an intensive illumination, without shadows, and revealing to the man on the top seat

the smallest anatomic and technical details that formerly were visible only to the operator. We used the Zeiss device, which was kept in order by the agent under contract, and there was no noise, no heat, no eye-strain and no dust. This arrangement is for use during the day and makes the clinic independent of the weather and light conditions.

The plan here illustrated shows a special operating unit in a pavilion hospital with the outside entrance for visitors in a spiral stairway which is connected with the corridors uniting the pavilions on each floor level. One corner of the operating-room was cut off in order to place the operating-table so that the spectators would be near to both sides and to the end of the table. As recovery-rooms were provided in each surgical ward building, no space for this purpose was set aside in the operating pavilion. It was necessary to provide the large number of waiting-rooms because the patients who came to the clinics were of so many different nationalities.




Fig. 6.—Sterilizing and instrument-room between the two operating-rooms showing the high bridge by which visitors can pass quietly from one room to the other without conflicting in any way with the operating-room personnel.

470 Jackson Street.

**What a High Infant Mortality Means.**—A high infant mortality-rate is of grave moment not only on account of the pain, suffering, worry and economic loss it entails, but particularly because it is an evidence of the antenatal and postnatal environments to which those that survive are also exposed. The physical resistance and mental capacity of childhood, the moral stamina of adolescents, are directly influenced by the health and nutrition of the first two years of life. If we believe that the most valuable asset of this community is the health and character of its youth, we cannot longer question the urgency of making the conservation of infant life a special function of our municipality in a department of child hygiene in the city, county or state.—Julius Levy in Report of the Public Welfare Committee of Essex County, N. J.

## FRACTURE AND ORTHOPEDIC TABLE*

GEORGE W. HAWLEY, M.D.
BRIDGEPORT, CONN.

This table has been designed to provide for the suspension and immobilization of the lower extremities and trunk, without moving or lifting the patient in any way, and to afford reliable support and traction of the lower limbs in the treatment of fractures.

As the illustrations show, this table (Fig. 1) has a flat top, in the center of which is placed a hip-rest, *D*, set practically flush with the surface of the table. The top is made in two sections. The smaller one, *A*, for the support of the head and chest, is mounted on four small wheels, so that it can be moved along the bars, *C*.

The longer section, *B*, rests on four short legs, which act as levers so that it can be lowered, leaving Section *A* and the hip-rest projecting (Fig.2). A slot cut in the center of Section *B* provides for the passage of the hip-rest post through the folding top. Hanging downward from the foot of the table is a lever, *F*, which automatically locks the top when it is up. Pressing upward on this lever releases the lock. Close to this lever is a handle, *H*, by which the top is lowered and raised. The hip-rest is fitted with two perineal traction posts, a short one, *I*, and a longer one, *L*, with swinging arms from which a sling can be hung to support the knee or thigh and prevent sagging (Fig. 3). To the sides of the table frame are attached extension bars, *J* (Fig. 3), which can be placed at any degree of abduction. On the bars are foot-pieces to which the feet can be bandaged and traction applied.

It will be seen that this table is simple in principle and in construction. There are no gears, cranks or other complicated parts. Its operation requires no practice or instruction. The patient is placed on the table as for any operation or manipulation of the lower extremity requiring immobilization. After the manipulative or operative work has been completed, the legs are placed in the desired position and held there, either by assistants or by the extension foot-pieces (with or without traction). The top is then lowered, leaving the patient securely suspended in convenient position for immobilization in plaster of Paris. It is only necessary before lowering the top to see that the patient rests properly on the hip-rest and head-rest. The latter, being movable, can be adjusted to suit different subjects. After the plaster has been applied the top is raised again to its original position. The feet may be fastened to the traction apparatus, if it is desired, for the purpose of steadying the legs or procuring extension.

### USES AND ADVANTAGES

The uses to which this table is fitted are:

The application of plaster of Paris in the treatment of joint diseases, etc.

The treatment of fractures of the lower extremity by the closed or open methods as a means of obtaining strong, uniform traction, maintaining reduction and preventing displacement.

* Presented at the New York Academy of Medicine, Orthopedic Section, April 18, 1913.

The operation of joint resection, osteotomy, osteoplasty, etc.

Whitman's abduction treatment of fracture of the neck of the femur.

The application of plaster jackets (Fig. 4).

Its advantages are:

Its simplicity.

The flat top, which is serviceable for almost any kind of work.

The doing away with lifting patients on a hip-rest, which is awkward and difficult to do without disturbing the position of the extremities, releasing traction and displacing the bones.

The elimination of much of the assistance usually required to handle these cases.

The facts that the legs can be accurately placed, maintained and immobilized in a given position without moving them in the least; that in place of unsteady, manual pull, reliable and uniform traction can be had; that it makes a general orthopedic table because it is serviceable for a variety of plaster work.

An experience of several weeks has already demonstrated the practical usefulness of this table. Besides the routine application of hip spica and jackets, I have used it in one case of bone plating of the femur, in

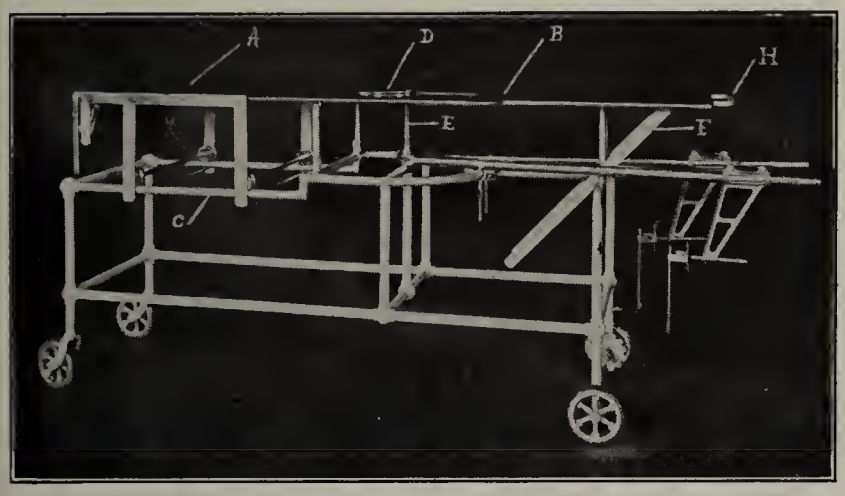



Fig. 1.—Table showing flat top made in two sections, *A* and *B*. Section *A*, the head-rest, is mounted on small wheels which rest on the runners *C*. Section *B* is supported on four short folding legs. The hip-rest, *D*, on the post *E* projects through a slot cut in the top. The lever *F* locks Section *B* in the position shown. By lifting this lever Section *B* can be folded down on the frame, as in Figure 2.

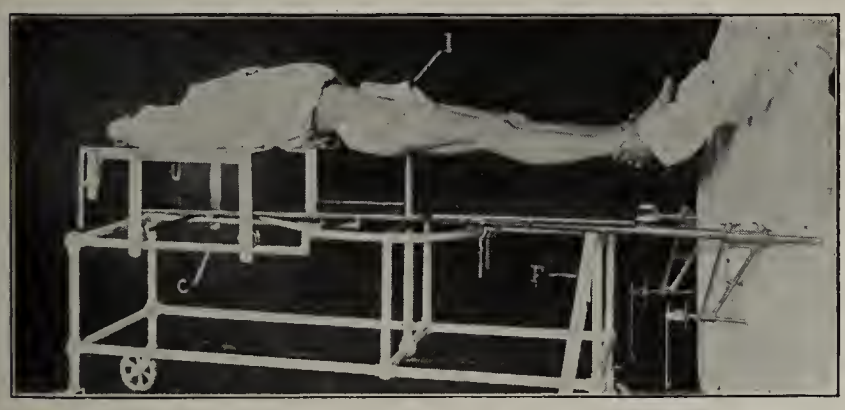



Fig. 2.—Patient on table after top has been lowered. The distance between hip-rest and head-rest can be regulated by sliding the latter along the runners *C*. After plaster of Paris has been applied section *B* is raised again, as in Figures 1 and 3. Two sizes of sacral supports are used, one for adults and one for children. Perineal post indicated by letter *I*.

which, by the use of the extension apparatus, it made the work of approximation and retention of the fragments much easier, and eliminated the strain on the plate from the time it was inserted until the limb was encased in plaster. In three cases of fresh fracture of the shaft of the femur, which were put up at once under ether, it has been possible, not only to obtain excellent reduction and overcome the overriding, but to get overextension of from one-half to three-quarters of an inch—to stretch the muscles and prevent retraction, as advocated by Martin.

At the present time I am having an attachment made so that the same support and traction can be applied to the upper extremity. A portable apparatus, similar in

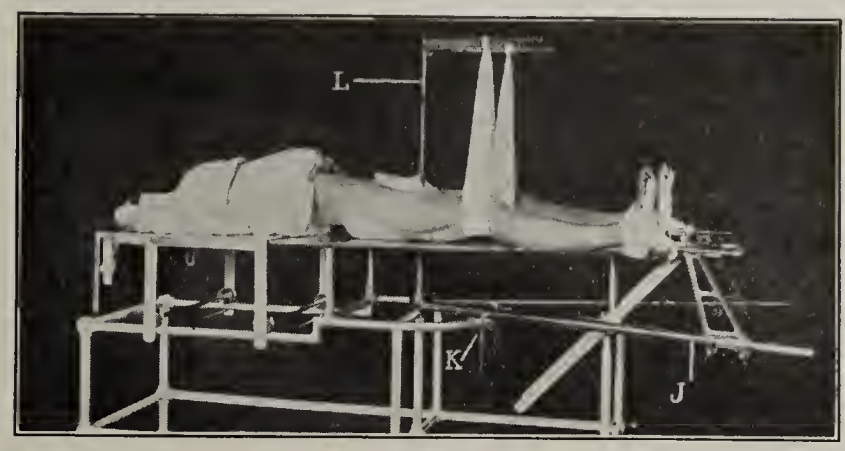



Fig. 3.—Patient on table with extension apparatus bandaged to feet. These extension bars can be adjusted to any degree of abduction and secured by a device at *K*. The perineal post *L* has swinging arms for suspension of thigh or knee. After the legs have been placed and secured as desired, the top is lowered, leg immobilized, and top again lifted to its original position. A peculiar method of bandaging the feet has been devised which holds the heel firmly against the foot-plate and keeps the foot at right-angled flexion The foot is released from plaster by lifting out the foot plate without cutting the plaster in any way. The extension apparatus provides for traction up to 250 pounds.

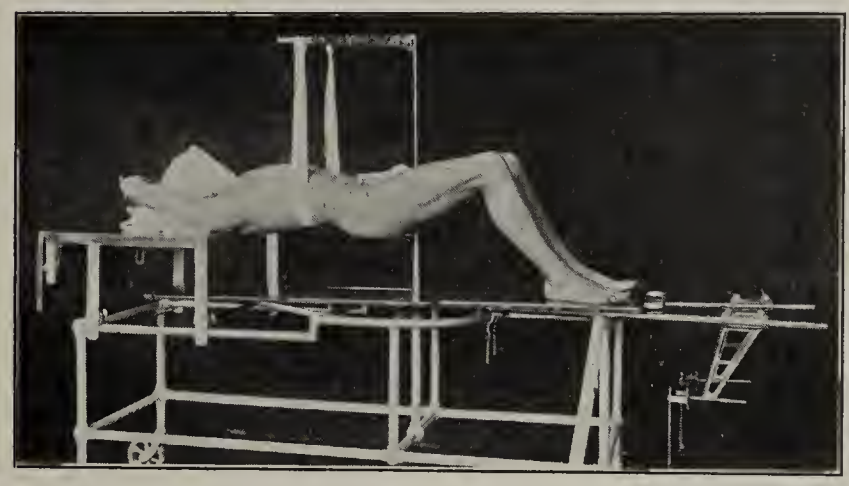


Fig. 4.—Patient in position for application of plaster jacket. Hyperextension of the spine, after the method of Roberts, can be had by raising the sling.

principle to the table, which can be set up on a bed or table, is also under construction.

871 Park Avenue.

---

**Water-Supply in Alaska.**—The towns along the southern coast are usually supplied with excellent spring-water which is piped into the houses, while rain and seepage water is used by natives in the villages. In Cook Inlet a number of the settlements have shallow wells which are fairly well protected. On the Yukon the river-water is used for domestic purposes; in winter this is obtained through a hole in the ice. On the Bering Sea both St. Michael and Nome are supplied with spring-water which is piped into the town during four months of the year, while the remainder of the year it has to be hauled from these springs and distributed to the dwellings in buckets. Along the Aretic coast either rain-water or river-water is used in the summer, and melted snow and ice in winter. It spite of the favorable conditions present for contamination of the water-supply, there are no water-borne diseases in Alaska. The few cases of typhoid that have been reported in the territory have been imported into the country from the outside.—E. Krulish, *Pub. Health Rep.*

# PROGNOSIS AND THERAPY OF CEREBRAL SYPHILIS *

GEORGE S. SCHWINN, M.D.
First Assistant Physician, Government Hospital for the Insane
WASHINGTON, D. C.

The prognosis of cerebral syphilis depends on a prompt diagnosis, for the earlier a case comes under observation the easier it is to effect a cure. In many of our cases of cerebral syphilis we hope for recovery or, at any rate, such a degree of recovery as will enable the patient to resume his occupation and lead a useful life. This prognosis is quite justifiable, for it is astonishing how much improvement sometimes occurs under proper treatment, even in comparatively hopeless cases. Power and Murphy[1] say, "There can be no question of the beneficial influence of early treatment;" and all writers agree on this point. Fournier, Lang, Oppenheim, Hjellman, Max Nonne and others believe that nervous affections are more likely to occur when treatment has either been insufficient or not practiced at all.

Recovery can be expected only so long as specific changes in the tissues are the sole ones present, the atrophy of the cranial nerves produced by compression and the softening due to occlusion of the arteries not being developed. If the general cerebral symptoms are accompanied only by signs of gummatous neuritis, complete recovery may take place. It may often be shown to have done so by the condition of the eyes, although some defect may be left behind. Thus, optic neuritis or choked disk may completely pass away, while marked atrophy may remain. The most responsive to treatment are cases of meningitis, cerebral or spinal, or cerebrospinal syphilis, provided the symptoms point to irritation rather than paralysis; if there be associated monoplegia or hemiplegia, aphasia, apraxia, alexia or hemianopsia, even though these conditions be transitory, the prognosis is serious, for they indicate arterial disease, which is less susceptible to treatment than the meningitis.

A meningitis of the base with paralysis of one or more of the cranial nerves will yield to treatment; if the optic chiasma and optic nerves are involved there is a danger of postneuritic atrophy followed by partial or total blindness. Still this condition of basic gummatous meningitis is not so serious if it is taken early before the arteries are affected by endarteritis. Treatment should produce a rapid improvement of the symptoms. The cases of cerebral syphilis with mental symptoms, convulsions, lapses of consciousness and drowsy stupor are generally most serious; permanent improvement is infrequent and complete recovery rare. The most unfavorable are those which simulate general paralysis, for it indicates a wide-spread syphilitic meningitis of the convexity. Likewise, cases which indicate softening from arterial occlusion are most unfavorable; probably endarteritis is the most dangerous and most insidious of all forms of cerebral syphilis, but even vascular affections have been cured by antisyphilitic treatment. Advanced disease may occur without producing any very definite symptoms, perhaps persistent headache only, perhaps transitory aphasia, monoplegias or hemiplegias following a faint or fit; if such a case is treated at once the prognosis is much better than later, when the loss of function has become permanent, for this denotes tissue necrosis, and little good can be done toward curing a hemiplegia when contracture has occurred. Too often, owing to a lack of understanding of the pathologic process, a favorable prognosis is given in such a case because it is of syphilitic origin. Nervous tissue once destroyed cannot be replaced. Many cases show that brain syphilis follows on a brain injury. These cases generally respond well to treatment; probably the injury causes a local node or gumma.

Pure basic meningitis or participation of a cranial nerve, the motor oculi, for example, does not indicate a bad prognosis, rather the reverse, for it brings a patient early under treatment. Markedly choked disk may disappear and restoration of sight may be complete under treatment. Progressive neuritic atrophy generally ends in blindness. Basic meningitis is much more favorable when limited to one side; it is frequently, however, associated with arteritis; the prognosis then is bad because occlusion of arteries at the base of the brain may occur and a very small patch of softening in the pons or medulla may lead to serious paralysis and fatal complications. Acute bulbar symptoms are always serious, but when they occur in the secondary stage vigorous treatment may sometimes be followed by very satisfactory results. The most successful cases are those which point to a local gummatous pachymeningitis—cases in which there are no symptoms of loss of function, only headache, localized pain and tenderness, and cortical irritation causing jacksonian epilepsy. Pseudobulbar symptoms are always serious, as they imply that both hemispheres are affected and they indicate a widespread arterial affection with bilateral capsular or cortical softening. Occasionally there may be sudden death from apoplexy due to rupture of a cerebral vessel or thrombosis of the basilar artery. Antisyphilitic remedies have little influence on symptomatic epilepsy when once it has become established. A guarded prognosis should always be given in all cases of syphilis of the nervous system. According to Naunyn only after five years of complete freedom from symptoms can it be asserted that a cure has been effected without any likelihood of further symptoms arising. When we have reason to suppose that the disease is a localized pachymeningitis and the symptoms have disappeared, we can give usually a favorable prognosis. The examination of the cerebrospinal fluid for lymphocytes and the fluid and blood by Wassermann reaction may help much in giving a prognosis, while it may also afford information as to the beneficial influence of the treatment. The lymphocytes may entirely disappear from the cerebrospinal fluid for a time under the influence of treatment, and then there may be a reappearance, just as there may be a fresh eruption on the skin.

In many cases of cerebral syphilis, even when there has been systematic treatment, the patients are only incompletely cured; the incompleteness of the cure is shown not merely by the fact that the patient is left with mental enfeeblement or some degree of paresis or paralysis, but also by the fact that, after months or years, quite suddenly convulsive seizures or psychic troubles may reappear. These recurrences are of evil omen; as a rule, specific treatment has far less influence than in former attacks. A progressive dementia and attacks of drowsy stupors indicate extensive disease and the prognosis is always very grave.

The prognosis runs parallel with the duration and treatment of the nerve affection, and we must consider these two points as the most important for prognostic valuation, beside which the rest fall into the background.

* Read before the Society for Nervous and Mental Diseases of Washington, D. C., at a Symposium on Syphilis of the Central Nervous System held March 20, 1913.

1. Power, D'Arcy, and Murphy, J. Keogh: A System of Syphilis, 1910.

There is no apparent difference in the effects of sex and age with regard to the prognosis.

Finger,[2] in his report of 170 cases of syphilis treated with salvarsan, reported seven cases showing affections of the optic and auditory nerves coming on at periods varying from a few hours to months after treatment. He considered them examples of a neurotropic action of the drug. Mucha, in a later communication, reported thirty-seven similar cases. The contentions of Finger immediately aroused wide-spread discussion, and in the past year a very large number of these cases of affections of the cranial nerves after salvarsan have been reported. Ehrlich,[3] from the beginning, held that these affections of the cranial nerves were due, not to a toxic action of salvarsan, but to a syphilitic meningitis developing from foci of spirochetes in the central nervous system which had not been reached by salvarsan. He gave this form of relapse the name *Neurorecidiv,* or nervous relapse, and considered that the increased frequency of such relapses was due merely to a closer observation and, therefore, more frequent recognition.

The best therapy of the nervous relapse consists in its prophylaxis. This should naturally begin with the treatment of the primary affection. The primary stage offers very little, if any, chance of danger for the later outbreak of the nervous relapse. The views of the most prominent students of syphilis now agree that the primary affection should be treated with great energy and all means at one's disposal, without awaiting the outbreak of secondary symptoms. Numerous cases which received preventive treatment and have for months remained free, not only from any nervous relapse but also from all relapses, while the Wassermann reaction in the blood was constantly negative, give us complete proof that a thorough therapy in the primary stage succeeds in carrying into effect a *therapia sterilisans magna.* Similar demands, perhaps even to a greater degree, are made by the early secondary stage which, as has been seen, is especially dangerous in the nervous relapse. That the salvarsan treatment as heretofore used did not fulfil the demands of an energetic treatment has frequently been said and proved by the experiences of Bayet, Desneux and Dujardin, who made intravenous injections of much larger doses at brief intervals, but were not satisfied with the disappearance of the manifest symptoms, looking on the constant negativism of the Wassermann reaction as the goal of their therapeutic exertions. According to experiences at hand repetitions of intravenous injections of increased doses seem to be without danger, for the sometimes threatening side effects which followed the intravenous injection and were formerly looked on as toxic symptoms have been proved due to some other sources than the effect of salvarsan. It is Wechselmann's merit to have discovered and emphasized that common distilled water contains a quantity of germs, which, it is true, are killed by subsequent sterilization, but the incorporation of these dead bacteria into the organism through intravenous injection causes in it a protein poisoning which is evidenced by vomiting, diarrhea, chills and fever. Wechselmann observed none of these symptoms after he used water freshly distilled just before the injection. Hüfler, Herbsmann, Marshalko and Galewski confirmed Wechselmann's theory. It is therefore absolutely necessary, in order to avoid these secondary effects, to use only water freshly distilled for the intravenous injection.

2. Finger: Wien. klin. Wchnschr., xxiii, 1910.
3. Ehrlich: München. med. Wchnschr., lviii, 1911.

But the elimination of these side-effects is not only of immeasurable importance for the momentary health; it has, according to Ehrlich's[3] view, other no less important consequences. The reaction which frequently followed former intravenous injections caused a reversal in the pharmacodynamic qualities of the salvarsan introduced into the body. Its spirillotropic power decreased, while its organotropic power increased. In this way the therapeutic action on the one hand is lessened, while on the other the organism is more affected and rendered more susceptible to subsequent injections. The avoidance of Ehrlich's so-called "water-error" is, therefore, the *petitio principii* of a rational intravenous salvarsan therapy. The lasting results of the future must show whether this alone is to be employed in increasing doses, or whether it is to be used in combination with mercury preparations as Hoffmann, Neisser, Gennerich, Kromayer, Toulon, Löwenberg and many others have recommended and done. Even before the salvarsan epoch Ehrlich recommended a combination therapy for trypanosome diseases and only lately he thus explained his reasons for this recommendation:

> In order to weaken the parasites as much as possible the treatment with two remedies simultaneously instead of only one, is to be recommended. . . . The combination therapy, however, has another advantage, namely, it prevents the imperviousness of the spirochetes to any one drug. . . . The combination therapy is, at the same time, the transition to the question whether it is possible in any manner to meet the genesis of this imperviousness. The difficulty of deciding this question has been pointed out by experiments on animals. In Minkousky's clinic at Breslau it was observed that a case of malaria tertiana was no longer influenced by quinin, a treatment with small doses of salvarsan after a few weeks caused the fever to vanish. When the fever reappeared it was seen that it might be influenced in the most beneficial manner by quinin. It would therefore seem as if the interpolated salvarsan injections had destroyed the imperviousness of the parasites to quinin. Such observations have been extremely frequent in the therapy of syphilis within the last year. Cases which could no longer be influenced by mercury promptly yielded to it after an intermediary treatment of salvarsan, insufficient for sterilization. We may therefore hope that it will be possible to destroy an existing imperviousness of the parasites to some definite chemical by treatment with another or perhaps to prevent the genesis of such imperviousness by a simultaneous combination treatment.

In practice this combination therapy may naturally be carried out with many variations. Gennerich, for example, gave some calomel injections before the salvarsan injections. Arning proceeds in the following manner: He follows an intravenous injection of 0.4 to 0.6 gm. after six days by an acid intramuscular deposit of 0.6 gm. and then adds an energetic inunction treatment. In this way he succeeds in eliminating the disease in cases in their primary stage, and in preventing nervous relapses for a long time in secondary cases. Fabry's process is to give an intravenous injection of from 0.4 to 0.5 gm. and immediately afterward 0.1 gm. mercuric salicylate intramuscularly. After three days this dose is repeated, then followed by six mercuric salicylate injections with the patient ambulant; so that altogether from 0.8 to 1.0 gm. salvarsan and 0.8 gm. mercuric salicylate are administered. Further study alone can show which method should be chosen. Fabry himself observed no more nervous relapses since the introduction of this therapeutic treatment.

The treatment of the nervous relapse itself must, in like manner, answer the demands for powerful treatment, to which we must add rapidity of interference.

As we have seen, the acute stage of the nervous relapse is often preceded by weeks of prodromal symptoms of the most varied kinds. Headache is the most marked characteristic of this period. A long-continued headache which shows the qualities we have learned to know from the symptomatology demands the closest attention on the part of the physician and requires the immediate inauguration of a specific therapy just as much as the other alarm symptoms—vertigo and roaring in the ears. The admonition of Charcot to "strike quick and hard" must be obeyed and no time wasted in symptomatic treatment. But at this stage of the prodromes it will perhaps be more practical not to carry out the axiom "strike hard," by administering large doses, but to gain an aggregate effect by more frequent intravenous injections of small doses. Sicard, Bizard and Gudman have lately mentioned a case very instructive in this regard:

A man, 39 years old, had a primary affection in February, 1911, which was not treated and was followed in April by a severe papular exanthem. April 15 he was given 0.4 gm. salvarsan by intravenous injection. Two days later, headache, vertigo and roaring in the ears set in, which continued up to May 6 and were thought to be due to syphilis, for which reason the patient on that day was given another intravenous injection of 0.5 gm. salvarsan. From the next day on the headache, vertigo and roaring in the ears increased and six or seven days after the second injection there developed, in about sixty hours, paresis of the acusticus, facialis and oculomotorius and a double neuritis optica with marked disturbance of sight. From May 6 to June 14 the patient remained without treatment, but again entered the hospital on the latter date. The Wassermann reaction in the blood and fluid was strongly positive, the cerebrospinal fluid very cloudy under high pressure; there was extraordinarily marked lymphocytosis; eosinophilous cells very numerous—6 per cent. Spiroehetes could not be found. The treatment was now administered in the following manner: Twice a week, 0.1 gm. salvarsan by intravenous injection; on the intervening days intramuscular injections of 0.02 gm. mercuric benzoate daily, 2 gm. potassium iodid by mouth. The patient thus received in three weeks seven intravenous salvarsan injections, the first five 0.1 gm. each, the last two 0.3 gm., 0.24 mercuric benzoate in twelve injections and 30 gm. potassium iodid. Under the influence of these three medicines the symptoms rapidly retrograded to a slight ptosis and rigidity of both pupils. The cerebrospinal fluid became clear, but still contained very many lymphocytes. The Wassermann reaction in the blood and fluid was still positive.

The authors decided from the course of the disease in this case that whenever there are alarming symptoms, long-continued headache, vertigo and roaring in the ears, small doses of salvarsan administered twice a week for several weeks in connection with mercury and iodin should be substituted for the intensive treatment.

This manner of procedure should be especially used for older persons and such individuals as show any deterioration of the vascular system, alcoholism or nicotin abuse.

The acute nervous relapse, however, demands the greatest measure of rapidity and intensity of treatment. Here any omission of a quickly inaugurated therapy may lead to irreparable changes in so important an organ as the central nervous system. From statistics we see that just those cases in which a quickly inaugurated treatment was neglected showed no amelioration or cure. Affections of the acusticus are especially pressing in their demands, as, according to the unanimous view of otologists, this nerve is especially liable to degenerate rapidly. The treatment regimen of the nervous relapse will have to be governed by the same maxims which we have before explained. Besides the somatic conditions the anamnestic antecedents are of the greatest importance; patients who have in earlier life passed through any brain affection, as for example meningitic phenomena or brain symptoms subsequent to a head trauma, need closer observation. The mode of life and the actions of the patient after the injections are likewise to be regulated most carefully. Naunyn demands that even inunction cures of brain syphilitics should be taken with complete rest in bed. This rule must be observed all the more after salvarsan injections if severe subsequent phenomena, such as Mann lately described, are to be avoided. Not only every alcohol excess but even all use of alcohol is to be strictly forbidden.

In cases with prodromal symptoms and pronounced nervous relapse it is advantageous to use iodin in the form of potassium iodid with the salvarsan and mercury; in fact, if it can be borne the potassium iodid should be administered in not too small and increasing doses, up to 6.8 gm., or even 10 gm. daily. Great attention should also be bestowed by a regulation of the diet on the metabolism and the functions of the liver and kidney.

The efficiency of the modern treatment of lues is attested by hundreds of experienced observers all over the world; since its introduction several modifications in the technic have taken place. Subcutaneous and intramuscular injections have entirely given way to the intravenous method. By some the muscular injections are considered the more efficacious.

In syphilis of the nervous system the administration of salvarsan should be undertaken only with the full knowledge of the possible effects. That great prudence must be exercised was taught by the accidents which occurred during the trial period of the drug in patients with advanced disease of the nervous system. Professor Ehrlich is of the opinion that the former dreaded reactions in late lues of the nervous system are to be referred entirely to faulty technic and the use of old water containing the proteid products of dead organisms. Dreyfuse has treated hundreds of cases of late nerve syphilis without any reaction whatever, except in a single instance in which a spinal puncture had been made just prior to the salvarsan injection. In this patient the puncture was followed by meningeal manifestations lasting several days. When the injection was delayed until such symptoms had subsided, absolutely no by-effects were noted. In syphilis of the brain the possibility of the development of the Herxheimer reaction should always be kept in mind. Although we have no pathologic findings in such cases, the occurrence of convulsions and localized paralyses after the administration of the drug points to an intensification of the inflammatory process about certain focal brain lesions, which in the majority of cases is only transient. In cases in which the remedy is indicated it should be given cautiously in small repeated doses or preceded by several injections of mercury. In this way a gradual effect on the lesion is produced and we avoid a too rapid dissolution with dangerous consequences.

In cases of meningitis or involvement of the cerebrospinal system the patient's susceptibility should be cautiously tested with small doses. Owing to its less irritable properties neosalvarsan lends itself more readily to intramuscular use. For this purpose 0.9 gm. dissolved in about 30 c.c. of water is used. Schreiber has observed edema after its use, but never infiltration or necrosis. He prefers, however, the intravenous method. Two weeks after treatment the Wassermann reaction is

to be taken and, if negative, is to be repeated at monthly intervals. If it becomes positive, an intensive course of mercury is to be inaugurated, followed by two more injections of neosalvarsan. If it is still positive two weeks after the first series of injections, the preceding plan is to be put into immediate effect. Serologic observations for at least a year after the first negative reaction has been obtained should be insisted on and carried out.

Gennerich employs the more intensive combination therapy from the beginning and controls his cases by means of provocative treatment or the biologic reactivation of the Wassermann reaction. Both Gennerich and Miliau found that if patients were injected with 0.3 gm. of the remedy six months or a year after a supposed cure and their blood examined every day thereafter for two weeks a transient reaction was procured if any evidence of the infection was left, while it remained negative if cure was absolute.

The treatment of syphilis consists no longer in the control of the symptoms, but should be undertaken with a full appreciation of the serious nature of the infection. It should be undertaken with a thorough understanding of what is to be accomplished with the remedies employed. The amount of treatment in lues can not be arbitrarily fixed, as the infection varies within wide limits in different individuals. In some its course is so mild that it is possible to eradicate it with a minimum amount of drugs, while in others—and they are in the majority—it persists with treatment increased many fold.

Benario[4] says that the time over which our observations extend is as yet too short, in comparison with that, for example, which Naunyn has used as the basis of the prognostic valuation of his cases. Naunyn in his statistics considers only those patients cured who remain free from relapses for five years after the cerebral affection. Benario records 83 per cent. of recoveries and 8 per cent. ameliorations—together 91 per cent., which far outstrips the numbers given by Naunyn and Nonne. In the majority of his cases a series of months—almost a year—has passed in which the cure lasted, so that the hope exists that it will be permanent. The high percentage of cures is no doubt due to the fact that the affections, as soon as they appeared, were put under immediate and thorough treatment.

Government Hospital for Insane.

---

# THE CUTANEOUS REACTION IN SYPHILIS

## SECOND REPORT

JULIAN MAST WOLFSOHN, M.S., M.D.
Assistant in Neurology, Stanford University Medical Department
SAN FRANCISCO

So uniform have been the published results on the specificity of the luetin reaction (Noguchi) in syphilis that it now remains for the clinicians to accumulate larger numbers of tests on syphilitic cases in order to ascertain wherein the luetin test is of the greatest and also of least value. In a former publication, the importance of the luetin reaction in the later stages of syphilis was demonstrated on a small number of cases. The present report is based on one hundred cases of syphilis, and aside from a few details confirms what has been done previously by myself and others.

4. Benario: Ueber Neurorecidiv, Munich, 1911.

Parallel with this work, there have recently appeared the observations of Fischer and Klausner who have prepared a sodium chlorid solution extract of fresh tissue from the lungs of children dead of pneumonia alba. The technic employed in the luetin reaction was closely followed by these authors. They found not only that their extract was specific for syphilis, but also that it was most useful in the late hereditary and in the tertiary stages; in the primary and secondary stages the reaction was uniformly absent. It is of interest to note that twenty cases of progressive paralysis all reacted negatively. While this preparation may be made more easily than the luetin, the latter has several important advantages, among which may be named:

1. Pure cultures of many separate strains of spirochete are alone employed.

2. The metabolic products only and no tissue extracts are present in the final product.

The same precautions and technic described in my previous paper have been rigidly followed in this series, which comprises 158 cases, 100 of which were syphilitic and 58 were used as controls.

It is only after many inoculations have been done that any reliability as to the technic and interpretations of the reactions can be placed. For example, many patients who were inoculated presented what at first sight appeared as positive reactions, but which on closer inspection were only areas more or less inflamed, but with no infiltration whatever. This type of reaction rapidly subsides and within seventy-two hours has disappeared.

At the Presidio General Hospital in San Francisco, Major Brooks, who has had considerable experience with the luetin reaction, says in an unpublished communication: "Our experience with the luetin at this hospital has been particularly gratifying, especially in the tertiary cases associated with a negative Wassermann reaction."

In general, the types of reaction, that is, the papular, vesicular, pustular and torpid forms, were found to be the same as previously described. To this may be added a fifth, the hemorrhagic variety, which was found in two cases only. Each patient presenting this type of reaction was suffering from myocardial insufficiency primarily due to a syphilitic cardiopathy. The reaction was delayed till the third to the fifth week, when a hemorrhage pustule formed, discharged and dried up, but which recurred four to six weeks later and discharged a hemorrhagic material. In both cases the contents of the pustule were sterile for the ordinary pyogenic organisms. Little pain or swelling was complained of in those cases. The reaction over the control site of injection or *Umstimmung* was present in a fair percentage of cases.

### CONTROL CASES

The fifty-eight patients in the control series included medical, dermatologic and neurologic cases such as senile dementia, gastric ulcer, psoriasis, eczema, etc. Only two of these reacted suggestively. Over both the luetin and control sites slight inflammatory induration was made out at the end of forty-eight hours, which practically had disappeared before ninety-six hours.

This type of reaction, to one inexperienced in reading the tests, might give rise to some uncertainty in their interpretation; but when one has studied a large number of these reactions, no difficulty should be encountered if reading is delayed until the fourth to the sixth day. In these suggestive cases it is well to repeat the tests.

In both the cases cited the patients were reinoculated with the luetin; the reaction proved to be unquestionably negative.

SYPHILITIC CASES

One hundred cases of syphilis were tested in this series including eight congenital, one primary, five secondary, twenty-six tertiary, seventeen latent and forty-three parasyphilitic.

*Congenital Syphilis.*—The ages of the eight patients in this group ranged between 5 months and 5 years. Wassermann reaction in each instance was positive after salvarsan had been administered at least once and in one case twice. The luetin reaction was positive in six patients, or 75 per cent. of the treated cases. One child 5 months of age was inoculated the day the salvarsan was given, and she reacted negatively. A reaction over the site of injection of the control solution (*Umstimmung*) did not appear in any case. The reactions appeared about the third day and subsided quickly without much general or local disturbance.

*Primary Syphilis.*—One case only was tested; the chancre had appeared four days before and *Spirochaetae pallidae* were shown present by the dark-field illumination. Both the Wassermann and the luetin reactions were negative.

*Secondary Syphilis.*—The Wassermann test was positive in the five cases of secondary syphilis tested. Only three of these reacted positively to the luetin. Each of the three patients had been given one dose of salvarsan previously and the cutaneous manifestations had faded to a fair degree. Only one patient reacted violently, but no constitutional symptoms were noted. Thus it appears that treated secondary syphilitics are apt to react to the luetin proportionately to the amount of treatment.

*Tertiary Syphilis.*—Twenty-six cases of tertiary syphilis are included in this series. Twenty-one of these gave positive Wassermann reactions in the blood-serum, and only two of eleven in the cerebrospinal fluid tested. Four of the five patients reacting negatively to the Wassermann were being or had been treated with antiluetic medication for varying periods. This type of case, presenting the outspoken or suspicions syphilitic lesions in which the Wassermann reaction is continuously negative, is one in which the luetin reaction will be of immense value. Major Brooks' opinion that "in this reagent we have a valuable adjunct in making a diagnosis of syphilis" is shared by all who have had experience with Noguchi's luetin. The luetin reaction was positive in twenty-five of the tertiary cases, or 96 per cent. One case giving a triple-plus Wassermann test reacted negatively to the luetin. This case was one of multiple gummata easily recognizable clinically as syphilitic. One would hardly expect such a reaction to be positive in this case if the presence of the luetin reaction is dependent on an allergic state of the individual. Reaction over the control site (*Umstimmung*) was present seventeen times. Two reactions did not become positive until the twelfth day. These delayed reactions were very mild.

*Latent Syphilis.*—The Wassermann test in latent syphilis is, aside from the examination of the cerebrospinal fluid, the only criterion for a positive diagnosis. In a recent article, Craig found that in 778 cases of latent syphilis, only 65.4 per cent. gave positive Wassermann tests. Of the sixteen cases of latent syphilis inoculated, eleven gave positive Wassermann reactions for the blood-serum, and only one out of six for the cerebrospinal fluid.

In striking contrast to this, sixteen, or 100 per cent., reacted positively to the luetin test. Twelve of these showed reactions in the control site (*Umstimmung*). No delayed reactions were noted.

*Parasyphilis.*—The patients in this group numbered forty-three, divided between cardiovascular syphilis (twenty-five) and central nervous system syphilis (eighteen). The latter variety attracted particular attention because every case was receiving intensive arsenical or mercurial treatment at the time of the test. Sixteen, or 64 per cent., of the cardiovascular syphilitics gave positive Wassermann tests. Twenty-two, or 88 per cent., gave positive luetin tests. *Umstimmung* appeared fourteen times and two reactions were delayed till the twentieth day. As a rule a history of syphilis was given in these patients. Fourteen of the eighteen patients with central nervous system syphilis were tabetics in different stages; two had taboparesis and two showed optic atrophy. Positive Wassermann reactions were obtained in twelve, or

TABLE SHOWING RESULT OF WASSERMANN AND LUETIN REACTIONS

| Stage of Syphilis | No. Cases | Wassermann | | | | | Luetin | | | "Umstimmung" at Control Site | | Delayed Reaction, Day |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Blood | | | Cerebrosp. Fl. | | | | | | | |
| | | Positive | | Negative | Positive | Negative | Positive | | Neg. | Pos. | Neg. | |
| | | No. | % | No. | No. | No. | No. | % | No. | No. | No. | |
| Congenital | 8 | 8 | 100 | 0 | * | * | 6 | 75 | 2 | 0 | 8 | 0 |
| Primary | 1 | 0 | 0 | 1 | * | * | 0 | 0 | 1 | 0 | 0 | 0 |
| Secondary | 5 | 5 | 100 | 0 | * | * | 3 | 60 | 2 | 1 | 4 | 0 |
| Tertiary | 26 | 21 | 80 | 5 | 2 | 9 | 25 | 96 | 1 | 17 | 9 | 2-12 |
| Latent | 17 | 11 | 64+ | 6 | 1 | 5 | 17 | 100 | 0 | 12 | 5 | .... |
| Parasyphilis | 43 | .. | ... | .. | .. | .. | .. | ... | .. | .. | .. | .... |
| A. Cardiovascular | 25 | 16 | 64 | 9 | * | * | 22 | 88 | 3 | 14 | 9 | 2-20 |
| B. Central nervous system | 18 | .. | ... | .. | .. | .. | .. | ... | .. | .. | .. | .... |
| Tabes dorsalis | 14 | 8 | 57 | 6 | 3 | 11 | 13 | 92 | 1 | 9 | 5 | 1-6 |
| Taboparesis | 2 | 2 | 100 | 0 | 2 | 0 | 2 | 100 | 0 | 2 | 0 | 0 |
| Optic atrophy | 2 | 2 | 100 | 0 | 0 | 2 | 2 | 100 | 0 | 2 | 0 | 0 |
| Non-syphilitic cases | 58 | 0 | 0 | 48 | 0 | 6 | 0 | 0 | 58 | 0 | 58 | 0 |
| Total | 158 | .. | ... | .. | .. | .. | .. | ... | .. | .. | .. | .... |

* Not done.

66 per cent., for the blood-serum, and 38 per cent. in cerebrospinal fluid. The luetin reaction was present in seventeen cases, or 94 per cent. One outspoken case of tabes dorsalis which had a negative Wassermann had a negative luetin test on two inoculations two months apart. Another tabetic gave a double-plus Wassermann test at the time of the first luetin injection, which was negative. This patient had had three doses of 0.6 gm. salvarsan. Two months later the second luetin inoculation gave a very typically positive reaction. One case of syphilitic myelitis presenting a Brown-Séquard syndrome gave positive Wassermann and violent luetin reactions and cleared up wonderfully under salvarsan.

### ANOMALIES IN THE LUETIN REACTION

Four months after one syphilitic cardiac patient was inoculated there appeared at the site of the luetin injection a large hemorrhagic pustule which discharged its grumous contents and healed up, leaving a pigmented scar. There was no pain or redness attendant on this. No cause was ascribed to this manifestation.

It is also interesting to note that in one dermatologic case, in which syphilis was merely suspected, and which before inoculation gave a negative Wassermann test, after inoculation a positive Wassermann reaction was obtained. This is but an isolated instance, but it raises the question whether or not a positive Wassermann may be caused by the administration of luetin. Further observations on this subject will have to be made before any definite conclusions can be drawn.

### CONSTITUTIONAL REACTIONS

In this series of one hundred cases there were but two general reactions and these merely took the form of swollen axillary lymph-nodes and slight tenderness of the upper arms. The infrequency of constitutional reactions may be explained by the fact that the luetin now employed is much purer and more concentrated than that previously distributed. The dose administered now is but 0.07 c.c. in contrast to the dose of from 0.1 to 0.12 c.c. used formerly.

### CONCLUSIONS

1. The results of these observations, and also those of all previous workers with the luetin test, substantiate the specificity of the luetin reaction for syphilis when properly performed.
2. Intensive antisyphilitic treatment in the later stages of syphilis may produce a negative luetin reaction which, after an interval in which treatment is withdrawn, may become positive.
3. Treated congenital and secondary syphilis is apt to give positive luetin reactions.
4. The luetin reaction is especially valuable in parasyphilis, and tertiary and latent syphilis.
5. In any case of suspected syphilis, whether previously treated or not, a negative luetin reaction must be watched for at least four weeks so as not to overlook a delayed reaction.

I desire to express my sincere thanks to Prof. Llewellys F. Barker of the Johns Hopkins Hospital, who proposed this work to me and aided me in every way in it; also to Prof. R. L. Wilbur of the Stanford University Medical Department, who has placed the material of his clinic at my disposal, and to Dr. Harry Alderson, who has followed the dermatologic cases, and to Dr. H. Noguchi who has been so generous with the luetin.

2502 Fillmore Street.

### BIBLIOGRAPHY

1. Noguchi: A Cutaneous Reaction in Syphilis, Jour. Exper. Med., 1911, xiv, 557.
2. Noguchi: Experimental Research in Syphilis with Especial Reference to Spirochaeta pallida (Treponema pallidum), THE JOURNAL A. M. A., April 20, 1912, 1163.
3. Cohen: Noguchi's Cutaneous Luetin Reaction and its Application in Ophthalmology, Arch. f. Ophth., 1912, xli, 8.
4. Orleman-Robinson: Diagnostic Value of the Noguchi Luctin Reaction in Dermatology, Jour. Cutan. Dis., July, 1912.
5. Wolfsohn: The Cutaneous Reaction of Syphilis, Bull. Johns Hopkins Hosp., 1912, xxiii, 233.
6. Nobl and Fluss: Zur Intrakutanreaktion bei Syphilis, Wien. klin. Wchnschr., 1912, xxv, 475.
7. Kämmerer: Diagnostische Intrakutanreaktion mit Spirochätenextrakt, München. med. Wchnschr., 1912, lix, 1534.
8. Loewenstein: Die Luetinreaktion nach Noguchi bei Augenkrankheiten, Med. Klin., 1913, ix, 410.
9. Rytina: The Luetin Test in the Diagnosis of Syphilis, Med. Record, 1913, lxxxiii, 384.
10. Gradwohl: Luetin Test for Syphilis, Med. Record, 1912, lxxxi, No. 21, 973.
11. Fischer and Klausner: Ein Beitrag zur Kutanreaktion der Syphilis, Wien. klin. Wchnschr., 1913, No. 2, xxvi, 49.

---

## INTRAVENOUS INJECTIONS OF VARIOUS SUBSTANCES IN ANIMAL CANCER*

LEO LOEB, M.D., AND M. S. FLEISHER, M.D.
ST. LOUIS

In continuation of our former work, we carried out a study of the action of two classes of substances on carcinoma in mice. First, we investigated the action of some inorganic substances; and, secondly, of various albuminous substances and also of a carbohydrate and a lipoid. We wish to give here briefly the result of our investigations.

Colloidal copper and colloidal platinum acted in a similar manner; both inhibited the growth of tumors during the time of injection. Colloidal sulphur, if active at all, is certainly not more active than either colloidal copper or platinum. On the other hand, easily ionized salts of copper and of lanthanum are without effect on cancer. Combinations of copper with proteid substances are active.

We also tested one organic substance which, according to Morgenroth, is very active in preventing pneumococcus infection, namely, ethylhydrocuprein. We found it without effect on cancer. Of the more complex organic substances we tested the following: various preparations of casein and of nucleoprotein; furthermore, serum globulin, horse-serum, egg-albumin, Witte's peptone protamin, gelatin, lecithin and starch. Of these various substances only the first two named, casein and nucleoprotein, were effective, while all other substances were entirely inactive. One single intravenous injection of either of these two substances destroyed, in a large number of cases, a great part of a tumor; while repeated intravenous injections prevented the growth of the tumor during the period of injection. After cessation of the injections the growth started again in the majority of cases, either immediately or after a period of latency.

The fact that another entirely different substance, namely, leech extract, also exerted a marked action on tumor growth similar to nucleoprotein and casein, but acting apparently somewhat more strongly than these latter two substances, seemed to us of great interest. We observed in a number of cases, after intravenous injection of leech extract, even a retrogression of the tumors, while one single injection caused a liquefaction and necrosis of a great part of the tumor. Also combinations of nucleoprotein and leech extract were effective.

* From the Department of Pathology of the Barnard Free Skin and Cancer Hospital.

It seems, therefore, that of the various proteins, carbohydrates and lipoids which we tested so far, only the complex phosphorus-containing proteins are active. Of other substances we found leech extract active and among inorganic substances only colloidal metals.

Very young tumors, from two to six days old, do not seem to be as easily influenced as are those from nine to fourteen days old. Only intravenous injection was effective.

We also investigated the action of some of these substances on experimentally produced placentomas in the guinea-pig and rabbit. We found, usually, after one injection of casein, some hemorrhages and subsequent necrosis; colloidal copper seemed, so far, to be without any marked effect on placentomas. With Dr. Leighton we examined the effect of casein and of colloidal copper on wound-healing in white mice. The intravenous injection of these substances had no marked effect on the process of wound-healing.

In order to study still further the action of the substances we injected a series of normal guinea-pigs intravenously with the various solutions which we had tested in the case of tumors, and we found that one single injection of neucleoprotein, casein, and perhaps egg albumin protamin caused frequently multiple necroses of the liver. The necrotic areas were usually situated midway between the portal and central part of the acinus. Other substances, like gelatin and starch, have not so far caused necroses of the liver in our experience. We notice that there is no absolute correspondence between the action of the various substances on tumors and on the liver. In the guinea-pig some substances which are without effect on tumors cause necroses of the liver. Moreover, we have not been able to observe these necroses in the liver of the mouse, even after repeated injections of those substances.

We have been well aware of the fact that many guinea-pigs which have not previously been injected with those substances may show scattered areas of necrosis in various parts of the liver. The necroses which we find after the injection of the substances mentioned above seem, however, to differ in some respects from the necroses found in control guinea-pigs. We are investigating still further the question of how much of the necrosis found is to be attributed to the injection of those substances and how much is due to other causes. At present, therefore, we do not wish to make our statement in regard to the causation of the necroses in the guinea-pig a definite one.

We think it most probable that the various substances which we found active in cancer of the mouse change the capillaries primarily, increasing their permeability to the various constituents of the blood.

We reported previously that the intravenous injections of colloidal copper exerted a definite action on a number of human cancers, provided they had not been growing too rapidly. These injections of colloidal copper, as we also stated before, can, even in the most favorable cases, at present lead only to a partial retrogression of carcinoma in man. It is noteworthy that while some cases are affected favorably, other apparently similar cases are either affected unfavorably, or very little influenced by these injections. In further experiments carried out in conjunction with Drs. H. N. Lyon, C. B. McClurg and W. O. Sweek, we found that intravenous injections of solutions of casein also may exert a certain inhibiting action on the growth of some carcinomas in man; it is, however, less effective than colloidal copper. In one case of sarcoma of the humerus which we treated, injections of colloidal copper followed by injections of casein produced a decided retrogression and partial calcification of the tumor.

Although we have not so far noticed that the casein has any injurious effect in patients, our observations regarding the possible production of necrosis of the liver in the guinea-pig after intravenous injection of various proteins—observations which we first made in the latter part of March—seem to us to make the use of such proteins in the case of human beings inadvisable at present. We expect to publish a more complete report of our observations concerning the effect of colloidal copper and of casein in human cancer in the near future. There we shall discuss in detail the limitations and the various difficulties in this mode of treatment.

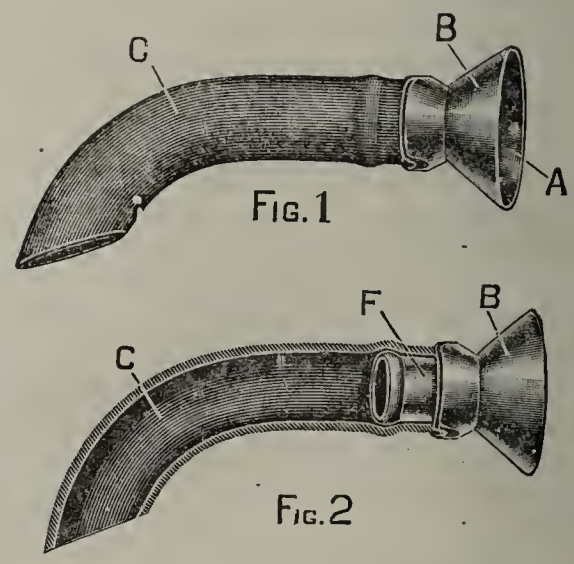
---

## AN ARTIFICIAL AIRWAY FOR SURGICAL ANESTHESIA

ROBERT H. FERGUSON, A.M., M.D., Sc.D.

EAST ORANGE, N. J.

During the past eight months I have used Sir Frederick Hewitt's artificial airway in several anesthesias for which some special method for maintaining a free




Figs. 1 and 2.—Hewitt's artificial airway.

pharyngeal airway was imperative, and also, by way of experiment, in several cases in which the tongue gave no trouble whatever. It is an instrument of great value. The airway as made in England, however, is not adapted for use during anesthesia by open ether, which is the common method of anesthesia in the United States. Therefore I have essentially modified the instrument.

Hewitt's airway (Fig. 1) consists of a somewhat rigid rubber tube, *C*, curved so that when it is in position in the patient's month, it will conform to the upper aspect of the base of the tongue. It has its laryngeal end beveled to correspond with the opening into the larynx. At the proximal end a metal funnel-shaped mouthpiece is attached (Figs. 1 and 2, *B*). This has a deep groove so as to enable it to be clutched by the teeth in order to hold it in position.

Of the two forms of breathing, namely, that through the nose and that through the mouth, the latter is of greater value during anesthesia. The purpose of this airway is to establish and maintain oral respiration in cases in which it does not exist. The tube is introduced into the pharynx and respiration takes place through it.

For use with the closed method or with the semi-open (cone) method of anesthesia, Hewitt's airway is

complete in itself and satisfactory. But for open ether I do not consider the instrument to be safe, at least if it is not in the hands of an expert anesthetist; and even with him an accident may happen.

When the airway is *in situ* and the patient is in a supine position with the occiput touching the table or the head turned a little to one side; or when he is in a semirecumbent posture, the funnel-shaped opening is uppermost. Now, if on account of a desire to watch the operation, the anesthetist should pour some ether onto the gauze of the inhaler, which he should never do; or if, because of carelessness or on account of an imperfectly working dropping device, the ether spurts or runs out of the container onto the gauze, then some ether would possibly find its way through the gauze into the funnel of the airway and thence by the rubber tube into the larynx and the lungs. Or, again, if too few layers of gauze are used on the mask, ether may inadvertently be dropped through the gauze down the airway. My first modification obviates this difficulty.

This new tube (Ferguson's modification of Sir Frederick Hewitt's airway, Figures 3 and 4), differs from its predecessor in having the proximal end of the funnel closed (Fig. 3, *D*) and two openings (one on each side of the truncated cone) for the ingress and egress of

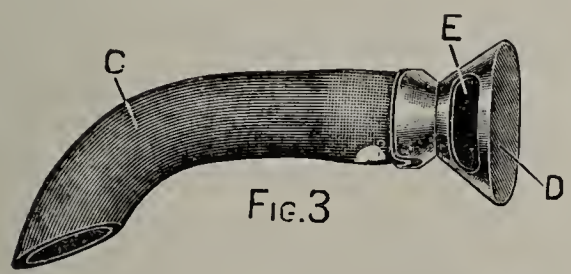


FIG. 3

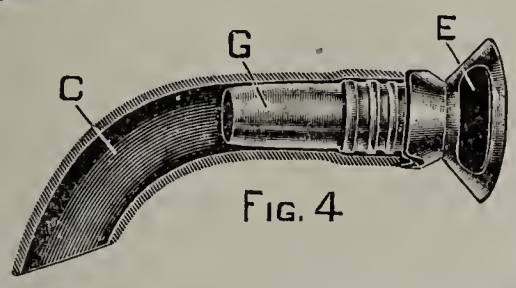


FIG. 4

Figs. 3 and 4.—Ferguson's modification of Hewitt's artificial airway. The detailed description is given in the text.

air (Figs. 3 and 4, *E*). Thus there can be no danger of dropping ether into the top of the funnel, because it is not open, and since the orifices are in the sides which slope toward the lumen of the tube, and therefore away from the source of dropping, it is almost impossible to get any ether into the tube. Should the patient's cheek be resting on the table, any ether that might enter the upper fenestra would pass across the funnel and out of the lower fenestra, so that it is almost impossible for any liquid ether to enter the airway, no matter what the position of the patient may be.

The second difficulty which I have overcome is independent of any particular method of anesthesia. I have had patients whose buccal cavities were so shallow that when the laryngeal end of the airway was in position the airway projected so far beyond the teeth that they could not grasp the metal end. Such patients would bite the rubber tube *C*, the walls of which would yield to the pressure and the tube become closed. I have lengthened and otherwise changed the metal thimble (Fig. 2, *F*), so that it extends well into the rubber tube *C* without enlarging the middle of the tube (Fig. 4, *G*). Consequently a patient's teeth may clutch the rubber tube *C* anywhere between *G* and the groove near *E* (Fig. 4), and the inside metal tube will resist the pressure, and the lumen of the airway remain open.

This airway should be introduced after surgical anesthesia has been reached. If the patient is not well under the anesthetic, the contact of the tube with the pharyngeal wall may incite gagging. To adjust the airway the jaws should be separated, the tongue brought gently forward and the airway passed back into the pharynx with the convex portion of the curved rubber tube nearest the roof of the mouth. The instrument of itself will then assume a proper position. As soon as the epiglottis and the base of the tongue are thus separated from the posterior wall of the pharynx, inspiration and expiration will take place through the airway, and the jaw or the tongue will not require attention.

This airway is of use in any anesthesia in which, through muscular spasm or an improper position of the patient, the epiglottis and the base of the tongue are forced to approximate the pharyngeal wall, thereby embarrassing respiration. It is of especial value for patients with short or thick necks, and for certain very muscular subjects. It is valuable also for a patient in the Trendelenburg posture, for whom the necessary slight extension of the head cannot be maintained. In short, it is useful to do away with respiratory embarrassment due to any form of occlusion of the extrapharyngeal respiratory tract.

Two sizes of the airway are necessary, one for children and one for adults. The scale of the drawings accompanying this article is two-thirds the child's size, which is 3 inches long between parallels, and the rubber tube 9/16 inch outside diameter. The size for adults is 4 inches between parallels, and the rubber tube is ¾ inch outside diameter.

---

# GASTRIC DILATATION

## ITS TREATMENT BY REMOVAL OF GASTRIC CONTENTS, STARVATION, AND REST IN BED

ANDERS FRICK, M.D.
Attending Physician, Augustana Hospital
CHICAGO

We speak of gastric dilatation when we can demonstrate an enlargement of the stomach and an impairment of its motor function. It has been customary to distinguish between a dilatation of the first degree, or relative dilatation, by which we are supposed to understand a dilatation which exists only when the stomach contains food, and a dilatation of the second degree, or absolute dilatation, which remains even when the stomach is empty. This differentiation not only is of very slight practical value, but even becomes actually dangerous to the patient if it conveys to the physician the erroneous idea that a dilatation of the second degree is a sort of durable and stable condition which cannot be changed, and consequently leads either to inactivity on his part or to unnecessary surgical interference. On the contrary, the fact is—and the chief purpose of this paper is to call attention to this fact—that the contractility of the stomach is wonderfully well maintained no matter for how long a time or to what degree it has been dilated.

Our failure to take into consideration this latent contractility of a dilated stomach is no doubt the reason for the non-existence of a satisfactory and universally accepted method of treatment for gastrectasia. But as soon as we realize that the dilated stomach is

capable of contracting to its normal size, our sole aim will naturally be to give it an opportunity to contract and put it at complete rest for that purpose. We may accomplish this without difficulty by evacuating the gastric contents, by starving the patient, and by keeping him in bed.

If the principle of this treatment is accepted as correct, the question of lavage in gastric dilatation will be greatly simplified. As the stomach-tube should be used for the sole purpose of keeping the stomach empty, it would be needless to discuss how often and at what time of the day lavage should be given. After the stomach-tube has once been used to remove the stagnant masses, if necessary in conjunction with lavage, it should not be introduced unless there is reason to suspect that fluid is gathering in the stomach either through a continuous gastric secretion or through regurgitation from the duodenum. The former is a complication of frequent occurrence in chronic gastrectasia, while the latter is often met in acute dilatation of the stomach. To give daily lavage as a routine method is liable to be more harmful than beneficial, as the weight of the fluid would tend to retard the contraction of the stomach.

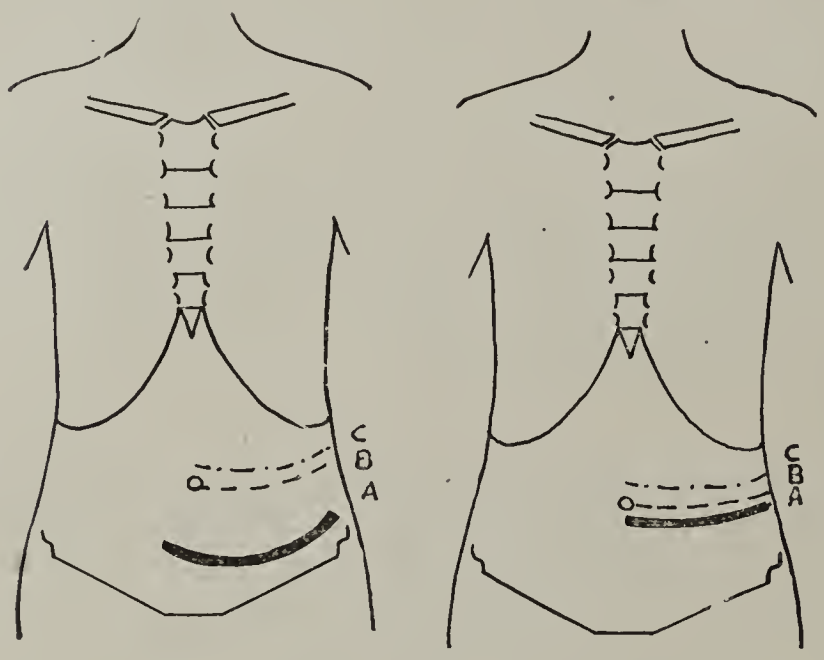



Fig. 1.—Diagram of position of stomach in Case 1; (*A*) greater curvature at time of examination, Oct. 3, 1898; (*B*) point of retraction, Nov. 16, 1898; (*C*) position when patient was discharged April 1, 1899.

Fig. 2.—Diagram of position of stomach in Case 2; (*A*) when first examined, April 30, 1910; (*B*) after treatment, May 23, 1910; (*C*) Aug. 22, 1910, after operation.

For the same reason, the patient should be starved until the stomach has had time to contract. No matter whether a dry, semisolid, or liquid diet is prescribed, any food at all introduced into a dilated stomach will prevent it from contracting. The length of time during which the stomach should be kept free from food depends on the degree and length of time of dilatation. In my experience a period of starvation of from one to ten days has been found sufficient. If perchance the stomach should fail to contract, we can be fairly sure that it is due to adhesions between the stomach and the organs of the lower abdomen or the pelvis, and surgical interference then becomes necessary.

Finally, the patient should be put to bed for two equally important reasons. By keeping the patient in a horizontal position we relieve the dilated stomach from the load of its own weight and, furthermore, by preventing unnecessary expenditure of energy we undoubtedly improve conditions under which the overstretched muscles of the stomach may regain their tonicity. The patient should stay in bed not only during the period of starving but also for some time afterward or until it can be ascertained that the stomach has regained its tonus. This will occur in from a few days to three weeks, according to the seriousness of the case. If the stomach, after having contracted, should again become dilated as soon as ordinary food is given, then we are justified in making a diagnosis of pyloric obstruction, and resort should be had to operative treatment.

## REPORTS OF CASES

The following reports of cases will serve to illustrate how readily a dilated stomach will contract if it is only given an opportunity.

CASE 1.—Gastric ulcer; pyloric stricture; dilatation of stomach.

*History.*—The patient, C. C., was a saloonkeeper, 30 years old. When he was 7 years old, he once vomited a large amount of coagulated blood; he stayed in bed a few days, and soon recovered. He remained well from that time until his 29th year, when he began to suffer after his meals from bloating, eructations and occasional vomiting of food. He also began to lose flesh rapidly and weighed only 86 pounds when I saw him for the first time in October, 1898, a year after the first symptom set in. He then complained that all he ate remained in the stomach and fermented until, after several days, he vomited up large masses in which he could recognize food that he had eaten during the previous days.

*Examination.*—Stomach was found enormously dilated, reaching almost down to pubis, and after the stomach-tube was introduced, about two quarts of undigested food were evacuated. Operation was advised, but refused for the time being. For two weeks the patient was given lavage of the stomach every day and was fed by rectum; but as soon thereafter as he began to take food by mouth, the vomiting began again. He then consented to an operation.

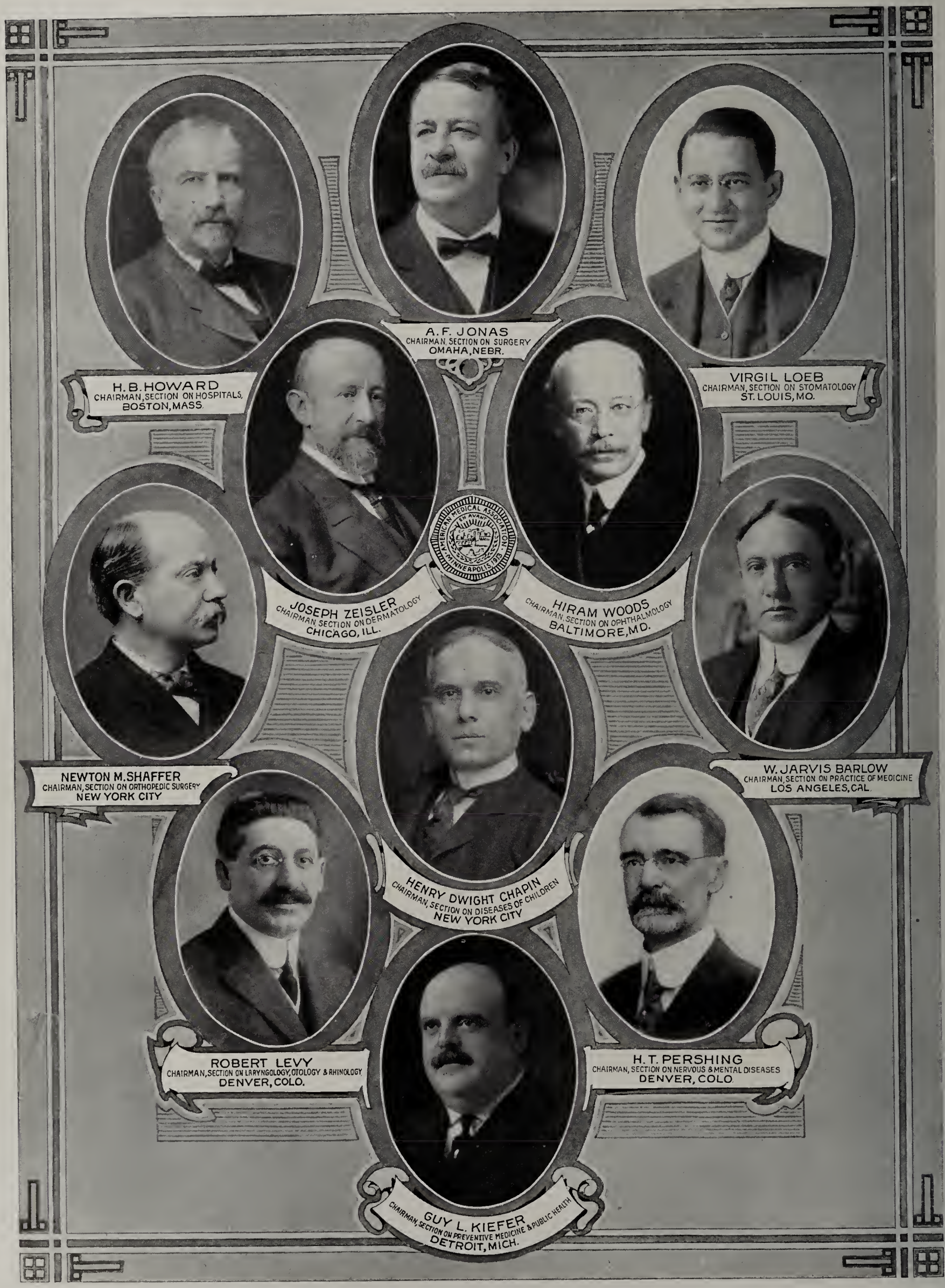
*Operation.*—Was performed by Dr. Fenger, Nov. 16, 1898. The stomach was found to have contracted considerably and barely reached the umbilicus; the pylorus was almost completely obstructed by scar-tissue. A gastro-enterostomy was made.

*Results.*—After half a year he weighed 137 pounds and showed no signs of gastric dilatation. He enjoyed good health for seven years, when he began to have attacks of tetany, although he showed no signs of gastrectasia. He finally died in one of these attacks in May, 1907. Necropsy was not permitted.

CASE 2.—Duodenal ulcer; gastrosuccorrhea (Reichmann's disease); pyloric spasm; dilatation of the stomach.

*History.*—The patient, A. B., laborer, 54 years old, was always well until his 28th year, when he began to have pains in epigastrium half an hour after his meals. They gradually grew more severe and were finally relieved only by vomiting of usually about half a pint of a sour, burning fluid. After two weeks he suddenly became worse, was extremely weak and had tar-colored stools, but did not vomit blood. He remained in bed for ten weeks, and was thereafter well until his 47th year. At that time he began to suffer from periods of constipation and also intense epigastric pains coming on shortly after meals and not relieved until he could vomit food and sour, burning fluid. These periods came on almost every spring and fall for six years and usually lasted a few weeks or a month. Between the attacks he was perfectly well. In the fall of 1909, at the age of 53, he had his usual attack. He did not recover in spite of treatment. All winter he suffered from pains in epigastrium and vomiting and lost 25 pounds in weight.

*Examination.*—When I first saw him, April 30, 1910, at the Augustana Hospital, he weighed 116 pounds; his stomach was dilated and came down about one finger's breadth below the umbilicus; pronounced splashing sounds could be produced and the stomach became at times very hard and rigid during palpation, the rigidity lasting from one-half to one




# SOME OF THE SECTION CHAIRMEN




# SOME OF THE SECTION SECRETARIES

minute. The tube was introduced at once, five hours after his breakfast, which had consisted of two eggs, bread and milk. Six hundred c.c. of a yellowish fluid were evacuated, which had almost no odor and contained some undigested pieces of egg-albumin and no mucus. The total acidity of the fluid was 60 and the free hydrochloric acid was 40.

*Non-Operative Treatment.*—The patient was put to bed and was given moderate doses of bismuth and bicarbonate of soda and saline laxatives, and was fed by rectum. The stomach-tube was thereafter introduced occasionally in the morning to ascertain whether or not the stomach was empty. It was found to contain decreasing amounts of pure gastric juice up to the tenth day of starvation. Two days later milk was given by mouth, and thereafter the patient received gradually increasing amounts of soft food, and during two weeks he gained 16 pounds in weight. The greater curvature was then found at the level of the umbilicus; there was no splashing on palpation of the abdomen, and no retention of food in the stomach. But when the tube was introduced into the stomach, May 26, after a starvation of twelve hours, it was again found to contain 100 c.c. of gastric juice. It was therefore evident that there was again a continuous secretion going on. Under such circumstances operation was advised, as it was thought most likely that the attacks would return as soon as the patient began to work and eat ordinary food. He was again starved for two days in order to stop the gastric secretion.

*Operation.*—Laparotomy was performed by Dr. A. J. Ochsner May 28, 1910. The stomach was greatly hypertrophied but not dilated; the pylorus was thick and rigid and in the duodenum, about half an inch below the pylorus, was found a thickened area of the size of a dime with scar-tissue. Gastro-enterostomy was made. Three months later the patient weighed 157 pounds, having gained 41 pounds since his admission to the hospital. He was feeling well and showed no signs of gastric dilatation, the greater curvature standing one finger's breadth and a half above the umbilicus.

CASE 3.—Pyloric cancer; dilatation of the stomach.

*Patient.*—H. S., clerk, 50 years old, was admitted to the Augustana Hospital Jan. 22, 1909. He had suffered from more or less severe epigastric pains after his meals since the fall of 1907. Lately he had begun to lose flesh rapidly. During the last month he had been able to retain only liquid food; solid food caused severe pains which were not relieved until he had vomited. His complexion had turned yellowish during the last two weeks.

*Examination.*—Patient was cacheetic; the stomach was dilated, and the greater curvature stood about two fingers' breadth below the umbilicus. A hard tumor, the size of a walnut, could be felt above and to the right of the umbilicus; peristaltic waves could be plainly seen proceeding from the left to the right toward the tumor. The stomach-tube was introduced and 480 c.c. of a grayish fluid were evacuated which contained no free hydrochloric acid but gave a strong reaction for lactic acid. A diagnosis of carcinoma was made with pyloric stenosis and secondary dilatation of the stomach. Patient was put to bed and fed by rectum for five days. The stomach had by that time contracted and the greater curvature was standing one finger's breadth above the umbilicus.

*Operation.*—Laparotomy was performed by Dr. A. J. Ochsner. A cancer of the pylorus was found which also involved the head of the pancreas. The stomach was of normal size; its walls were considerably hypertrophied. A gastro-enterostomy was made.

The patient was quite comfortable thereafter for about half a year, but died in the fall of 1909.

## COMMENT

It will be noticed that in these cases, although an operation was found necessary, it was not the gastric dilatation *per se* that formed the indication for surgical interference. In fact, the stomach had contracted in all three cases under the treatment advocated in this paper, but the underlying causes—a stricture of the pylorus, a pyloric spasm and a pyloric cancer, respectively—made a gastro-enterostomy necessary.

CASE 4.—Splanchnoptosis (gastric ulcer?); gastrosuccorrhea; pyloric spasms; dilatation of the stomach.

*History.*—Mrs. H. L., 39 years old, had married at 21 years of age and had borne six children. The delivery of the fifth child, when she was 29, was very difficult and necessitated use of forceps. Thereafter she was very weak, became constipated, and began to have epigastric pains about an hour after dinner and supper. These pains came on in periods and particularly if she worked hard; they were usually relieved, for the time being, by a dose of baking-soda or by taking some food. In August, 1909, the pains became more intense, appeared also in the middle of the night and were then not relieved until she had vomited a pint or two of a very sour, burning fluid. Thereafter she would be free from pains for a few days. She was rapidly losing weight.

*Examination.*—Dec. 1, 1909, she came under my observation. There was evidence of splanchnoptosis. The abdomen was very prominent, the lower edge of the liver was considerably below the costal arch in the mammillary line and there was no tympanism in Traube's space. The stomach had apparently sunk below the ribs and could be seen as a prominence which almost reached the pubis. During the palpation one could

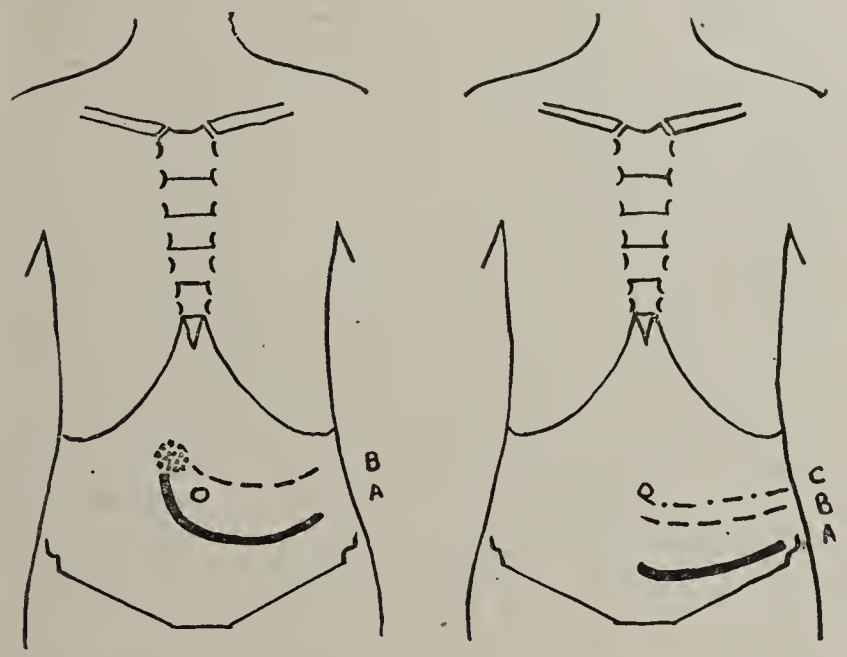



Fig. 3.—Diagram of position of stomach in Case 3; (*A*) greater curvature when first seen Jan. 22, 1910; (*B*) position at the time of operation for cancer, Jan. 27, 1910.

Fig. 4.—Diagram of position of stomach in Case 4; (*A*) of greater curvature, Dec. 1, 1909; (*B*) position after treatment, Dec. 7, 1909; (*C*) point of retraction on discharge.

observe how it contracted at times, peristaltic waves were seen to proceed from left to right, and pronounced splashing sounds could be produced. The next morning, after some dry currants had been given at night, the stomach-tube was introduced and about 100 c.c. of a dirty, grayish fluid were evacuated in which the currants were seen floating around; the total acidity was 98 and the free hydrochloric acid 76.

*Treatment and Results.*—Patient was put to bed, given moderate doses of bismuth and bicarbonate of soda and saline laxatives, and fed by rectum. Abdominal massage was given daily and cold, wet dressings were applied. Three days later the gastric juice was still being secreted; 150 c.c. were evacuated in the morning, the total acidity was 64 and the free hydrochloric acid 31. On the sixth day the stomach was empty and had contracted so that the greater curvature was found the breadth of a finger and a half below the umbilicus. On the tenth day the patient began to take food by mouth, and on the twenty-first day she was allowed to get up. She weighed then 105 pounds. She put on flesh gradually and five months later weighed 135 pounds, had no pains and had normal bowel movements. The stomach was still displaced downward but not dilated; the greater curvature was found

silghtly below the umbilicus and the stomach emptied itself in a normal manner.

Since then she has been practically well and has been able to eat ordinary food. Only a few times, when she has been doing some very strenuous work or eaten some particularly unsuitable food, has she had recurrenee of her epigastrie pains. These rapidly disappeared after a few doses of bismuth and bicarbonate, a laxative, one or two days' rest in bed and starvation.

CASE 5.—Chlorosis; duodenal ulcer; pyloric dilatation of the stomach.

*History.*—Miss E. S., aged 23, came under my observation Sept. 10, 1909. She had always been well up to November, 1908, when she began to have epigastric pains two or three hours after meals. After a few weeks they became more severe and were not relieved until she vomited undigested food. She gradually grew worse and was rapidly losing flesh. In the summer of 1909 she began to vomit not only undigested food, but also once in a while large quantities of sour or bitter fluid.

*Examination.*—The patient was very pale and of a greenish complexion. Her stomach was found dilated, the greater curvature standing two fingers' breadth below the umbilicus, loud splashing was heard on palpation and, after the stomach-tube had been introduced, about 150 c.c. of greenish fluid were

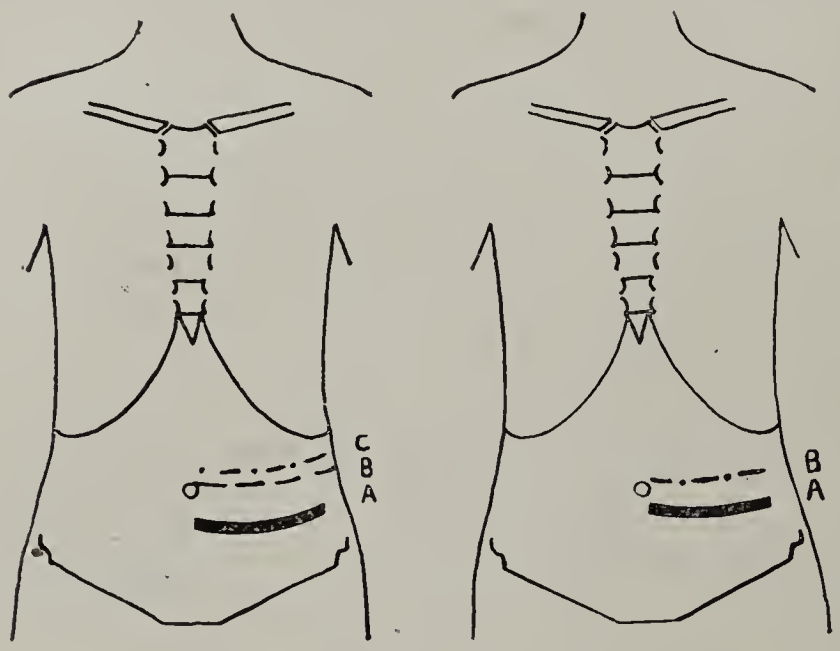



Fig. 5.—Diagram of position of stomach in Case 5; (*A*) dilated stomach, Sept. 10, 1909; (*B*) position after treatment, and (*C*) as found on discharge.

Fig. 6.—Diagram of position of stomach in Case 6; (*A*) lower margin of stomach when seen Aug. 11, 1910, and (*B*) position Aug. 12, 1910, after treatment.

evaeuated, although she had had nothing to eat or drink for the previous eight hours. Two hours before the examination she had vomited "a pailfull" of the same fluid. Analysis showed strong reaetion for free hydrochloric acid. Her weight was 114 pounds. She was put to bed, fed by rectum and given only water and moderate doses of bismuth and bicarbonate by mouth. The pains disappeared immediately. On the morning of the fourth day the stomach was empty and had contracted so that the greater curvature stood above the umbilicus. On the tenth day she was given warm milk; on the fifteenth day she was allowed to get up and thereafter improved rapidly. Nov. 13, 1909, or two months after she came under my treatment, she weighed 140 pounds, could eat anything she liked without discomfort and there were no signs of dilatation.

CASE 6.—Acute gastric catarrh; atonic dilatation of the stomach.

*History.*—Miss K. F., aged 25, had had several attacks of appendieitis after she was 10 years old and was operated on for it when she was 24. During the year following the operation she had two attacks of severe cramp in the epigastrium, both coming on directly after a too heavy meal; both times she had to stay in bed and practically starve for three weeks. When she first came under my observation, Aug. 11, 1910, about a year after her operation, she had been visiting in Chicago for three weeks and had been eating candy and cake every day. After breakfast, August 11, she again had severe cramp in the epigastrium. At 7 p. m., when I saw her, she was still in pain, although she had not eaten anything since breakfast.

*Examination.*—Stomach was dilated, the greater curvature standing one finger's breadth below the umbilicus; pronounced splashing sounds could be produced, and when the tube was introduced a pint of brownish, sour-smelling mass was evacuated, whieh contained a large amount of mucus and no hydrochloric acid; the total acidity was 18. The pains disappeared immediately. The next day the stomach had contracted.

*Treatment.*—She starved for two days and stayed in bed for four days. She was given hydrochloric acid before meals and a gradually increasing diet and soon recovered.

## COMMENT

The cases here described represent two different forms of gastrectasia: The one is due to a pyloric obstruction caused by a stricture, a spasm, or a cancer; the other due to atony of the gastric wall itself caused by overeating and subsequent catarrh or accompanying a gastroptosis. In all of the cases the stomach maintained its contractility no matter whether the dilatation had lasted a day, as in Case 6, or a year, as in Case 1. But it seems that this remarkable contractility of the dilated stomach has not been properly considered by the authors who have contributed to this subject.

Almost from time immemorial, the so-called dry diet has been advocated as the most suitable for a dilated stomach, the food being given in small and frequent meals. As the results were far from satisfactory, Kussmaul's advice in 1867 to use the stomach-tube, based as it was on the report of a cure, was received with enthusiasm, and there is no doubt that the words of Kussmaul have come true:

"It is possible to empty the stomach completely by means of the stomach-pump, and probably, provided the elastic and contractile powers of the stomach are not entirely exhausted, to restore its ability to contract down to its smallest dimension."[1]

It appears, however, that most of Kussmaul's followers overlooked one factor in the treatment of gastrectasia as advocated by him: namely, that the patient should be put to bed. Too great stress was therefore laid on the use of lavage alone and, for many years, a discussion was carried on as to how often and at what time of the day a gastric lavage should be given. Some authors advised that it be given every day, others only every second or third day; some gave it in the evening, while others gave it in the morning, apparently with equally uncertain results.

Another great stride forward in regard to the treatment of gastrectasia was taken when, in 1893, Rössler[2] advised that no food at all be given by mouth for four days, and when von Mehring showed how valuable rectal feeding and particularly rectal injections of normal salt solution are in cases of gastrectasia. In fact, it has been demonstrated that the emaciated organism of a patient suffering with a gastric dilatation eagerly absorbs fluid from the rectum, while no absorption is possible through the gastric mucosa.

1. "Mittelst der Pumpe musste es gelingen den Magen vollständig auszuleeren, ihm vielleicht sogar, wenn seine elastischen und contractilen Kräfte nicht ganz erschöpft waren, die Fähigkeit sich auf seinen kleinsten Umfang zusammenzuziehen wieder zu verschaffen." Kussmaul, Adolf: Ueber die Behandlung der Magenerweiterung durch eine neue Methode mittelst der Magenpumpe, Deutsch. Arch. f. klin. Med., 1869, vi, 455.

2. Rössler: Ueber die Ausschaltung der Ernährung durch den Magen bei Magenerweiterung, Wien. klin. Wchnschr., 1893, vi, 720

But the works of Rössler and von Mehring seem to have passed comparatively unnoticed, and the standard treatment for gastrectasia consisted still in dry diet and daily lavage, although some changes and additions of slight importance were made to it. Rosenheim[3] advised a liquid diet and pointed out that liquids will pass the pylorus more rapidly than solid food, if the patient is in a recumbent position. Cohnheim[4] gave large doses of olive-oil, by which he claimed to be able to remove the cause for gastrectasia in cases in which it is not due to an irreparable pyloric stenosis.

Other therapeutic measures that have been employed are the wearing of a bandage to support a dilated stomach, and the use of electricity applied to the abdomen or directly to the wall of the stomach by means of an intragastric electrode, massage, and different hydrotherapeutic measures. But when we study the reports of cases that are given in support of the recommendations of these various treatments, we will easily find that the results cannot compare with those obtained by Rössler, who also insisted on rest in bed during the starvation.

For instance, Crämer,[5] in order to illustrate the brilliant results that may be had by daily lavage and dry diet, reports the case of a man 33 years old, who had been vomiting sour masses for two weeks only. His stomach reached three fingers' breadth below the navel, there were loud, splashing sounds, and a pint of grayish-brown fluid was evacuated from the stomach in the morning. After five weeks of careful treatment, the stomach still contained from 750 to 1,000 c.c. of fluid in the morning, and only after half a year was it found fairly empty; he had then gained only 10 or 15 pounds in weight. But one of Rössler's patients gained 4.3 kg. in one week, and one of my patients gained 34 pounds in two months.

B. Reed,[6] in a report of cases of gastrectasia treated by diet, massage and intragastric electricity, mentions one case in which the greater curvature was 3 or 4 inches below the umbilicus and stood at the level of the navel only after three months' treatment. In another case the greater curvature was 3½ inches below the umbilicus and it was seven months before it was found an inch above the umbilicus. In a third case of Reed's, in which the greater curvature was 3 or 4 inches below the umbilicus, the treatment seemed to be of no effect during the first three months and only during the fourth month did the patient improve. But in one, Case 4, reported above, the stomach contracted in three days, and in Case 3 in six days.

It seems only fair to conclude, therefore, that the most efficient treatment of gastric dilatation, no matter of what nature or of what degree, is to give the stomach complete rest by putting the patient to bed, evacuating the stomach, and keeping it empty until it has had time to contract. These are the three essential features of the treatment of gastric dilatation. Other therapeutic measures should be considered only as auxiliary. They may, however, be of great value even if they are not strictly necessary, particularly injection of food and salt solution by rectum, hydrotherapeutic measures and massage. Only a few drugs are of value in these cases, and they are especially sodium bicarbonate in cases of hyperchlorhydria or continuous gastric secretion, bismuth in case of catarrh or ulcer, and saline laxatives.

After the stomach has contracted, the chief indication is to feed the patient properly. Almost any kind of wholesome and well prepared food is then tolerated. It may be advisable to prescribe a chiefly vegetarian diet in order to overcome constipation, which always accompanies gastrectasia; but it has been repeatedly observed that a patient of this class when his stomach recovers its normal functions, at the same time also gets rid of a constipation which may have troubled him for years. The patient should also be admonished to avoid everything that might cause a relapse, as, in some cases, the excessive use of tobacco, coffee and alcoholic beverages, which may produce hyperchlorhydria or hypersecretion, pyloric spasm and secondary gastric dilatation; or in other cases, overloading of the stomach, particularly when the patient is tired or depressed, as it may lead to atonic gastric dilatation. Finally, the patient should be told that, at the slightest sign of relapse, he should evacuate his stomach, starve and, if necessary, remain in bed for a day or two, as the stomach will soon return to normal conditions if this treatment is immediately applied.

A discussion of the treatment of gastrectasia would be incomplete if it did not also take into account the treatment of its causes. But I will confine myself to two points in this respect. The one is that the treatment of gastrectasia with removal of gastric contents, starvation and rest in bed is the very best one for three conditions which very frequently are met with as causative factors in gastrectasia, namely, gastric or duodenal ulcer, pyloric spasm, and continuous gastric secretion. The other is that the treatment referred to is the very best means at our disposal to make a definite diagnosis as to the cause of the dilatation, if this cannot be immediately determined. By employing this treatment, we shall be able to decide in a few days whether or not the dilatation is due to adhesions of the greater curvature to other abdominal organs, as the stomach will, of course, fail to contract in such a case; and we shall be able to decide within a few weeks whether the pylorus is patent or not, as, in case of organic pyloric obstruction, the dilatation will return as soon as the patient begins to take ordinary food. In this connection I also want to point out the advantage of using this treatment as a preparatory one before a gastro-enterostomy is made. The advantage is twofold. In the first place we stop a continuous gastric secretion, which, if it is present at the time of the operation, may cause a peptic ulcer in the part of the jejunum that is sewed up to the stomach. Secondly, by giving the stomach an opportunity to contract before the gastro-enterostomy is made, we shall surely have better results from the operation, because the opening is laid between the stomach and the intestine when both are in a state of contraction. If the anastomosis is made between a dilated stomach and a contracted intestine, the operation may prove a failure because of a secondary contraction of the gastric wall and subsequent narrowing of the opening.

3. Rosenheim, F.: Ueber motorische Insufficienz des Magens, Berl. klin. Wchnschr., 1897, xxii, 228, 252.

4. Cohnheim, P.: Weitere Mittheilungen über die Heilwirkung grosser Dosen von Olivenöl bei Erkrankungen des Magens und des Duodenums, Ulcus, Hyperchlorhydrie, spastischen und organischen Pylorus-Stenosen und deren Folgezustände (Gastrektasie), Ztschr. f. klin. Med., 1904, lii, 110.

5. Crämer, F.: Magenerweiterung, motorische Insufficienz und Atonie des Magens, München, 1903, p. 96.

6. Reed, B.: Dilatation of the Stomach, with Reports of Cases Treated by Diet, Massage, and Intragastric Electricity, THE JOURNAL A. M. A., 1898, xxxi, 220.

## CONCLUSIONS

1. A dilated stomach retains its contractility wonderfully well no matter for how long a time or to what degree it has been dilated.

2. The chief purpose of the treatment of a gastric dilatation should be to give the dilated stomach every

possible opportunity to contract. This purpose is best accomplished by removal of gastric contents, starvation and rest in bed.

3. These three therapeutic measures should be considered a distinct method of treating gastric dilatation, indicated as soon as a diagnosis of dilatation has been made, just as the starvation-cure is considered a method of treating gastric ulcer.

4. This method is indicated as a preparatory treatment in those cases of gastric dilatation in which a gastro-enterostomy is to be made on account of the cause which has led to dilatation, as under such treatment the stomach will contract as far as possible and an eventual continuous gastric secretion will cease.

5. Intragastric or extragastric electricity, massage, cold compresses or other hydrotherapeutic measures, abdominal supporters, rectal feeding, strychnin, antiseptic drugs and alkalics are valuable auxiliary remedies which are not strictly necessary for the treatment of gastric dilatation.

1311 LaSalle Avenue.

## SIGNIFICANT SIGNS IN EARLY DIAGNOSIS

H. W. EMSHEIMER, M.D.
Chief Admitting Physician, Mount Sinai Hospital
NEW YORK

The term "significant" is used advisedly. There are certain symptoms or signs which at all times are indicative of pathologic processes. Their theoretical value in diagnosis we would never think of denying; and yet practically it is just this evidence that we are prone to overlook in rendering our decisions, blinded as we often are by an over-abundance of signs, the very multitude of which tends to obscure the clinical picture. Symptoms such as hematemesis, melena and chills, and physical signs like petechiae, localized tenderness and markedly dilated veins always signify abnormal conditions, and cannot under any circumstances be discarded as valueless diagnostic evidence. They mean something—they are what are termed in this paper "significant signs."

I am firmly convinced that many mistakes in diagnosis are avoidable, the errors in these instances being the result of inability to discriminate between salient and unimportant facts. The "snap" diagnostician startles his audience, not by laboriously gathering together all the evidence possible for or against his views, but by rapidly surveying the evidence at hand and recognizing one or two definite signs on which he bases his opinion. Censure this method as we may, we cannot deny that, other things being equal, it is just this keenness of perception, this ability to grasp the essential details, that justly places one physician on a higher plane than another in the eyes of his fellow practitioners.

Early diagnosis especially depends not on the number of symptoms presented by the patient but on a recognition of their relative significance. One definite sign is of far greater value than many uncertain ones and is often all that is necessary to make the proper and final diagnosis. Familiar though this simple rule may be, it is certain that it is not always observed, with the result that differential diagnosis is often rendered difficult. It is to emphasize this essential truth rather than to suggest any new or special signs in diagnosis, and to cite a few cases which should prove instructive *per se*, on account of the diagnostic problems they present, that I have collected from the material seen recently in the admitting department and in the wards of Mount Sinai Hospital, 10 cases illustrating the point in question. They are as follows:

CASE 1.—*Signs of diffuse peritonitis. Tenderness and indefinite mass in right iliac fossa, suggestive of appendicitis. Hematemesis.*[1] *Ruptured gastric ulcer.*

M. I., aged 40. (Service of Dr. Gerster.) Patient's previous history, with the exception of loss of appetite for three weeks preceding admission, had been negative. Three days before admission the patient had experienced sudden pain in the right lower quadrant of the abdomen. No vomiting or other symptoms at onset. Twenty-four hours later patient had vomited a small quantity of brownish-black material. The abdominal pain had progressively increased in severity up to the time of admission.

Physical examination revealed the evidences of diffuse peritonitis. The entire right rectus muscle was held rigid. There was general but no localized tenderness. Rectal examination revealed a sense of resistance high up on the right side. Liver dulness was not diminished in extent. There was distinctly movable flatness in both flanks. Laparotomy showed a perforated gastric ulcer, with free fluid and gas in the peritoneal cavity.

The diagnostic probabilities in this case were two: ruptured appendix, and perforated gastric ulcer with purulent peritonitis. There were several indefinite signs pointing toward the former, and but one definite sign indicating the latter. We could not logically regard hematemesis here as a coincidence; it was a "significant" sign. It meant something and had to be considered of primary importance in making a correct diagnosis.

CASE 2.—*Signs and symptoms of cerebrospinal meningitis. Localized tenderness over lower spine. Osteomyelitis of spine.*

A. W., aged 46. (Service of Dr. Meyer.) For five days prior to admission patient had complained of malaise, fever and pain in the dorsolumbar region of the spine, and in the left side of the chest posteriorly, aggravated by deep breathing. These symptoms had progressively increased to date of admission.

Physical examination revealed a very much prostrated patient, lying with his head slightly retracted and his right hand beneath the lower part of his spine. Accelerated and somewhat irregular respirations, blepharospasm, tache cérébrale, exaggerated knee-jerks, ankle-clonus, a Kernig's sign, a Babinski reflex and a temperature of 104 F. completed the picture of acute meningitis. In addition there was localized, excruciating tenderness over the tenth, eleventh and twelfth dorsal vertebrae, over the base of the left lung and the lowest three left ribs. The following day the spinal pain and tenderness diminished considerably and there appeared a small area of bronchial breathing about the size of a half dollar, with a few fine râles at the left base posteriorly. Lumbar puncture was absolutely negative. From day to day the localized tenderness diminished and the picture became more meningeal. The rigidity of the neck increased, the patient became irrational, and twitchings and spasticity of the lower extremities developed. The pulmonary signs at the left base increased, so that eight days after admission there was evidence of consolidation and of fluid. The latter partly removed by aspiration showed a cell count of 95 per cent. polymorphonuclears, and contained the *Staphylococcus aureus* on culture. The patient's general condition became rapidly worse until his death a few days later. Necropsy revealed an osteomyelitis of the spine with a large abscess which had ruptured into the pleural cavity.

Viewed in the light of the post-mortem findings the picture here was entirely obscured by the disappearance of one sign which if recognized and given its full value would have rendered the diagnosis clear. The marked localized tenderness over the lumbosacral spine present on the day of admission indicated beyond doubt the

1. Salinger, D.: Leube's Special Medical Diagnosis, Appleton & Co., 1907, p. 274.

existence of a pathologic process in that region. It is unfortunate that later developments pointing toward meningitis, primary, or secondary to pulmonary disease, so complicated the clinical picture that this most important sign was either overlooked or discarded as unimportant. It is interesting to note that in a case seen some months later on the service of Dr. Gerster, presenting similar evidences of meningitis with distinct localized tenderness over the fifth lumbar vertebra, the diagnosis of spinal osteomyelitis was made and proved correct. The patient died from a general staphylococcemia.

CASE 3.—*Signs of acute appendicitis with abscess. Distinct ovarian zone of hyperalgesia (Head's zone).*[2] *Twisted ovarian cyst.*

R. M., aged 13. (Service of Dr. Gerster.) Patient's illness began acutely three days before she came to the hospital with sudden pain in both right and left iliac fossae and vomiting. The pain had progressively increased in severity since onset. Patient had never menstruated.

On examination there was found general abdominal rigidity and tenderness in both the right and the left iliac fossae. The patient was prostrated. She had a temperature of 102 and a pulse of 112. Rectal examination revealed a very tender indefinite mass high up in the midline extending somewhat to the left. When tests were made for zones of hyperalgesia, appendicular and ovarian, it was found that there was a distinct area in the left iliac fossa, extending down the inner side of the left thigh for a distance of about three inches and corresponding to a left ovarian zone of hyperalgesia. There was no area of hyperesthesia in the right iliac fossa. The diagnosis of twisted ovarian cyst was made on this ground only and proved correct at operation.

The intelligent cooperation of the patient is essential to establish the existence of a zone of hyperalgesia; if found present it is of considerable diagnostic importance. In two similar cases seen recently this necessary cooperation was not forthcoming, and in both of these cases wrong diagnoses were made.

CASE 4.—*Acute onset, right hypochondriac pain and tenderness. Diagnosis of acute cholecystitis. Red blood-cells in urine. Renal calculi.*

C. M., aged 30. (Patient of Dr. A. A. Berg.) Twelve hours before admission the patient had experienced a sudden lancinating pain in the right hypochondrium and right loin, with vomiting, chill and a rapid rise of temperature to 105.

Pressure in the right hypochondrium elicited considerable tenderness. There were no other symptoms. An examination of the catheterized urine revealed a few red blood-cells. Despite this the diagnosis of acute cholecystitis was made. Three days after admission the pain ceased and the temperature fell to normal. Vaginal examination at that time revealed two small yellowish-white calculi which had spontaneously passed, lying in the right fornix.

Here the diagnosis dèpended entirely on the urinary findings. Despite the presence of red blood-cells in the urine, acute cholecystitis was considered the most probable diagnosis. The finding of the calculi in the vagina proved that positive signs like hematuria cannot be disregarded.

CASE 5.—*Signs of osteomyelitis of rib with cold abscess. Yellow granules in sputum. Actinomycosis.*

C. A., aged 65. (Service of Dr. Manges.) For six months patient had complained of pain in the right chest, increasing weakness, cough and profuse expectoration, the latter occasionally blood-tinged.

Physical examination showed the usual evidences of senility. In addition there were dulness with diminished breath and voice sounds at the base of the right lung posteriorly and a semisolid, gelatinous fluctuating swelling over the lowest two right ribs anteriorly. At the time of the first routine examination by the house physician, a jar containing about 4 ounces of sputum expectorated in a few hours was inspected and found to contain numerous minute yellowish granules. The diagnosis was then made of actinomycosis, and proved correct by microscopic examination of these yellow granules and of the fluid aspirated from the fluctuating swelling over the ribs, both of which showed the ray fungus.

This was not a "snap" diagnosis. It was the result of observation; it showed ability to recognize one positive sign and to use it to the best advantage. Tuberculosis of the lungs and ribs is much more common, and would have been accepted as the original diagnosis by the ordinary observer. But this one sign was sufficient evidence in this instance to establish not only a tentative but also a final diagnosis.

CASE 6.—*Clinical picture of an acute infectious disease. Petechial eruption. Cerebrospinal meningitis.*

J. H., aged 16 months. (Service of Dr. Koplik.) The patient had been ill for five days with mild fever, and three days before admission had had a convulsion. The day before admission there had developed a scanty rash on the face and lower extremities.

Clinically the child appeared to be in the prodromal stage of an infectious disease. The temperature was 103. The child looked sick, with accelerated respirations, a flush on both cheeks, slight dilatation of the alae nasi with each expiration, moderate rigidity of the neck and the suggestion of a strabismus. Kernig and Macewen signs were doubtful. Scattered over the neck and lower extremities were a moderate number of distinct petechiae, fresh in places, in others fading. The diagnosis of acute cerebrospinal meningitis was made. Lumbar puncture revealed turbid fluid filled with meningococci.

This diagnosis was not a brilliant one, and yet if we had failed to take the eruption into consideration a mistake would surely have been possible especially in the absence of an epidemic of meningitis, inasmuch as the general condition of the child warranted the assumption that it was suffering from pneumonia or any one of the infectious diseases. The eruption, however, furnished positive evidence on which a correct verdict was rendered.

CASE 7.—*Signs of broncho-pneumonia. Endocarditis. Petechiæ*[3] *in conjunctiva. Diagnosis of infective endocarditis. Negative blood-culture. Recovery.*

E. M., aged 64. (Service of Dr. Manges.) The patient's illness had begun suddenly six days before admission to the hospital with a chill and vomiting. Since then patient had had fever, headache, chilly sensations and a severe cough.

On examination the patient appeared prostrated. Her respirations were markedly increased in frequency and depth. The temperature was 104. There was a loud systolic murmur at the apex of the heart with evidence of slight increase in the area of cardiac dulness. In the lungs there were several small areas of bronchial breathing and voice with fine subcrepitant râles. In the left conjunctiva was a distinct petechia with white center, resembling minutely the petechiae of bacterial endocarditis. On the strength of this evidence together with the physical signs of endocarditis and a history of chills and fever a diagnosis of infective endocarditis with pulmonary infarcts was made. Two days after admission, the petechia in the conjunctiva had disappeared. The temperature dropped by crisis; the lung signs decreased; and about ten days later the patient was discharged from the hospital, perfectly well. The blood-culture taken on the day of admission was negative The soft cardiac murmur persisted.

2. Elsberg and Neuhof: Diagnostic Value of Cutaneous Hyperalgesia (Head's Zones) in Abdominal Diseases, Am. Jour. Med. Sc., 1908, cxxxvi, 690.

3. Libman: A Study of the Endocardial Lesions of Subacute Bacterial Endocarditis with Particular Reference to Healing and Healed Lesions, with Clinical Notes, Am. Jour. Med. Sc., September, 1912.

Cases of pneumonia with petechiae in the conjunctivae are rare; cases of bacterial endocarditis with petechiae, very common. It was perfectly logical to assume that inasmuch as all the signs and symptoms in this case could be explained on the basis of an infective endocarditis and that in addition there was present a sign practically pathognomonic of the condition, this diagnosis was the correct one. The fact that this was an exception to the general rule does not militate against the rule, but simply emphasizes the possibility of error and puts us on our guard when we come in contact with similar cases.

CASE 8.—*Acute onset. "Typhoid state." Violent headache.*

S. E., aged 25. (Service of Dr. Meyer.) The patient gave a history, dating back eight days, of acute onset with fever, mild abdominal cramps, increasing prostration and very violent headaches unaffected by any form of medication.

On admission the patient's temperature was 102, the pulse 100. He was in a distinctly "typhoid state" and markedly prostrated. His right hand was held almost constantly on his forehead, evidencing intense frontal headache. There was no eruption on the body; no enlarged spleen. There were no Kernig, Babinski or Oppenheim signs, and no paralyses. Within thirty-six hours the temperature had dropped almost to normal, and the headache had disappeared; three days after admission the patient was practically well. The blood-count had been normal; the Widal negative.

Here at least three possibilities might have been considered; a meningeal or cerebral condition, rendered improbable by the absence of vomiting and localizing symptoms; typhoid, doubtful on account of the acute onset, and Brill's disease[5] or typhus, rendered most probable on account of the very intense headache characteristic of this condition. There is probably no other disease, with the possible exception of one of cerebral origin, that is the cause of so intense headaches as Brill's disease. We have no actual proof that the patient was suffering from this disease, but the acute onset, the marked headache, the prostration, the critical drop of temperature on the eleventh day and the uneventful recovery indicated beyond reasonable doubt that he was admitted convalescing from typhus. In this case one significant symptom, intense headache, made the diagnosis.

CASE 9.—*Radiating pains in lower extremities. Picture of sepsis or infectious myelitis. Small tumor of breast. Metastatic spinal and cerebral carcinosis.*

L. K., aged 48. (Service of Dr. Meyer.) The patient had been ill for seven weeks, at first with bitemporal headache, radiating pains down lower extremities, slight fever and increasing weakness.

On examination the patient looked extremely septic; at times she appeared somewhat irrational. The temperature was 103, the pulse 130. There were many pustules scattered over the forehead and body. The heart, lungs and abdomen were normal. There was some tenderness over the entire right femur. The knee-jerks were somewhat exaggerated. The picture was that of an extreme sepsis, beginning possibly as an osteomyelitis of the right femur, or of a myelitis following some infectious disease. On the next day, routine examination revealed in the left breast a small, hard, nodular tumor, undoubtedly carcinoma, about the size of a small lemon. The spinal and cerebral symptoms increased very rapidly until the patient's death about a week later.

No necropsy was obtainable, but it was the consensus of opinion that the patient died from a metastatic carcinoma. In this instance the diagnosis was of course impossible until the discovery of the breast tumor. If we had regarded this finding as merely incidental we would have been unable to make the proper diagnosis; but when, instead of discarding this one positive sign, we endeavored to make it "fit into" the clinical picture, it was not difficult to explain all the other phenomena.

CASE 10.—*Symptoms of chronic nephritis with acute exacerbation. Hematuria. Exudate on throat. Tuberculosis of throat and urinary tract.*

H. W., aged 28. (Service of Dr. Rudisch.) The patient had been in the hospital ten months before this second admission, suffering from symptoms of chronic nephritis, and was discharged improved from what was thought to be an acute attack of this disease. On the second admission the patient complained of pain in the right loin, slight cough, occasional sweats, headache, dizziness, loss of weight and mild intermittent hematuria for four months. For four weeks he had had sore throat and dysphagia.

Examination revealed an emaciated, anemic individual, with slight tenderness in the right costo-vertebral angle and a few indefinite lung signs. The pharynx was covered with a thin, dirty-gray exudate.

A diagnosis of acute exacerbation of a chronic nephritis was made, on the basis of the former diagnosis. The throat condition was considered to be a streptococcus infection or a Vincent's angina purely incidental and dependent on the patient's weakened condition. If we had looked further we would have found that besides the exudate in the throat there were many discrete yellowish-gray papules resembling small tubercles scattered over the soft palate, fauces, uvula and tonsils. A spread from these papules later showed tubercle bacilli, which were also found in the sputum and in the urine.

It is possible, of course, for several morbid processes to be operative at the same time; still in general it is more reasonable to assume that one underlying cause is responsible for all of the patient's symptoms. If in this case we had given one significant sign the importance it deserved in the differential diagnosis, instead of discarding it as worthless, we would have been spared the humiliation of having our diagnosis entirely overthrown by further observations.

Many more cases could be cited, but these suffice to illustrate the points I have endeavored to prove, namely, that "significant" signs, that is, evidences of actual abnormal processes, are of the utmost diagnostic importance; and that one of these "significant" signs is of much more value than a multitude of indefinite ones. To recognize these signs and to know their importance as weighed against others perhaps more numerous and more striking, should be our aim so that early diagnosis in the future will become less and less a complicated problem.

I take this opportunity to thank the superintendent and attending physicians and surgeons of Mount Sinai Hospital for permission to make use of the hospital records in the preparation of this article.

605 West One Hundred and Thirty-Seventh Street.

4. Anderson and Goldberger: Relations of So-Called Brill's Disease to Typhus Fever. Pub. Health Rep., xxvii, No. 9. Reprint 74.
5. Brill: An Acute Infectious Disease of Unknown Origin, Am. Jour. Med. Sc., April, 1910.

**Maternal Ignorance and Infant Death-Rate.**—One of the most attractive fields of sanitary endeavor, from a financial standpoint, is the prevention of infant mortality. It has now been demonstrated beyond a doubt that the chief cause of a high infant death-rate is the ignorance of the mothers. It has also been shown that this ignorance can be overcome by visiting nurses, baby consultations and the like. Wherever these are used intelligently the death-rate falls. In Providence it appears that about 200 babies a year have been saved in this way. It costs about $6,000 a year to do it, or $30 per baby.—Chas. V. Chapin, *Am. Jour. Pub. Health.*

# THE SIGNIFICANCE OF OCULAR FINDINGS IN ESTIMATING LONGEVITY*

WILLIAM CAMPBELL POSEY, M.D.

PHILADELPHIA

Since many of the graver morbid processes of the body are attended at some time or other in their course with changes within the eye, it seems extraordinary that life-insurance examiners do not avail themselves oftener of the aid which ophthalmic science offers them.

There is scarcely an organic disease of the nervous system without ocular complications and the earliest signs of circulatory disturbance can frequently be unmasked by the ophthalmoscope. The proper recognition of the initial pupillary changes in tabes and paresis and of a commencing sclerosis of the retinal vessels in Bright's disease might often serve to warn the examiner and to recommend the rejection of an applicant for insurance who manifested no other signs of ill health.

It would be beyond the scope of this paper to attempt an epitome of the ocular symptoms to which disease of the general system may give rise, so I will confine myself to the elucidation of the problem formulated in the questions: "Do any of the morbid processes within the eye, symptomatic of serious disease elsewhere in the body, enable one to draw any conclusions regarding the degree to which that disease may have advanced? And is it possible to form any estimate from them of the probable duration of the life of the person in whom they occur?"

To determine the existence of a disease is one thing; to draw deductions from one's ophthalmic findings regarding the longevity of the individual in whom they occur is another. It is fairly safe to assert, however, that in general, when morbid processes which originate outside the eye produce marked ocular disturbance, the systemic disease causing the lesions must have reached a stage in its development which seriously threatens the health of the individual and renders his tenure of life uncertain. It is not too much for an ophthalmologist to assert, perhaps, that the discovery of hemorrhages in the retina, when not of traumatic origin, in any individual past adolescence, should always be regarded as indicating a serious state of health in the possessor. Most frequently, of course, such hemorrhages are symptomatic of nephritis and, I shall at once, without further preamble, proceed with a description of the ophthalmoscopic findings in that disease.

Among the symptoms of the disease which bears his name, Bright, in 1836, included a disturbance of vision which may often be present before other manifestations of the disease appear. To Heymann, however, in 1856, belongs the honor of describing the first case of albuminuria of the retina in the living subject; though Türck, in 1850, and Virchow, in 1856, had noted anatomic changes in the retinas of eyes in those affected with nephritis. It was not until 1859 that the recognition of the retinitis became wide-spread through the graphic illustrated description of the ophthalmoscopic findings given by Liebreich.

As is well known, albuminuric retinitis occurs most frequently in genuine cases of contracted kidney; that is, in cases in which there is profuse secretion, low specific gravity and little or no albuminuria. In such cases there is usually but little sediment in the urine, with occasional cylindrical casts. As this process often goes on for many years, without apparently affecting the general health, it frequently remains undiscovered. It is in this class of cases that the ophthalmoscopic findings are of paramount importance in revealing a general vascular sclerosis by the discovery of such changes in the retinal vessels.

Retinal changes may also occur in diffuse chronic parenchymatous nephritis, in the so-called large white kidneys, and also in the secondary contracted kidney, which is a sequence of the large white kidney, though not so frequently as in contracted kidney. Finally, several cases are well authenticated in which amyloid degeneration of the kidneys was accompanied by the retinal changes under consideration. Mention need not be made at this time of the not infrequent changes in the retina which accompany the acute nephritis of scarlet fever and pregnancy, or of those which occur in inflammatory conditions of the kidneys secondary to intermittent fever, chronic lead-poisoning, etc.

While it is generally supposed that retinitis appears in and indicates, as a rule; a nephritis of long standing, some authorities believe in the existence of a prealbuminuric retinitis. Such instances have been described by Vance, Hirschberg, Abadie, Gaud and Eyre. These observations, however, as Groenouw has pointed out, can hardly be taken in the sense that the retinal changes precede the nephritis, for this would presuppose both conditions as due to a general derangement, such as a general disease of the vascular system. It is much more likely that the findings indicate that a retinitis may occur with an existing affection of the kidneys before albumin is found in the urine; that is to say, the kidneys may be diseased for some time without the presence of albuminuria, as, for example, has been shown by Litten to be the case in amyloid kidneys. According to Groenouw, a second and more probable explanation of these cases is that albuminuria may sometimes be lacking in contracted kidneys, and if at this stage the patient consults a physician, it is very easy for the latter to mistake the intermittent non-albuminuric condition for a prealbuminuric stage. Finally, it must be remembered that the ophthalmoscopic picture of retinitis albuminuria is in no way characteristic and a similar form of retinitis may occur from other conditions, notably in cerebellar tumor.

In consequence of the importance of this subject, I do not hesitate to quote at length the exhaustive figures which Groenouw has collected to illustrate the frequency with which retinal changes occur in nephritis. Thus retinal changes were found by the following various authors:

Wagner in 6 per cent. of 157 cases.
Frerichs in 15 per cent. of 41 cases.
Lecorché in 22 per cent. of 286 cases.
Eales in 28 per cent. of 100 cases of chronic kidney disease.
Miles Miley in 31 per cent. of 164 cases of acute and chronic kidney disease.
Galezowski in 31 per cent. of 154 cases.

In thirty-three cases of chronic parenchymatous nephritis, Litten found six cases of retinitis albuminurica, making a total of 209 cases of disease of the retina in 939 cases of disease of the kidneys, or 22.4 per cent.

The average age of patients with retinitis albuminurica has been found to be over 40 years, varying, according to Possanner, between 6 and 70 years; and according to Bull between 5 and 78 years. Among forty-five patients Miley found only two below 20 years of age; the greatest number (sixteen) affected were between 40 and 50 years. Schlesinger's figures are from 12½ to 70 years, among forty-two patients. Only one was less than 20 years old, eleven were between 20 and 30, eight

* Read by invitation before the Philadelphia Medical Examiners Association, March 4, 1913.

between 30 and 40, and twenty-two above 40 years of age. Lawson and Sutherland saw a girl of 12, and Anderson a child of 9 years of age, with retinitis albuminurica. I have studied the retinal changes in a boy of 12 years.

On the whole, the prognostic import of retinitis albuminurica is unfavorable and by far the greater number of persons so affected die before a retrogression of the retinal changes takes place. The prognosis for life is usually hopeless in cases of chronic nephritis, less so in acute, and comparatively favorable in renal disease complicating pregnancy.

In view of its importance, I shall also quote at length the statistics collected by Groenouw regarding the duration of life after the first retinal changes were noticed. These are the following:

Bull reported 103 cases; 86 of the patients died; 57 within the first year, 18 in the second year, 6 in the third year, 4 in the fourth year, and one in the sixth year of observation, making 87 per cent. in the first two years. Miles Miley, in 164 patients with acute or chronic kidney disease, found 105 with healthy eyes and 51 with retinitis albuminurica (the other 8 had affections of the eyes which are not pertinent to our subject). Twenty-seven per cent. of the former and 53 per cent. of the latter died. The mortality shown among those having retinitis albuminurica was twice as great as among patients with healthy eyes. Most of the patients lived about twelve months after the first indications of retinal changes, two lived nearly fourteen months, and one about eighteen months. In those cases in which the onset of the retinal disturbance could be definitely established, the average duration of life did not exceed six months.

According to Ridley, the average duration of life after the onset of retinitis is about one and one-half years. Snell reports that among 103 patients, 57 died within the first year and 12 within the second year after the appearance of the disease, making 67 per cent. within the first two years.

Among 67,000 cases of diseases of the eye, Possanner found 131 (0.2 per cent.) with retinitis albuminurica. Details were obtainable in 72 cases, 39 in private practice and 33 in his clinical service. Among the 39 private patients of Professor Haab, 23 (59 per cent.) died within two years after the onset of the retinal disease; 62 per cent. of these were men and 54 women. Among those surviving, from two and one-fourth to six years had elapsed for the men and from three and one-half to eleven years for the women since the beginning of the eye trouble. Among 33 patients in the clinic of the University of Zurich, all of the men died within the first two years, as against only 68 per cent. of the women. Four of these were still living at the time Haab made his report, one of them six years after the onset of the disease.

Trousseau was able to obtain data concerning 45 patients having retinitis albuminurica, and of these 3 lived more than four years; 4 beyond three years, and 10 more than two years; thus 28, 62 per cent., died within two years; among these 8 within the first year and 3 during the first six months. One woman aged 24 years died one month after the onset of the retinal disease. Haehnle found that among 98 cases of retinitis albuminurica 56 per cent. died within the first year, 68.4 per cent. in the first two years and 14.3 per cent. after two to nine years. Seventeen patients, 17.3 per cent., were still living at the time the statistics were tabulated; 11 of them two years, and the others from three to six years after the onset of the disease.

According to Groenouw, the prognosis is much aggravated by a detachment of the retina, patients with this complication usually dying very soon. It may be stated in general terms, therefore, that only about one-third of the patients with retinitis albuminurica live more than two years after the appearance of the disturbance; and ophthalmic changes must always be considered an indication of an advanced stage in the progress of the renal disease. As de Schweinitz[1] has well said, however, while the prognosis of albuminuric retinitis will always remain exceedingly grave, it is not unlikely that statistics gathered some years hence will show an improvement, as far as the duration of life is concerned, as compared with the figures cited above. A carefully regulated manner of living, with the best of medical care, may prolong life for many years. I have in mind, at this time, the case of a man of advanced years who is still in fair health, in whom albuminuria and other evidence of renal disease have been present for at least fifteen years.

## DIABETES

Of almost equal value to the examiner is the recognition of the ocular symptoms of diabetes. These are many and varied, nearly all the tissues of the eye being affected by glycosuria. The most important, however, are the changes which occur in the ciliary muscle, in the lens and in the retina; for it happens, not infrequently, that the ophthalmologist is the first to direct attention to the existence of diabetes, by the discovery of the more or less characteristic disturbances which glycosuria occasions in these structures.

Authorities differ considerably regarding the frequency of ocular complications in diabetes. Seeger asserts, for example, that they manifest themselves at some period during the progress of the disease in at least two-thirds of all cases. Perhaps the most trustworthy statistics are those of Hirschberg, who found diabetes present in from 1 to 2 per cent. in all of his private cases, while the percentage was much smaller in his hospital practice.

Galezowski found the earliest age at which such diseases of the eye occur to be 9, 14 and 23 years; 27 per cent. were between 50 and 60 years old, and 35 per cent. between 60 and 70 years.

Males are much more likely to be affected; Galezowski's figures indicating 65 per cent. males, Seeger 71 per cent. (99 in 140 diabetics) and Schmidt-Rimpler 79 per cent. (118 men among 150 cases of diabetes).

The prognosis *quoad vitam* in diabetic diseases of the eye is not affected in the same manner as in retinitis albuminurica. It may be said in general terms to be unfavorable in degenerative diseases, less so in hemorrhages, of the retina, while the formation of cataracts cannot be considered as evidence of the rapid progress of the disease.

Opinions differ, however, in regard to the vital prognosis, for while Hirschberg and Schirmer consider the appearance of eye diseases among diabetics as unfavorable, Schmidt-Rimpler is less pessimistic, for he found that though 19 out of 44 diabetics had died within two years after the appearance of the eye trouble, one patient with retinitis was still living after three and one-fourth years, one with chorioretinitis after four years and one with neuritis after five years. One woman of 63 and a man of 66 with cataract were still living after seven years, and a girl, who at 10 years of age developed a

1. Tyson's Text-Book on Bright's Disease, Ed. 2, p. 210.

diabetic opacity of the crystalline lens, was living nineteen years after the appearance of the eye disease.

It has been my experience, that with proper care, diabetics may live for many years after the development of ocular lesions, and that a proper dietary and regimen not only improve the general condition and lengthen life, but also exert a most favorable influence on the ocular disease, even in some instances causing less opacification of the lens, for diabetic cataract is the one form of cataract which yields in any degree to non-operative measures.

### HEART-DISEASE

The ophthalmoscope may also give evidence of the existence of heart-disease; thus in aortic insufficiency there is almost constantly a pulsation of the retinal arteries, synchronous with the radial pulse, and alternating with enlargement of the veins. In fatty heart there is not infrequently extensive disease of the vessels, which may give rise to ocular hemorrhages. It may be of interest to mention, in this connection, that ophthalmologists have been unable to recognize the connection between fatty heart and arcus senilis, all forms of heart-disease being absent in those very cases in which arcus senilis develops at a prematurely early age. Cardiac disease may also manifest itself within the eye in the form of an embolism or thrombosis of the retinal vessels. In aneurysm of the aorta or innominata, vasomotor and oculopupillary sympathetic symptoms are often found on the corresponding side. Initial irritative symptoms give place later to paralytic symptoms.

Individuals on the far side of 65 years, who have had repeated small hemorrhages in the conjunctiva and retina usually die within a few years from cerebral apoplexy. Hasket Derby, for example, followed the life history of thirty-one such patients between the ages of 43 and 83 years and found that almost half died within two years of his first observation and most of them rather suddenly from heart-disease or apoplexy. Raehlman found changes in the retinal vessels in nearly half of all patients with general arterial sclerosis.

Lead, tobacco and alcohol often reveal their toxicity in the fundus oculi, and syphilis can affect almost all of the structures of the eye. Tuberculosis also has its ocular manifestations.

It would require a far greater knowledge of neurology and psychiatry than I possess to prognosticate how long a man may live after the pathologic processes which induce paresis are sufficiently well established to induce ocular changes; yet it would seem that the most sanguine examiner would hesitate to recommend a man with this disease as a safe risk. In this insidious disease, in which initial symptoms are usually those of a purely functional disturbance, the recognition of the earliest physical signs should be of the greatest importance. These are often ocular and if recognized and appreciated should be of the greatest aid in diagnosis. It is at this time that failing vision is complained of, and while in some instances this may be dependent on atrophic changes already present in the nerve, in most instances it will be found to be in the nature of a slight degree of amblyopia, which on careful functional testing will be found to be of psychic origin; as Dercum[2] has pointed out, a kind of visual hyperesthesia quite in keeping with the general psychic disturbance which is setting in, in conjunction also with the lessening of general cutaneous sensibility which is always noted sooner or later. Even at this time, pupillary irregularity may be noted. Difference in the size of the pupils, one should remember, may occur physiologically, but in such cases this difference is usually slight. To quote Dercum:[2]

> If, however, a difference in the size of the pupils be noted and this difference is associated with a sluggishness to light reaction, or if the pupils, being equal, react slightly differently to light, the finding is suggestive with regard to paresis in its incipiency. In the early stages of paresis, indeed, a difference in the promptness of the response to light reaction between the right and left pupils is almost the rule. Likewise an impairment of the consensual light reaction may be the first symptom of a pupillary disorder in paresis, and it is of the same value as a difference of reaction of the two pupils.

Aside from the bearing ocular findings have on the special question of life expectation, it would seem to me that examiners should give more consideration to the degree of visual acuity possessed by applicants for insurance, for even partial loss of sight may disqualify a man from earning his livelihood, thereby affecting his insurability, by reason of the financial risk of his not being able to pay his premiums. It surely would be advantageous to the insurance officers to be informed that when the company is asked to insure the life of Mr. X., for example, that though in good health otherwise, the examiner found commencing cataracts or evidence of glaucoma or optic atrophy, conditions not necessarily affecting longevity, but all progressive ocular lesions, which in all likelihood would so interfere with vision that within ten years or even less, his earning capacity would be greatly jeopardized.

Defective visual acuity or ability not infrequently relegates men to a position far below that which their natural attainments would have won for them. In this connection I may mention the case of a brilliant railway engineer who to all appearance should soon take much higher rank with its equivalently increased pay, but who will doubtless be denied promotion on account of poor vision consequent on congenital cataracts. The examiner and the agent who would recommend this man for a large policy in anticipation of increased earning power, would therefore be in error. There are, of course, some men whose genius transcends all physical limitations. Insurance companies, however, doubtless desire to be guided in their consideration of the case of the average man.

---

## SEXUAL NEURASTHENIA IN MEN

ALBERT J. UNDERHILL, M.D.
BALTIMORE

The relationship existing between the reflex genital centers in the spinal cord and the psychic centers in the brain is such that the changes, physiologic or morbid, in the one are inevitably reflected in the other. This mutual dependence is indicated on the one hand by the influence on the reproductive organs of thoughts and images which may originate in the cortex or are brought to light from memories, and on the other hand by sexual thoughts or dreams which are aroused by the stimuli incited by the accumulation of secretions in the reproductive glands or by other peripheral stimulation.

If the coordination or poise which exists between the local nervous structures and those with which they are connected by sensory reflex tracts in the cortex is disturbed, certain alterations in the mental attitude are perceived which in those predisposed result in the condition known as sexual neurasthenia. These alterations

2. Dercum: In Posey and Spiller's "The Eye and the Nervous System," p. 479.

may come about as the result of morbid changes in the genito-urinary tract or of conditions in the cortex cerebri and sympathetic nervous system, thus dividing the cases into two distinct groups.

The first group (which forms the subject of this article) includes instances of primary sexual neurasthenia or those which arise from conditions in the organs of reproduction.

The second group is made up of cases resulting from conditions in the cortex and sympathetic nervous system. They form primarily the picture of general neurasthenia in which the sexual element appears as one of the subordinate or later features in that disease. This group of cases concerns the neurologist only. In instances, however, where a lesion can be demonstrated in the reproductive tract, as is sometimes the case, it should be eradicated, as one which would otherwise produce no symptoms will, in the irritable condition of the sympathetic nerves present in general neurasthenia, assert itself. I shall treat here of cases coming under the first group, those which arise from local conditions in the reproductive organs.

These organs have been shown by Lovén, Goltz, Eckhard and others to be richly supplied with peripheral nerve ganglia which are connected with the spinal centers and with the centers in the cortex through reflex and direct tracts; these in turn being connected with the centers controlling the organs of special sense and with the different paths of association.

When it is considered that they are so well supplied with sensory and motor nerves, and that the changes, secretory, psychic, vascular and nervous, which accompany the physiology of these parts, are so complex and completely under nervous control, it is not surprising that we find the nervous factor playing an important rôle in the disorders of this region. When it is realized in addition that these are the agencies for the consummation of the strongest of human instincts, we begin to comprehend the close relationship between the psychic and physical which these organs, both in health and disease, serve especially to emphasize, and how abnormalities, either fancied or real, may be reflected not only in the mind but in the very features even of the individual concerned.

For instance, a man came into the outpatient department of the hospital a short time since who in answer to my query stated that he had noticed a few days previously that one of his testicles hung lower than the other. Since his "discovery" he had been sexually impotent, although he had been perfectly potent prior to that time. While speaking his chin had a marked tremor, his teeth chattered, beads of perspiration stood on his forehead and he was a picture of apprehension. On examination the skin of the penis was found crinkled into fine folds, as was also the mucous membrane of the glans. The penis had a withered look and the appearance of trying to draw itself into the pelvic cavity. The scrotum was very lax. The patient gave no history of venereal disease, but the mucous membrane of the anterior and posterior urethrae was blanched and the verumontanum was shrunken, seemingly bloodless, and almost insensitive to the touch of the endoscopic tube.

There were no lesions present either here or in the prostate or vesicles, the secretions of which were normal microscopically. Here is a marked visible example of the influence of the mind over the sexual apparatus, a vasoconstrictor effect which shows itself in the paleness of the mucous membrane and even in a loss of tone in the muscles of the scrotum and penis. The influence of fright and other strong emotions in inhibiting the power of erection is too well known for comment. It cannot be doubted, however, that this man presents fertile ground for sexual neurasthenia should a genital lesion be present; however slight it might be, it probably would be all that is necessary.

These patients with unanimity impute their lack of ambition and failure of achievement in the ordinary affairs of life to their disease. This manifests itself subjectively in insomnia, dyspepsia, disinclination to make any effort, mental or physical, and pains in the back, loins or legs. Associated with these at times are symptoms referable to the bladder, namely, frequency of micturition, burning on urination, pain over the pubic region and interruption of the flow of urine or inability to pass it under certain conditions. Added to these symptoms are sensations of itching, pain or numbness in the course of the distribution of the genitocrural and ilio-inguinal nerves in the thigh, scrotum and penis. To these symptoms, if unrelieved, will later be added those of general neurasthenia, in the picture of which the sexual origin of the trouble may be more or less obscured.

In connection with these subjective symptoms we may recall that the hypogastric plexus of the sympathetic nervous system, through the medium of the hemorrhoidal vesicle and prostatic plexuses, supplies the bladder, seminal vesicles, vas deferens, prostate and rectum. Branches are also sent from the prostatic plexus to the erectile tissues of the penis. The hypogastric is joined by filaments from the intermesenteric plexus and it is probable that many of these abdominal and pelvic symptoms, which we have hitherto associated with purely mental or neurasthenic causes, are actually neuroses transmitted along the different anastomosing branches of the hypogastric plexus from some local focus.

A striking symptom which I have noted in two of my cases (see report of Case 2) was pain in the left iliac region. It was intense, more or less constant, and aching in character; taken in connection with the bladder symptoms, it gave rise to a suspicion of urethral stone. The examination by Roentgen ray, urethral catheterization, etc., was negative. Both of these patients had lost the power of erection. It is significant that the nervi erigentes, arising from the first, second and third sacral nerves, pass to the hypogastric plexus and hence are distributed to the descending colon, rectum, anus and genital organs. As the mechanism of erection is a vasodilator phenomenon, and the pain complained of, coincidently with the complaint of the failure of this event, followed the paths of these branches, which supply the vasodilator fibers to the penis in common with the above abdominal and pelvic parts, it is possible that the pain and impotence complained of in the above two cases were due to a lesion in some one or more of the parts supplied by these nerves. Such lesion acts either directly or through a reflex inhibition of the vasodilator center in some instances or, as we shall see, through exhaustion of this center by constant irritation and overstimulation. In this connection may also be mentioned the stimulation of the sexual centers caused by hemorrhoids, fissures of the anus, parasites and other affections of the anus and rectum.

The cases of sexual neurasthenia which I have seen have all shown lesions in some part of the reproductive tract. Doubtless had the lesions not been found they would have eventually gone on to general neurasthenia and the original source of the trouble been more or less obscured. At times the lesion was minute, but, however

slight, its clearing up, under treatment directed to it alone, was marked by improvement in the general symptoms; indeed, the fact which is most striking is the coincidence in the improvement between the physical signs and the sensory symptoms. Such changes in the mental attitude cannot be altogether due to suggestive therapeutics, for suggestion alone when applied to local treatment does not produce the same result. That there is an intimate connection between the higher centers of the cortex and those which control the vascular phenomena, especially of the reproductive organs, our everyday experiences teach us. So if a local lesion, in a part as richly supplied with peripheral ganglia as the posterior urethra, prostate and other parts of this region, should inhibit the vasodilator nerves or produce the symptoms of neurasthenia it is no more surprising than the complaints of a neurasthenic character which may be caused by a phymosis with adhesions. .

The objective signs usually given by these patients are spermatorrhea, prostatorrhea, seminal emissions, and impotence, either partial, complete or relative.

The spermatorrhea may or may not be visible to the patient. Two patients had never noticed any discharge at the meatus, but the urine was turbid, and the turbidity proved to be due to large numbers of spermatozoa. The patients had noticed a decrease in their sexual powers; both had a history of preceding attacks of gonorrhea. The spermatorrhea may be due to atony of the sphincters controlling the ejaculatory ducts owing to previous or existing disease, or to injury to the nerve-supply caused by disease or by overstimulation from masturbation, sexual excesses, or possibly as a result of constitutional causes. Under these conditions the pressure from outside agencies, rectal or abdominal, or even a full bladder, may cause an escape of the contents of the ampullae of Henle, seminal vesicles, or prostate. I have seen an escape of fluid from the prostatic utricle and a discharge from the ejaculatory ducts not unlike the flow of urine from a ureter, when a rough movement of the endoscopic tube caused a contraction of the muscles. The secretion in this instance contained dead spermatozoa and pus and the patient was totally impotent.

The same reasons may hold good in prostatorrhea. The discharge seen by many patients is not prostatic fluid, however, but the contents of overactive urethral and Cowper's glands. Microscopic examination will distinguish between the secretions of the prostate and the other secretions.

The most general complaint from these patients is impotence, partial or complete. Two main factors may be concerned in this: the local condition and the mental. The lesion in the genito-urinary tract by acting reflexly on the vasodilator and ejaculatory centers may act on the one hand by overstimulation, leading to premature ejaculation and seminal emissions or on the other hand by inhibition, as shown by the loss of the power of erection. The latter result will also eventually be brought about by the conditions causing overstimulation as the ejaculatory and vasodilator centers become exhausted or the growth of connective tissue through its effect on the nerve endings dulls the sensibility of the mucous membrane of the posterior urethra. The effect of the tonic activity of the vasoconstrictors is then seen in the characteristic shrinking, withered appearance of the penis which many of these patients show.

The endoscopic picture of the posterior urethra in these cases bears out this distinction. I do not cocainize the urethra or use any local anesthetic, as this may constrict the blood-vessels of the mucous membrane and modify the picture. I use a small tube, No. 23 or 24, so as to exclude as far as possible the local anemia caused by its pressure. The end of the tube is slightly rounded and at right angles to the length and, in observing the color of the mucous membrane, is kept as nearly as possible parallel with the long axis of the urethra. If care is used the proceeding is practically painless.

According to the appearance of the mucous membrane two types may in general be recognized: one hyperemic congested and hyperesthetic, characterized by frequent pollutions and premature ejaculations; the other anemic and of lessened sensibility, characterized by diminished or complete loss of the power of erection. The change most often seen in the posterior urethra is an infiltration of connective tissue, which is usually the end-result of a preceding inflammation. This in itself is sufficient to dull the sensibility of the posterior urethra and diminish the peripheral stimuli to the genital centers in the cord.

The verumontanum appears to be the point of predilection for these changes, as they appear most marked in this situation. Like the external genitalia there is a great variation in the size and appearance of this prominence in different individuals. In general it corresponds in size and vascularity with the external organs of reproduction of the person concerned, but it is only by observing large numbers that the fine distinction between the normal and abnormal can be detected in doubtful cases. The alterations can be seen in a dulling of the surface of the mucous membrane caused by the denudation of epithelium, changes in the color and frequently in deformity of this eminence. This deformity may appear as fibrous nodules or an infiltration which diminishes the volume of the part as a whole, and may also show in distortion and displacement of the openings of the prostatic utricle and ejaculatory ducts. Other conditions, such as papillomas and fissures, have been described as giving rise to neurasthenic symptoms.

I saw a case in which there was a minute cyst, the color and size of a seed pearl, situated in the angle between the base of the verumontanum and the floor of the urethra. The small extent of some of these changes in the posterior urethra is out of all proportion to the disturbances they create and associated with or exclusive of them may be pathologic conditions in the prostate, seminal vesicles and ampullae of Henle. Such infections may result by direct extension from a urethritis, specific or non-specific, or may be carried to these parts through the blood- or lymph-channels; and until such infection or other morbid condition obtains I am skeptical as to the possibility of the existence of primary sexual neurasthenia.

That coitus is not a necessary antecedent to an infection of these glands is shown by two patients whom I have under my care at the present time. They are typical sexual neurasthenics who have never had sexual intercourse, one because of premature ejaculations, the other because he had never had an erection; and yet the prostatic secretions contain quantities of pus. Both patients admit masturbation. It is probable that frequent masturbation through the resulting oft-repeated congestion lowers the resistance of the glands and prepares a favorable soil for infection from the circulation or from the organisms normally inhabiting the urethra. However this may be, such instances arouse a doubt as to the possibility of sexual neurasthenia without causative morbid changes.

The impotence of which many sexual neurasthenics complain is in the beginning probably purely organic; that is, due to an inhibition of the sexual centers as a result of reflexes from the lesions in the genital tract. This after the first failure at coitus acquires a psychic element; subsequent attempts add to the degree of the psychic feature, which in some instances disappears with the improvement in the subjective and objective symptoms, while in other patients of a more neurotic temperament it remains after the neurasthenia *per se* is cured. This must then be dealt with as a purely mental condition, in the treatment of which the circumstances, surroundings and disposition of the patient must all be taken into consideration.

The attention of an individual of neuropathic type is quickly attracted to any personal abnormality either fancied or real. This is all the more so when it concerns structures so intimately bound up with the emotional side of life as the reproductive organs. Such a person is given to introspection and the appearance of a neurosis or a spermatorrhea or a prostatorrhea or nocturnal pollutions quickly arouses his apprehension. He begins to speculate as to the cause; he may have guilty knowledge of former indiscretions or vices; possibly he has noticed a decrease in his libido sexualis due to his spermatorrhea, which prevents the sexual glands from becoming distended and so removes the stimulus their distention normally provokes. He may have attempted intercourse and been unsuccessful or failed to come up to his expectations; he recalls the horrors he has read of in "literature" devoted to the evils of youthful indiscretions, masturbation and like pastimes. His attention attracted, he looks for further evidences of disease. The pain which has an anatomic basis in some morbid condition in the genito-urinary tract and which may be slight in the beginning, as the victim's attention is fixed on it, increases as all pains do under these circumstances and it becomes to a degree an obsession. This in turn increases the mental depression; and what was originally a neuralgia which could be traced to a definite lesion, by reason of the continued depression and consequent worry and sleeplessness, all of which add to the nerve exhaustion, develops into neurasthenia which, localized at first as sexual, becomes generalized as the sympathetic nervous system succumbs to the continually increasing despondency. Nervous dyspepsia, headaches, insomnia and the train of symptoms characteristic of general neurasthenia follow.

Those who have noted many of these sexual neurasthenics will agree that their appearance and bearing are often characteristic. They have, as a rule, the demeanor of timidity, lack of resolution, hesitancy and self-effacement. They must be questioned guardedly, and until their full confidence is won a satisfactory history cannot be obtained. They realize that in the eyes of many of their fellows the measure of manhood is gaged largely by the sexual characteristics. The very nature of their own trouble tends to exaggerate in their minds the importance of these traits and they watch jealously for the expression of countenance or of words which betoken ridicule. In the course of their treatment they will ask numerous questions which if answered indirectly will confirm their worst suspicions as to the prognosis. They will go far in their interpretation of an answer to pick a negative word or meaning out of the reply, and for this reason a negative word or an indirect meaning must be avoided in the answers to their questions. If a definite time is set for their recovery, on the other hand, and the expected result does not follow, they are cast into deeper depths than originally. Through it all they are reaching out for a hope; every favorable sign, one which would not be perceptible to the normal individual, they grasp eagerly and as eagerly search for the (to them) unfavorable symptom which sinks them still deeper in the mire. So the conflict continues between the positive and the negative, between hope and despondency, until the one gradually overcomes the other and the intervals of encouragement become more frequent and longer drawn out, when the realization of recovery will often come with the suddenness of a shock.

The local treatment is that of the pathologic condition found to be present. The most usual site of this is in the prostatic urethra which presupposes, in many instances of infection, accompanying infection of the prostate and seminal vesicles. The changes in the posterior urethra are connective-tissue infiltration, papillomas, cysts, ulcerations and fissures of the verumontanum, calculi and chronic inflammatory changes of various sorts. A case which I will report in greater detail in the future (as the patient is still under treatment) has a growth within the lumen of the prostatic utricle which protrudes through the separated lips of this part. A portion curetted for microscopic examination shows the structure of a polyp. A detailed description of the treatment of these various changes is beyond the scope of this article. It may suffice to say that they may be treated with posterior dilatations, local applications of silver nitrate (solid or in solutions of 5 or 10 per cent. strength), 5 per cent. salicylic ointment, tincture of iodin, and removal of the growths or calculi if any are present.

Most of this work in the prostatic urethra can be done through the endoscope. Applications should always be made in this way, as it is only by this means that injury to healthy parts can be avoided. None of the pain, discomfort and urinary disturbances which so often follow instillations and such other blind modes of treatment of these conditions result when this method is used. Aside from this the delicacy of the nerve endings, which are so important to the unimpaired preservation of the sexual characteristics and the injury of which gives rise to many neuroses, is respected. For the diffuse connective-tissue changes the posterior dilator is useful. For those localized in the verumontanum I have found tincture of iodin to be most useful in the majority of cases, any excess being swabbed up before withdrawal of the instrument. The treatment of the various subsidiary glands is laid down in the text-books and more recent articles on infections of these glands.

The patients will improve mentally as the lesions are eradicated and, with few exceptions, no special mental treatment is necessary provided they are not discouraged by thoughtless statements, which can be avoided easily if one takes into consideration the state of the patient's mind.

The following cases will illustrate:

CASE 1.—J. B., farmer, aged 57, unmarried; entered the hospital June 20, 1912, complaining of "sexual exhaustion and extreme nervousness." June 30, he was referred by the nervous department to the genito-urinary department for treatment. Father died of paralysis, aged about 60; otherwise family history was of no importance except that the patient stated that the members had "a tendency to nervous affections."

*Past History.*—Patient has had minor ailments only; nervous dyspepsia for past twelve years, for which he has treated himself. He denies gonorrhea, syphilis, or any venereal disease whatever; admits masturbation at intervals until two years ago. He has never had sexual intercourse, as ejacu-

lation has invariably occurred before intromission. For this reason patient gave up attempts many years ago. Caressing opposite sex has always resulted in spontaneous ejaculation. He has had nightly emissions for many years. During the summer of 1910 he entered a hospital in another city because of these emissions and the resulting nervous exhaustion, which incapacitated him for work. While there he states that he received bromids, strychnin and mental treatment, without effect, however.

Five months preceding present examination he began to have diurnal emissions also, which increased in number until he would have as many as eight during the twenty-four hours. They were usually accompanied by a partial erection and orgasm, although recently the sensation was much modified. He suffers with pains across the back and loins, dyspepsia, sensations of tingling in the glans penis, profuse sweats, general exhaustion and nervousness. He is very anxious about his condition and is unable to apply himself either mentally or physically.

*Examination.*—General: Poorly nourished, apathetic and feeble in bearing; appears to be 70 years of age. Reflexes, both superficial and deep, exaggerated. Local: External genitalia well formed, cremasteric reflex very active; no discharge from meatus. Urine (3 glasses) clear and negative both microscopically and chemically. Endoscopic: Posterior urethra deep purple in color, extremely sensitive to the touch, bleeds readily when swabbed. Mucous membrane on the floor of the prostatic urethra has the appearance of being lifted from the submucous layer; surface very irregular, covered with coarse granulations, and the normal folds obliterated. Verumontanum small and cyanotic in appearance, surface covered with granulations. No pus in the catheterized contents of the sinus pocularis. Prostate and seminal vesicles negative.

*Treatment and Results.*—Posterior urethra was swabbed twice with a solution of 10 per cent. silver nitrate through the endoscopic tube, an interval of a week elapsing between the two applications. Following this at intervals of five days the posterior urethra was dilated with a Kollman posterior dilator. Patient showed improvement from the beginning of the treatment and had but one emission during the next six weeks, at the end of which time the urethra appeared practically normal.

The patient left the hospital Aug. 13, 1912, stating that he felt perfectly well.

I heard from this patient a few days ago. He wrote that he had gained 40 pounds in weight, was entirely cured of his disease, and had had no indications of a return.

CASE 2.—J. C., fireman, aged 39, married, complained of "impotence and loss of sexual desire." I first saw him April 3, 1911.

*History.*—Family history was negative. Patient had had concussion of the brain five years previously. Six months afterward he had awakened on the street one day several miles from home and could not recall what had happened in the interval since leaving home several hours before. In 1906 he had had a severe attack of gonorrhea, since which time he had been unable to have an erection. He attributed this to the fact that his wife discouraged his advances; he acknowledged, however, that he had been equally unsuccessful with a woman whom he thought sexually congenial. He complained of headaches, insomnia, dyspepsia and nervousness; at times for the past six months before his appearance for treatment he had a continual aching pain in his left iliac region accompanied by a sense of what he described as "nothingness" in the region of his external genitalia. He stated that his penis was shrunken and looked like a "grub worm" when he felt this pain; he also had frequency of micturition and burning at such times.

*Examination.*—Cystoscopy, ureteral catheterization, roentgenoscopy, etc., of bladder for stone was negative. Endoscope showed the verumontanum to be the seat of a fibrous transformation. It was nodular, and the entrance of sinus pocularis was contracted so that it would with difficulty admit a very fine probe. The whole posterior urethra was infiltrated with connective tissue and practically insensitive to the touch. When prostate and seminal vesicles were stripped, plugs of brown fibrinous material half an inch in length were expressed with a quantity of pus. The normal constituents of these secretions appeared to be absent with the exception of a few spermatozoa which were motionless.

*Treatment.*—This patient made a slow recovery after prostatic massage twice a week for six months, posterior dilatations at intervals of five days for ten weeks and local applications of tincture of iodin through the endoscopic tube at weekly intervals until February, 1912, when he was discharged.

At present he states that he is cured as far as his nervous symptoms are concerned. Sexually he is at times impotent when with his wife, although he confesses that he has no difficulty with other women.

This is one of those unfortunate cases of relative impotence which is psychic and due no doubt to lack of sexual congeniality. As the physician cannot increase the element of brute in the male which would be necessary to overcome the mental inhibition of the sexual centers caused by the knowledge of the repugnance of the female to sexual contact, he can do little in this class of cases, as respects the relations of the patient with the female.

CASE 3.—H. S., fireman, married; complained May 4, 1911, of insomnia and general nervousness.

*History.*—Both family and past history are negative except that patient had had a chronic diarrhea for fourteen years; in going to and from work he followed a certain route on which were saloons and barber-shops where he could use a water-closet, as otherwise he would soil his clothing with feces. He denied any previous venereal infection of any character. During the two years preceding his appearance for treatment he had been unable to sleep more than one or two hours out of the twenty-four; then only when utterly exhausted. Lately he had been easily frightened, startled by any sudden noise and had been compelled to give up his work on account of his extreme nervousness. He was troubled with headaches, backaches, nervous dyspepsia. He had been treated for years for his diarrhea, but without effect, until he had finally given it up through discouragement. He urinated but once or twice during the twenty-four hours and then passed only a very small quantity.

*Examination.*—Urine was clear—no shreds—negative chemically. Centrifuged specimen showed a few red blood-corpuscles. A stricture which would admit nothing larger than a filiform was found in the membranous urethra.

*Treatment.*—Dilatation of the stricture completely relieved the conditions including the diarrhea. Patient stated that he had the first solid stool in many years and subsequent to his treatment was at times compelled to take a laxative. The other symptoms disappeared in three weeks. He has had no recurrences.

CASE 4.—H. H. H., clerk, aged 28, unmarried, complains of sexual weakness and nervousness.

*History.*—Patient states that members of his family always had nervous dispositions; family history is otherwise negative. Patient has never been sick. He denies venereal infection of any character whatever; has never indulged in coitus for the reason that he has never had an erection sufficiently complete to make intromission. For the past five years he has had considerable pain in the loins; insomnia which he attributes to worry over his condition; is easily fatigued and is increasingly nervous. He admits masturbation, but attributes his condition to some experiences he had when a boy with a woman considerably older than himself.

*Examination.*—Nov. 25, 1910: General: Patient very reserved, shy, hesitating, irresolute in bearing and anemic. Reflexes, both superficial and deep, exaggerated. Local: There was no discharge from the meatus. Urine was clear, but centrifuged specimen showed numbers of spermatozoa. Endoscope showed a very pale posterior urethra, the mucous membrane of which was distinctly anesthetic. The tube could

be passed and moved about freely without causing pain or bleeding, as is the case with normal urethrae. The ejaculatory ducts discharged a gelatinous substance containing nonmotile spermatozoa into the end of the tube as it was withdrawn past their orifices; this substance also showed numerous pus-cells, as did the secretion from the prostate expressed at a subsequent visit. The right seminal vesicle was distinctly palpable and tender on pressure.

*Treatment and Results.*—He recovered under massage of the prostate and seminal vesicles and applications of salicylic ointment (5 per cent.) to the posterior urethra, the applications being made at intervals of a week.

He was discharged in July, 1911, and has had up to the present time no indications of recurrence.

Case 5.—G. A. H., contractor, unmarried; complained of impotence, feeling of numbness from his waist down, insomnia, "sticking sensation" in his perineum, nervousness.

*History.*—Patient had had a severe attack of gonorrhea some years previously, accompanied by hemorrhage from the urethra; otherwise past history was negative, as was the family history.

*Examination.*—Oct. 8, 1911. The conditions present were chronic prostatitis, seminal vesiculitis and fibrosis of the verumontanum, the base of which was contracted so that the part had the appearance of a pedunculated tumor. The openings of the ejaculatory ducts projected from the surface of the mucous membrane, which seemed to have contracted about them.

*Treatment.*—The prostate and seminal vesicles were massaged twice weekly for ten weeks, at the end of which time the glands and their secretion appeared to be normal. The verumontanum was then swabbed every seven days with tincture of iodin and during the latter part of the treatment every fourteen days. The application of this was at first painless, but the part increased in sensibility as its appearance became normal and in the latter part of the treatment became quite sensitive. The applications of iodin were, of course, made through the endoscope. The patient was discharged in April, 1912.

Case 6.—W. C. M., decorator, aged 25, unmarried, complained of "masturbation."

*History.*—Father is an alcoholic; eldest sister has "St. Vitus" dance. Patient had typhoid fifteen years ago; denies ever having had gonorrhea or venereal sores of any character. Right testicle was injured eight years previously, swollen for three days, and then became apparently normal. Patient states that he has always been "nervous" and easily excited. He has never had a complete erection, but when he was sexually excited would cross his legs and an emission would follow; this occurred pretty regularly every other day. He had insomnia, vertigo, pains in the back and loins; was exhausted easily; could neither make mental effort nor concentrate his thoughts on any one subject for more than a few minutes at a time.

*Examination.*—No discharge from the meatus. Urine negative microscopically and chemically. Urethral mucous membrane (posterior) abnormally pale in color and relatively insensitive to the touch; otherwise negative. Prostate very large, firm, symmetrical; no adhesions; median furrow present; no areas of induration; very sensitive to pressure. Large quantities of pus in the secretion expressed from the prostate. Seminal vesicles negative on palpation.

*Treatment and Results.*—When the prostate was massaged the patient had a vigorous erection, the first one, so he stated, that he had ever experienced. He has improved steadily both subjectively and objectively under treatment, which consists simply of prostatic massage twice weekly. Three months after the institution of treatment he had a successful coitus. This was the first he had ever experienced, although he had tried a number of times before appearing for treatment. His pains, insomnia and other subjective symptoms disappeared within eight weeks after starting treatment.

CONCLUSIONS

1. Sexual neurasthenia is always due to definite pathologic conditions in the genito-urinary tract.
2. The lesions may be in any part of this tract.
3. Because of the exceptionally rich supply of sensory nerve-endings in the prostatic urethra, the changes in this part, especially in the vicinity of the verumontanum, are most apt to give rise to this type of neurasthenia.
4. The conditions give rise primarily to a local neuritis or neuralgia which is the intermediate cause of the neurasthenia.
5. There may be in certain instances a toxic element which reduces the resistance of the sympathetic nervous system. This is especially true of infections of the seminal vesicles or prostate.
6. The condition is most apt to occur in those of hereditary or acquired neuropathic disposition.
7. The physical impotence resulting in many of these cases acquires a psychic element in the course of the disease which must be dealt with as a separate entity after the removal of the primary cause.

Charles and Lafayette Avenue.

---

# THE TEACHING OF PSYCHIATRY

## A REPLY TO DRS. BURR AND DERCUM

H. DOUGLAS SINGER, M.D., M.R.C.P.
Director of the Illinois State Psychopathic Institute
KANKAKEE, ILL.

The awakening of interest in the problems of insanity is leading to the recognition of the need for training the medical student in this important branch of medicine. In introducing this topic into the curriculum it is all-important that proper consideration be given to outlining the course of instruction. There recently appeared in The Journal two articles on the teaching of psychiatry by authors[1] whose names and deserved reputations must lend great weight to any cause they may champion. Inasmuch as they express extreme views it would not be untimely, it appears to me, to discuss and criticize the attitude taken.

In both papers the most striking feature is the wholesale condemnation of modern psychology, which both authors seem to consider as more or less synonymous with the Freudian theories. To Dr. Burr, who justly points out that the older psychology "does not make the study of psychiatry any easier or any clearer," the "newest psychology" is the "filthiest possible explanation of mental disturbance." If it is an explanation at all the use of such epithets is surely unnecessary and does not throw any new light on the problem. The detailed study of the stools, which is essential in some diseases, might well be called filthy, and yet it is not omitted for that reason, nor do those who perform the work become thereby contaminated. Dr. Burr adds that "surely the sexual element in insanity is large enough"; but apparently he thinks this sufficient reason for leaving it alone in disgust and not an indication for closer study.

Both authors seem to see in the Freudian doctrines nothing but "a means of mental cure." Dr. Dercum is satisfied with scoffing at the thought of spending from six months to three years in the study and treatment of a case, while he leaves it to be assumed that the

1. Burr, C. W.: The Teaching of Psychiatry; and Dercum, F. X.: The Teaching of Insanity, The Journal A. M. A., April 5, 1913, pp. 1054-1057.

patient could easily be "cured" in much less time by some other method of therapeutics, as if that demonstrated the falsity of Freud's conclusions and methods of study. He tells us also that the Freudian theory applied to dementia praecox is as old as the description of a disorder under that name by Kahlbaum and Hecker. Whether he intends thereby to imply that he concedes its truth or brands its falsity he does not make clear.

Whether we accept the extreme developments of the Freudian school or not there are involved in Freud's conceptions certain broad principles which are well founded in fact and are not in any way invalidated by the application he makes of them. These principles are not original with him, but it must be conceded that his work has done much to crystallize and clarify our views on a biologic basis, even if only, as some think, by giving rise to study and discussion.

All this has nothing to do with the question at issue, however, for no one has yet suggested that an attempt be made to teach the Freudian doctrines to medical students. This does not mean that therefore psychology should be excluded from the curriculum. One does not cut down an apple-tree because there have been grafted on it certain branches which bear fruit not to his liking. It is as impossible to teach psychiatry (abnormal cerebral functioning) without a basis of psychology (normal cerebral functioning) as it is to teach pathology without knowledge of physiology. If only the fundamental facts of the integrations in the lower unconscious nervous activities (Sherrington) were grasped as a foundation for the understanding of the corresponding conscious activities of the brain, many of the objections would be overcome. That stimulus which is of greatest importance to the welfare of the individual and species has a prepotent control over the effector mechanism of the body through the cerebral associative pathways just as it has through the spinomedullary connections. This principle must necessarily imply the overwhelming potency of problems of self- and race-preservation in conscious reactions (brain in action) as in reflexes.

The sole purpose underlying cerebral evolution, like all other evolution, is that of enabling the individual better to take advantage of his surroundings for the preservation of himself and his kind. Of these two ends, the latter, in adult man as in lower animals and even plants, is by far the more important. Hence we need not be surprised to find that disorder of the mind is present when these fundamental aims of life cannot be adequately accomplished. To put this in another way, the individual who is, for any reason, unequal to a suitable adjustment in the struggle for the satisfaction of his desires, these expressing only the biologic needs of self- and race-preservation, is abnormal. The clinical picture presented as the result of this failure to meet conditions will vary with the adjustments which the individual does make; for it is evident that since the prime laws of all living matter are those of self- and race-preservation some adjustment must always take place. These may be more or less unsuited to the purpose to which they are applied and their particular form will be determined by the nervous mechanisms present, whether inherited or developed by personal experience. Disease of the nervous system will, of course, act by interfering with the nervous associations. Some of the maladjustments arising from disease or faulty make-up represent what we call insanity.

A bridge will carry a certain load and will break down under a heavier burden. This is not necessarily due to rusting (disease) of its parts but may result simply from a demand beyond its strength. Why should we, then, hesitate to admit that some individuals are so constructed as to be incapable of withstanding the stress and strain of even an everyday life in the complex conditions of society? And why should we, with Dr. Burr, insist on "the fact that insanity is a disease just as typhoid fever and tuberculosis are diseases"? It is such conceptions as this which render it necessary for Dr. Burr to complain that "gentlemen who write popular articles for the magazines have impregnated the public with the idea that adenoids, lateral spinal curvature, ocular defect and other like things are the cause of all insanity."

Dr. Dercum especially emphasizes the "unfortunate tendency at present toward speculative psychology." It seems at least equally unfortunate that there should be also such a tendency to speculative pathology. By all means teach the *facts* of pathology which to be honestly carried out must include the facts of failures in adjustment as well as of disease processes; but let us avoid speculative relations to internal medicine as we do speculative psychology. In a recent article Dr. Dercum points out some admittedly hypothetical relations between dementia praecox and insufficiency of the adrenal system. Other authors (Berkeley) have advised, and successfully (*sic*) performed, the removal of part of the thyroid for the same disease on the equally tenable (or untenable) hypothesis of there being a hyperactivity of this system. Even the correlation between liability to dementia praecox and to tuberculosis, on which Dr. Dercum lays so much stress, is far from adequately demonstrated. It is not true that the great majority of dementia praecox patients die of tuberculosis, otherwise there would be no need for our huge hospitals for the insane, of which the vast majority of the inmates are in the terminal stages of dementia praecox. These individuals usually die of old age or some of its accompanying diseases. Bleuler makes the emphatic statement that the percentage of dementia praecox patients dying from tuberculosis in his clinic is not greater than that of the general population in the regions from which the patients are drawn. Even were the opposite a demonstrated fact it would not in any way prove that the ductless glands had anything to do with the development of the mental disorder.

The correlation with a liability to infection with tuberculosis would, even if proved, show nothing beyond the possibility that a body ill adapted to adjust itself to the complex conditions under which it has to conform to its biologic needs may be also ill adapted to cope with the micro-organisms which are part of its environment. It would be only another index of faulty make-up, exactly comparable with the instability shown by similar individuals in adjusting themselves to alcohol and other toxins.

If one were to judge from the articles by Dr. Dercum, one would be led to the conclusion that he believes that emotion, delusions, etc., are the result of faulty glandular activity. According to this line of reasoning a man would become angry and strike because his thyroid or some other gland was not functioning properly, and not because the situation in which he found himself called for this as an adequate response. Surely the more reasonable view is that the adrenal system cooperates with the rest of the body in making adjustment to the situation. This is expressed consciously as what we call a feeling of anger. Disorder of adjustment might then quite well be accompanied, without being caused, by disorder in

the function, not merely of the adrenal system, but of the whole body.

The psychology of the insane is in no wise a different subject from that of the sane. Thoughts, delusions, hallucinations and emotions are not secreted as is the bile or urine; they *are* the brain in a state of activity Nerve-cells do not act by secreting thoughts; they merely serve as conducting mediums to harmonize the effector mechanism of the body with its environment. This conductivity may be raised or lowered both physiologically and by disease, but it nevertheless still remains only conduction. The only possibility in the way of disorder is therefore one of conduction and the same laws must hold in regard to nervous integrations in disease as in health. It may be true that certain paths have been destroyed by disease or rendered incapable of function in some other way. But the spread of nerve energy along the paths still intact and open will follow exactly the same laws of biologic importance and frequency as those which obtain in health.

Hence adherence to the methods of teaching which regard the various manifestations of disordered mind as independent "symptoms" cannot fail to create erroneous impressions and do more harm than good. It is absolutely essential that the insanities be studied as disorders of adjustment as well as in their relation to internal medicine, if any grasp is to be obtained of what the individual cases mean. In other words, they must be studied as psychologic, as well as pathologic, problems.

The value of such a biologic conception of cerebral or mental activities is not limited to the study of its specific disorders known under the name of insanity, but has a much broader application for the physician in his dealings with patients no matter what their ailment may be. It has too long been forgotten, in the practice of medicine, that we are treating not diseases but human beings, and that a knowledge of this individual's modes of psychologic adjustment may well have greater value in determining the actual procedure to be adopted than the broadest knowledge of materia medica The importance of the patient's attitude toward himself, his environment and his health or disease is frequently greater, as regards etiology, therapeusis and outcome, than all other factors concerned, and yet it is the one which we most neglect. Mental disorders represent Nature's experiments, from which more can be learned concerning the biologic laws of conscious adaptation than from any other source.

The value of the study of psychiatry for the medical student is hence not limited, as Dr. Dercum suggests, to acquiring the ability to recognize mental disorders early and to handle them reasonably, but extends to the whole realm of the practice of medicine by the insight which it gives into the highest known means of adjustment. The study of these mechanisms is the psychology apparently banned by Drs. Burr and Dercum.

I wish to insist, therefore, that the broad principles of the newer biologic psychology are essential to and part of the study of even elementary psychiatry. Without them the teaching of mental disorders must remain a hopelessly unintelligible, dry-as-dust concatenation of uncoordinated observations.

---

**Diagnosis Based on Probabilities.**—Never indulge in that form of reasoning which is supposed to be based on probabilities. "An ulcerated lump of the tongue, the patient is a woman, therefore it is not likely to be carcinoma." Remove it and see what it is.—C. B. Lockwood, in *Clin. Jour.*

# THE STAPHYLOCOCCUS-SPRAY TREATMENT OF DIPHTHERIA CARRIERS

A. M. ALDEN, A.M.
Assistant Director of the Bacteriologic Laboratory of the Iowa State Board of Health
IOWA CITY, IOWA

The presence of diphtheria bacilli in the throats and nasal passages of patients convalescing from the disease long after all clinical symptoms have disappeared constitutes one of the most prolific sources of infection the health officer has to deal with in combating this disease. Just what the average period of persistence in virulent cases of diphtheria is it is hard to say. Graham Smith and Cobbett's[1] tables give it as 31.6 days and estimate that one-third of the cases exceed this time. Our experience, however, has been that according to the cultural method the average period of persistence in Iowa is about sixteen days. Henry Albert[2] says:

> Unfortunately, however, there are some in whom the bacteria remain so persistently that they can still be found for from five to seven weeks, in one of our cases for seven weeks and in one case on record for twenty-three weeks after clinical recovery from the disease. Another condition which has been the subject of considerable study in recent years has been the presence of diphtheria bacilli in the throats of persons who are not, nor, so far as known, have ever been affected by diphtheria. These diphtheria bacilli carriers are of most frequent occurrence when diphtheria is prevalent in a community. Fortunately the bacilli living under such conditions are frequently of low virulence and in some instances have lost their disease-producing power entirely. On the other hand, their virulence is often of full strength and even though they may not produce any disease in the carrier, when transferred to other persons, they may produce the disease in its most virulent form. It is very certain that diphtheria has been kept alive for months in institutions and communities by such carriers. Indeed it is quite probable that carriers with either a normal throat or a slightly "sore" throat are the source of more cases of diphtheria than persons affected by well-marked cases of the disease.

A ruling of the State Board of Health in Iowa provides that before a diphtheria patient can be released from quarantine, two consecutive negative reports must be obtained from the State Laboratory on cultures taken from both nose and throat. During the last twelve months we have had a number of cases the cultures from which remained consistently positive after the normal period of persistence and after all manner of local treatment had been used. Following the reports of Schiötz,[3] Page,[4] Catlin, Scott and Day,[5] Lorenz and Ravenel[6] and others[7] who had successfully used the staphylococcus spray in such cases, we decided to use it in all cases from which the cultures remained positive after four weeks.

---

1. Nuttall, G. H. F., and Smith, G. S. Graham: The Bacteriology of Diphtheria, 1908, p. 421.
2. Albert, Henry: Diphtheria Carriers, Am. Jour. Pub. Health, ii, No. 10.
3. Schiötz, A.: Uskadeliggereke af Infektionsbacre ved Difteri, Ugesk. f. Læger, Dec. 16, 1909; abstr., THE JOURNAL A. M. A., Jan. 29, 1910, p. 422.
4. Page, Henry: Diphtheria Bacillus-Carriers, Arch. Int. Med., January, 1911, p. 16.
5. Catlin, S. R., Scott, L. O., and Day, D. W.: Successful Use of the Staphylococcus Spray on Diphtheria Carriers, THE JOURNAL A. M. A., Oct. 28, 1911, p. 1452.
6. Lorenz, W. F., and Ravenel, M. P.: The Treatment of Diphtheria Carriers by Overriding with Staphylococcus Aureus, THE JOURNAL A. M. A., Aug. 31, 1912, p. 690.
7. Slack, F. H., Arms, B. L., Wade, E. M., and Blanchard, W. S.: Diphtheria Bacillus-Carriers in the Public Schools, THE JOURNAL A. M. A., March 19, 1910, p. 951. Kretschmer, M.: Zur Bekämpfung der Bazillenpersistenz bei Diphtherierekonvaleszenten, Med. Klin., 1911, vii, No. 3. Lydia, Dewitt: Jour. Infect. Dis., January, 1912.

The culture used was a composite one made by mixing equal portions of three different strains of *Staphylococcus pyogenes aureus,* isolated from throat-cultures. These were grown on agar and afterward transferred to broth. The material sent out was 30 c.c. of an eighteen-hour broth culture grown at 37.5 C. (99.5 F.). This was sent in a cylindrical bottle, the top of which was closed with a rubber cap and sealed with paraffin. Several sterile rubber caps were sent with each bottle.

The following set of instructions was also enclosed with each bottle of the culture sent out:

DIRECTIONS FOR USE OF STAPHYLOCOCCUS CULTURE:

The enclosed bottle contains a broth-culture of *Staphylococcus pyogenes aureus* and should be used in the following manner:

Remove paraffin and rubber cap and pour a portion of the culture (enough for one treatment) into an atomizer, the bottle and application tubes of which have been sterilized by boiling for ten minutes. Spray the throat and nasal passages well.

NOTE.—1. One of the enclosed rubber caps should be replaced on the bottle immediately after using so as to prevent contamination. 2. The culture should be kept in a cool, dark place. 3. Care should be taken not to get any of the culture on skin of the patient, and if this happens the area should be thoroughly cleansed with alcohol. 4. Treatments should be given at least once a day. 5. The first culture should be made twenty-four hours after the first and before the second treatment. Subsequent cultures should be made at intervals of twenty-four hours until two consecutive negative reports are obtained from the laboratory.

In order to secure some statistics as to the real value of the treatment we also enclosed a blank data card which we asked the doctor to fill out and mail back to the laboratory after the patient was released from quarantine.

The accompanying table gives a summary of the results obtained in the first sixteen cases:

SUMMARY OF RESULTS IN SIXTEEN CASES IN WHICH STAPHYLOCOCCUS SPRAY WAS USED TO FREE PATIENTS OF DIPHTHERIA BACILLUS

| Case No. | Ill and a Carrier, Days | Antitoxin Received, Units | Other Methods Used | No. of Treatments | Days Required for 1st Neg. Culture | Complications Due to Staphylococcus |
|---|---|---|---|---|---|---|
| 1 | 29 | 15,000 | Antiseptic spray | 4 | 3 | Slight edema of face |
| 2 | 22 | 1,000 | Alkaline antiseptic | 5 | 3 | Chronic nasal catarrh temporarily worse |
| 3 | 58 | 17,500 | Gargle | 5 | 2 | None |
| 4 | 33 | 10,000 | Mercuric chlorid spray | 2 | 2 | None |
| 5 | 33 | 1,000 | Pot. chlorate, hydrogen peroxid | 4 | 4 | None |
| 6 | 36 | 3,000 | Antiseptic gargle | 2 | 2 | Sore throat; slight fever. |
| 7 | 35 | 8,000 | Antiseptic gargle | 2 | 2 | Sore throat; malaise. |
| 8 | 28 | 10,000 | Hydrogen peroxid, glycerin and tannic acid | 3 | 2 | Slight redness of throat. |
| 9 | 28 | 5,000 | Pot. permanganate spray | 4 | 5 | Pharyngitis |
| 10 | 44 | 5,000 | Silver nitrate swab | 4 | 4 | None |
| 11 | * | None | Silver nitrate, 10 per cent. | 9 | 7 | Slight fever; nasal catarrh increased |
| 12 | 40 | 5,000 | 10 per cent. ferric chlorid | 12 | 8 | None |
| 13 | 21 | 5,000 | Alkaline gargle | 3 | 1 | None |
| 14 | 33 | 15,000 | 3 per cent. phenol spray | 4 | 2 | None |
| 15 | 28 | 5,000 | Hydrogen peroxid | 5 | 3 | Headache |
| 16 | 29 | 20,000 | Silver nitrate, 10 per cent. | 13 | † | Goiter somewhat increased in size |

* Never had the disease but was exposed and gave positive cultures from August 29 to September 13.
† Released by virulence test.

In these cases all but three patients had carried the organism of diphtheria constantly for at least a month, and in one case the time of persistence was eight weeks. During this time, notwithstanding the fact that all manner of local antiseptic and astringent treatment was used, the patients continued to give positive cultures. This can be accounted for by the fact that in cases of this kind the organisms are usually in the deep tonsillar crypts which often become plugged, thus preventing the local application from reaching the organism. The antiseptic condition produced remains for only a few minutes because the excess of the agent used is carried out by the secretions. With the staphylococcus spray the effect seems to be different; whether or not this is due to some antagonistic action of the products produced by the organisms themselves it is impossible to say at this time.

In all but one of these cases the patient gave a negative culture within a week after the use of the staphylococcus spray was begun, and in the majority of the cases only a few applications were needed to free the throat from *Bacillus diphtheriae.* In one case this remedy failed absolutely and the patient was released by a negative virulence test. Possibly this failure was due to the culture having become inactive or to defective application. The fact remains that in all but one of the cases it was effective.

When this remedy was first introduced there seemed to be a general reluctance on the part of physicians to use it on account of the danger of introducing the live organisms into the throat and the consequent possibilities of such serious complications as otitis media, mastoiditis, etc. This fear seems unwarranted in view of the fact that it has now been tried in upward of forty reported cases and no serious results have been reported in a single patient.

Below I am giving the history of two typical cases showing the course of the disease and the effects of this treatment.

REPORT OF CASES

CASE 1.—A farmer, aged 21, came to office November 2, complaining that his throat had been very sore for a week. Examination showed membrane covering entire back of throat. The cervical lymph-nodes were enlarged and tender. The only constitutional symptoms were headache and slight malaise.

November 2: Culture showed large numbers of *B. diphtheriae.*

November 5: Five thousand units of antitoxin given.

November 6: Five thousand units of antitoxin given.

November 22: Culture positive; all symptoms had disappeared.

November 23, 26, 27 and 29: Culture positive.

November 30: Culture negative.

December 4: Culture positive.

December 7: Culture positive; staphylococcus spray used.

December 8: Culture negative; staphylococcus spray used.

December 9: Culture negative; staphylococcus spray used.

No constitutional symptoms followed the use of the staphylococcus spray. The throat was red and slightly swollen for one day.

Local applications of hydrogen peroxid, and glycerin and tannic acid were used in throat and nose during the duration of the disease and of the carrier condition.

CASE 2.—A boy, aged 13, developed a typical case of diphtheria, July 21, which ran as follows:

July 21: Culture positive.

July 24: Five thousand units of antitoxin given.

July 25: Seven thousand five hundred units of antitoxin given.

July 31: Membrane disappeared and patient was apparently well.

August 7, 10, 17 and 23: Culture positive.

August 25: Five thousand units of antitoxin given.

August 29: Culture positive.
September 3: Culture negative.
September 6: Culture positive.
September 10, 11 and 12: Staphylococcus spray used.
September 13 and 14: Culture negative.
There were no constitutional or local symptoms traceable to use of the spray.

It will be seen that each of these patients developed a typical carrier condition. In each case the membrane disappeared and all clinical signs and symptoms of the disease were stopped shortly after the antitoxin was given; notwithstanding the fact, however, that the patients seemed perfectly well, their throats continued to give positive cultures for several weeks. In each case there is one negative report on a culture after which the reports were again positive. This may be due to the local antiseptic treatment having been used shortly before the culture was taken, or to carelessness on the part of the physician in taking the culture. In neither case did it require more than three treatments with staphylococcus culture before a negative culture was obtained.

### CONCLUSIONS

In view of all these facts I think that the following conclusions are warranted:

1. No patient having had diphtheria should be released from quarantine until at least two consecutive negative cultures are obtained from both nose and throat, and ear if symptoms are present.

2. Antitoxin will not free the patient from the carrier condition but some local application is necessary to rid the throat and nasal passages of *B. diphtheriae*.

3. In fifteen out of sixteen cases the staphylococcus spray effectively cleared the throat of *B. diphtheriae* after other methods had failed.

4. Apparently no harm resulted to the patient from the use of the spray.

---

## A REPORT OF A CASE OF THROMBOSIS OF THE INFERIOR VENA CAVA

THOMAS WILLETT, M.D.
AND
E. W. MAECHTLE, M.D.
WEST ALLIS, WIS.

The report of the following single case seems warranted on account of the infrequency of ante-mortem diagnosis, and because of the favorable outcome through the establishment of collateral circulation. We claim no credit whatever for the recovery course, and very little for the diagnosis, which we realize was the result of unusually favorable circumstances:

*Patient.*—A woman. American-born, aged 30, weighing about 125 pounds, and presenting a somewhat under-nourished and anemic appearance. Family history good.

*History.*—No infectious or chronic diseases are reported, and no vaginal discharge, swelling of legs, or ascites up to the last pregnancy. Menses began at 14 and are of the regular twenty-eight-day type. Patient has four living children, the youngest born Dec. 20, 1912, and has had two miscarriages; one a pregnancy of a month's duration, between the second and third child, the other of three months' duration, between the third and the last. During the sixth month of her recent pregnancy, a marked albuminuria developed with some hyaline casts, granular casts, and white blood-cells, which findings were accompanied by slight swellings of the feet. This condition cleared up under rest, diet, diuretics, hot packs and catharsis. We examined the urine at biweekly intervals until December 1, or the middle of the last month, when it again showed albuminuria, hyaline casts, granular casts, and white blood-cells. The patient complained of headache at this time, and the feet were slightly swollen. These symptoms, however, again vanished, with treatment as before. On our arrival to attend labor, December 20, the patient was found in a slight general convulsion. Examination showed two fingers' cervical dilatation. A podalic version was done, and a living but nearly comatose child was extracted. After free bleeding, normal salt solution was given per rectum, together with some stimulation. No more convulsions were noticed, and the patient went through, to all appearances, a normal postpartum course, except that she remained very weak, and continued to exhibit a toxic uremic appearance. About three weeks following childbirth, the patient complained of pains in the lower extremities, most severe in the right. She was put back to bed, feet elevated, and hot packs applied to the inner aspect of the right thigh and groin, where the pain was most severe.

*Examinations.*—The urine presented only a trace of albumin, no casts, and only occasional white cells. In the right lumbar region the kidney could easily be palpated, being slightly swollen and quite tender. Two weeks later, Jan. 31, 1913, she was removed to a Milwaukee hospital for more careful study. Blood examination showed a hemoglobin percentage of between 50 and 60; 8,000 leukocytes and 3,500,000 erythrocytes. The urine diminished in quantity until on the third day only 4 ounces were obtained by catheter in twenty-four hours. Urinalysis showed albumin, casts and a large number of white cells. A blanched uremic appearance with an expression of anxiety, were present with extreme tenderness and pseudorigidity on the right side of the abdomen. This diminished under morphin, and a regular, smooth mass, in the right iliolumbar region, became palpable. The temperature had varied from 99 to 102.6 F., with pulse from 90 to 120 during these three days. A tentative diagnosis of right perirenal abscess was made, and in consultation with Dr. Maurice Henderson of Milwaukee exploratory operation was decided on.

*Operation.*—Feb. 3, 1913, under light ether anesthesia, incision was made in the right lumbar region. Considerable serous fluid escaped from the right perirenal space, and the right kidney was found displaced downward and anteriorly, but freely movable. It was slightly enlarged, and very red and hyperemic. Behind the kidney an elongate, tubular, regular, hard structure was seen, and on examination was found to be the inferior vena cava, completely thrombosed from its bifurcation into the iliac veins to its passage through the diaphragm. Drainage was put into the perirenal space, the wound closed, and the patient returned to the bed in a fair condition.

*Postoperative History.*—Considerable serous fluid drained from the wound for several days, but this gradually diminished and the wound was allowed to close. On the second day urine was voided which showed approximately the same amount of albumin, casts and blood-cells as before the operation. The temperature varied for the next two weeks from 98 to 102 F., but gradually the periodic rises diminished until normal was maintained. Tenderness over the kidney and the right umbilical region gradually decreased as discharge lessened and the kidney returned to more nearly its normal position. During examination of the patient on the third day following the operation, marked enlargement of the superficial veins of the thigh, superficial circumflex iliac veins and superficial epigastric vein of the right lower quadrant was observed. These became more and more prominent and were followed by a similar condition on the left, though not as extensive. For several weeks following her discharge from the hospital the patient complained of tenderness over these veins and discomfort when attempting to stand erect or extend the legs.

Her general condition during this time was good, appetite fair, urine normal in amount and free from albumin, casts or blood-cells. Blood-counts at intervals show from 80 to 90 per cent. of hemoglobin, 4 to 5 million red corpuscles, and 6,000 to 7,000 leukocytes per c.mm.

April 15, 1913: Patient is up and about, doing her own housework, and apparently her compensation is very efficient, for with the exception of an occasional swelling of the feet after being on them for a long time, she experiences no discomfort.

625 Seventy-Second Avenue.

## PERSISTENT HICCUPS

A. J. CAFFREY, M.D.
MILWAUKEE, WIS.

I feel that I should report the following case for a twofold reason: first, because of the immediate response to the drug of the troublesome hiccups which had been persistent for eight days, and were fast sapping the patient's strength and vitality; and secondly, on account of the clearing up of an old chronic bilateral exuding eczema on the flexor surface of the arms.

*History.*—The patient, J. R., bachelor, 48 years old, was a large, healthy-looking fellow with ruddy complexion, probably due to his occupation; he was foreman of the signal service of a large railroad, and his work kept him out of doors in all kinds of weather. While not a teetotaler, he was abstemious. Mother died following an operation for gallstones; father died of old age; one brother and one sister were living and healthy, except that the brother was troubled with eczema on one hand.

*Present Trouble.*—Patient called me Feb. 28, 1913, for hiccups, which had persisted for four days before I saw him. He was fast breaking down and losing his healthy appearance.

*Examination.*—Pulse was 58, temperature normal, systolic pressure 140 mm., diastolic 90 mm., leaving a fairly high pulse-pressure of 50 mm. He could give no reason for his condition unless, as he said, it was due to a drink of cold beer which he had taken forty-eight hours before the hiccups started. This seemed to me a rather long "incubation" unless there is some special toxin or irritant in our "famous beer" which takes two days to show its effect. He complained of soreness in the epigastrium and intercostal muscles, which was probably due to the continual spasms of the diaphragm. There was slight tenderness at McBurney's point, but the abdominal muscles were lax and there was no indication of appendicitis. He had been troubled for many years with chronic exuding eczema of the arms.

*Treatment and Results.*—A soap-suds enema was given and stomach lavage was tried, with no relief. I gave large doses of bicarbonate of soda and bismuth, but without any appreciable result. I tried flexure of the thighs on the abdomen, with pressure against the diaphragm, according to the method of Jödicke.[1] I also tried F. Kanngiesser's[2] method, giving 5 gm. of citric acid in one glass and the same amount of sodium bicarbonate in another to promote effervescence in the stomach and get pressure on the diaphragm. I also tried rhythmic traction on the tongue, without avail. I then took Osler's advice and resorted to morphin, without letting the patient know what he was getting. He obtained rest only under the influence of morphin; when he awoke his hiccups would return. Four days after I was first called, eight days after the trouble began, after resorting to several other things, I finally consulted Dr. L. F. Jermain, who suggested atropin. I wondered why I had not thought of this drug before, as it was clearly indicated in this case, which was, without doubt, a case of what Eppinger and Hess called "vagotony"; in other words, the hiccups were due to some abnormal excitability of the inhibitory fibers of the vagus nerve, a fact which could have been gleaned from the bradycardia. After one injection of 1/50 grain of atropin, the patient's hiccups stopped and never returned. I continued giving 1/50 grain atropin once a day for eight days. Pulse increased to 70, appetite returned and the persistent chronic weeping eczema healed and dried up, leaving the patient's arms in a generally healthy state.

I have searched the medical literature thoroughly and find no other instance in which atropin has had such an effect on chronic exuding eczema. It is not my intention to recommend it as a routine treatment for this condition, but merely to report what occurred coincidently in the treatment of hiccups. After it was suggested no treatment was given other than the injection of atropin.

600 Grand Avenue.

1. Jödicke, P.: Med. Klin., Berlin, May 28, 1911.
2. Kanngiesser, F.: Persistent Hiccough, Med. Klin., Berlin, March 26, 1911.

## ONE GAUZE SPONGE REMOVED FROM BLADDER, ANOTHER FROM THE VAGINA, MONTHS AFTER A DUEHRSSEN OPERATION FOR PROLAPSE

HENRY DAWSON FURNISS, M.D., NEW YORK

Stoeckel[1] reports the removal from the bladder of a gauze sponge that had wandered there after a Dührssen operation. He had another case of sponge in the bladder following an abdominal operation. He states that Kermauner is the only one who has made a diagnosis before operation of gauze sponge in the bladder. In my case, the history of which follows, the diagnosis was made before operation.

*Patient.*—A woman 43 years old had a Dührssen interposition operation for prolapse in the summer of 1911. Immediately after the operation there was much wound discharge of a seropurulent nature, and the patient ran a temperature of 100 to 101 F. for eight or ten days. Shortly after leaving the hospital she began to have bladder discomfort, which gradually increased. At the end of five months, when this discomfort was extreme, I performed a cystoscopy and found that the portion of the bladder in the region of the right ureter showed bullous edema, which obscured the ureteral orifice, over an area the size of a half dollar, and later I again did cystoscopy and was surprised to see a small portion of gauze sticking from the middle of the edematous area. The patient was advised to come to the hospital. She went home and the next day had a sensation as if something had given away, and afterwards was unable to pass her urine. The suffering from the retention was intense and catheterization was necessary. The next day, under ether anesthesia, with the patient in the knee-chest posture, through a No. 12 Kelly speculum, I removed a small probang sponge with no difficulty at all. Following this the cystitis rapidly cleared.

Three months later the patient again called and said that for two weeks she had had a profuse watery vaginal discharge. With the patient in the knee-breast posture and the perineum retracted with a Sims speculum, a small bit of gauze was seen protruding from a small opening in the anterior vaginal wall. By constant traction another small probang sponge was removed. After this the patient recovered completely and the result of the Dührssen operation was entirely satisfactory.

The noteworthy features of this case are the complete closure of the wound in the presence of a foreign body, the appearance of one sponge in the bladder many months after the operation, and the other in the vagina months subsequent to this.

393 West End Avenue.

1. Stoeckel: Ztschr. f. gynäk. Urol., January, 1913, No. 1.

**Municipal Health Work.**—No city can know its own health conditions—no city can determine offhand whether its preventable diseases are excessive or not—unless there are available the data of other cities of like size and similarly situated. The average citizen becomes so accustomed to the prevalence of disease about him that he regards the condition in his home town as "normal" and "inevitable."—Birth and Death Bookkeeping, bulletin used by Association of Life-Insurance Presidents.

## Special Article

# BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(*Continued from page 1792*)

VIII

### COMMERCIAL MIXED VACCINES

It has been repeatedly asserted that vaccine therapy with marketed stock vaccines is far from satisfactory in actual practice, notwithstanding the widely advertised claims to the contrary. The mixed vaccines of commerce furnish evidence of the correctness of this assertion. Had vaccines of single bacterial species been successful, no firm in the vaccine business would have had occasion to offer the many and ridiculous combinations now on the market. A physician who embarks in vaccine therapy with commercial vaccines soon encounters the inevitable obstacles to success. By the vaccine maker he is led to ascribe these shortcomings to a variety of causes, none incriminating the method of second-hand treatment by the agency of these products. A faulty bacteriologic diagnosis, a mistake in dosage, a mixed infection, these or similar reasons are advanced to account for the lack of success. The theory of mixed infections leads to the idea of injecting several species of vaccines in one operation. To facilitate their use the manufacturer hits on the expedient of combining or mixing them. Once started, and with the impetus of ever-increasing competition, no end to the possible varieties of vaccine mixtures is in sight, unless this end is ordained by the physician himself. That the situation resolves itself into an imposition on the profession is the opinion of those whose practical familiarity with the subject best qualifies them to judge. A burden is being forced on the profession which will speedily assume the proportions attained by proprietary drug combinations. The menace can not be counteracted unless physicians will accept the guidance of unselfish, non-commercial interests and refuse to purchase and use mixed commercial vaccines.

### THE MIXED STOCK VACCINE A MAKESHIFT

The mixed stock vaccine of commerce is a makeshift. It is offered as a substitute for correct diagnosis. Like all such makeshifts in science it is doomed to failure. A canvass of the situation which shows that the medical profession is deluged with mixed vaccines of ever-increasing complexity, justifies this assertion. Since no limit to the absurdity is set by the manufacturer, one must be instituted by the profession itself. Such a limit would abolish all the ready-mixed vaccines on the ground of their having no rational indications for use, and because of their failure as therapeutic agents.

### MIXTURES TO BE MADE BY THE PHYSICIAN

Ready-mixed stock vaccines, even of the simplest possible composition, have nothing to recommend them. For those physicians who cannot prepare their own vaccines, or whose association with competent bacteriologists is not close enough to have autogenous vaccines prepared for them, the marketed stock vaccines of individual bacterial species should be available, to be mixed as occasion requires Instead of trusting to combinations so outlandish as most of the commercial mixed vaccines, a careful practitioner who ventures far enough into vaccine therapy to undertake the treatment of mixed infections should make his own mixtures. Such mixtures should preferably have as their indication the findings of a bacteriologic analysis, either by culture-test or by study of smear preparations. It is rare indeed that more than two bacterial species play a simultaneous pathogenic rôle in a mixed infection; hence the folly of injecting multiplex vaccines where the superfluous bacterial species are certainly wasted, and where they may nullify the effects of those properly indicated, or even work harm in other ways. In fact, there is still a well-founded doubt as to how far the germ of a secondary or a mixed infection is to be held accountable for the morbid process. Many authorities believe that in these complicated infections there is but one original and primary causative microbe whose conquest by natural or artificial agencies suffices. Diphtheria, for instance, is always a mixed infection if one may judge from the bacteriologic flora from a diphtheritic throat. Still the prompt neutralization of diphtheric toxin by antidiphtheric serum usually disposes of all infection. Should the antitoxin fail in this, no vaccine or combination of vaccines, even if directly derived from the afflicted individual, improves the situation.

### INCOMPATIBILITIES OF MIXED STOCK VACCINES

In the matter of chemical and therapeutic incompatibility there is still much to learn concerning our best-known drugs. Then consider bacterial vaccines—therapeutic novelties — which the most advanced bacteriologists hesitated to use ten years ago. What do we know about the chemical or physical interactions or incompatibilities of mixtures such as are to-day forced on the medical profession? When it comes to the problems of biologic or physiologic incompatibility of mixed bacterial vaccines, our ignorance is complete. Ignorance so complete should beget a fitting meekness, rather than blind folly such as attends the use of multiplex vaccines and allied products.

Experiments often repeated and clinical trials rigorously controlled form the only rational modern basis for recognizing therapeutic agents in medical practice. Why should these trials of biologic novelties be made by the private practitioner to satisfy the shortcomings of commercial firms? The welfare of his patients and his own reputation are at stake; the situation is too serious to be dominated by purely mercenary considerations.

### IDEAL VACCINE THERAPY

Under ideal conditions vaccine therapy would be prosecuted only by those physicians whose training in the several special fields of bacteriology, immunology and practical medicine had thoroughly qualified them to pursue the treatment with scientific discrimination and caution. The problem of a commercialized field would then be solved, for commercial vaccines would not flourish for want of a market, and commercial laboratories purporting to supply effective autogenous vaccines would languish for lack of patronage. But under present conditions such a desirable state is unattainable. In reality the medical profession has allowed itself to be exploited by mercantile interests to a point at which promiscuous vaccine therapy with all its faults is widely practiced. The pressing problem therefore becomes one of so directing the practice as to secure the utmost advantage to the profession and the public. To this end the following recapitulatory recommendations are offered:

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

*Commercial Vaccines of Single Species Alone Desirable.*—As material for his experiments in vaccine therapy the practitioner who relies on the market products should supply himself with vaccines of individual bacterial species. The physician should learn to discriminate cases in which stock vaccines can be successfully used, and procure a stock representing this selection.

*Simple Stock Container Recommended.*—For keeping his stock vaccines, the physician should insist on being supplied with a simple, inexpensive bulk container covered by a rubber cap or similar device to permit the ready withdrawal of portions of the vaccine without contamination of the remainder. A vaccine bottle fashioned on the model of Wright's original one, as previously described, answers the purpose admirably. This container should hold a suspension of killed bacteria sufficient to furnish at least twenty-five doses of average size. The package should contain not less than 10 c.c. of bacterial suspension, so concentrated as to yield the average dose for a given species in 0.25 c.c. A larger package of 25 c.c. would be convenient when the vaccines are employed more frequently. To illustrate the foregoing suppose the vaccine to be of staphylococcus, suspended in 10 c.c. of fluid, and of such a concentration that 1 c.c. contains 1 billion killed cocci. An average dose, or 250 million, would be present in 0.25 c.c. of the stock vaccine. With a properly graduated syringe the required amount of vaccine could be withdrawn, and if a very small dose, say 10 million, were required, boiled water or sterile saline solution could be drawn into the syringe after the vaccine to bring the fluid to a volume (0.5 c.c. to 1 c.c.) convenient for injection. A bulk package of this description would furnish enough vaccine to treat a single patient over a considerable period or to treat several patients, and, what is still more important, would allow the physician to exercise voluntarily that latitude in dosage so fundamental to success.

*Cost of Bulk Package.*—A bulk package or vaccine bottle as above described containing a suspension of any single bacterial species in amount sufficient to yield twenty-five or more average doses could be profitably furnished at a price not to exceed that now set on a single dose of commercial vaccine contained in a single bulb, bottle, ampule or syringe. Certainly there is no reason why the bulk stock vaccines here referred to could not be marketed at a price considerably less than that at which a package of vaccine virus (small-pox) of ten points or capillary tubes is offered. For economy and convenience the advantages of the outfit are such as to warrant its general adoption.

*To Prepare Mixed Vaccines.*—A supply of bulk containers representing the usual bacterial species not only arms the physician to undertake the treatment of simple infections, but also supplies him with the material by which he can prepare his own mixed vaccines. It is only necessary to combine the vaccines of such single species as are indicated, in such doses as experience has shown to be adequate. All of this is readily accomplished by withdrawing into a syringe from the several bulk containers the requisite quantity of bacterial suspension to meet the requirements. Presumably the indications for a mixture of this kind have been furnished by a bacteriologic analysis, preferably a culture test, or less desirably by microscopic examination of stained smear preparations. But even though this expedient at once assures an independence of the drawbacks of commercial ready mixed vaccines, it does not diminish the weight of a number of objections raised on good scientific grounds relative to the use of any sort of mixed stock vaccines.

NOTE.—In these articles the subject of phylacogens has not been considered, because, being neither serums nor vaccines, but in large measure toxic products of the metabolism of bacteria, they do not come within the scope of the present series. They have not been scientifically investigated; they are not standardized, nor are they standardizable; most serious and even fatal results have followed their use.

*(To be continued)*

---

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLE HAS BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. ITS ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

**SOLUTION AMYLENE-CHLORAL** (50%) Kalle.—Solution of amylene-chloral (50%) Kalle is a 50% solution by weight of methylbutanol-chloral, $CCl_3.CH(OH)OC(C_2H_5)(CH_3)_2$, produced by union of chloral, $CCl_3.CHO$, and 2-methylbutan-2-ol (amylene hydrate) $CH_3.CH_2.C(CH_3)(OH).CH_3$.

Absolute amylene-chloral (methylbutanol-chloral) is a colorless, oily liquid of characteristic, camphoraceous odor and cooling, burning taste. Soluble in alcohol, ether, acetone, and fixed oils in all proportions. It is insoluble in water, but on long contact with it goes into solution. On the further addition of water, separation occurs. Specific gravity, 1.24. Boiling-point —23 C. (—9.4 F.) with decomposition.

*Actions and Uses.*—Much like those of hydrated chloral, but with less power to abolish the reflexes and less irritant. It is used as a hypnotic and in mania.

*Dosage.*—The dose of solution amylene-chloral (50%) Kalle in insomnia is 0.5-1 Cc. (8-15 minims), in mania 1.5-3 Cc. (20-45 minims). Solution amylene-chloral (50%) Kalle is not adapted for hypodermic use as it is apt to give rise to irritation at the point of injection.

Manufactured by Kalle and Co., Aktiengesellschaft, Biebrich a. Rh., Germany (Merck and Co., New York). U. S. patent No. 635,471 (Oct. 24, 1899, expires 1916). No U. S. trademark.

---

**Solution of the Problem of Fee-Division.**—The whole question of fee-division, according to the *Journal of the Indiana State Medical Association* "resolves itself into one of just and adequate compensation for the general physician, and he is his own worst enemy in all efforts to better his condition. Either he does or he does not earn the fees he gets out of his surgical cases. If he earns them then let him charge and collect from the patient. If he does not earn them then he is not entitled to them as a gift from the surgeon, who ought to earn all that he charges. . . . The solution of the fee-dividing proposition, if the medical profession is to solve it, largely resides with the general physician. He must stop trying to get something without giving an adequate return. . . . He must try to raise his own level instead of trying to pull others down to his present level. He must, in company with every physician in general practice or a specialty, build up instead of tearing down, and, last but not least, he must be fair to patient and himself, and morally and ethically true to his profession. He cannot be this and indulge in fee-taking from the surgeon."

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, JUNE 14, 1913

## PURE FOOD WELL COOKED

There is some truth in the assertion that neither states' rights nor slavery, but the frying-pan, brought on the Civil War; for frying encapsulated the food in a layer of fat impervious to the digestive juices, and the resulting indigestion aroused the mutual enmities and the berserker rage of our fathers. America is preeminently the land of the deadly hot bread, the sinker, the flapjack, the Bingo frankforter, the quick lunch, dyspepsia, with its consequent neurasthenia, and the stomach bitters, which often approximate whisky in alcohol content. It would not be difficult to prove that "bad cooking has driven many a man to drink." Not only are our meats often badly cooked, but also vegetables are frequently boiled in a way which deprives them of their characteristic odor and their toothsomeness. "Villainous and idiotic" are the only adjectives that can describe our methods of cooking vegetables, in the opinion of Henry T. Finck,[1] in his gastronomic guide to health and good living. We make other dietetic errors when we sugar our salads and salt our fruits. There would seem to be among our people, in larger measure than elsewhere in civilization, a contempt for the culinary art, as if it were beneath notice, or decadent, or savoring of the effete old world. Yet what in life can be more essential than the right preparation of substances which are to keep the human machinery going, in order that the best may be got out of it, with fewest slowings down or interruptions?

In the Old World the relation of zest and fragrance to food is held vital, and justly so. Great Europeans, indeed, have seriously interested themselves in such matters. It is a dictum on the Continent that the *saucier* is born, not made. On numerous occasions the elder Dumas invited friends to dinner, personally prepared the most succulent dishes, and then, exchanging his cook's attire for his dress clothes, regaled his cronies with the products of his "noble art." Montaigne wrote a notable book on the science of cooking. Frederick the Great praised his cook in verse—the former being much better than the latter. Lord Bacon thought it no shame to bend his mighty intellect to the problems of the kitchen. The composer Rossini composed salads as symphonic in their way as his operas, and regretted that by reason of his neglected early education he could not have made cooking, rather than music, his profession. In Brillat-Savarin's great work, "The Physiology of Taste," are axioms as profound—at least as entertaining—as ever Plato or Epictetus set down. For example:

"The education of the tastes and the appetite should be an index of the degree of civilization."

"Digestion, of all bodily functions, has most influence on the morals of the individual."

"A good dinner is but little dearer than a bad one."

"The most momentous decisions of personal and of material life are made at table."

"The fate of nations depends on how they are fed."

"The man of sense and culture alone understands eating."

"The discovery of a new dish does more for the happiness of the human race than the discovery of a planet."

Louis XVIII invented a famous dish—which is perhaps the best thing he ever did for his people. The Prince of Condé won international fame as the inventor of an improved bean soup. Richelieu, Colbert and Mazarin were celebrated for like achievements.

It does not follow that, in emulation, our chief magistrate should add to his already illustrious services by donning an apron and inventing an entirely original *sauce princetonnaise;* or that our genial Secretary of State should aid our visitors from foreign courts to forget the episode of the unfermented grape-juice, by evolving for their delectation a *consommé à la Commoner.* But our fellow citizens and their better nine-tenths, and our doctors, and most emphatically our nurses, ought to make pure food well cooked a matter of serious national import. The only animal which cooks its food is man, and this is a badge of distinction from the brute. We cook food for at least four reasons: to sterilize it, to make it nutritious, to render it more easily digestible, and to improve or vary its flavor. The last of these is at least as important as any of the others. When the gustatory nerves tingle in response to the stimulus of some rare condiment or aroma, the saliva flows in joyous excitement, and the digestive juices, by whose benign influences food is transformed into nourishment, respond in salutary and fullest measure. The simple and pleasant way to bring this about is to pay proper attention to the flavor of food.

1. Finck, Henry T.: Food and Flavor, New York, the Century Company, 1913.

## RADIUM IN THE UNITED STATES

The applications of radium in the domain of medicine and the possibilities of its ultimate efficiency in the treatment of disease are still too little understood to permit of any generalizations or unchallenged statements in respect to radiotherapy. The readiness with which the quack and nostrum faker have adopted the unproved virtues of radio-activity in the prosecution of their lucrative nefarious practices is familiar to those readers who

have followed our Propaganda for Reform and have become acquainted with the exploitations of Radol, Radio-Sulpho, and others of that class. Despite this unfortunate misuse of the newer contributions of chemistry which include discoveries that already have revolutionized our ideas regarding the constitution of matter, it must be admitted that radium with its unknown possibilities as well as its marvelous properties has entered into both medical thinking and doing in a way that cannot be overlooked. The alleged potency of the element is only exceeded by its actual price.

Radium institutes have been established in Austria, France, Germany and England; yet few persons are cognizant of the fact that the United States has radium-producing deposits within her borders and has taken the palm from Austria as the radium-producing country of the world. The experts of the Bureau of Mines have lately revealed a situation in respect to this unusually valuable element which leads to the rather surprising conclusion that while all the radium placed on the market in the last few years has been produced in Europe, a large portion of this output has come from American ores.[1] Carnotite and pitchblende are the uranium minerals which carry the radium. Practically the total American output of pitchblende, the richest of these, has come from the mines in Gilpin County, Colorado. Pitchblende of the highest grade was sent out of the country at a time when the world's radium output was supposed to be coming from Austrian ores. Parsons has pointed out that while the Austrian government, realizing the untold possibilities of the radium ores of St. Joachimsthal, has purchased the mines, put their output under direct governmental supervision, and entered into an arrangement whereby this ore is worked up in cooperation with the Vienna Academy of Sciences for experimental purposes in a carefully administered radium institute, America has allowed her much more extensive resources to be exploited on a basis which wastes perhaps irretrievably a large portion of the material mined, and has exported carefully selected ores at a price by no means commensurate with their radium value if worked up at home. At least 20 or 25 tons of high-grade pitchblende have already been sent out of the country.

Of late the foreigners have realized the value of our carnotite resources. This mineral, which always carries vanadium as well as uranium and radium, is purchased almost wholly on its radium content. The more important deposits are scattered over a considerable area in Colorado and Utah. The U. S. Bureau of Mines has discovered that these ores are being shipped abroad in some quantity. An idea of the position of this country in the matter may be gathered from the official data. During the last year, carnotite was produced carrying 28.8 tons of uranium oxid ($U_3O_8$), from which 8.8 gm. of radium chlorid or 11.43 gm. of radium bromid could be obtained. Practically all of this ore was shipped abroad for the extraction of radium. The value of the radium salts extracted would be $528,000 at the minimum market price. The total supply of radium salts from all other sources including the Austrian mines was probably not more than 3.65 gm. of radium chlorid, basing the production of the Austrian mines for 1912 on that of 1911, which is known. According to the government information it is quite certain that if the ores which have been mined in this country and abroad and sold for radium production have been actually worked up into this material, there is now in existence something like 40 gm. (1¼ ounces) of radium. The price of radium salts varies somewhat. In large quantities it has been $60,000 per gram for both radium chlorid and radium bromid, although the latter contains less metallic radium in proportion to its weight than the former. It should be remembered, therefore, that it is more advantageous to purchase radium chlorid than radium bromid. In small quantities the average price has been $80,000 per gram, which represents about $2,250,000 an ounce.

Bearing in mind that practically every ton of radium-yielding ore mined in 1912 went abroad, that the American deposits are by no means inexhaustible, that we are rapidly depleting our reserve and shipping away material of great value and unknown possibilities which cannot be replaced, that the American medical fraternity has been compelled to procure from abroad such radium as individuals or hospitals could afford, and that the study of the possible application of radium in a therapeutic way has been hampered greatly by its almost prohibitive price, we must welcome an investigation of the situation by American authorities. Scarcely any one has taken up the extraction and refining of radium in this country—the very place where carnotite ores that cannot find a market in Europe are to-day being thrown on the dump and wasted. Perhaps when the days of conservation of our natural resources at length arrive we shall be glad to concentrate and conserve what our foreign friends once rejected when they were exploiting the treasures to which we ourselves were blind.

1. This and other statements quoted are taken from the authorized report of experts of the Bureau of Mines, presented before the American Chemical Society at Milwaukee in March, 1913, by Prof C. L. Parsons. For details see Jour. Ind. and Eng. Chem., 1913, v, 356.

## HEALTH, HYGIENE AND HAUNTED HOUSES

It is by no means a new experience to find the miracles of ancient days and the mysteries of occult arts fading away in the light of modern science. The bloody bread of the Middle Ages, for example, with its sinister forebodings and religious implications, has to-day become a simple demonstration in bacteriology. Unexpected luminous surfaces appearing in the absence of any visible source of light are easily explained by any student of the biology of phosphorescence. Even the almost impenetrable marvels of the active mind as well as those curious manifestations, like hypnotism, which pass

under the name of psychic phenomena are yielding to the attempts at a rational interpretation. Weird visions and strange ghosts have at length become the expressions of a disordered mind rather than the visitations of an offended deity. And now the "haunted" house—chronicled in fiction and actually shunned in real life—has been deprived of its mystifying wonders and frightful horrors by the findings of twentieth century hygiene.

Dr. Franz Schneider, Jr.,[1] of the Massachusetts Institute of Technology, has investigated a house in the Back Bay district of Boston which had acquired the annoying reputation of being "haunted." The experiences which led to the investigation were too serious, the symptoms too real, the reports too often repeated and reliable to be overlooked or regarded as mere hallucinations. The slumbers of the inmates in the upper stories were disturbed by strange sensations, such as those of oppression or paralysis; they frequently continued after the sleeper was thoroughly awake and even after the lights had been turned on. The involved children appeared pale and sluggish in the morning, even cold water losing its power to enliven them.

A careful inspection of the building gave the key to the situation. The theory of undetected leaks of illuminating gas as a source of intoxication could not be verified in this case; but it developed that the gases escaping from a "viciously defective" hot-air furnace were sufficient to cause the trouble. The separation between the fire-box and the hot-air ducts (on which the hygienic integrity of the outfit depends) was badly broken, and as a result the inhabitants of the house were bathed in an atmosphere of diluted flue gases. We are confident that this condition might be discovered in many other American homes. Flue gases contain, especially when the combustion is incomplete, considerable amounts of sulphurous oxid and carbon monoxid, both distinctly poisonous gases.

The symptoms in Schneider's cases pointed to the carbon monoxid as the probable chief offender. Sensations of oppression and other mental disturbances are said to be typical of acute carbon monoxid poisoning. Any textbook description of the toxicology of carbon monoxid will bring to mind the possibility of loss of psychic powers, the confused sensations and other features which suffice to explain the sense of oppression that persistently entered into the delusions of the inmates of the "haunted" house. The belief in walking spirits is easily nourished by persons in whose minds real noises would be likely to become exaggerated during the intoxication.

The sensations of apparitions induced by the breathing, during sleep, of a tainted atmosphere are of interest to the students of psychic manifestations. To the medical man Schneider has pointed out some patent hygienic lessons. The hot-air furnace, often praised for its ventilating effect—and with justice when properly operated and in perfect condition—may evidently become a distinct menace to health. May there not be cases of a milder order, which escape detection while still causing slight poisoning? Slight leaks of illuminating gas have often been suggested as a cause of headaches and anemias of obscure origin. Perhaps, as Schneider suggests, we should more often look to leaky furnaces and flue gases for similar effects.

1. Schneider, Franz, Jr.: An Investigation of a "Haunted" House, Science, May 9, 1913, p. 711.

## THE CAUSE OF CHRONIC POLYURIA

The theories as to the cause of that form of chronic polyuria which often still bears the rather inappropriate title of diabetes insipidus are far from concordant. The distinction has been made between this disease and primary polydipsia in which the power of the kidneys to secrete a more concentrated urine is not lost, but the low specific gravity is due to the result of the inordinate thirst of the patient rather than any inherent defect of the kidney. In the idiopathic forms of the disease, however, we are not dealing in the first place with increased thirst or blood changes, but with an unquestionable disturbance in the secretory functions of kidneys so that one has in fact to do with a primary polyuria. It has been maintained, especially by E. Meyer; that this results from an incapacity of the kidneys to secrete a urine of normal concentration. The specific gravity in such cases is notably low, generally not exceeding from 1.001 to 1.005, with quantities of urine ranging up to a reported maximum of 43 liters (45½ quarts) in a single day.

If, as suggested above, the functional incapacity lies in an inability to produce a suitable concentration of the urine so that the kidney output shall approximate that seen in ordinary conditions of renal efficiency in health, the patient, in order to eliminate the excretory products circulating in the blood, has to imbibe larger quantities of water than does the normal individual. When this general explanation is put to the test we must expect that after increasing the renal work to be performed, as for example after ingestion of sodium chlorid, the concentration of the urine will remain unincreased at all events, the excretory needs of the organism being met on such occasions by a sufficient augmentation in the urinary volume to carry away the added burden of waste. This, in essence, has been Meyer's belief.

It has been admitted that some concentration of the urine can be brought about when the kidneys in these unique cases are subjected to the influence of certain drugs, notably diuretics and opium. Forschbach[1] has demonstrated, nevertheless, that it is possible to induce the same results even without the use of pharmacodynamic agencies. Granting the truth of this, it becomes apparent that the underlying cause of the polyuria is not due to an inability of the kidneys to concentrate the secretion, but rather to a pathologic condition in

1. Forschbach: Zur Frage des Konzentriervermögens der Niere beim Diabetes insipidus, Ztschr. f. klin. Med., 1913, lxxvii, 153.

which an exaggerated secretion of water is the determining factor. The abnormality is thus to be sought in those kidney elements which are concerned with the secretion of water. Whatever the ultimate truth may be, the conception of the abnormality of chronic polyuria as something associated with the output of a single urinary component, water, with a presumable increased irritability of the cellular structures involved in its secretion alone, furnishes a simple hypothesis in the search for its etiologic factor.

## THE BEDBUG

The alleged humor of which *Cimex lectularius* has been the subject should not obscure the serious rôle played by the bug in common with the fly, the mosquito, the flea and the louse as a conveyor of infection. Relapsing fever, bubonic plague, kala-azar, small-pox and typhoid fever have been transmitted by various species of the bedbug, and possibly the investigator might find here the explanation of otherwise inexplicable endemics in uncleanly neighborhoods. Epidemics of smallpox have been disseminated in cheap lodging-houses by this polecat among insects; and were it not for the frequent vaccinations compelled by health departments, such epidemics would very likely be more frequent than they now are.

Rucker[1] observes that in biting, the bug anchors itself to the skin with its pair of mandibles and then inserts its maxillae, which are shaped like gutters, and when placed together form a tube that is used to extract blood and to put saliva into the wound. Pathogenic bacteria may be conveyed in this way. The bedbug hides during the day and sometimes hibernates during the winter. When it lacks animal sustenance, it feeds on the juices of decayed wood or on the dust in floor cracks, and can go without food for a long time. It may continue its existence under adverse circumstances from season to season, in lumber camps, in summer houses, empty apartments and the like.

The housewife is greatly mortified by the creature's presence under her roof; but she is by no means always blameworthy. It may get into the traveler's trunk or satchel from an uncleanly hotel or sleeping-car or invade the home in the laundry or on the clothing; thus Manning[2] witnessed the migration of a bedbug across the aisle of a car from a sick man to the skirts of a party of women. Or it may migrate through walls from one house to another, sometimes in a continuous pilgrimage, especially when the dwellers of an infested house move away, thus cutting off the commissariat of the parasite. It may then escape through windows as well as walls, along water-pipes or gutters to new pastures. Thus the tidiest housewife may be victimized. Apart from ordinary dwellings, log cabins easily become infested; ships also entertain the bedbug in considerable degree. Poultry-houses, dove-cotes and the hiding-places of bats may easily become infested with the bedbug or nearly related species, and sparrows' and swallows' nests under eaves, which are often alive with the vermin, may be their portal of entry into houses. Ambitious medical graduates have been known to seek internships in hospitals noted rather for the vast amount of material they offer for study and experience than for their hygienic standards. Such fortunate interns should avoid sitting on the beds of hospital patients or letting their clothing come in contact with bedding during examinations; unfortunate transfers have been known to occur.

A thorough extermination of the bedbug would result also in the extermination of other dangerous insects infesting houses. The local application of boiling water and other substances[3] will kill a few bugs and drive others away, but serious efforts at extermination require fumigation. To be thorough, this should be done systematically by the municipality. Manning[4] has called attention to bedbug extermination as one of the measures to be employed in the prevention of all diseases whose virus is present in the blood of the host during the acute stage of the disease. Of all methods Manning says that there is none which would exceed in effectiveness the annual compulsory municipal fumigation of all habitations of man.

1. Rucker, W. C.: The Bedbug, Pub. Health Rep., Nov. 15, 1912.
2. Manning, Jacolyn Van Vliet: Bedbug Agent of Transmission of Infantile Paralysis, New York Med. Times, April, 1912, cited by Manning in Bedbugs and Bubonic Plague, Med. Rec., July 27, 1912.

## THE CELLULAR ELEMENTS IN MILK

The discovery of leukocytes along with bacteria, notably streptococci, in cow's milk has long been a matter of serious concern to American students of the various aspects of the milk question. The earlier careful examinations disclosed that these cells were present to a greater or less extent in most milks, but were less numerous in normal milk than in the milk of diseased animals. At one time it seemed imperative to take serious cognizance of the leukocytes, which were quite naturally identified with "pus cells." There is, of course, no intrinsic difference between these types of formed elements; and inasmuch as the occurrence of pus was associated with inflammatory processes, its appearance in the milk engendered the seemingly well-founded suspicion of diseased mammary glands as the source of the secretion examined. Not only was the idea of consuming pus as food repugnant to the average person, but in view of the indications of diseased udders which it inevitably conveyed there arose a demand to have an arbitrary number of cells to a certain quantity of milk fixed as a limit beyond which the milk was to be regarded as unfit for use. As a government official remarked, it was only a question to what extent the evil was to be endured.

3. See Queries and Minor Notes Department, this issue.
4. Manning, Jacolyn Van Vliet: Bedbugs and Bubonic Plague, Med. Rec., July 27, 1912.

During the attempts to fix a standard limiting the number of cells in acceptable dairy milk, the extensive investigations of this product secured under the widest diversity of conditions brought out clearly the fact that leukocytes occur in milk even when the gland structure shows no evidence whatever of inflammation. Therefore it was no longer necessary to assume that because so-called pus cells were detected in market milk it must inevitably be contaminated with the mammary secretion from one or more cows suffering from garget or allied conditions. In sections of functioning normal mammary glands isolated cells are found to be numerous in the capillaries and in the connective-tissue spaces between the alveoli, from which they make their way between the gland cells and appear in the milk. Russell and Hoffmann[1] made a large number of counts from the milk of cows in which there was not the slightest clinical evidence or any history of udder disease; they obtained results as high as 1,800,000, while 33 per cent. gave counts higher than 500,000 per cubic centimeter; 83 per cent. of those with slight udder disease or a history of garget gave counts of 500,000 per cubic centimeter or over. It appears that the retention of milk in the gland ducts and alveoli for an unusual period causes a large increase in the number of cells, for such conditions are favorable to their migration.

An investigation on the nature of the cellular elements present in milk, conducted for the British Dairy Farmers' Association by competent observers[2] has corroborated some of the foregoing statements. Cells, sometimes in enormous numbers, were found present in all milk, whether from the cow, goat, ass or man. Considerable variations in number occurred without apparent cause; and the presence of the slighter forms of nonsuppurative mastitis did not seem to influence definitely the number of these cells. It is of considerable import that no forms resembling polymorphonuclear leukocytes were detected, though certain multinucleated cells, undoubtedly derived from one of the layers of the glandular tissues of the udder, might be mistaken for polymorphonuclear leukocytes.

In the hope of shedding further light on the nature and source of the cells found in milk the British investigators have studied the histologic appearance of the udder itself more carefully. Their examination has shown the extreme paucity of polymorphonuclear leukocytes in the interalveolar tissue also, and so far as can be seen their complete absence in the lumina of the alveoli. From a survey of the entire situation the conviction has been reached that the cellular elements found in milk, either normally or in ordinary catarrhal or interstitial nonsuppurative mastitis, are tissue cells, and that "pus cells," in the ordinary acceptance of the term, do not appear in milk under these conditions.

1. Russell and Hoffmann: Jour. Infect. Dis., 1907, Suppl. No. 3.
2. Hewlett, R. T.; Villar, S., and Revis, C.: The Nature of the Cellular Elements Present in Milk, Jour. Hyg., 1909, ix, 271; 1910, x. 56: 1911. xi. 97: 1913. xiii. 87.

# Current Comment

## HOW MUCH LOSS OF BLOOD IS COMPATIBLE WITH SURVIVAL IN THE HUMAN BEING?

This is a question which is frequently discussed. While it probably never can be solved with any degree of absolute accuracy, yet certain facts now at hand indicate an approximately correct answer, at least for a certain class of persons, namely, women at the time of childbirth. In post-partum hemorrhage the amount of blood lost naturally varies a great deal. It seems that a loss of 2 kg. (approximately 4 2/5 pounds avoirdupois) is not unusual, and cases are described in which the loss of from 2½ to 3 kg. (upward of 6 3/5 pounds avoirdupois) has been survived.[1] This is of course exceptional, but in most cases of excessive loss of blood from post-partum hemorrhage the loss is not accurately measured. Were that done, perhaps we should learn that survival of such great loss occurs oftener than now suspected. Here arises the further question, namely, How much blood has an adult, normal human being? The usual statement is, one thirteenth of the weight of the body. This is the result that Bischoff obtained from actual measurement of the blood in the bodies of two executed criminals. Other methods have given somewhat divergent results, usually considerably less. Behring's method, however, which consists in injecting a definite amount of tetanus antitoxin intravenously and then after a little while withdrawing a definite amount of blood and estimating the quantity of antitoxin in it, gave on calculation the total amount of blood as nearly one thirteenth of the body-weight. Assuming then that the blood is practically one thirteenth of the weight of the body, a person weighing, say, 130 pounds (about 60 kg.) has 10 pounds (about 4.6 kg.) of blood, and one weighing 156 pounds (about 70 kg.) has 12 pounds of blood (5.36 kg. approximately). Assuming, further, that the amount of blood is not materially different in the pregnant and nonpregnant woman, we reach the conclusion on the basis of the facts mentioned, that in post-partum hemorrhage the patient may survive a loss of about half of the total amount of the blood in the body. Whether or not this conclusion is applicable to other forms of acute loss of blood is not definitely determined, but it is probably not far out of the way.

## HOUSING AND HEALTH

In much of the current discussion of housing and city-planning the need of a basis of observed fact is apparent. A recent analysis by Chalmers[2] of conditions in Glasgow is an important contribution to the difficult problem of the relation of house-room to death-rate. An examination of the age distribution of the population of Glasgow showed that a considerable proportion of the difference in the death-rate recorded for dwellings of various sizes could be ascribed to the large number of children in the smaller houses. The number of children under 5 years constituted 19 per cent. of the total population living in one-room houses, 14 per cent. in two-room, 7 per cent.

1. Gjestland: Norsk Mag. f. Lägevidensk., 1913, lxxiv, 593; abstract in THE JOURNAL, this issue, p. 1932.
2. Chalmers: Med. Officer, 1913, ix, 202.

in three-room and only 4 per cent. in houses of four rooms and upward. Further analysis, however, showed that simple differences in age distribution would not explain altogether the differences in death-rate in houses of various sizes. Assuming a standard age and sex distribution, it was found that a population of 100,000 with the Glasgow death-rate would yield 2,024 deaths annually in one-room houses, 1,683 in two-room, 1,263 in three-room and 1,032 in houses of four or more rooms, while in institutions the deaths would number 3,649. With regard to the causes of death the problem becomes very complex. In infectious diseases, including pneumonia, the higher rate fell on the smaller houses. Diseases of the nervous system in adults, on the other hand, were apparently more prevalent among the inhabitants of the larger houses. Chalmers regards the evidence as showing that the children born in the smaller houses are from the start under a serious physical handicap which is related to some extent to the food-supply. This could be traced to the prevalence in this group of various forms of disease of the digestive organs. "In later life the influence of the birth surroundings did not wholly disappear, but these were obscured by the influences of adult life, which, as in the case of diseases of the nervous system, tended to become degenerative in type, and appeared more frequently among the occupants of houses of larger size." Whether or not these particular conclusions are found to be generally valid, it will be recognized that the careful scrutiny and statistical analysis on which they are based is the only method likely to lead to permanent results. In a word, it is not a simple task to determine the influence of housing on health. Comparison of death-rates without reference to age, sex, race or economic condition may be quite misleading.

---

## WILL ARKANSAS STAND FOR THIS?

The following interesting item appeared in the Little Rock *Arkansas Gazette,* May 13, 1913:

> Fourteen graduate students of the Eclectic Medical University of Kansas City arrived in Little Rock on a special Pullman yesterday to take examinations before the State Eclectic Medical Board of Arkansas and be admitted to the practice of medicine.
>
> Graduates of the Kansas City school have to go to other states for examination because the Missouri State Board of Medical Examiners will not admit them to examinations. Thus arrangements were made this year for the eclectic students to be examined by the Arkansas board.

It should be stated that the medical school referred to has very little, if any, semblance to a "university." After repeated inspections the institution was rated low in Class C by the Council on Medical Education. Also for the last two or three years it has been reported as not in good standing by the Missouri State Board of Health and for that reason its graduates have been refused examination in Missouri for the license to practice. Reports received indicate also that this college is not recognized in twenty-two other states. Nevertheless, the college has apparently found a safe haven for its graduates in Arkansas, which, unfortunately, has parceled out to three separate boards the authority of examining into the qualifications of those who are to practice medicine. In this connection, the results of the examinations of graduates of the Eclectic Medical University by the Arkansas Eclectic Board during the last three years as compared with the results in other states during the same time are interesting. The following is based on the statistical data published in the last three state board numbers of THE JOURNAL:

| Examined in | Examined by the Arkansas Eclectic Board | | | Examined by Other Licensing Boards | | |
|---|---|---|---|---|---|---|
| | Passed | Failed | Per Cent. Failed | Passed | Failed | Per Cent. Failed |
| 1910 .... | 4 | 0 | 0. | 2 | 4 | 66.7 |
| 1911 .... | 11 | 0 | 0. | 2 | 6 | 75.0 |
| 1912 .... | 13 | 0 | 0. | .. | .. | ... |
| Totals.. | 28 | 0 | 0. | 4 | 10 | 71.4 |

Note that of the twenty-eight graduates of the above-named college who were examined by the Arkansas Eclectic Board, every one passed, whereas of the fourteen graduates examined in other states in the same three years, ten, or 71.4 per cent., failed! Is this the "safeguard" Arkansas has established against incompetent and unqualified practitioners of medicine? Will Arkansas stand sponsor for the graduates of a low-grade medical college which in its own state and in twenty-two other states is not deemed worthy of recognition? Do not the people of Arkansas deserve as good doctors as the people of other states?

---

## THE JOURNAL AN ENCYCLOPEDIA OF MEDICAL INFORMATION

In the Knocks and Boosts Department of this issue, Dr. Walter F. Hamilton makes some remarks which are so important as to deserve mention here for the benefit of other readers who possibly are not making the most of their annual investment in THE JOURNAL. In the first place, he keeps his copies of THE JOURNAL on file. He does not say whether he binds them permanently or temporarily or merely piles them on shelves. At any rate, he has them for reference. Knowing the vast number of topics covered week by week, and that practically all the live topics of the day are discussed in its columns, he refers to his index and hunts up what has been said by THE JOURNAL and its contributors on any particular subject that arises. The index is made for just this purpose: to preserve and to use in after years. Thousands of physicians use it regularly, and any physician who may not be making regular use of it is neglecting one of the most valuable features of THE JOURNAL.

---

## THE OPIUM EVIL A NATIONAL RESPONSIBILITY

Since the opium exclusion act of 1906, the United States government, which initiated the international movement to regulate commerce in drugs, "has taken no further definite action for federal control of the opium and allied traffics of the United States."[1] Of the foreign

1. Report of the Secretary of State on anti-opium legislation, referred to Congress, April 21, 1913, by President Wilson.

nations cooperating in the antinarcotic movement, many have enacted drastic domestic laws on the matter. But here is still staged the spectacle of separate states with differing laws inadequate to the situation both in detail and in enforcement. The efforts are not to be undervalued of those states which have seen the drug peril in this country and have used the means within their power to control this evil; but at the conference soon to be resumed at The Hague, significance will lie not in our stringent individual state laws but in the quality of our federal legislation; not in sporadic local efforts but in laws expressing the attitude of the nation as a whole. Meantime "there are few if any subjects regarding which legislation is in a more chaotic condition than the laws designed to minimize the drug-habit evil."[2] It should not be forgotten that three years ago the number of drug addicts in this country was estimated at more than one million;[3] that 400,000 pounds of opium are imported into the United States and consumed yearly, and 150,000 ounces of cocain illegitimately used;[2] that drugged "soothing syrups," medicated "soft drinks," and habit-forming "treatments" galore still spell prosperity for their exploiters, and that almost daily are seen such reports as "cocain used by sons of prominent families," "boys use heroin," "heroin cough-tablets bought daily at confectionery store by school-girls of 11 and 13"; or yet again, "physicians sell cocain to drug-fiends," "doctor sells cocain to boys."[4] Such facts must stir every one to respond to President Wilson's special message of April 21, 1913:

> It will always be, I am confident, a subject of gratification to the nation, that this government, realizing the extent of the opium and allied evils, should have initiated the world-wide movement toward their abolition. At this vital period of the movement to fail to take the few final steps necessary definitely and successfully to conclude the work would be unthinkable, and I therefore trust that there may be no delay in the enactment of the desired legislation and the consequent mitigation if not the suppression of the vice which has caused such world-wide misery and degradation.

We have commented[5] on the admirable efforts made by the Chinese nation to free itself from the opium traffic. Surely a young and vigorous country like ours will not slothfully permit itself to be overcome by the evil which has been so manfully withstood by the ancient land of China, nor permit in its own legislation a weakness which might tempt China from the "unswerving sincerity" of its policy in recent years.

## INTERN WORK REQUIRED FOR GRADUATION

Rush Medical College will require[1] all students entering for the summer quarter of 1914 and thereafter to register for a five-year medical course. The fifth year is to be spent by the student either in graduate work in one of the departments of the college or as an intern in an approved hospital under the constant supervision of the college faculty. The fifth-year course was established in 1905, but was made optional owing to the wording of the Illinois practice act which required that only graduates of medical schools could serve as interns in hospitals. The practice act has since been amended, thereby permitting the college to require the intern year prior to granting the degree. This makes three medical colleges which have definitely decided to require the fifth year of intern or other clinical work. In 1910[2] the University of Minnesota College of Medicine adopted the requirement for all students entering in the fall of 1911 and thereafter. A few weeks ago also[3] Leland Stanford Junior University Department of Medicine announced a similar requirement for all students entering in 1914 and thereafter. There is also one state, Pennsylvania, which after Jan. 1, 1914, will require that every candidate in order to be eligible to receive a license to practice in that state must have first obtained an internship, which, however, need not necessarily have been obtained prior to graduation, but must have been taken in a hospital approved by the Pennsylvania board. There is much to say in favor of the college requiring the internship prior to granting the degree. The chief advantage is the constant check which the college will or should have on the intern's work; this will be in marked contrast to the haphazard manner in which interns, in some instances at least, carry out their obligations to the hospitals. This new arrangement gives assurance of a better training for the intern, of more satisfactory intern service for the hospital, and of safer and more thorough care of the patients in the hospital. Altogether, this next great step in the advancement of medical education, which is apparently to be brought about in the near future, will provide for the public more thoroughly qualified and skilled practitioners of medicine.

## MEDICAL RESEARCH AND MEDICAL EDUCATION

The announcement was made last week[1] that a million dollars had been given to develop medical research at the University of California. This generous gift will provide a research institute on the Pacific coast comparable with the Rockefeller Institute in New York City. It will differ from the Eastern institution, however, in that it will be closely connected with a medical school. This is as it should be. While medical research has no place in the undergraduate medical curriculum, its presence in the medical school is of the highest importance. It creates an atmosphere of investigation with which every medical student should become imbued. It is carried on by a group of workers who are also medical teachers and the best teachers are always those who are also actively engaged in medical research. Medical research is, in fact, the very soul of medical education; without it the medical school is likely to become a mere machine, teaching the discouraging facts regarding morbid processes, sickness and death without the inspiration of encouragement and hopefulness which comes from delving after new truths and the discovery of new means

2. Digest of Laws . . . Relating to Habit-Forming Drugs. Pub. Health Bull. 56, 1912.
3. Kebler, L. F.: Habit-Forming Drugs, Farmer's Bull. 393, Bureau of Chemistry, 1910.
4. Newspaper clippings, April, 1913.
5. China Suppressing the Opium Habit, editorial, THE JOURNAL A. M. A., Dec. 7, 1912, p. 2073.
1. Illinois News, this issue.

2. A Year as Intern in a Hospital, Current Comment, THE JOURNAL A. M. A., Oct. 1, 1910, p. 1206.
3. California News, THE JOURNAL A. M. A., May 10, 1913, p. 1467.
1. California News, THE JOURNAL A. M. A., June 7, 1913, page 1802.

of alleviating disease and pain. In the medical school without research the highest ideal held by the student may often be the financial returns he may obtain from his practice. In the research school, on the contrary, the student, by the time he graduates, is led to realize that his study of medicine has just begun and also to realize how boundless are the possibilities for usefulness in the field of medicine. It is undoubtedly the latter school which turns out the best practitioners of medicine. It also turns out those who are better prepared to serve their communities in promoting improved sanitary measures whereby needless sickness and suffering are prevented. Our congratulations are extended to the people of California and of the Pacific coast on their recent good fortune.

## THE MINNEAPOLIS SESSION

This issue of THE JOURNAL will reach its readers on the eve of the Minneapolis session. The American Medical Association this year holds its convention under most favorable circumstances, the University of Minnesota being hostess on her spacious campus. The arrangements for the meeting are completed and promise a pleasant and profitable time. The elaborate descriptions of these arrangements and of the city in which the meeting is to be held appeared in THE JOURNAL, May 10. As the members register they will be given copies of the official program, badges, invitations and complete schedules of all the events of the week. The report of the legislative proceedings of the meeting will begin in the issue of June 21 and will continue in following numbers. The publication of the scientific papers read before the various sections will commence in the first issue of July and their presentation will be pushed rapidly. The thousands who will attend the session (and doubtless many will be induced to come at the last minute by the convenient location) are but a small percentage of those who will think next week of the scenes being enacted on the campus of the University of Minnesota. There is every prospect of a meeting that will be noteworthy in pleasure and profit.

## THE PICTURES OF THE OFFICERS

We take pleasure in presenting in this issue a portrait of the President-Elect, John A. Witherspoon of Nashville, Tenn., who will be installed in office, next Tuesday morning at Minneapolis, as President of the American Medical Association. We also present two groups of pictures of some of the section officers, one group of the chairmen and one of the secretaries. These two groups comprise most of the section officers at present serving whose pictures have not previously been given.

**Advertismo Occulta—A Recent Disease.**—Advertismo occulta is not yet described in text-books, though numerous sporadic examples have occurred within a year. Students of mental diseases would describe it as a form of "exhibitionism." It is an affection of the sense of justice. Recently a well-known surgeon came down with it. A review of the reported cases seems to show that this disease particularly affects surgeons. In brief, advertismo occulta is that form of advertising in the lay press or magazines, of which the subject (hero) is not supposed to be aware that he is being described.—B Joseph in *Vermont Med. Monthly.*

# *Medical News*

### ARKANSAS

**Licenses Revoked.**—The secretary of the State Medical Board of the Arkansas Medical Society announces that on May 14 the board in regular session revoked the licenses of Drs. F. A. Goodwin, Magnolia, and J. M. Byrd and A. J. Whitworth, Hot Springs, for publicly advertising special ability to cure chronic and incurable diseases.

**Honor Dead Members.**—At the annual meeting of the Arkansas Medical Society, Dr. J. L. Greene, Little Rock, reviewed the life of the late Dr. Edwin R. Dibrell, Little Rock. Dr. A. M. Hathcock, Harrison, paid a tribute to the memory of Dr. A. J. Vance, Harrison, and Dr. H. Moulton, Fort Smith, reviewed the lives of Drs. Fred A. Mickel, Van Buren, W. J. Pittman, Fort Smith, J. S. Sibley, Paris, A. J. Vanee, Harrison, J. D. Bradley, Fort Smith, and O. M. Bourland, Van Buren, deeeased members of the society.

**Personal.**—Dr. T. J. Stout, Brinkley, has resigned from the State Board of Health.——Dr. George S. Brown, Conway, has been elected health officer for Faulkner County.——Dr. Robinson Bosworth has resigned as superintendent of the State Tuberculosis Farm, Booneville, to resume praetice in New York City.——Dr. S. P. Vaughter has been elected physieian of the School for the Blind, Little Rock; Dr. J. G. Watkins, oculist and aurist for the Deaf Mute Institute, Little Rock, and Drs. Anderson Watkins and Sterling Bond have been appointed physicians to the latter institution.——Dr. William A. Brooksher has been elected chief of staff and Dr. J. G. Southard, secretary of the medical staff of Sparks Memorial Hospital, Fort Smith.——Dr. Olive Wilson, Paragould, has been appointed city health officer.

**New Officers.**—Annual meeting and banquet of the Alumni Association of the Medical Department of the University of Arkansas, held in Little Rock, May 21: Dr. T. M. Fly, Wampoo, reelected president and Dr. W. M. Wear, Etna, secretary.——Cleburne County Medical Society at Heber Springs, May 19: president, Dr. F. G. Richardson; secretary-treasurer, Dr. Horace E. Ruff, both of Heber Springs.——St. Francis County Medical Society at Forrest City, May 13: president, Dr. J. C. Reynolds, Colt; secretary-treasurer, Dr. D. A. Pelton.——Ashley County Medical Soeiety at Hamburg: president, Dr. A. D. Knott, Wilmot; secretary-treasurer, Dr. A. E. Cone, Portland.——Fulton County Medical Society at Salem: president, Dr. C. W. Culp, Mammoth Springs; secretary-treasurer, Dr. L. F. Weathers, Salem.——Arkansas State Negro Medical Association, twentieth annual meeting, Hot Springs, May 29-30: president, Dr. J. G. Thornton, Little Rock; seeretary, Dr. A. A. Womack, Little Rock.

### ILLINOIS

**Clara Barton Memorial.**—The alumnae of Roekford College are endeavoring to secure a fund of $500,000 to put up the Clara Barton Seience Building with a properly equipped laboratory, and to endow a Clara Barton chair of biology and bacteriology.

**Personal.**—Dr. Sidney D. Wilgus, superintendent of the Kankakee State Hospital, has resigned.——Dr. and Mrs. E. E. Gilder, Peoria, have returned from abroad.——Dr. William Hecker, Watseka, is returning from Europe.——Dr. William M. Freeman, Crystal Lake, was operated on for appendieitis in St. Joseph's Hospital, Elgin, June 2.——Dr. Thomas O. Felts, Bloomington, has been adjudged insane and committed to the Peoria State Hospital.——In the case of Drs. C. F. Brian, Bellmont, and R. L. Moter, Browns, defendants in a suit for alleged malpractice, the jury promptly brought in a verdict exonerating the defendants.

#### Chicago

**Actors' Hospital.**—Plans have been made for the erection of an actors' hospital to be ereeted at Hoyne Avenue and West Monroe Street, to cost $50,000. Dr. Max Thorek is to be at the head of the institution.

**Health Department Plans for Summer.**—At a conference of the health department and representatives of charity institutions, June 5, plans for summer relief work were formulated. These plans include the continuation of the work of last year, free medical attention, free ice to the poor and the welfare of children.

**Clinical Year Compulsory.**—Rush Medical College, which has for a number of years strongly recommended a fifth clinical

year as intern in a hospital, or its equivalent, has made this compulsory for the class entering in 1914. This fifth year is to be spent either in graduate work in one of the departments of the college or as an intern in an approved hospital under the constant supervision of the college faculty.

**Medical Department of State University.**—The bill taking over the College of Physicians and Surgeons by the University of Illinois was advanced to its third reading in the legislature, June 5, after the defeat of amendments offered by those opposing the project. The state is being asked to appropriate $200,000 for maintenance of the institution, this being a part of the $4,300,000 appropriation asked for the University of Illinois.

**Personal.**—Dr. Isaac Freemmel has been appointed assistant superintendent at the Elgin State Hospital.——Dr. A. T. Paulson was elected chief medical examiner of the Independent Order of Svithiod at the meeting of the Grand Lodge, May 30. ——Dr. Morris L. Loevenson has returned after three years abroad.——Dr. J. A. Spiegel, an intern at the German Hospital, was severely injured May 31, while attempting to board a street car.

**Sanatorium Directors Reorganize.**—The board of directors of the Chicago Municipal Tubereulosis Sanatorium was recently reorganized by the election of Dr. Theodore B. Saehs as president and Dr. George B. Young as secretary. This reorganization was necessitated by the vacancy in the presidency eansed by the resignation of Mr. Harlow N. Higinbotham and the recent appointment made by Mayor Harrison of Mr. W. A. Wieboldt as third member of the board.

**Alumni and Faculty Smoker.**—On June 6, a smoker and entertainment was given to the alumni and faculty of the College of Physicians and Surgeons by the Alumni Association. Addresses were made by President James of the University of Illinois and W. L. Abbott, president of the board of trustees. Dr. Edward E. Heintz, retiring president of the association, made a plea for financial support for the college, stating that "no medical school whose only support consists of fees paid by students ean be maintained with modern students."

**Alienists and Neurologists to Meet.**—The Chieago Medical Society announces a meeting of alienists and neurologists to be held in Chicago, June 23-26, with headquarters at the Sherman House. The object of the meeting is to diseuss mental diseases in their various phases. At the first meeting held in April, 1912, a resolution was offered dealing with the prevention of insanity, and the various forms of delinquency, and it is hoped that at this meeting, after a full discussion, a definite plan ean be formulated and recommended to the several state legislatures. A varied program is offered in addition to this diseussion, and on June 24 a dinner is to be given to the visiting alienists. Dr. Harold N. Moyer is chairman and Dr. W. T. Mefford, secretary of the committee on arrangements.

## KENTUCKY

**University Adopts Higher Preliminary Requirements.**—Dr. W. E. Grant, dean of the University of Louisville Medical Department, reports that the executive committee of the faculty raised the entrance requirements to two years of collegiate work, beginning Oetober, 1914.

**New Officers.**—Southwestern Kentucky Medical Association at Padueah, May 20-21: president, Dr. G. W. Payne, Bardwell; secretary, Dr. Herbert H. Hunt, Mayfield.——Kentucky State Association of Railway Surgeons at Louisville, May 14-15: president, Dr. D. Yandell Roberts, Louisville; president-elect, Dr. H. C. Jasper, Richmond; secretary, Dr. James B. Kinnaird, Lancaster.

**Board Adopts Higher Requirements.**—A report indicates that all applicants for lieense to practiec medicine in 1918 and thereafter will be required to have completed in addition to a standard four-year high-school course, two years of work in a recognized college of liberal arts, prior to beginning their medical work. This will apply to all applicants matriculating for the session of 1914-15 and thereafter.

## MARYLAND

**Summer School at Johns Hopkins.**—The Johns Hopkins summer school opened June 2, with fifty-one students. The course will last six weeks and special courses will be given for graduates. This is the first definite organization and follows in the footsteps of the academic department. The teachers in the course are Drs. John M. T. Finney, J. C. Bloodgood, Guy L. Hunner, J. P. Pratt, L. V. Hamman, C. G. Guthrie, C. G. Snyder, E. K. Marshall and L. G. Rowntree.

**Personal.**—Dr. A. C. Eckerdt, pathologist and assistant physician at the Springfield State Hospital, has resigned to accept a similar position with the Montana State Hospital, Warm Springs.——Dr. Joseph Clement Clark, Sykesville, has been reelected superintendent of the Springfield State Hospital. ——Dr. Charles J. Carey, Sykesville, has aecepted the superintendency of the new State Hospital for the Insane, Cambridge.——Drs. Claude B. Hammil and Ward D. Disbrow have been appointed members of the staff of the Springfield Hospital for the Insane.

### Baltimore

**Physicians to Aid Charity.**—A new district board of the Federated Charities to be composed exclusively of physicians under the ehairmanship of Dr. Arthur M. Shipley, was organized May 22.

**Plans for General Hospital.**—Plans for the improvement of the Maryland General Hospital include plans for the building of a surgery, a ward for colored patients and additional private wards. All of these are to be carried into eompletion by the Woman's Auxiliary of the hospital.

**Alumni Association Meeting.**—At the annual meeting of the Alumni Association of the Medical School of the University of Maryland, June 2, the following officers were elected: Dr. John I. Pennington, president; Drs. Robert P. Bay, H. D. Fry and J. T. King, vice-presidents; Dr. A. H. Carroll, recording secretary; Dr. J. Carroll Monmonier, Jr., Catonsville, assistant recording secretary; corresponding seeretary. Dr. J. T. Smith; treasurer, Dr. John Houff; executive eommittee, Drs. G. Lane Taneyhill, Jr., C. R. Winterson, Hanover, B. Merrill Hopkinson, G. H. Hocking, Gorans, and E. T. Harle, Jr.

**Personal.**—Dr. L. K. Walker has been appointed chief resident physician in charge of the Maryland General Hospital. ——Drs. Caroline B. Towles and John G. Jay have sailed for Europe.——Drs. John Ruhrah and John Howland have been appointed consultants for pediatrics at Bayview Hospital.—— Dr. J. Morris Slemons has been appointed director of the new woman's clinie and professor of obstetrics and gynecology at the University of California, San Francisco.——Dr. A. H. Morse has been appointed associate professor of obstetrics and gynecology in the same institution.——Dr. William S. Thayer has been elected president of the Maryland Progressive Service.——Dr. Claude A. Stonecipher, charged with having given money to a woman for the purpose of having an illegal operation performed, was acquitted.——The damage suit for $50,000 against Dr. Archibald C. Harrison for alleged malpractice for treating a broken bone in the foot, was nolle prossed by the plaintiff.

## MONTANA

**Personal.**—Dr. E. A. Ewart, Custer, was injured in a railroad wreck near Moorhead, Minn., May 1.——Dr. J. M. Scanland and family, Warm Springs, sailed from San Franeisco, June 5, on a tour around the world.

**Health Officers Elect.**—At the annual meeting of the Montana Public Health Officers Association held in Great Falls, May 13, Dr. E. G. Balsam, Billings, was elected president, Dr. A. W. Deal, Butte, vice-president, and Dr. W. F. Cogswell, Livingston, secretary.

**State Sanatorium Opened.**—The State Tuberculosis Sanatorium, Galen, near Warm Springs, has now eleven patients and is fully prepared to care for all who may apply. Any patient who is not able to pay the expense of $15 per week, may apply to the county commissioners and will be admitted at an expense of $5 per week, half of this amount being defrayed by the county.

## NEW JERSEY

**Hospital Opened.**—St. Mary's Hospital, Orange, was thrown open for public inspeetion May 30, 31, and June 1. After the installation of equipment, the building will be opened to receive patients.

**New Officers.**—Warren County Medical Society at Phillipsburg, May 6: president, Dr. Frank S. Gordon, Blairstown; secretary, Dr. William J. Burd, Belvidere.——Passaic County Medical Society at Paterson, May 13: president, Dr. A. F. McBride; secretary, Dr. C. B. Mitchell, both of Paterson.—— Cape May County Medical Society at Cape May Courthouse: president, Dr. Clarence W. Way, Ocean City; seeretary, Dr. Eugene Way, Dennisville.

## NEW MEXICO

**State Board Election.**—At the annual meeting of the State Board of Health held in Santa Fe, Dr. L. G. Rice, Albuquerque,

was elected president and Dr. W. E. Kaser, East Las Vegas, reelected secretary-treasurer. The other members of the board are Drs. James A. Massie, Santa Fe, W. T. Joyner, Roswell, G. V. Hackney, Socorro, W. R. Lovelace, Fort Sumner, and C. W. Gerber, Las Cruces.

**Good Showing for Sanatorium.**—The annual report of the Valmora Industrial Sanatorium, Watrous, for the year ended March 31, 1913, shows that sixty-eight patients were received during the year, sixty-seven patients were discharged, two died and thirty remained in the sanatorium April 1, 1913, one less than at the same time in the previous year. Of the discharged patients, fifteen were incipient cases; thirty-eight moderately advanced; nine far advanced and one was non-tubercular. The results of treatment in these cases were twenty-one apparently cured, twenty-one progress of disease arrested, fifteen improved, three not improved, one non-tubercular and two deaths. Fifty-six of the sixty-three gained in weight, five lost weight and two were not weighed. The average gain in weight was 11.63 pounds, the average loss 4.65 and the greatest individual gain was 40.25, and the average length of stay was one hundred and fifty-two days. During the year three new cottages, 14 by 14, were built and furnished, and a porch 10 by 70 was added to the hospital. The institution has been crowded for room and has been obliged to turn away several patients. The question of providing work for the patients presents the same difficulty as last year. The superintendent has commenced the manufacture of pottery, the clay being taken from a bed on the property of the sanatorium. He hopes that the product can be marketed at a price sufficient to pay ordinary wages to the patients who have no money and also to provide employment and occupation for the patients.

## NEW YORK

**Society Organized.**—Physicians of Tonawanda and North Tonawanda met May 28 and organized the Twin City Academy of Medicine.

**Schenectady Fights Rats.**—The Schenectady health department has begun a campaign against rats. The method of extermination will be that used in San Francisco. A few rats will be inoculated with azoin and will be turned loose to spread the disease among other rodents.

**Open-Air School for Rochester.**—The Rochester Public Health Association and the Board of Education have resumed their open-air work on a tract of land at the foot of Cobbs Hill where thirty-five children of the open-air school have commenced their work. It is proposed to build a new structure on the ground, capable of accommodating one hundred pupils.

**Personal.**—Dr. LeRoy Charles Grau has been appointed resident physician at the New York State Hospital for Crippled and Deformed Children, West Haverstraw, N. Y.——Members of the Cortland County Medical Society tendered a banquet to Dr. H. T. Dana, Cortland, May 26, in celebration of his semi-centennial as a practitioner of the county.——Dr. T. C. Sawyer, Auburn, has succeeded Dr. William Brady, Elmira, as physician to the Auburn State Prison.——Dr. Myron D. Lipes, Cobleskill, who has been ill with septicemia, is under treatment at Mount Clemens, Mich.

**Hospital News.**—A large parcel of land at Hill Crest, Poughkeepsie, including a residence, has been offered by D. W. Wilbur and wife as a site for the new Benedictine Hospital. The land is valued at $75,000.——The new Ithaca City Hospital is practically completed and will be formally opened August 1.——Plans for the new Infants' Summer Hospital, Charlotte, have been completed and the contract for the construction has been let. The new buildings will not be completed until late in the fall and the present buildings will be used during the summer.——A friend of General William Verbeck has given a new hospital building for the Manlius school, at a cost of about $8,000.——An additional story is to be added to the Crouse-Irving Hospital, Syracuse, which will provide for twenty-five additional patients. It is expected that the addition will be ready for occupancy before the close of the summer.——The Oswego County Tuberculosis Hospital is nearly completed and will be formally opened July 1. Dr. J. Roy Allen, Orwell, has been appointed superintendent of the institution.——Genesee Hospital, Syracuse, formerly a private institution, has been opened by the State Board of Charities as a general hospital.

**Death-Rates Twenty-Eight Years Ago and Now.**—The *Monthly Bulletin* of the New York State Health Department makes an interesting comparison of death-rates from the most common diseases of various periods during the past twenty-eight years. Childhood mortality has been a steadily decreasing percentage of the total. It has fallen from one-third of the deaths to one-fourth; from over 600 deaths per 100,000 population to 400. The actual mortality among children was hardly more in the last three years than it was twenty-five years ago and is considerably less than it was fifteen or twenty years ago. Typhoid fever was at its highest mortality midway of the periods and lowest in the most recent. Compared with the total mortality, the percentage of typhoid fever deaths was 1.4 until ten years ago when it began to fall and is now less than 1 per cent. of the total. In 1890 there were 27 deaths per 100,000 population while now there are 14, a fall of nearly one-half. Diphtheria has decreased steadily from 5 per cent. of the total mortality to 1 per cent.; from 100 deaths per 100,000 population to 22. The actual mortality now is only one-third what it was twenty-five years ago. Tuberculosis of the lungs has decreased steadily but to a less degree. In the first decade following 1885 about one-eighth of the total mortality was from this cause; in the last decade it has fallen to about 10 per cent. of the total. In the first decade there were 214 deaths from tuberculosis per 100,000 population and there are still communities in which that rate persists but the rate for the entire state is 160. This is a distinct saving of 54 per 100,000 of the entire population. There has been an actual increase of but 1,500 deaths during the last decade while the population has nearly doubled. The death-rates from cancer are not so encouraging. In 1912 there were reported in this state 8,234 deaths from cancer, an increase of 300 over 1911. The state death-rate from cancer was 85.9 per 100,000 of the population and to this cause was attributed 5.8 per cent. of all deaths. The urban rate was 83.6 and the rural rate was 92.9. One reason for this is that there are more people past middle life living in the country than in the cities. It has long been noted that the mortality from cancer was highest in the central counties of the state and the table shows a continuance of this. Twenty-five years ago there were only 2,000 deaths from cancer.

### New York City

**Class Reunion.**—The class of '98 of Brooklyn Hospital Medical College held its fifteenth annual reunion, May 10, Dr. Authony Bassler presiding.

**New Clinic.**—A new clinic for the treatment of special diseases has been opened at 98 Amity Street, Brooklyn, in connection with Long Island College Hospital.

**New Straus Milk Stations.**—Nathan Straus has opened nine more milk stations in different congested sections of the city. In addition to supplying infants, milk which has been properly pasteurized is sold at one cent a glass.

**Hospital Opened.**—At the opening of the new Beth-David Hospital, June 1, Dr. Abraham Jacobi, speaking for the New York Medical Society, stated his belief that it would be better to build twenty small hospitals at $500,000 each and approximately twenty blocks apart, than to spend $10,000,000 for a single institution. The Beth-David Hospital has accommodation at present for eighty patients.

**Fresh-Air Work Begins.**—The New York Association for Improving the Condition of the Poor opened Sea Breeze, its fresh-air home at Coney Island, on June 1, and the first party of convalescents has been taken there. As sickness among the poor has increased the demands made on the association for aid, the president, R. Fulton Cutting, has issued an appeal for funds for the extension of the fresh-air work.

**Night and Day Camp for Tuberculosis Boat.**—The tuberculosis committee of the Brooklyn Bureau of Charities has decided to extend the usefulness of the open-air tuberculosis hospital, maintained on board the *Rutherford* at the foot of Fulton Street. Beginning with June 1, in addition to its use during the day, the boat will be maintained for a night camp for men who are compelled to work while undergoing treatment at the local clinic.

**Personal.**—Dr. Rosalie Slaughter Morton sailed for South America, May 31.——Dr. Thomas A. McGoldrick, surgeon of the police department of Brooklyn, has recovered from appendicitis for which he recently had an operation.——Dr. and Mrs. Frederick Brown Humphreys sailed for Europe, June 6.——Columbia University has conferred the degree of doctor of science on Dr. William Crawford Gorgas, M. C., U. S. A., and Dr. Alexis Carrel. Dr. Carrel has sailed for Germany where he will make further studies and experiments on infantile paralysis.——Dr. Raymond Francis Charles Kieb,

assistant physician at Dannemora Hospital, has been appointed by the state superintendent of prisons superintendent of the Hospital for the Criminal Insane, Matteawan.

**Acute Poliomyelitis in New York City During 1912.**—During 1912, 504 cases were reported with 57 deaths, a case fatality of 11.1 per cent. and a case incidence of 9.8 per 100,000 of the population. In 1911, 358 cases and 9 deaths were reported to the Department of Health, a case fatality of 2.5 per cent. and an incidence of 7.2. The increase during 1912 occurred chiefly in Manhattan where the case incidence rose from 9.2 in 1911 to 14.4 per 100,000 in 1912. As compulsory notification did not become effective until Jan. 1, 1911, no cases beginning previous to that date are included. Owing to delays on the part of the physicians many reports are not made until months, and not infrequently one or two years, have elapsed. Therefore many of the cases of 1912 began in 1911.

**New York Physicians May Practice in New Jersey.**—Dr. Louis J. Ladinski, New York City, was summoned to attend a lawyer who shot himself in Newark, in 1911. The lawyer's estate was found to be insolvent and the trustee in bankruptcy sued Dr. Ladinski for a recovery on a mortgage of $2,000. The doctor responded with a counter claim for $2,500 for medical services. The trustee then asked to have the counter claim thrown out on the ground that while a New York physician might practice in New Jersey without subjecting himself to punishment, he could not legally collect pay for such services. The Supreme Court, however, decided that the New Jersey laws left entire freedom to physicians of other states to render occasional professional services in New Jersey and, incidentally, to recover for services so rendered.

**Pension for Rockefeller Institute Members.**—Pensions for its members and associate members have been provided by the governing boards of the Rockefeller Institute for Medical Research, and have been financially secured by the generosity of Mr. John D. Rockefeller, who has with this purpose in view increased the endowment of the institute by a gift of securities amounting to about $500,000. The pension rules which have been adopted provide three-quarters-pay pensions for members of the insitute retiring at the age of 65 after fifteen or more years of service, and pensions of from one-half to three-quarters of full pay, according to the length of service, for members and associate members who retire at 60 years of age. There is also a provision for total disability after ten years of service, and for widows and orphaned children, at one-half the scale on which members of the staff are pensioned.

**Recommendations for Care of Defective Children.**—At the last meeting of the New York Psychiatrical Society on May 14, the following recommendations for the proper care of feeble-minded and defective children were adopted: 1. All feeble-minded children who have reached school age should be registered as such through the agency of public schools, inasmuch as the school laws compel their attendance during school age. 2. The care of feeble-minded children thus registered should be reportable to a central bureau of the state. 3. All such feeble-minded children not teachable in the public schools in subnormal or ungraded classes should be segregated in colonies or institutions under the control or supervision of the state commission. 4. A state commission should be established, such commission to have supervision of all feeble-minded children and have direct charge of all those in state institutional care. Feeble-minded children who have left school or passed school age and are not in schools or colonies should be under supervision of the state commission. 5. Parents who are able to make proper provision for their feeble-minded children, may, on proper petition to the state commission, be permitted to care for them having due regard to the best welfare of such children and the safety of society. 6. The commission should receive power from the legislature to carry out the provisions of these recommendations. For the purpose of efficiently carrying out this scheme, it is strongly recommended that the governor appoint a committee of experts to investigate and prepare a practicable scheme for the carrying out of the suggestions recommended.

## PENNSYLVANIA

**New Hospital.**—Physicians of the North Penn Clinical Association have organized a hospital at Sellersville, using the building of Dr. James P. Pursell.

**New Officers.**—Wayne County Medical Society at Farview Hospital for the Criminal Insane, May 22: president, Dr. R. W. Brady, Honesdale; secretary, Dr. F. A. Lobb, Hawley.

**Portrait Given to Society.**—Franklin County Medical Society at its quarterly meeting, May 20, was presented with an oil painting of Dr. William Grubb, a member of the society who died in Greencastle in 1885. Together with the portrait, a quaintly lettered metal sign from the door of Dr. Grubb's office was presented to the society. Dr. J. C. Gilland, Greencastle, made the presentation address.

**Company to Pay for Epidemic.**—In the case of Kohlmeyer against the Ohio Valley Water Company for damages resulting from the illness and death of a small child from typhoid, due to polluted drinking water, the court has decided, on the testimony of the attending physician supported by the opinion of experts as to the probable cause of death, in favor of the plaintiff, assessing damages of $1,500. The plaintiff claimed that in 1909, the supply of filtered water from the wells became scanty and direct connection was made by the defendant company with the river, and unfiltered water polluted with the sewage of Pittsburgh, was drawn through its mains, resulting in 2,400 cases of gastro-enteritis and about 100 of typhoid.

## Philadelphia

**Small-Pox on Battleship.**—A case of small-pox was discovered on the battleship *Wisconsin* at League Island Navy Yard, May 29, and as the result the entire ship's company has been placed in quarantine.

**Gift to Dr. Tyson.**—At the stated meeting of the Northern Medical Association of Philadelphia, a loving-cup was presented to Dr. James Tyson in commemoration of his fiftieth year in the medical profession.

**Medical College Reception.**—The Medical College of Philadelphia gave a reception at the Bellevue-Stratford, May 30, to Thomas McCrae, M.D., and Philip B. Hank, Ph.D., recently elected professors in Jefferson Medical College.

**Rejuvenation Day.**—Philadelphia graduates of the University of Pennsylvania celebrated rejuvenation day at Grenloch Park, N. J., June 3. Dr. B. Franklin Stohl was secretary and Dr. Morris B. Miller, treasurer of the committee in charge.

**To House Feeble-Minded.**—A contract has been awarded by Director Neff of the Department of Health and Charities for the construction of two buildings and the laying of a sewage system on a portion of the farms owned by the city at Byberry. These structures will form part of the Home for Feeble-Minded Women and Children.

**Portraits Presented.**—At the annual commencement of nurses of the American Hospital for Diseases of the Stomach, a portrait of Dr. Lewis Brinton, founder of the institution, was presented to the hospital by Dr. E. J. Asnis.——A large painting of George H. Stewart, Jr., president of the American Oncologic Hospital, was presented by the board of trustees of the medical staff.

**Commencements.**—On June 7, Jefferson Medical College conferred degrees on a class of 126 at the eighty-eighth annual commencement. The honorary degree of LL.D. was conferred on Dr. Abraham Jacobi, emeritus professor of diseases of children, College of Physicians and Surgeons, Columbia University, and on Francis Preston Venable, president of the University of North Carolina.

**Action Against Abuse of Vivisection.**—Dr. Joshua E. Sweet, assistant professor of surgical research at the University of Pennsylvania, appeared, June 7, before Magistrate Hagerty for a hearing on charges, brought by members of the Women's Pennsylvania Society for the Prevention of Cruelty to Animals, that cruelties are practiced on animals under his charge at vivisection laboratories at the university.

**Personal.**—Dr. Ray Parker has been appointed on the staff of Dixmont Hospital.——Dr. John F. Moffet is reported to be seriously ill as the result of poisoning from bichlorid of mercury, accidentally self-administered.——Dr. C. N. Sturtevant, charged with causing the death of a child by running him down by an automobile, was exonerated by a jury, May 20.——Dr. Reuel Stewart recently celebrated his eighty-fourth birthday anniversary.

**Musser Memorial Tablet.**—A bronze mural tablet, 20 by 30 inches, designed by Dr. R. Tait McKenzie, was presented to the Hospital of the University of Pennsylvania. In the center of the tablet is a portrait of the late Dr. John H. Musser; it bears the inscription "Dr. John Herr Musser, 1856-1912, professor of clinical medicine in the University of Pennsylvania, 1898-1912. Hundreds call themselves your creatures who by you have been restored. Pericles, Act II, Scene 3."

**Alumni Meetings.**—At the forty-first annual business meeting of the Jefferson Alumni Association, June 6, Dr. Charles S. Mangum, Chapel Hill, was elected president; Drs. Charles F. McBurney, Altoona, G. T. Matlack, Wilkes-Barre, J. Coles Brick and John W. West, Philadelphia, vice-presidents; Dr. Henry K. Gaskill, recording secretary; Dr. Elmer H. Funk, corresponding secretary; Dr. George P. Pilling, treasurer. The sum of $1,000 was pledged toward a fund of $10,000 for the endowment of a hospital room for the free treatment of poor graduates.——The officers of the Alumni Association of the Medico-Chirurgical College elected at the annual business meeting on June 5, are: president, Dr. A. C. Morgan; secretary and treasurer, Dr. W. J. McKinley.

**Centenary of the Friends Asylum.**—The Friends Asylum for the Insane at Summerdale celebrated its one hundredth anniversary, June 4. Among the speakers were Mayor Blankenburg, who commended the Quakers for opening the institution to all sects, and Dr. Frank Woodbury, secretary of the State Committee on Lunacy, who declared that 34 per cent. of all the cases treated at the institution during the last century have been cured. Out of the 4,421 patients admitted to the asylum since its establishment, 1,502 were completely restored in body and mind, while 503 partially recovered. The asylum property covers more than 350 acres and is part of an original grant by William Penn to a collarmaker in Oxford, England, who deeded it to a Friend in America.

**Clinical Society Incorporated.**—The Clinical Society of Philadelphia was granted a charter in common pleas court No. 5, May 30. The incorporators are: Drs. E. E. Montgomery, John B. Deaver, Samuel D. Risley, G. Oram Ring, C. J. Decker, George W. Warren, George C. Stout, F. Hurst Maier, E. L. Klopp, H. R. Loux, W. C. Hollopeter and Harvey A. Fenner. The purpose of the society is the establishment of a scientifically constructed and arranged building where lectures and demonstrations are held. It will be built in the neighborhood of Sixteenth and Walnut Streets, and is to be occupied exclusively by physicians, dentists and dealers in medical supplies and appliances. On the top floor club quarters will be provided, including a medical library. The building is to cost about $1,000,000 and the interior will be finished in the most approved hospital construction.

## GENERAL

**Swindler Arrested.**—It is announced in a newspaper of Winslow, Ariz., that James Arthur Baker, whose operations were noted in THE JOURNAL, May 31, p. 1717, was arrested in Kansas City, Mo., escaped from the custody of the sheriff at Flagstaff, Ariz., and was rearrested in Albuquerque, May 26.

**Exposition of Safety and Sanitation.**—The preliminary notice of the International Exposition of Safety and Sanitation to be held in New York City, December 11-20, under the auspices of the American Museum of Safety, announces the following departments: accident prevention, industrial hygiene, city hygiene, home hygiene, social hygiene, and mutuality.

**Officials of Charity and Correction to Meet.**—The fourth annual convention of the American Association of Officials of Charity and Correction will be held in Springfield, Ill., June 24-26. The program will be carried out under the following heads: dependent children, insane and mentally defective; administration of institutions; home relief, and correctional problems.

**Army Medical School Commencement.**—At the annual commencement exercises of the Army Medical School in Washington, the secretary of war presented the diplomas and Dr. Charles W. Richardson, Washington, delivered the address. Brigadier-General George M. Sternberg, U. S. A. retired, presented the Sternberg medal to Lieutenant George N. Calender, an honor graduate, and Colonel John Van R. Hoff, U. S. A., retired, presented the Hoff medal to Lieutenant Benjamin J. Warriner, also an honor graduate.

**Bequests and Donations.**—The following bequests and donations have been announced:

Mount Sinai General Hospital, Montefiore Home, Home for Aged and Infirm Hebrews, New York Skin and Cancer Hospital, Blythedale Home for Tuberculous Children and the New York Hospital for the Ruptured and Crippled, each $1,000 by bequest of Charles Schoolhouse.

Mount Sinai Hospital and the Montefiore Home, New York City, $25,000 each by the will of Emanuel Heilner.

Jewish Hospital Association, Philadelphia, and Federation of Jewish Charities, each $5,000 by the will of William Kaufmann.

Good Samaritan Dispensary, New York City, $10,000, by the will of Samuel Riker.

Bower Charity Hospital, Boyertown, Pa., $25,000, by the will of Dr. Daniel B. Bower.

Cambridge (Med.) Hospital, donation of $35,000 by an anonymous benefactor.

Seaton Hospital for Consumptives, Society for the Relief of the Destitute Blind, St. Francis, St. Joseph's, and St. Mark's Hospital, New York City, each $6,000 by the will of Theodore Goetze.

Mount Sinai Hospital, Montefiore Home and Beth Israel Hospital, New York City, each $2,000 by the will of Albert Krower.

Montefiore Home, New York City, $5,000 by the will of Sampson Fried.

Montefiore Home, New York City, one-sixth of the residuary estate of Major Ivan Tailof, which will probably amount to more than $8,000.

**Confederate Surgeons Elect Officers.**—The sixteenth annual reunion of the Association of Surgeons of the Army and Navy of the Confederacy, was held in Chattanooga, May 28, and the following officers were elected: president, Dr. A. A. Lyon, Nashville; vice-presidents, Drs. G. M. Burdett, Lenoir City, Tenn., J. C. Hall, Anguilla, Miss., E. L. Deaderick, Johnson City, Tenn., and Carroll Kendrick, Kendrick, Miss.; secretary-treasurer, Dr. Stephen A. Roagan, Kansas City, Mo. The association selected Jacksonville, Fla., as the next place of meeting.

**Alumni Meetings.**—At the thirty-eighth annual meeting of the Alumni Association of the Medical Department of the University of Buffalo, May 28, the following officers were elected: president, Dr. Grover W. Wende, Buffalo; vice-presidents, Drs. George E. Brewer, New York City, George W. Goler, Rochester, N. Y., Francis W. McGuire, Buffalo, Cynthia E. W. Koser, Williamsport, Pa., and William Irving Thornton, Buffalo; secretary, Dr. Julius Richter, Buffalo; treasurer, Dr. William F. Jacobs, Buffalo (reelected); trustee, Dr. Henry C. Buswell, Buffalo, and executive committee, Drs. Lesser Kauffmann, Harry Mead and Edith R. Hatch.——The annual meeting and banquet of the Alumni Association of Albany (N. Y.) Medical College was held in Albany, May 27, and the following officers were elected: president, Dr. G. H. Janes, Westfield, Mass.; vice-presidents, Drs. George Walrath, Mariner Harbor, New York City, Thurman A. Hull, Troy, I. M. Slingerland, Fayetteville, John Cotter, Campbell Hall, and S. C. Clemans, Gloversville; recording secretary, Dr. J. Montgomery Mosher, Albany; corresponding secretary, Dr. James M. Vander Veer, Albany, and treasurer, Dr. Robert Babcock, Albany. At the graduation exercises a class of forty-nine received diplomas.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, May 31, 1913.

### The Seventeenth International Congress of Medicine

Some further information may be given with regard to the forthcoming congress. The department of the museum dealing with obstetrics and gynecology will contain specimens illustrating the papers and discussions and also other material, either dealing with the subjects of cancer of the uterus and hemorrhage from the placental site or illustrating other investigations and observations of current interest. An exhibition of old obstetric instruments will be a special feature of this department of the museum. It will contain the whole of the collection now preserved at the Royal College of Surgeons of England, which is being catalogued by Mr. Alban H. G. Doran, and, it is hoped, many other rare old instruments from British and foreign sources.

In connection with the section of laryngology a department has been arranged in the General Pathological Museum to illustrate the following three groups of diseases: (1) neoplasms of the nose, accessory sinuses and nasopharynx (excluding mucous polypus); (2) the rarer forms of laryngeal tumors (including postcricoid carcinoma); (3) diseases of the trachea and bronchi. There will be an exhibition of instruments to illustrate recent improvements in bronchoesophagoscopy, and the committee is prepared to arrange for a limited number of short demonstrations in the museum at stated hours.

### Physician Has to Pay Damages for Visiting a Patient Without Her Consent

An unusual case has occurred in which damages were claimed from a medical man for "assault." A woman engaged in domestic service fell down stairs and injured herself. The insurance company in which her employer was a policy-holder sent a physician to examine her. She received no notice of this visit and was asleep in bed when he came. According to the evidence he roughly pushed past her mistress who opened the door, awoke and examined the woman, and tore off a plaster and strap which her own physician had applied, causing much pain. The physician gave a different account. He said that the woman's mistress invited him to

the house, and that he removed the plaster at the plaintiff's request. He had made no appointment to visit her; that was a common thing; 75 per cent. of such cases were done under the same terms. In reply to the judge's question, "You suggest that doctors visit patients without first obtaining their consent?" he replied: "It is done in these cases." To this the judge retorted that the defendant had set up a new idea as to the rights of physicians which, from his knowledge of the profession, he thought was a libel on them. Damages of $125 were awarded to the woman.

### The National Insurance Act

The insurance committee for London has adopted by a large majority a resolution that it is undesirable that any physician should undertake the treatment of more than 2,000 insured persons. In consequence of the great increase of malingering it has been decided to appoint a medical referee who will examine cases referred to him by the committee. It is complained that medical certificates of inability to work are given much too easily and that in several societies the amount of sickness claims made on the funds greatly exceeds the estimate made by the government actuaries. In some societies the claims by women exceed the estimate by no less than 50 per cent., and by men by 20 per cent. It has been calculated that if only 1 per cent. of insured persons are malingerers it would cost the approved societies at least $250,000 per week.

Though many of the preliminary difficulties which arose in the inauguration of the national insurance act have been overcome, friction is developing in many ways. A curious situation has arisen in South Wales. In certain areas "medical aid societies" have been formed, which employ whole-time physicians at a salary, importing them into the district. Arrangements are made by the societies with the insurance committees to receive the annual sum provided for the medical attendance of the insured persons. These payments are pooled and the physicians are required by the society to attend not only the insured persons but also their families for the capitation fee of $1.50 provided for the former only. Naturally the scheme is opposed by the medical profession. There is no security that an insured person will receive medical benefit of the quality provided by the ordinary panel. The South Wales and Monmouthshire branch of the British Medical Association has passed a resolution protesting against the condition and calling on the staffs of the various hospitals to refuse medical recognition to physicians who accept such appointments.

Another curious situation has arisen in consequence of the refusal of many members of the British Medical Association to follow the order given by the representative body to decline to work the act. In the St. Pancras and Islington Division of London those members who took that course have received a letter informing them that at a meeting of the division it was resolved to take their conduct under consideration; and if it is found in the opinion of the division to be detrimental to the honor of the association, the question of their expulsion will be considered. They are asked to attend a meeting in order that they may put their case before the division.

### Increase in the Number of Medical Students

It has been mentioned in a previous letter to The Journal that in consequence of the apprehensions caused by the insurance act the number of medical students who entered the profession last year declined. It is too soon to make a final estimate of the effect of the act on the profession, but it may be stated with confidence that an exaggerated view of its evils was put forward by those engaged in opposing it. This is borne out by the fact that the number of students commencing the medical curriculum has risen by 165, and now coincides with the average of the preceding five years.

### The Population of Ireland

Recent statistics show that the decline of the population of Ireland during the last decade is the lowest on record. There has been a decrease both in the number of emigrants and in the death-rate. Poverty has also decreased. On the other hand, there has been an increase in insanity. The number of insane certified was 14,098 in 1861; it rose to 25,050 in 1901, and to 28,437 in 1911. A similar increase, it may be observed, has been noticed in England, where the social conditions are widely different. How far this increase is only apparent and due to the greater willingness of the relatives to send the insane into asylums, where the conditions of treatment are much improved, has always been a question.

### A Color Problem in South Africa

The employment of natives in the Transvaal hospitals has become a serious question. Last year it was discussed at a meeting of representatives of the hospitals. The conference condemned the employment of male natives in white female wards even for cleaning purposes. In consequence male cleaners are being replaced by white or colored women. A second recommendation was that male natives should be nursed by male European orderlies. A few years ago this proposition would have received little support from the profession, but a change of opinion has taken place. One hospital for natives is endeavoring to replace white female nurses by trained native women. In others the European orderly is being introduced at great expense.

### The Origin of Life

At the Royal Society of Arts, G. Sims Woodhead, the well-known pathologist, delivered an interesting address entitled "The Origin of Life, and What Do We Know of It?" He agreed with Schäfer, whose views were given in The Journal, Sept. 21, 1912, p. 953, that it was quite possible that some very low form of life might be created by the chemist. Woodhead held that the development of any living form that we can recognize under the microscope must have involved time almost illimitable, as we reckon it, and our puny and ephemeral experiments would necessarily fail. He believed that some day a great philosopher would rise among us whose outlook would be wide and who could found his philosophy on a broad scientific basis. Until then we are scarcely likely to make any great advance in our knowledge of the origin of life. The biologist will continue to study protoplasm, to place unfertilized eggs in artificial sea water, and he will find evidence of departure from the ordinary processes of development in that these eggs may become fertile. He will dissect embryos and will find that each half will develop into a complete organism. The chemist will go on building up substances indistinguishable from proteins and peptids, substances that hitherto have only been turned out from Nature's crucibles. The physicist will bombard us with electrons and ions, and the astronomer and the geologist will each contribute his mite to the treasury of knowledge. Let us accept any isolated fact that is fully demonstrated, and, when possible, let us fit it into the great scheme of Nature, by the magnitude of which we are overwhelmed, and, therefore but little astonished at the comparatively small part of it that has hitherto been filled in, but of which even the most agnostic must admit the wonderful order and law that rule throughout. "So marvelous and complete is it," concluded Woodhead, "that when I am informed that there is no personal God, I answer to myself that of this great scheme I have but one experience, and that is, that all the will, ruling power and intellect, the soul and spirit of which I have cognizance, are personal; and that if I am to argue from the less to the greater, I must accept it that there is a great Power above all, ruling, guiding and regulating, Personal, but all-pervading, to Whom, in however small a degree, we are allowed to liken ourselves, rebelling against Whose laws we are bound to suffer, directly or indirectly, but obeying with the freedom of sons we become more like that from which we come."

### Appalling Increase of Cancer

That cancer has increased in recent years is perhaps a commonplace, but the extent of the increase is not generally realized. Under existing conditions one in seven women and one in eleven men die of cancer. In a pamphlet just issued the Society for the Prevention and Relief of Cancer has given a number of instructive statistics. In the decade 1851-1860 the annual average of deaths from cancer in England and Wales was 6,020. From 1881 to 1890 the average was 16,192; from 1901 to 1910, 30,914. This appalling rise in mortality has been continuous during these sixty years, and it is still going on. Allowing for increases of population, the deaths from cancer are now 5.9 per cent. of the total mortality from all causes. In 1851 the percentage was 1.4. During the thirty years, 1880-1910, the cancer death-rate for the United Kingdom had exactly doubled. Cancer is now overtaking consumption as a cause of death. Fifty years ago for every hundred deaths from consumption there were sixteen from cancer; to-day the percentage is six times as great. With regard to the increase of cancer, Sir Jonathan Hutchinson some years ago made the observation that it was due to improved hygienic conditions, for this enabled persons who otherwise would have died from infectious diseases and other

causes to live to the age at which cancer is common. It is noteworthy that the increase is confined to carcinoma; sarcoma is not seriously on the increase.

### The Decline of Tuberculosis

A controversy has been going on for some time as to the cause of the decline of tuberculosis. This is not due as sometimes is supposed to the introduction of sanatorium treatment, for even in the period before the discovery of the tubercle bacillus by Koch in 1882 the decline was more rapid than at present. Dr. Newsholme, principal medical officer of the local government board, has advanced the theory that the decline is due to the segregation of large numbers of cases, especially the "open" cases in poor-law and other institutions. A wholly different theory is advanced by Karl Pearson, Dr. Archdall Reid and others based on neo-Darwinian teaching. According to this view, every race is subject to a disease in inverse proportion to its former prevalence because the disease weeds out the susceptible from generation to generation until at length a stock which is immune is produced. This is illustrated by the well-known fatality of a mild disease like measles when introduced to a new population such as the South Sea Islanders. Probably an important cause is the improved hygiene due to an advancing civilization and above all to the improved dietary of the masses of the population, particularly in the epoch following the introduction of free trade into this country, which took place over half a century ago. The effect was greatly to cheapen the necessaries of life. Previously the working man had difficulty in getting even sufficient bread for his family, and a miserable picture has been drawn by writers of that day of the people in our large towns. The period immediately preceding the introduction of free trade was described as "the hungry forties."

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, May 23, 1913.

### Eugenics and Diet

At the last session of the Société française d'eugénique the recent foundation of which I mentioned (THE JOURNAL, Jan. 18, 1913, p. 221), M. Frédérie Houssay, professor at the Faculté des Sciences de Paris, read an interesting paper on the influence of diet on heredity. From 1900 to 1907 he kept six generations of hens on an exclusive diet of raw fresh meat. The meat was obtained from animals ordinarily used for food and had no toxic character such as is present in horse-meat or tainted meat. At the very first the change of diet appeared very favorable. In time, however, increasing symptoms of intoxication and of organic fatigue were produced with arthritis deformans, always fatal when allowed to take its course, but cured in many cases by a return to a vegetarian diet. The especially interesting point is that this diet, at first favorable, but in the long run unfavorable to individuals, was still more so to the germs, and consequently to the race. The proportion of eggs which hatched, which was at first 100 per cent., fell to 27, then to 18, and then to 6 per cent. The toxicity of the diet thus manifested itself by preventing the eggs from hatching. Moreover, during the same year a laying hen became more and more intoxicated as her life went on. Accordingly the proportion of incubated eggs which were hatched continued to decrease from month to month, becoming none at all by the end of the season; moreover the chickens which were hatched had less vitality. Failure to reach maturity became more and more frequent and premature deaths became earlier and earlier. At the end of six generations, the race was thus entirely extinct.

On the basis of these experimental facts Houssay asked if habitual laziness and over-feeding has not been the cause of the rapid extinction of many human families. As soon as the human being earns his livelihood he begins to eat too much. The immense majority of civilized persons take too much food. It may be said that the ordinary diet is not perfectly adapted to any one. This is recognized toward the end of the age of maturity. People then select a more restricted diet, thus repairing the ravages previously produced, or preventing them from increasing. This late dietary reform is of no assistance to the race, for ordinarily the disadvantages of the ordinary mode of diet are not recognized until the age of reproduction is passed. Thus from generation to generation each individual begins his own life under less favorable conditions than his forefathers did, and families in easy circumstances finally become extinct, so that in large cities such as Paris, few families are prominent in the city for three generations. The élite of a country is thus constantly becoming extinct as soon as formed, and maintains itself only by constant accessions from the masses of the people, among whom restraint and sobriety are the rule. In short, Houssay believes that he is justified in concluding that the degeneration due to success and good fortune is as destructive as the degeneration due to poverty and should receive just as much attention from a eugenic point of view.

This paper aroused a warm discussion. Dr. Laumonier remarked that the experiments of Houssay confirmed what was maintained a long time ago by Professor E. Maurel of Toulouse, namely, that overfed individuals, whose principal diet was meat, become sterile at the end of three or four generations. Nevertheless, Laumonier feels that results drawn from an exclusive meat diet given to fowls which, although not exclusively granivorous, are less omnivorous than we, cannot justly be applied to men, and that the attempt is being made to draw from them a new argument, not merely against the abuse, but even against the use of meat for food. The arthritis, the degeneration and the sterility which result are caused much more by the excessive quantity of food than by its nature. Unless he has some hereditary taint, a strictly sober person who eats moderately of all kinds of foods never becomes arthritic. In fact, Laumonier has seen arthritis result from the abuse of Combe's diet and of purely vegetable foods. Houssay replied that he had also made some experiments on mammals. Mice fed exclusively on meat died at the end of three months at the outside. The omnivorous mammals adapted themselves much less easily than birds to an exclusive meat diet.

Dr. Weisgerber, subdirector of the Ecole d'anthropologie, objected that the English, who are great meat-eaters, do not appear less fecund than other people. Houssay replied that the English eat underdone meat, which is less toxic. Moreover, they are in the habit of absorbing much alkaline salt with their food. They are also much addicted to athletic exercise.

Dr. B. Roussy called attention to the great fecundity which still, in spite of the slight diminution of the birth-rate, characterizes the German people, who are no more distinguished than the French for their sobriety of diet and who even have the reputation of being in the main great eaters and heavy drinkers. Moreover, in going from Europe to Canada one finds a rich people composed in greater part of true French stock who have kept French customs and among whom, notwithstanding, the birth-rate is very high. Houssay replied that although the Germans are great eaters, ease and plenty were rare in Germany until a few years ago. Since wealth has become more general, the German birth-rate has decreased rapidly. As for Canada, it would be necessary to know exactly what is the ordinary diet of the Canadian provinces. Houssay does not deny the influence of voluntary restriction on the birth-rate. He asks, however, if this restriction does not in itself correspond to a diminution of energy, to a pusillanimity of character which is in close relation with organic modification due to an excessive meat diet.

Dr. Pinard, professor of clinical obstetrics at the Faculté de médecine de Paris, believes that Houssay's experiments are of great importance. He himself has often observed the coincidence of sterility with obesity and gouty heredity. Gouty families ordinarily become extinct through sterility in the third generation. He treated a very obese woman whose father was gouty and who had also no ovulation, by a reduced diet. After having lost 45 kg. (about 100 pounds avoirdupois) she became pregnant and the pregnancy was carried to term.

### A New Method of Treating Hydrocele

At the last session of the Société de chirurgie, Dr. Morestin, surgeon of the hospitals of Paris, presented a patient in whom he had cured hydrocele by a new method. After puncture of the tunica vaginalis, which he emptied completely, he injected 2 or 3 c.c. of a one-third dilution of liquor formaldehydi. A considerable inflammatory reaction resulted. White edema was produced in the serotum and prepuce but the patient suffered little. This process gives excellent results. The patient in question was operated on three years ago and the hydrocele has not recurred.

### Damages of $400 Imposed on the Paris Medical School

I mentioned in a previous letter (THE JOURNAL, May 31, 1913, p. 1720) the little epidemic of typhoid fever caused by the fact that in the interior of the Faculté de médecine conduits of river water had been put into communication with conduits of spring water. Before these waters could be mixed it was necessary that the special seals placed on two con-

duits of river water by the municipal service should be broken. An order of the prefect of the Seine, Sept. 22, 1891, forbade the school to break these guarantee seals under penalty of 1,000 francs ($200) for each broken seal. The school has therefore been fined the amount specified.

### The Use of Emetin in Abscess of Liver, in Dysentery and in Syphilis

I mentioned in a previous letter the success which Chauffard obtained by use of emetin in a case of dysenteric abscess of the liver opening into the bronchi (THE JOURNAL, March 22, 1913, p. 917). Since then Chauffard has reported to the Société médicale des hôpitaux de Paris another case of the same kind. The patient was a man of 40 who had never lived in the colonies, had never had any dysentery and who entered the hospital for a large abscess of the liver. A thoracotomy was done, giving access to a pus pocket which was incised and drained after evacuation of more than 1 liter (1 quart) of chocolate-colored pus. This pus was sterile on smears and culture, but histologic examination of a fragment of the wall of the abscess showed the presence of numerous amebas. After the operation the fever and the chills disappeared, but the drain left in the wound continued to discharge a large amount of hemorrhagic pus. A subcutaneous injection of 0.04 gm. of emetin hydrochlorid was then employed. The next day 0.08 gm. of the same drug was injected directly into the cavity of the abscess. On each of the two following days 0.04 gm. of emetin was subcutaneously injected. These injections provoked no local or general reaction, and were immediately followed by the disappearance of the secretion of pus and by the recovery of the patient.

Dr. Rouget likewise suppressed the secretion of a chronic and amebic abscess of the liver by a subcutaneous injection of emetin. Dr. Flandin reported to the society the case of a woman who had contracted amebic dysentery in Madagascar, and presented some time later an abscess of the liver which opened into the bronchi and necessitated an operation. Each day a large quantity of pus continued to issue, but after subcutaneous injections of emetin hydrochlorid in doses of 0.08 gm per day, all the complications disappeared. Treatment by emetin, therefore, seems to complement surgery in large amebic abscesses of the liver.

Dr. Dopter observed a patient with very serious amebic dysentery which had resisted all habitual means of treatment and which was completely cured by three injections of emetin hydrochlorid, the first dose 0.02 gm., the other two in doses of 0.04 gm. each.

The particularly interesting point is the good results which the same medicine has given in cases of syphilis. Dr. Milian a year ago treated a physician of the colonial troops who had been affected with syphilis and with amebic dysentery at the same time. He gave the patient four injections of 0.04 gm. each of salvarsan. Two days after the first injection the dysentery ceased completely. This efficacy of salvarsan against amebic dysentery made Milian suppose that treatment for dysentery might likewise be efficacious against syphilis. To verify this hypothesis he prescribed for a patient with an obstinate headache and syphilitic episcleritis, four intramuscular injections of 0.01 gm. of emetin. The headache and episcleritis disappeared in forty-eight hours. In a tabetic who had tibial periostoses and recurrences in spite of mercury and salvarsan, emetin cured these recurrences in forty-eight hours. The drug, however, was less efficacious against syphilitic manifestations which had not already been modified by a specific treatment.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, May 9, 1913.

### Personal

Professor Westenhöffer, former assistant of Virchow, has been appointed assistant at the Berlin institute of pathology as successor of Professor Kayserling, who was called to Königsberg.

Having resigned his position as privat-docent, Professor Dührssen has severed his connection with the medical faculty.

Professor Stieda has been appointed temporary director of the surgical clinic at Halle, as successor of Professor von Bramann, deceased.

The new building of the first medical clinic of the Charité in Berlin was dedicated May 5. On the first floor of the central building is located the library of the clinic, containing about 10,000 volumes; the basis of this collection is formed by the library founded by Professor von Leyden, the former director of the clinic.

### Von Behring's Method of Vaccination Against Diphtheria

As I said in my last letter, von Behring gives in the current issue of the *Deutsche medizinische Wochenschrift* a detailed report on his new prophylactic against diphtheria. The remedy is a mixture of very strong diphtheria toxin and antitoxin combined in such a proportion that the mixture shows only a slight, if any, surplus of the toxin when tested on guinea-pigs. Von Behring has previously reported a method of immunizing by a combination of toxin and antitoxin, and this was used at many places. The present method, which he regards as completely new, is a result of experiments on all available species of animals which showed that it is impossible to produce in a test-tube complete neutralization of the diphtheria toxin. The biologic laws which have so far been thoroughly investigated only in animal experiments seem to apply also to man. Von Behring presented evidence to prove the necessity of a method of prophylaxis more efficient than diphtheria antitoxin. The statistics show, for instance, that in Berlin alone the number of diphtheria cases has increased from 2,997 in 1906 to 11,578 in 1911, and it is apparently still increasing; further, it is known that for more or less justified reasons prophylactic injections are not generally used; finally, it is evident that all sanitary measures ordered by the police authorities for the suppression of diphtheria, such as closing of schools, disinfection of houses and persons, isolation of patients, convalescents and bacillus-carriers, have so far had barely noticeable, by no means brilliant, success, notwithstanding the extensive medical and other aids invoked and the burden which they impose on the affected families. From these and similar facts it is easily understood why von Behring is endeavoring with all his energy to introduce his method of vaccination for prophylaxis of human beings. He states that the remedy will not be given out generally except under stringent conditions for making thorough tests of it. Consequently he will first supply his remedy only to institutions which have medical attendants trained in such work and where there are proper arrangements for experiments on guinea-pigs to test its aseptic character and lack of toxicity. In addition to all this, a physician with experience in examination of the blood for antitoxin content must also be available. Each person to be treated must be examined beforehand, not only for his antitoxin index, but also to learn whether or not he is a bacilli carrier; if so, it is to be determined through continuous observation if the treatment will cause the bacilli to disappear. Periodical examinations of the blood must be made then according to a given method, so that the course of the production of antitoxin and the disappearance of toxin may be determined with sufficient accuracy after the immunizing treatment has been given. Further, a very careful record must be kept and duplicates of these records must be sent regularly to the Marburg institute; other precautions, besides, must be taken. In the meantime the most important thing is not the number of cases treated, but the accurate investigation of the conditions in each individual case, on which depend the production of antitoxin and thus the success of the immunization, the promptness of its appearance and its duration. (See Abstract 45 in THE JOURNAL, June 7, p. 1839.)

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, May 26, 1913.

### Scholarships for Medical Students Entering the Army

The old complaint of insufficient numbers of the army medical corps is now more justified than ever before, and the actual unsatisfactory conditions are felt very keenly. The political crisis of the last half year has caused about 400,000 men to be called in for active service and the ratio of doctors to soldiers went down as low as 1:3,000, or even lower. At the same time the amount of sanitary work to be done (inspection of sanitary precautions, and small outbreaks of epidemics), was much more than ever before. The organization committee has now taken a further step in order to secure an adequate number of doctors for army purposes. A number of scholarships have been granted to students of medicine willing to take up a military career. Applicants for these scholarships have to pass an examination by a staff surgeon to prove their bodily ability. Then they will receive a yearly sum of 480 kronen ($120) until they have passed the first *Rigorosum* or severe examination (generally taken in the fifth semester). After that time they are entitled to a yearly sum of 720 kronen ($180) until they have passed the second *Rigorosum*. This must be taken in the tenth semester. Then they receive yearly

1,080 kronen ($270) until they are called for the final examination and take their degree as M.D. They have to serve, besides the three years which they are bound to stay with the army apart from the scholarship conditions, another four years. On entering the army they receive 6,000 kronen ($1,200) as repayment of the expenditure of their medical studies. It is also promised that within the next five years the conditions of promotion will be improved in such a way that military surgeons will reach after twenty-five years of service the rank of general staff surgeon, thus removing one of the chief reasons for the avoidance of the army by doctors. Also the conditions of old age or superannuation pensions will be shortly brought to a modern level, and the pension of a regimental surgeon will be increased in a liberal degree so as to induce many doctors to serve at least over their term until they reach this rank. If religious prejudices are done away with also, the desired effect will be obtained in a few years, but the last condition is the most difficult one in this country.

### Sexual Diseases Among University Students and Upper Classmen of High Schools

The Austrian Society for the Fight against Sexual Diseases has conducted during the last few years an investigation into the prevalence of sexual diseases among different classes of the population, and one of the most startling facts brought into light was the frequent occurrence of this kind of illness among the adolescents of the "better" or wealthier classes. Thus among the students enrolled in the universities and allied high schools, no less than 25 per cent. were affected or rather infected, while even among the pupils of our gymnasiums and equivalent schools (attended by students from 16 to 19 or 20 years of age), 11 per cent. were infected, mostly with gonorrhea. This alone would give a forcible plea for the necessity of sexual hygienic instruction of students aged about 16, for in the overwhelming majority of the cases, the diseases had been contracted by sheer lack of knowledge of the risk encountered. The unwonted liberty offered to the hitherto closely watched pupil when he comes to large cities for university studies and has to live not in a school, but in a private house, is most dangerous in this respect. The society has already succeeded in inducing the reluctant authorities of the universities to have a printed warning handed over to every student matriculating in the institute. In this leaflet the importance of early and energetic treatment of all kinds of sexual diseases, and the necessity of putting away all shame in this respect, are clearly pointed out, and earnest advice is given to abstain from all sexual intercourse before marriage, this being the only safe way for remaining healthy and vigorous. Lately, by permission of the government, a dispensary for diseased students has been organized and the two dermatologic clinics of the Vienna University will alternate in this service.

### The Problem of Euthanasia

The newspapers in this country are discussing now the problem of euthanasia, or the right of an individual to demand from his medical advisers active help to pass away from this world. The discussion was opened by a medical man, who himself was the victim of an incurable disease, and who proposed a regular act of parliament for this purpose. He worked his suggestion out in the following way: "Every person suffering from an incurable disease should be entitled to get euthanasia (help for dying). He should be obliged to apply for this purpose to the nearest court of justice. The court should order an examination of the patient by its forensic doctor, together with two competent specialists. If desired, other doctors may take part in the examination. This examination should take place not later than a week after the application has been tendered. If the examiners agree that the fatal outcome of the illness is much more to be expected than a cure, according to their scientific conviction, the patient should be helped to die. Whoever kills a patient or helps him to die painlessly, acting on the patient's express wish, and by permission of a court, would remain free from punishment. If the post-mortem examination shows that the disease was incurably fatal, he may also remain free from punishment. Killing a patient without his expressed and clearly manifested wish will be regarded as murder. Crippled or maimed persons should be considered in the same way as fatally ill persons." The resulting discussion is most significant for the difference of opinions. While the general public is not opposed to this idea, protests from medical quarters are very vehement and frequent. One of the most convincing opponents points out that medical knowledge is not yet advanced far enough to allow a sweeping statement as regards curability or fatality. It is too well known how patients with sarcoma, carcinoma, tuberculosis, neuralgia and the like suddenly improve and even become cured, in spite of the sentence of death passed on the patient by the medical adviser. On the other hand, medical art has enough means at hand to prevent sufferings to such patients. This kind of euthanasia is already being practiced widely enough, and it requires no law, while the beforementioned "help to die" would always lead to the possibility of conscious or unconscious murder. The fear of death must not be confused with the right of dying. As regards the trend of thought of our juristic and political authorities, there is very little probability of this suggestion becoming law within a short time.

## Marriages

THOMAS RAYMOND BEGGS, M.D., Dallas, Tex., to Miss Muriel Hillard Sonne of New York City, at Trudeau, N. Y., May 18.

GUSTAV SJOLANDER, M.D., Midland, Mich., to Miss Lydia E. Wade of Kansas City, Mo., at Midland, Mich., May 16.

FREDERICK BLUNT ALLEN, M.D., North Wales, Pa., to Miss Florence Corbin Newbold of Ridgefield, N. J., June 4.

THOMAS HARKINS INGRAM, M.D., Marianna, Ark., to Miss Josephine Le Master of Memphis, Tenn., June 11.

LOUIS J. LINDER, M.D., East St. Louis, Ill., to Miss Helen L. Bott of Brighton, Ill., at Alton, Ill., June 4.

WILLIAM LORD SMITH, M.D., to Mrs. Edith De Mauriac, both of Boston, at Grafton, Mass., May 31.

CLARENCE EDGERTON OWENS, M.D., to Miss Clara Ellen Forbes, both of Columbia, S. C., May 20.

RENE HECTOR HURVELLE, M.D., to Miss L. Elizabeth Featherstone, both of New York City, May 22.

EDGERTON LAFAYETTE CRISPIN, M.D., to Miss Angela Shipman, both of Ocean Park, Cal., May 27.

DAVID SWAN LINVILL, M.D., Columbia City, Mo., to Miss Emma Erdmann of Chicago, May 21.

WILLIAM KERWIN, M.D., to Miss Myre Stromberg, both of St. Louis, at Arcadia, Mo., June 1.

JAMES GARCIA, M.D., Idalia, Colo., to Miss Ethel Belle Manley of Tuttle, Colo., May 19.

WILLIAM CLEVELAND MYERS, M.D., to Miss Julia Collier, both of Dana, Ind., about May 14.

HARRY VILEY JOHNSON, M.D., to Miss Maria Payne Rucker, both of Georgetown, Ky., May 28.

T. ARTHUR JOHNSON, M.D., to Miss Ruth Winnifred Swanson, both of DeKalb, Ill., May 28.

JOHN CHESTER CARMER, M.D., to Miss Mary E. Townsend, both of New York City, June 4.

FRANCIS MARION SCHILLING, M.D., to Miss Lydia Lever, both of Philadelphia, June 4.

LEWIS HARLAN ATHON, M.D., to Miss Cleone Groat, both of Los Angeles, June 12.

HARRY PRESS, M.D., to Miss Mollie Fineblit, both of Manchester, N. H., May 25.

JACOB LUFTIG, M.D., to Miss Friedberg, both of Boston, March 23.

## Deaths

**Harry A. Tomlinson, M.D.** University of Pennsylvania, Philadelphia, 1880; one of the most prominent alienists of the Northwest; died at his home in Willmar, Minn., May 30, from cerebral hemorrhage, aged 57. Before coming to Minnesota, Dr. Tomlinson had had charge of a private hospital for the treatment of inebriates in Frankford, Pa. He became a member of the staff for the State Hospital for the Insane at Saint Peter in 1891 and was made its superintendent two years later, and continued in that position until the establishment of the State Hospital for Inebriates, Willmar, of which he was superintendent from its organization until the time of his death. He was a member of the American Medical Association, the American Neurological Association, American Medico-Psychological Association and American Academy of Medicine, and was one time president of the National Asso-

ciation of Asylum Superintendents. He had made many contributions to the literature regarding the pathology of insanity and the treatment of the insane, and was an alienist of national reputation.

**John Pitman, M.D.** Washington University, St. Louis, 1864; a member of the American Medical Association; vice-president and one of the founders of the Bank of Kirkwood, Mo.; for twenty-eight years president of the Board of Education and for several years a member of the Kirkwood town board; local surgeon of the Missouri Pacific System; died in St. Luke's Hospital, St. Louis, May 28, from peritonitis, following an operation for appendicitis, aged 75.

**Benjamin Franklin Barnes, M.D.** University of Wooster, Cleveland, Ohio, 1895; a member of the American Medical Association; formerly president of the Licking County (Ohio) Medical Society; local surgeon of the Baltimore and Ohio System at Newark, Ohio, and a member of the Association of Baltimore and Ohio Railway Surgeons; died in Lakeside Hospital, Cleveland, May 28, four days after an operation for the removal of gallstones, aged 47.

**John Richard Francis, M.D.** University of Michigan, Ann Arbor, 1878; formerly chief surgeon of the Freedmen's Hospital, Washington, D. C.; at one time a member of the Board of Education of Washington, of the board of trustees of Howard University and of the executive staff of Freedmen's Hospital; one of the most prominent and wealthy colored physicians of Washington; died at his home, May 23, aged 57.

**J. Boyd Risk, M.D.** University of Pennsylvania, Philadelphia, 1879; a member of the American Medical Association; mayor of Summit, N. J., from 1908 to 1912; vice-president of the Summit Trust Company and a director of the First National Bank; died at his home, May 31, from a nervous disorder, aged 56.

**Elmer Ellsworth Brown, M.D.** Jefferson Medical College, 1897; a member of the Medical Society of the State of Pennsylvania; vice-president of Temple University and prominent in business circles in Philadelphia; a director of the Samaritan and Garretson hospitals; died at his home, May 23, aged 52.

**Orson Wilson Tock, M.D.** University of Michigan, Ann Arbor, 1870; a veteran of the Civil War and prisoner in Andersonville; for more than forty years a practitioner of Genesee County, Mich.; died at his home in Flushing, May 20, from heart disease, aged 70.

**John Tyler Harrison, M.D.** Barnes Medical College, St. Louis, 1897; of San Antonio; a member of the American Medical Association and a widely-known practitioner of San Antonio; died at the Wyeth Hospital in that city, May 25, a few days after an operation, aged 47.

**James Alexis Post, M.D.** University of Michigan, Ann Arbor, 1866; for twenty-five years general secretary of the Associated Charities of Detroit, Mich.; a surgeon of volunteers during the Civil War; died in a sanatorium in Los Angeles, March 13, aged 75.

**Edward Fletcher Brooks, M.D.** New York University, New York City, 1894; of Newburgh, N. Y.; while crossing the Erie Railroad tracks in his automobile, May 13, was struck by a train and received injuries from which he died a short time later.

**Matthew John Leland, M.D.** New York University, New York City, 1883; for many years professor of science and languages in Roman Catholic colleges in New York and Brooklyn; died at his home in Brooklyn, May 29.

**George Payne Holman, M.D.** College of Physicians and Surgeons, New York City, 1873; for forty years a practitioner of San Saba, Tex.; died in his apartments in Galveston, May 25, from heart disease, aged 65.

**Shelly C. Moore, M.D.** Hospital Medical College, Eclectic, Atlanta, Ga., 1911; of Luray, S. C.; who was shot by a negro desperado, April 30, died from his wounds in a hospital in Columbia, S. C., May 5, aged 24.

**William Andrew Shuey, M.D.** University of Virginia, Charlottesville, 1873; a member of the West Virginia State Medical Association and a Confederate veteran; died at his home in Piedmont, May 17, aged 77.

**Milton Colt Belknap, M.D.** Eclectic Medical College of the City of New York, 1868; a veteran of the Civil War; died at his home in Mayville, N. Y., May 22, aged 70.

**Lewis Shepard, M.D.** Miami Medical College, Cincinnati, 1868; formerly of Newport, Ind.; died at his home near Quaker, Ind., recently.

**Eugene Frederick Hoyt, M.D.** Hahnemann Medical College, Philadelphia, 1870; a specialist on diseases of the ear and throat, of New York City; died at the home of his daughter in Newark, N. J., May 26, from nephritis, aged 66.

**James Clyde Snively, M.D.** College of Physicians and Surgeons, Keokuk, Iowa, 1891; a member of the Washington County Board of Health; died at his home in Fruitdale, Ala., April 20, from uremia, aged 48.

**Harry James Relihan, M.D.** Northwestern University Medical School, Chicago, 1909; formerly of Sanborn, Iowa; died at his home in Chicago, May 31, from the effects of an overdose of morphin, aged 31.

**Frank William Thompson, M.D.** Yale University, New Haven, Conn., 1907; assistant surgeon, U. S. Navy; died at the U. S. Naval Hospital, Newport, R. I., May 30, from pneumonia, aged 29.

**Daniel Richards, M.D.** Eclectic Medical College of Pennsylvania, Philadelphia, 1865; for nearly half a century a practitioner of Marion, N. Y.; died in Palmyra, N. Y., May 21, aged 80.

**William E. Cooper, M.D.** Medical College of Indiana, Indianapolis, 1894; of Sheridan, Ind.; died at his home, about May 23, after an operation for the removal of a tumor, aged 60.

**Morris Drossner, M.D.** University of Greifswald, Germany, 1863; a specialist on diseases of the eye, ear and throat, of Jersey City, N. J.; died at his home May 25, aged 70.

**Henry Clay Coley, M.D.** Cooper Medical College, San Francisco, 1878; formerly of Stonyford and Chico, Cal.; died suddenly at Terra Buena, Cal., about April 25, aged 61.

**James M. Grimes, M.D.** Missouri Medical College, St. Louis, 1857; a member of the Illinois State Medical Society; died at his home in Camp Point, May 21, aged 77.

**August John Freutel, M.D.** Albany (N. Y.) Medical College, 1902; a member of the American Medical Association; died at his home in New York City, April 28, aged 36.

**Emma J. Cornwall, M.D.** Hahnemann Medical College, Chicago, 1884; died at the home of her daughter in Denison, Iowa, April 20, from senile debility, aged 75.

**Patrick J. Gallagher, M.D.** Georgetown University, Washington, D. C., 1891; died at his home in Washington, D. C., March 28, from cerebral hemorrhage, aged 55.

**John W. Shockey, M.D.** Physio-Medical Institute, Cincinnati, 1874; of Columbus, Ohio; died at the home of his daughter in that city, May 26, aged 66.

**Winfield S. Jarvis, M.D.** Kentucky University, Louisville, 1903; of Olive Hill, Ky.; was found dead near that place, May 22, from exposure, aged 36.

**W. Wilroy Catching, M.D.** Tulane University, New Orleans, 1901; died at his home in Georgetown, Miss., about May 7, from pneumonia, aged 37.

**John DeWitt Nelson, M.D.** College of Physicians and Surgeons, New York City, 1875; died at his home in New York City, May 21, aged 64.

**R. W. Patterson, M.D.** Northwestern University Medical School, 1902; died at his home in Menahga, Minn., May 11, from uremia, aged 38.

**Henry Maclean Crawford, M.D.** College of Physicians and Surgeons, New York City, 1896; died at his home in New York City, May 7.

**William H. Boyd, M.D.** Atlanta (Ga.) Medical College, 1869; died at his home in Rome, Ga., May 8, from senile debility, aged 85.

**Samuel B. Baker, M.D.** University of Buffalo, N. Y., 1899; died at his home in Rochester, N. Y., May 27, from heart disease, aged 43.

**James E. Payne, M.D.** Barnes Medical College, St. Louis, 1901, of Normangee, Tex.; died recently in a sanatorium in Houston, Tex.

**Carl Goff Morse, M.D.** Tufts Medical School, Boston, 1910; of Winthrop, Mass.; died in a hospital in Boston, April 3, aged 36.

**Joseph Warren Dorset, M.D.** University of Alabama, Mobile, 1903; of Wilmer, Ala.; died in a hospital in Mobile, May 9.

**George L. Harbour, M.D.** Louisville (Ky.) Medical College, 1893; of Vosburg, Miss.; died at his home, May 23, aged 43.

**William R. Denbo,** (license, Indiana, 1897); died at his home in Mauckport, April 21, aged 59.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## CLEAN ADVERTISING

### A Layman's Criticism of Some Resolutions

The public is waking up to the evils of fraudulent medical advertising. Those interested in the advertising business know this, for men of no other class keep closer watch on the pulse of public opinion. The letters on the subject of fraud in medicine received daily by THE JOURNAL from laymen further emphasize the amount of public interest in this question. Physicians deserve credit for having instituted this fight against an insidious form of fraud—a fight that should have emanated from the public rather than from the profession. For years, the doctors of the country have tried to awaken the public mind to the menace of fraudulent "patent medicines" and irregular medical practice. Any apparently reactionary step taken, even inadvertently, by physicians in matters of this kind is most unfortunate. The following letter from Mr. E. J. Lee Rust of Birmingham, Ala., deserves a careful reading:

*To the Editor:*—To some of us poor ignorant people, who are not members of the grand and glorious medical profession, it would appear as though the various state medical associations—and in this case I refer especially to the Alabama Medical Association—did not give us credit for being able to think at all.

About a week ago the Birmingham *Ledger*, a daily paper, had an article on its front page under the following heading:

FORMAL PRESENTATION OF PHYSICIANS' ENDORSEMENT LEDGER'S CLEAN COLUMNS

The resolutions adopted by the Medical Association of the State of Alabama, at the recent convention in Mobile, commending the Birmingham *Ledger* for its steadfast refusal to open its advertising columns to medical quacks, has been transmitted to the *Ledger* by Dr. L. G. Woodson, chairman of the committee delegated by the state organization to perform this act. The resolutions, which have gone on record in the minutes of the state association, read as follows:

"*Resolved*, That the Medical Association of the State of Alabama hereby places itself on record as giving unqualified endorsement to the policy adopted by the Birmingham *Ledger* in refusing to receive for insertion in its columns advertisements of quacks and all such misleading and fraudulent matter.

"*Second*, Be it further resolved, that this association hereby commends in the highest degree the policy of the Birmingham *Ledger* in refusing to insert advertisements of the kind mentioned above in its columns.

"The board heartily endorses the above resolutions and recommends that they be adopted by the association *cum laude*, and expresses the hope that other leading and influential journals of the state will follow the example thus set by the Birmingham *Ledger*.

"The board further recommends that a special committee of three, to be composed of Drs. Woodson, Ward and Bowman of Birmingham, be appointed to transmit in person to the proprietors of the *Ledger* a copy of this action of the association.

"Attest: W. H. SANDERS, M.D., State Health Officer."

The preceding refers to the fact that the *Ledger* has, for some time past, refused to accept the advertisements of certain doctors, especially those who advertise to cure the so-called private diseases of men and women. After reading the above article in the *Ledger* I glanced over its columns and, in the same issue with the above "boost" by the state medical association, I found and cut out advertisements of the following:

Beecham's Pills
Digestit
Croxone
Dr. Dodson's Liver Tonic
Carswell's Liver-Ade
Chamberlain's Cough Remedy
Mother's Friend
Wonderful Zemo
Mayr's Wonderful Stomach Remedy
Frontier Asthma Co.
Parisian Sage
Othine (Cures Freckles)
Ayer's Hair Vigor
Union Painless Dentists
Gets-It
Mercolized Wax
Tutt's Pills
Teethina
Lydia E. Pinkham's Vegetable Compound
Valdona Health Guide
Danderine
Dr. Caldwell's Syrup Pepsin
Hot Springs Liver Buttons
Home Receipt for Gray Hair
Nadinola Cream
Fulton's Diabetic Compound
Mrs. Winslow's Soothing Syrup
Abbot Bros. Rheumatic Remedy
Resinol
Foley's Honey and Tar
Calocide Compound
Wyeth's Sage and Sulphur Hair Remedy
Syrup of Figs
Hostetter's Stomach Bitters
Swamp Root
Carter's Little Liver Pills
Cuticura Remedies for Eczema
Wine of Cardui
S. S. S.

I will say here, as I want to be accurate, that not all of the preceding were cut out of the issue mentioned, as, after I started the list I picked up to-day's paper and found some advertisements not in the former paper.

Here is a great medical association praising a paper because it will not publish the advertisements of certain doubtful doctors, and it goes right ahead, with a notice on the front page telling innocent people to buy whatever is published in the *Ledger*, and advises you to patronize our old friend Lydia E. Pinkham, Wine of Cardui, Union Painless Dentists, etc. Now, as a layman who is interested in all clean cures for existing evils, medical, social or political, I would like to have the opinion of THE JOURNAL of the American Medical Association on the foregoing glowing tribute to the Birmingham *Ledger*.

Mr. Rust's criticism is a just one. It is quite evident that the Birmingham *Ledger* does not refuse to receive for insertion "misleading and fraudulent matter." A newspaper that carries advertisements of a fraudulent "consumption cure," such as Eckman's Alterative, a dangerous "headache cure" such as Antikamnia, a "baby-killer" like Winslow's Soothing Syrup, a caustic poison like Mercolized Wax, a worthless "rupture cure" like Stuart's Plapao Pads and general all-around frauds like Kilmer's Swamp Root, Doan's Kidney Pills and Mayr's Stomach Remedy—and all of these appear in the *Ledger*—is hardly in a position to be praised for its clean advertising.

In view of these facts, the matter given above was submitted to Dr. W. H. Sanders, State Health Officer of Alabama, who replied:

"*To the Editor:*—Your letter of recent date, accompanied by a galley proof of matter you propose to insert in THE JOURNAL, has just been received. I am greatly obliged for the opportunity you have just afforded me of explaining the awkward position in which our State Medical Association seems to have involved itself. The resolutions of endorsement of the Birmingham *Ledger* were introduced by a member from Birmingham, and, taking it for granted that the resolutions embodied facts, the association endorsed them. The communication of your correspondent from Birmingham seems to show that the *Ledger* was not entitled to the high endorsement which it received from the association. I regret very much that the association accepted without investigation the resolutions as expressing facts. Should it turn out after thorough investigation that the association was misled in this matter I can assure you that it will on the earliest opportunity correct its mistake, which was inadvertent and not intentional. Should the matter which you submit appear in THE JOURNAL I hope you will insert this communication along with it."

## RESPIRAZONE

"Can you tell me the composition of Respirazone, Tilden?" asks Dr. A. F. Barnes of Cambridge, Mass. No, we cannot. The company that manufactures it publishes an incomplete and therefore meaningless "formula." The stuff is said to be composed of: "Iodid and Bromid of Potassium, Helianthus Annuus [Sunflower], Ipecacuanha, Lobelia Inflata [Lobelia] and Leonurus Cardiaca [Motherwort]." Taken even at its face value, Respirazone is evidently a nostrum of the shotgun prescription type, containing, as is so often the case, some obsolete and worthless drugs. Our readers may remember a report of the Chemical Laboratory of the Association appearing in THE JOURNAL, June 19, 1909, p. 2008, on the Tilden Company's Hydroeyanate of Iron. There it was shown that the product was a mixture of Prussian blue and talc, and the investigation indicated that the firm was not inclined to disclose the composition of its remedies to the medical profession. A note on another of the company's products—Febrisol—which appeared in THE JOURNAL, June 29, 1912, p. 2043, called attention to the fact that the Tilden Company had been found guilty under the Food and Drugs Act of misbranding its product.

The time has come when physicians are thinking on this subject of scientific prescribing. They are glad to cooperate with firms which deal fairly, but they are unwilling to act as promoters of shotgun and other nostrums. The day is coming slowly but surely when the practitioner will not be cajoled into prescribing mixtures unless there is a real scientific reason for each part in the combination.

## THE "KNOWN DOCTORS"

### Imitators of the "United Doctors" Come to Grief at Ottumwa, Iowa*

The "Known Doctors," imitators of the methods of the "United Doctors," with offices at Ottumwa and Oskaloosa, Iowa, and Hastings, Neb., appear to have come to grief after a brief career. B. J. Chenoski, the promoter, according to press reports, recently pleaded guilty in the United States Court at Des Moines to using the United States mails to defraud, and sentence was deferred until the next term of court. James Ezra Meyers, one of Chenoski's hired "specialists," we are informed, was bound over to court for obtaining money under false pretenses, and is now under $500 bail.

The Known Doctors opened an office at Oskaloosa in October, 1912. The preliminary advertising campaign in Iowa was conducted under the name of the "United Doctors" but it was changed to "Known Doctors" just before the office was opened. Later the offices at Ottumwa and Hastings were opened. The advertising was almost an exact copy of that used by the United Doctors.

After a career of seven weeks, the office at Hastings was closed and Dr. H. C. Williams, formerly of Omaha, who was in the employ of Chenoski, was left to hold the sack. Chenoski abandoned the office and, according to the Hastings *Daily Republican*, left rent and other unpaid bills.

B. J. Chenoski, the promoter of the concern, is not a physician, but claims to be a chiropractor. At one time he was a pharmacist in one of the department stores in Chicago. Later he became manager of the "Chicago Men Specialist Company" at their branch office at Des Moines. His peculiar methods while manager of this company are said to have brought about his discharge. He then became the promoter of the Known Doctors. About May 20, 1913, he was arrested by the post-office authorities for fraudulent use of the mails in connection with his medical business. According to the Ottumwa *Courier*, May 20, 1913, a bottle of tea was sent as a specimen of urine to Chenoski by a pretended patient who was in the employ of the government; and after an alleged examination of the specimen, a letter giving a diagnosis of diabetes was sent through the mail. On this he was arrested and when arraigned before Judge Smith McPherson in the Federal Court at Des Moines he pleaded guilty.

James Ezra Meyers was the "consulting physician" of the Known Doctors at Ottumwa. In the latter part of April he, with B. J. Chenoski, was arrested for obtaining money by false pretenses on the complaint of an aged patient, with cancer of the stomach, whom it is alleged they agreed to cure for $225, of which $175 was paid in cash and a receipt given. The cure was guaranteed and the balance of $50 was to be paid when the cure had been effected. The diagnosis of cancer was made by the physician who had previously attended the patient and was confirmed by others. The disease continued to advance, and, as already stated, the parties were arrested. Dr. Meyers, after a hearing before a justice of the peace, was bound over to the grand jury as stated. He graduated at the Illinois Medical College in 1910 and formerly practiced at Lansing, Iowa.

At Oskaloosa Dr. Theodore Milen seems to have been in charge of the office. Milen has been in the quack advertising business for many years. Like Ben W. Kinsey of the United Doctors he was a pupil and employee of "Phenomenal Kraus" when the latter invaded Des Moines, Iowa. In 1906 Milen was "physician-in-chief" of the Hot Springs Doctors at Sioux City, Iowa, and in 1909 he was associated with Dr. C. C. Aitken under the name of "Austro-American Doctors," with offices also in Sioux City. At that time charges were filed against him by the State Board of Health on account of fraudulent representation as to skill and ability, and gross unprofessional conduct. He left the state without appearing before the board and the charges became outlawed. He entered the employ of the Des Moines Specialists Company in 1912 and later became associated with Chenoski at Oskaloosa.

* For previous articles on this form of quackery see Propaganda Department, THE JOURNAL A. M. A., March 1 and June 7, 1913.

# Correspondence

### Lateral Incisions in the Treatment of Felons: A Warning

*To the Editor:*—In THE JOURNAL, May 10, 1913, p. 1416, is an interesting article by Dr. G. M. Dorrance on the treatment of felons by a coronal incision which separates the pulp of the finger from the subjacent bone. The free drainage afforded and the absence of any scar on the tactile area commend themselves.

In a personal experience with a felon nine years ago the advantage of a lateral incision appealed to me, and under my direction an incision was made precisely similar to that advocated by Dorrance except that only a lateral half of the flap was raised. The operation was entirely satisfactory so far as it provided drainage and relieved pain, but an annoying loss of epicritic perception, which evidently is permanent, daily warns me of the disadvantages of the incision. Although the incision was made well to the side, the tactile area anterior to the scar and also a narrow area posterior to the scar retain this unpleasant anesthesia and paresthesia, which interfere to some degree with finer tactile perception.

The division of sensory nerves, therefore, is an important objection to lateral incisions of the fingers. There is also an increased risk of wounding the digital arteries; but this, as a rule, is less serious than the permanent interference with tactile perception. It is urged, therefore, that the time-honored medial incision is the best incision for all deep suppurations involving the plantar surfaces of the fingers.

The mistakes usually made are that the incision is made too short, too late and too superficial. As these infections often involve the tendon sheaths and may involve the entire finger, the median incision has also the advantage of affording free drainage even though the infection involve more than the terminal phalanx. Although the incision be 2 or 3 inches in length, the resultant scar or deformity is usually slight and no sensory impairment remains. No general anesthesia is necessary, as complete anesthesia of the finger may be obtained by the deep injection of a few drops of a weak cocain or novocain solution in the anterolateral area at the base of the finger so as effectually to block the two digital nerves. A constricting band is desirable. The importance of rest in bed, elevation of the part, and ample wet drainage need not be emphasized.

The prophylaxis of digital infections, especially for physicians, has not been sufficiently appreciated. Rubber gloves should be used for vaginal examinations, dressings and post-mortems. With the premonitory signs, usually a slight stinging or itching sensation in the area of infection, the part should be protected from irritation or bruising, and coated with the official yellow oxid of mercury ointment. Several of the mercurial ointments are remarkably efficient in preventing or aborting cutaneous infections.

W. WAYNE BABCOCK, M.D., Philadelphia.

### Bone-Grafting without Periosteum

*To the Editor:*—In THE JOURNAL, May 17, 1913, p. 1533, Dr. H. G. Wetherill of Denver reports a successful case of bone-grafting without periosteum.

In a report of our experimental bone and periosteal transplanting at the Texas State Medical Association the early part of this month, Dr. C. P. Brown and I were able to show conclusively that the periosteum had nothing to do with regeneration of the bone, and advocated at that time not only removing the periosteum from the transplant before it was removed from the tibia, but also taking off the superficial layer of the bone just beneath the periosteum and roughening the transplant with the chisel, in order to increase the osteoblastic-producing surface.

In our last patient, operated on April 19, we not only removed the periosteum from the transplant, but also traumatized the surface formerly covered by periosteum. As the osteoblasts do not penetrate the periosteum, and as we have

found that we obtain a greater reproduction of new bone when the haversian canals are well opened up by roughening the bone with the chisel, it neeessarily follows that we shall secure greater circumferential reproduction if no part of the transplant is covered by an impervious membrane.

I would suggest that there may be a small sequestrum thrown off from the transplant in Dr. Wetherill's case, which happened in a case of ours two years ago in which there was a slight latent infection. The sequestrum constituted about one-fourth of the original graft, the other three-fourths having healed in and reproduced a considerable amount of bone.

W. L. BROWN, M.D., El Paso, Tex.

---

### Evidences of Arsenical Poisoning

*To the Editor:*—In an editorial on this subject in THE JOURNAL, May 31, 1913, p. 1710, it is stated that "by no ordinary measures, such as those to which criminals would be likely to resort, could arsenic be introduced into the body after death and be carried by the ordinary processes of diffusion to a point [the brain] so remote from the central portions of the body."

This is so at variance with established facts that I wish to direct your attention to the matter in the interest of medical jurisprudence.

It is true, as the editorial points out, that formerly the belief was entertained that if arsenic is found in the brain of a cadaver, the poison must have been introduced into the body before death. During the past thirty years, however, many experiments on the dead bodies of man and of the lower animals have abundantly established the fact that this view is entirely untenable. The record of these experiments is found in easily accessible literature.

Vaughan in 1883 took up the subject and became the pioneer investigator. With an ordinary syringe, he injected arsenic into a cadaver by the mouth and the rectum. The body was put aside for twenty-five days; then the brain was removed and submitted to chemical analysis; in a little more than a thousand grams of it he found 3.63 mg. of arsenic, calculated as the trioxid. In 1888 Witthaus continued the investigation. He first used three cadavers, and into two of them he injected arsenic through the mouth; in the third the arsenic was injected into the stomach and abdominal cavity. Fourteen days later the brains of all three were examined and arsenic was found in every one. In one case the vertex and the base were tested separately, and it was discovered that there was quite as much arsenic in the one part as in the other—showing the rapidity and completeness of the diffusion. In a fourth case Witthaus injected the arsenic directly into the stomach and at the end of five days he separated from the brain 8.28 mg. of arsenic calculated as the trioxid.

In the majority of the foregoing experiments only easily obtainable apparatus was used and the arsenic was injected into that part of the body (the mouth) to which a criminal could have ready access. It will also be seen that the amount of arsenic found in the brain after post-mortem injection was greater than that found by Ekeley (1.2 mg., calculated as $As_2O_3$, in 1,000 gm. of the brain) in the case reported by him (and referred to in the editorial), in which the arsenic was taken before death.

WALTER S. HAINES, M.D., Chicago.

---

### The Insanitary Labor Camp

*To the Editor:*—In THE JOURNAL, May 10, 1913, p. 1464, is an editorial on this subject. While I concur for the most part in the deductions drawn, one statement is so obviously based on incomplete information that, in justice to our own and several other Western states, I call attention to it. The sentence is the following: "Because these camps are controlled by no laws, and because they are not supervised by any state department, they are a grave menace to the health of the laborers occupying them and the inhabitants of distant as well as adjacent towns."

Reports on industrial camps have been made to the Conference of State and Provincial Boards of Health for each of the past four years. The last report, made by myself and Dr. T. D. Tuttle of Montana, has not yet been published, but is practically ready for distribution. This report contains a digest of the laws and regulations controlling industrial camps, as nearly as we could determine them last year. So far as I know, practically all the western provinces of Canada and the states of Montana, Idaho, Utah, Louisiana and Washington have done something, at any rate, in attempting to control these camps through their state boards of health. Certain other states, notably Kansas and California, have made some investigations. Therefore it can scarcely be said that these camps are not supervised by *any* state department.

On page 628 of the *Public Health Reports* of March 28 will be found a copy of our rules and regulations relating to camps. I believe, although I have not the exact date at hand, that the rules of the Louisiana board have been in effect for several years. The Washington State Board of Health rules have been in effect since 1910. On page 35 of our last biennial report will be found a brief account of the work of this board on industrial camps, and also in the report of the sanitary inspector, page 112, is a more detailed reference to some camps inspected. In all, this department has investigated something over 500 industrial camps in the last three years and has had exceptionally good success in carrying out sanitary improvements. The investigations are far from what they should be because of lack of funds and field force, but we feel that in no other line of work have we accomplished greater results with the limited funds at our command. This subject is covered more fully in our last conference of state health officials' report, which will soon come from the press.

EUGENE R. KELLEY, M.D., Seattle, Wash.
Commissioner, Washington State Board of Health and Bureau of Vital Statistics.

[COMMENT.—It is shown by our correspondent that several states are exercising supervision over the sanitation of labor camps. The facts on which our editorial was based were drawn chiefly from conditions existing in New York. The second sentence, of course, should have read: "Because in many states these camps are not controlled by any laws and are not supervised by any state department . . ." The danger to health from labor camps is evidently becoming widely recognized.—ED.]

---

### Suggestion for a Committee to Pass on New Medical Books

*To the Editor:*—May I suggest for the consideration of the American Medical Association at its coming meeting the desirability of appointing a committee for the purpose of passing on the intrinsic merits of medical publications placed on the market?

Publishing houses are financially interested in their output, and reviews are too often written hastily and sometimes perhaps with a personal bias; while no single reviewer associated with any periodical can be expected to possess such encyclopedic knowledge as is necessary in a field so varied and extensive. For these reasons thousands of physicians, and especially those far removed from publishing centers, are quite unable to decide what books may be most worthy of their attention.

An advisory or reviewing committee (like the Council on Pharmacy and Chemistry) of capable physicians, appointed by the Association because of their technical and practical knowledge of the various specialties and whose members may reside in different sections of the country, could without invidious distinction classify books in such way as to enable purchasers to make a more satisfactory selection than is now possible.

Many of our fraternity cannot afford to purchase largely, and it is often a great disappointment to discover, when too late, that a poor investment has resulted from an insufficient knowledge of, or extravagant claims made for, a much needed work.

The book review of such a committee should appear in the columns of THE JOURNAL, and coming from such authority would add greatly to its value for the busy practitioner or the young graduate who is bewildered by the many and too often misleading claims made for books. Approved works could be classified as are the medical colleges by the Council on Medical Education—A, B, C, etc.

G. WILDS LINN, M.D., Malvern, Pa.

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

## THE ASEPTIC THERMOMETER

In an editorial on "The Clinical Thermometer as a Vehicle of Infection" (THE JOURNAL, May 10, 1913, p. 1467), our readers were asked to suggest methods of making the thermometer aseptic. A number of replies have been received, which are summarized below.

DR. F. W. BREMER, Pittsburgh, Pa., has employed a thermometer case a little larger than the ordinary one, having an extra threaded collar to which a wick or gauze cover or "stocking" is attached. This cover is made thick and coarse enough to hold by its capillarity a quantity of 40 per cent. solution of formaldehyd which would keep the thermometer antiseptic at all times, both by contact and by its fumes. The thermometer, of course, has to be washed and dried both before and after use. At present, however, Dr. Bremer uses a roll of coarse paper in his thermometer case into which the thermometer fits tightly, the paper being soaked with formaldehyd solution.

DR. G. M. OLSON, Fargo, N. D., suggests that the ordinary hard-rubber thermometer case may be filled with alcohol, and if the top is screwed tight it will not leak and the case may be turned up so as to sterilize the entire thermometer. After use, the thermometer should, of course, always be washed in water.

DR. LOUIS J. SMITH, Percy, Ill., also has used the latter method for some time and believes it is ideal.

DR. H. M. FOLKES, Biloxi, Miss., for a number of years has carried with him a book of cigarette paper and a 2-dram vial of pure alcohol. When getting ready to take a patient's temperature, he takes a sheet of cigarette paper, saturates it with alcohol, and cleanses the thermometer just before use.

DR. E. T. BAKER, Moscow, Idaho, has designed, for the individual thermometer of the patient or the nurse, a metal receptacle, with a tight cap, containing a glass tube similar to a test-tube, which may contain any desired antiseptic. The whole outfit is to be fastened to the wall or some other convenient place in the hospital ward or sick-room.

DR. F. A. MCGREW, Delta, Colo., carries in his medicine case a small, flat, oblong metal box containing absorbent cotton and an ounce bottle filled with tincture of iodin diluted with an equal quantity of alcohol. After the thermometer has been used, some member of the family is requested to wash it in cold water; then a little pledget of cotton is moistened with the iodin solution and the thermometer is thoroughly washed with it. It is then put in the case without removing the excess of solution until the time of using the thermometer again.

DR. JOHN L. DRYER, Santa Ana, Cal., cleans the thermometer after use and then dips it into a 40 per cent. solution of formaldehyd, after which it is returned to the case and the cover tightly screwed down. Another plan is to wrap a thin film of absorbent cotton about the thermometer and dip it in 98 per cent. alcohol, returning it to the case as above.

DR. SAMUEL KENNEDY, Shelbyville, Ind., says that accurate and tested thermometers can be procured for $3.50 per dozen or 29 cents each, and that it is not necessary to buy more expensive instruments. He keeps a large number of thermometers and carries a number of them with him on his rounds, using a clean thermometer for each patient. On returning to the office the thermometers are carefully washed with soap and water, rinsed in cold water and then allowed to stand in alcohol for about an hour. They are then returned to their cases, which are sterilized by boiling, to be used again the next day

DR. HENRY B. HEMENWAY, Evanston, Ill., calls attention to a thin celluloid envelope or cover, which is supplied by the instrument dealers, into which the thermometer is slipped before being placed in the patient's mouth. This does not interfere with the correct registration of the temperature. The envelopes are cheap and a new one, of course, is used for each patient, although one may be used a number of times for the same patient.

DR. EDWARD J. BROWN of Minneapolis cuts a strip of blotting-paper ⅜ inch wide and inserts it in the metal thermometer case. The thermometer, after use and washing, is dipped in compound cresol solution and placed in the case. The blotting-paper soon becomes saturated and causes continuous disinfection of the thermometer.

DR. FRANK R. HART, Santa Cruz, Cal., has devised a thermometer case made of hard rubber, consisting of an inner and outer tube. The inner tube is so made as to hold any ordinary-sized clinical thermometer. It screws into the outer case. The walls of the inner tube are punctured with many small holes through which the fluid antiseptic, contained in the outer case, penetrates by pressure and by capillary attraction, the holes being extremely small. Any desired antiseptic may be used and the thermometer is constantly moistened with the solution.

## RATIO OF THE SEXES AT BIRTH

*To the Editor:*—1. What are the latest figures as to the ratio of the sexes at birth? I am especially interested in the incidence of the sexes in England and the United States, and also in other countries if statistics are available.

2. What evidence is there that the ratio changes after wars resulting in the deaths of many males, and also following famines or seasons of great plenty, etc.?

C. E. BENNETT, M.D., Aneta, N. Dak.

ANSWER.—1. This matter was discussed in THE JOURNAL, Aug. 15, 1908, p. 616. As a general statement, the average is 1,056 males to 1,000 females. Statistics of births have frequently been given in the Berlin and other foreign letters, and by consulting them recent statements in regard to the relation of the sexes may be obtained. The following, also, may be consulted:

Vigor and Yule: The Sex Ratios of Births in the Registration Districts of England and Wales, 1881-1890. *Jour. Roy. Statistical Soc., London*, 1906. xlix, 576.

Proportion of the Sexes in the United States, U. S. Census Bureau, Bull. 14, 1904.

Nichols, J. P.: Numerical Proportions of the Sexes at Birth, *Mem. Am. Anthropol. Assn.*, i, Part 4.

Jones, H. R.: Industrial Employment of Married Women; Its Influence on Birth-Rate and Sex Ratio at Birth, *Lancet*, London, Aug. 10, 1912.

2. There seems to be some evidence in support of the statement that the proportion of the sexes varies with the condition of nutrition. The consensus of opinion, however, is that these conditions cause no alteration in the proportion of the sexes at birth. Some interesting statistics on this subject may be found in the following:

Marshall, F. H. A.: Physiology of Reproduction, London and New York, 1910, p. 648.

Newcomb, Simon: A Statistical Enquiry into the Probability of Causes of the Production of Sex in Human Offspring, Carnegie Institute, Washington, 1904, p. 27.

Von Mayr: Die Gesetzmässigkeit im Gesellschaftsleben.

Mayo-Smith, Richmond: Statistics and Sociology, New York, 1895, p. 73.

## DESTRUCTION OF BEDBUGS AND COCKROACHES

*To the Editor:*—Please give me methods for the destruction of bedbugs and cockroaches, including formulas for preparations which may be applied to the beds and other hiding-places of these insects.

F. W.

ANSWER.—The destruction of bedbugs by fumigation with hydrocyanic acid gas is effective, but great caution must be observed. This method is not suitable for use by others than experts. One room at a time may conveniently be fumigated by sulphur candles, 2 pounds to the thousand cubic feet of airspace; the room should be shut tight and the sulphur burned in a coal-hod placed in a pan of water. Fumigation is required to kill all the bugs, as they are in the habit of concealing themselves in cracks behind wainscoting, under loose wall-paper, and in other places.

Brass or iron beds can be rid of bugs by the use of fire. The bed is removed to a concrete floor or out of doors, alcohol poured into all the crevices and immediately ignited. A burning newspaper may be passed under the springs. Rubbish, old

wooden beds, old picture frames, outhouses and chicken-coops which have become infested should be burned.

For use on wooden bedsteads and available crevices one of the best applications is hot water. The most practical way is to make liberal applications of benzin or kerosene, either used alone or made up according to the following formula:

Nitrobenzene (oil of mirbane)—1 dram.
Oil of turpentine—7 drams.
Benzin, add enough to make 1 pint.

A solution of corrosive sublimate is another agent for the destruction of these insects. One of the most convenient methods for applying liquids to the crevices in which bedbugs hide is by the use of a wash-bottle with pointed tip. A rubber atomizer bulb can be attached to the mouth-tube and a continuous stream of liquid can be directed into the crevices.

The bedbug is also discussed in an editorial in this issue.

While cockroaches are not known to have any considerable share in the conveyance of diseases, it is desirable to get rid of them. The following directions are given in the *Pennsylvania Health Bulletin*, February, 1912:

"It is difficult to get rid of this pest. They have few natural enemies, an ichneumon fly and the tree-frog being the only ones known. They readily detect poisoned foods, avoiding arsenic and other common poisons. The smoke of pyrethrum powder will paralyze but not kill them. Flowers of sulphur dusted along the baseboards repels them." The bulletin also recommends phosphorus paste and gives directions for making it. Phosphorus paste is an unsafe preparation for any but an expert to make. It is better to purchase it at a drug-store. The fumes of carbon bisulphid in the proportion of 1 pound to 1,000 cubic feet of air-space (if the room is sealed) will destroy every roach. As this is an explosive in the presence of fire, great precaution is necessary. It is also poisonous to human beings and the lower animals and has to be used very carefully.

A food, prepared by taking 1 part of plaster of Paris and 3 or 4 parts of flour in one saucer with plenty of water in another saucer, *bridged for easy access*, makes a simple remedy. The insects readily eat the mixture and drink freely. The plaster sets and clogs the intestines. The dead bodies disappear, in all probability being eaten by the survivors. Finally, ingenious traps have been contrived, the simplest of which is the use of a quart fruit-jar. The jar is partially filled with stale beer and inclined so that it is easy of access but prevents the roach from escaping. A rough stick leaned against the opening serves as a gang-plank. Once in the jar the insects perish or are easily destroyed.

## THE BRITISH MEDICAL PRACTICE ACT

*To the Editor:*—Please tell me the origin of the British Medical Practice Act, its workings and present status.

CHARLES P. FRISCHBIER, M.D., Brooklyn.

ANSWER.—The present British Medical Practice Act dates from 1858, in which year Parliament enacted a law providing a uniform standard of registration for physicians and surgeons. Previous to that time a large number of organizations had held the right to examine and license practitioners of various kinds. This right was in some cases derived from an act of Parliament, in others from a special charter direct from the crown, and in other cases was one of the ancient privileges possessed by certain colleges and organizations. In some cases the right to examine and license practitioners and to charge a fee therefor is about the only privilege remaining, and the organizations interested vigorously opposed any effort to deprive them of this right. The act of 1858 was passed after long deliberation and much discussion in medical journals, popular reviews and newspapers. The preamble of the act not only sets forth its object, but clearly shows the difference between English and American legislation for regulation of the practice of medicine. The preamble reads, "Whereas it is expedient that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners," etc. In other words, the British Medical Practice Act is strictly definitive and not in any sense restrictive. It does not prohibit the practice of medicine and surgery but merely defines who are qualified and forbids any person to claim to be qualified when he is not. The enforcement of the act is placed in the hands of a general council, consisting of one person chosen by each of the following bodies: Royal College of Physicians; Royal College of Surgeons of England; universities of Oxford, Cambridge, Durham and London; College of Physicians of Edinburgh; College of Surgeons of Edinburgh; Faculty of Physicians and Surgeons of Glasgow; University of Edinburgh and two universities of Aberdeen; University of Glasgow; University of St. Andrew's; King's and Queen's College of Physicians in Ireland; Royal College of Surgeons in Ireland; Apothecaries Society of London; Apothecaries Hall of Ireland; University of Dublin; Queen's University in Ireland, and six persons appointed by the crown, four from England, one from Scotland and one from Ireland.

It will be noted that this council with the exception of the six persons appointed by the crown is an educational body, representing the various colleges, universities and professional organizations. It is authorized to examine and license persons to practice medicine and surgery. Various amendments have been adopted. In 1886 an amendment which was practically a new law was enacted.

The practical workings of this law are to permit any person to treat the sick in any way that he sees fit, without any examination or license, provided he does not represent himself to be that which he is not, namely, a legally qualified practitioner under the British law. Only licensed practitioners are eligible to appointment to government medical positions or as health officers, coroners' physicians, etc., or are recognized as entitled to sign birth or death certificates or legal documents requiring a physician's signature.

The British method of regulating the practice of medicine has many advantages and is worthy of careful study.

## GIRARD TREATMENT FOR SEASICKNESS

*To the Editor:*—What is the Girard treatment for seasickness? Please give full particulars, as it has been spoken of quite favorably by some of my colleagues who have used it.

R. D. M., Brooklyn.

ANSWER.—The Girard treatment for seasickness is that described in the article entitled "Atropin and Strychnin Combined, a Specific for Seasickness," by Brigadier-General Alfred C. Girard, U. S. A., retired, which appeared in THE JOURNAL, June 23, 1906, p. 1925. Dr. Girard advises, as the result of his observations, that, in almost every instance, hypodermic injection of 1/120 of a grain of atropin sulphate with 1/60 of a grain of strychnin sulphate is readily borne by adults and as a rule causes no disagreeable sensation. The good effect of the treatment is believed to lie in the stimulating effect of the atropin on the circulation in the brain, while the strychnin causes, through the spinal cord, a similar action on the respiration. The medicine may be put up in capsules for administration through the mouth, but, in this case, the effect is not produced so rapidly and there is a possibility of accumulation in the stomach with its consequent disadvantages.

## INTERNATIONAL MEDICAL CONGRESS

*To the Editor:*—Where can one obtain information about the International Medical Congress, which meets in London in August? How can one become a member? C. J. F.

ANSWER.—Something about the congress will be found in THE JOURNAL in the London Letter, this issue, also June 7, 1913, p. 1804; May 24, 1913, p. 1649, and April 12, 1913, p. 1175. The American secretary, Dr. Allen of Philadelphia, has already left for Europe and inquiries for circulars of information may be addressed to Dr. W. S. Thayer, 406 Cathedral Street, Baltimore.

Membership in the congress costs $5, which may be sent to the treasurer, 13 Hinde Street, London W., England. On arrival in London one may obtain information from the general secretary, Dr. W. B. Harringham, at that same address. If one has not remitted in time to have his card of identity forwarded to him in his country, he can secure it on arrival in London from the secretary or the treasurer. This card allows concessions in price on a number of steamship lines and on railroads in England, France, Spain and Portugal.

## VACCINE ARTICLES IN PAMPHLET FORM

*To the Editor:*—Enclosed find 75 cents, for which kindly send me the book "Disturbances of the Heart." I trust that the series of articles on vaccine therapy now being published in THE JOURNAL will be printed in book form.

C. L. SHERMAN, M.D., Luverne, Minn.

ANSWER.—These articles on vaccine therapy are to be gathered in a paper-covered reprint, which we will probably sell at the nominal price of 10 cents.

### STERILIZATION OF CATGUT

*To the Editor:*—Please tell me how plain and chromicized catgut and silk and silkworm-gut ligatures may be sterilized by the general practitioner in country practice. Can it be done satisfactorily? If so how is it done, and how is the gut preserved when bought unsterilized from reliable concerns?

H. B. Fitts, M.D., Provincetown, Mass.

Answer.—An efficient method of sterilizing catgut consists in the immersion of raw catgut in skeins for eight days in a mixture of iodin 1 part, potassium iodid 1 part and distilled water 100 parts (Claudius' method). It is then kept in alcohol or 3 per cent. phenol (carbolic acid) solution and is ready for use. Chromicized catgut, as purchased in the market, is ready for use. It is made by immersing raw catgut wound on spools in a solution of potassium bichromate 1.5 gm., glycerin and phenol, each 10 c.c., and water 1 liter, for twenty-four hours. Then it is drained, dried and placed in 2 per cent. dilution of liquor formaldehydi for from one to seven hours, depending on size of catgut, and is kept in 95 per cent. alcohol with from 8 to 10 per cent. glycerin added.

Catgut already prepared for use is on the market and can be depended on if made by a reliable firm. The glass containers are immersed in 95 per cent. alcohol and are removed from this fluid only when catgut is needed. Silk and silkworm-gut are boiled in plain water for half an hour just before using, or they may be placed in a steam sterilizer with the dressings. They are then ready for use.

### DID NOT DISCUSS IT

*To the Editor:*—I notice that in The Journal, May 31, 1913, p. 1731, under the report of the proceedings of the Medical Association of Georgia, I am quoted as discussing Dr. J. W. Palmer's paper on "Treatment of Pneumonia." I did not discuss this paper, and the remarks attributed to me on the subject were probably made by some one else.

Claude A. Smith, M.D., Atlanta, Ga.

# Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

## STATE PROVISIONS FOR HEALTH SUPERVISION OF SCHOOLS

So many requests for information regarding the provisions in the various states for the health supervision of schools have been received, and so much interest has been manifested on the subject, both by physicians and by teachers, that it seems advisable to publish an abstract of existing laws. In most states the provisions are in the form of special statutory enactments. In a few states, in which the state board of health is given sufficient authority, it is in the form of regulations or rules adopted by the state board. As pointed out in a previous article on this subject, the simpler and broader the law the better.

### ABSTRACT OF LAWS AND REGULATIONS

*California.*—Adopted 1909. Permissive. Applies where adopted. Administered by school authorities. Provides for supervision of teachers and pupils as to health and general physical development. Inspectors may be either physicians or educators.

*Colorado.*—Adopted 1909. Mandatory. Applies to all public schools. Administered by school authorities. Teachers or principals test sight, hearing and breathing of all pupils annually. School authorities report to parents mental, moral or physical defectiveness discovered. Enforcement by State Bureau of Child and Animal Protection.

*Connecticut.*—Adopted 1907. Permissive. Applies where adopted. Administered by school authorities. Physicians inspect children for contagious diseases. Physicians may examine teachers, janitors and school premises. Physicians conduct sight, hearing and physical examinations of children annually. Defects of children reported to parents. School authorities may appoint school nurses.

*District of Columbia.*—Regulations of health officer and board of education. Adopted in present form in 1907. Mandatory. Applies to all public schools. Administered by health authorities. Physicians examine children for contagious diseases. Physicians examine sanitary conditions of buildings. Physicians may examine teachers and janitors.

*Indiana.*—Adopted 1911. Permissive. Amended 1913 and made mandatory. Applies where adopted. Administered by school authorities. Physicians inspect children for contagious diseases. Teacher may test sight and hearing annually. Physicians conduct physical examinations of children. Defects of children reported to parents. The students are so divided that there are not more than 2,000 children to each physician appointed. Compensation of physicians not less than $5 for each school month. Physician may examine teachers, janitors and buildings. If parents are too poor to provide necessary medical treatment it shall be paid for from public funds. Penalty of $5 for violations of provisions of act.

*Louisiana.*—Adopted 1911. Regulations of sanitary code of state board of health having force of law. Mandatory. Applies to all public schools. Administered by school authorities. Principal of each school makes monthly report on physical condition of children, and sanitary condition of buildings on blanks furnished by the state board of health. Principals and teachers exclude children suffering from contagious diseases.

*Maine.*—Adopted 1909. Mandatory on condition. Applies to cities and towns of less than 40,000. Administered by school authorities. The children are so arranged that there are not more than 1,000 pupils to each physician appointed. Physicians inspect children for contagious disease. Physicians may examine teachers, janitors and buildings. Tests of sight and hearing as to pupils annually by teachers or physicians. Physical examination of pupils annually by physicians. Defects of children reported to parents.

*Massachusetts.*—Adopted 1906; amended 1910. Mandatory. Applies to all public schools. Administered by school or health authorities. Physicians inspect children for contagious diseases. Physicians may examine teachers, janitors and buildings. Tests of sight and hearing of pupils made by teachers annually. Physicians make physical examinations of children annually. Defects of children reported to parents. Normal schools train students in testing sight and hearing. Physicians conduct examinations of minors applying for age and schooling certificates.

*Minnesota.*—Regulations of board of health having force of law. Adopted 1910. Mandatory. Applies to all public schools. Administered by health authorities. Physicians examine for contagious diseases. Physicians may inspect teachers, janitors and buildings. Physicians conduct physical examinations of children annually. Defects of children reported to parents. Teachers test sight and hearing of children annually. Normal schools train pupils in testing sight and hearing.

*New Jersey.*—Adopted 1909. Mandatory. Applies to all public schools. Administered by school authorities. Physicians examine for contagious diseases. Physicians conduct physical examinations, including sight and hearing tests. Defects reported to parents. Physicians deliver hygiene lectures to teachers. Parents and guardians may be proceeded against as disorderly persons for failure to remove any pathologic condition which may cause a child's exclusion from school.

*New York.*—Adopted 1910. Permissive. Authorizes school authorities to expend school funds for the support of medical inspection; amended 1913.

*North Dakota.*—Adopted 1911. Permissive. Applies where adopted. Administered by school authorities. Physicians conduct physical examinations annually. Defects reported to parents. Cooperates with board of health to curb contagious disease and to secure treatment for indigent children.

*Ohio.*—Adopted 1910. Permissive. Applies to cities. Administered by school authorities, but powers may be delegated to health authorities. Physicians inspect children and schools. School nurses may be employed.

*Pennsylvania.*—Adopted 1911. Mandatory in districts of first and second class. Permissive in districts of third and fourth class. Districts of first class are those of more than 500,000 population, second class from 30,000 to 500,000, third class 5,000 to 30,000 and fourth class less than 5,000. Administered by school authorities. Physicians conduct complete physical examinations of children annually. Physicians make sanitary inspection of school premises annually. In districts of fourth class medical inspectors are appointed by

state commissioner of health. Provision for employment of gradnate nurse.

*Rhode Island.*—Adopted 1911. Mandatory with permissive clanse providing for employment of physicians. Administered by school authorities. Physicians when employed make annual examination of pupils, teachers and janitors in public and private schools and inspect buildings and surroundings. Annual vision and hearing test by physicians or teachers. Defects of children reported to parents.

*Utah.*—Adopted 1911. Mandatory. Applies to all public schools. Administered by school authorities. Teaehers or physicians examine all children annually for defects of sight or hearing, defective teeth or mouth-breathing. Defects reported to parents.

*Vermont.* — Adopted 1910. Permissive. Applies where adopted. Administered by school authorities. Physicians inspect pupils as provided by rules of state board of health. On request, physicians examine pupils of private schools.

*Virginia.* — Adopted 1910. Permissive. Applies where adopted. Administered by school authorities. Authorizes school boards to support systems of medical inspection.

*Washington.*—Adopted 1909. Permissive. Applies to cities of the first class. Administered by school authorities. Authorizes school boards to appoint medical inspectors who shall report monthly on health conditions in each school.

*West Virginia.*—Adopted 1911. Mandatory in cities. Permissive in country districts. Administered by school authorities. Physicians inspect children for contagious diseases. Physicians conduct physical examinations annually. Physicians on request of board report on lighting, ventilation, etc. School nurses may be employed.

### UNIFORMITY DESIRABLE IN LEGISLATIVE ENACTMENTS

In the recent legislative sessions fourteen states, including Colorado, Indiana, Minnesota, Nebraska, Ohio, Oklahoma and Texas, have considered health supervision of schools and have in most cases enacted laws, some amendatory, as in Indiana, others dealing with the matter for the first time.

An examination of the various statutes would suggest that there should be uniformity of legislative enactment, which would require:

1. Compulsory health supervision of school children, etc.
2. A provision placing the administration of the system in the hands of the school authorities, with discretion to cooperate with the health authorities in an epidemic, etc. Whether the inspection should be in the hands of the school authorities or the local health board is still an open question.
3. Inspection by a physician to control contagious diseases.
4. Annual examination by physician to discover defects of a deterrent nature.
5. Annual tests of sight and hearing by teachers.
6. Examination of teachers and janitors and regular inspection of buildings, premises and drinking-water to insure sanitary condition.
7. Normal schools to train in conducting vision and hearing tests.
8. Provision for the employment of school nurses.
9. A penalty or other provisions to secure enforcement of the law.

---

**Clearing Texas of Quacks.**—The thing for us to do then, if we desire to enforce the medical practice act, says the *Texas State Medical Journal*, is to assist in securing the evidence. Whenever we undertake prosecutions in earnest and go about it in an intelligent manner, success usually follows our efforts. We are moved to these remarks by the continued success of Bexar County Society in cleaning up San Antonio. Suit was recently filed for the revocation of the licenses of Drs. T. M. Stotts and S. V. Young of the advertising firm of Drs. Stotts & Co., with what appears to be ample evidence in the case; fine and jail sentence were imposed on an "Indian doctor" who had pleaded guilty to practicing medicine without a license, and fines and jail penalties were given two "magnetic healers" who also pleaded guilty of the charge of practicing medicine without a license. The state is full of undesirables of this class and we trust that other societies will follow the example of Bexar County.

# *Medical Education and State Boards of Registration*

## COMING EXAMINATIONS

ALABAMA: Capitol, Montgomery, July 8. See., Dr. W. H. Sanders, Montgomery.

ARIZONA: Phoenix, July 1. See., Dr. John Wix Thomas, National Bank of Arizona Building.

COLORADO: Denver, July 1. See., Dr. David A. Striekler, 612 Empire Building.

CONNECTICUT: Regular, City Hall, New Haven, July 8-9. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, July 8. See., Dr. Edwin C. M. Hall, 82 Grand Avenue.

DELAWARE: State Soeiety and Homeopathie, Dover and Wilmington, June 17-19. Seeretary of the Medical Counell, Dr. Henry W. Briggs, 1026 Jaekson St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 8. Sec., Dr. George C. Ober, 125 B St., S. E.

ILLINOIS: Coliseum Annex, Chieago, June 17-19. Aeting See., Mr. Amos Sawyer, Springfield.

MARYLAND: Regular, 1211 Cathedral St., Baltimore, June 17. See., Dr. J. MeP. Seott, Hagerstown.

MASSACHUSETTS: State House, Boston, July 8-10. Sec., Dr. Walter P. Bowers, Room 159, State House.

MISSOURI: Gymnasium of St. Louis University, St. Louis, June 16-18. Sec., Dr. J. A. B. Adcock, Jefferson City.

MONTANA: Senate Chamber, Capitol Bldg., Helena, July 8. (First speeial examination held aside from regular semi-annual examinations.) Sec., Dr. William C. Riddell, Helena.

NEW HAMPSHIRE: Coneord, July 8-9. Regent, Mr. H. C. Morrison, State Library.

NEW JERSEY: Capitol Bldg., Trenton, June 17-18. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW MEXICO: Santa Fe, July 14. See., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Edueation, Albany.

NORTH DAKOTA: Grand Forks, July 1. See., Dr. G. M. Williamson.

OKLAHOMA: Guthrie, July 8-10. Sec., Dr. John W. Duke, Guthrie.

OREGON: Portland, July 1. See., Dr. E. B. MeDaniel, 704 Eleetrie Building.

PENNSYLVANIA: Harrisburg, Philadelphia and Pittsburgh, June 23-25. Sec., Mr. Nathan C. Sehaeffer, Department of Public Instruction, Harrisburg.

RHODE ISLAND: State House, Providence, July 10. Sec., Dr. Gardner T. Swarts, State Honse.

TEXAS: Capitol Bldg., Austin, June 24-26. Sec., Dr. W. L. Crosthwait, Suite 1110 Amieable Bldg., Waeo.

UTAH: Salt Lake City, July 7-8. Sec., Dr. G. F. Harding, 310 Templeton Building.

VIRGINIA: Riehmond, June 24-27. See., Dr. Herbert Old, Norfolk.

WEST VIRGINIA: Charleston, July 14-16. See., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Milwaukee, June 24-26. Sec., Dr. J. M. Beffel, 3200 Clybourn Street.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

---

### College Reported Not Recognized Has Graduates

During last year a new medical college, at first called the Eclectic School of Medicine of Milton University, was organized in Baltimore. After a short time Milton University is said to have disclaimed any relationship with it, and the name was changed to the Eastern University School of Medicine. After investigation the institution was also reported by the Maryland State Board of Medical Examiners as not recognized, and considerable local publicity was at the time given to that fact. Nevertheless, the school is said to have continued, and to have had about thirty-eight students, all of whom were in the senior class and all of whom graduated. It would be interesting to know where these students received their previous medical training.

Although not eligible for examination, some of these "graduates" were said to have passed the examination of the Eclectic Board of Georgia and are now seeking licenses in Maryland and elsewhere through reciprocity. Maryland has properly refused on the ground that being incligible for the Maryland examination, these candidates were also ineligible for registration through reciprocity.

---

### Indiana January Report

Dr. W. T. Gott, secretary of the Indiana Board of Medical Registration and Examination, reports the written examination held at Indianapolis, Jan. 14-16, 1913. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of

candidates examined was 20 of whom 18 passed, including 1 osteopath, and 1 failed. One candidate did not complete the examination. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| University of Colorado | (1912) | 92.8 |
| Hahnemann Medical College and Hospital, Chicago. | (1912) | 82.8 |
| College of Physicians and Surgeons, Chicago | (1912) | 89.4, 92.1 |
| Bennett Medical College | (1912) | 83.5 |
| Northwestern University Medical School | (1912) | 91.0 |
| Rush Medical College | (1911) | 93.6 |
| Indiana University | (1912) | 88.7 |
| Physio-Medical College of Indiana | (1881) | 75.0 |
| University of Louisville | (1912) | 75.2, 90, 92.4 |
| American Medical College, St. Louis | (1912) | 87.5 |
| N. Y. Homeopathic Med. College and Hospital, | (1892) | 80.1 |
| Albany Medical College | (1892) | 90.4 |
| University of Pennsylvania | (1891) 79.9; (1912) | 92.8 |
| FAILED | | |
| University of Louisville | (1912) | 71.5 |

## South Dakota January Report

Dr. L. G. Hill, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Watertown, Jan. 10-11, 1913. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 15, all of whom passed. Two candidates were licensed through reciprocity. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| Rush Medical College | (1902) 83; (1911) 87, | 89, 91 |
| Northwestern University Medical School | (1910) | 84 |
| Bennett Medical College | (1909) 76; (1911) | 90 |
| College of Physicians and Surgeons, Chicago | (1893) 85; (1912) | 81, 83 |
| Chicago College of Medicine and Surgery | (1911) | 80 |
| National Medical University | (1894) | 78 |
| Ensworth Medical College | (1911) | 92 |
| Creighton Medical College | (1912) | 84, 86 |
| LICENSED THROUGH RECIPROCITY | | |
| Barnes Medical College | (1899) | N. Dakota |
| Lincoln Medical College | (1910) | Nebraska |

## Missouri February Report

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at St. Louis, Feb. 24-26, 1913. The total number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 39, of whom 29 passed and 10 failed. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| PASSED | | |
| University of Arkansas | (1911) | 88 |
| Rush Medical College | (1906) | 90 |
| Johns Hopkins University Medical School | (1909) 87; (1912) 85, 89. | |
| Harvard University Medical School | (1911) 89; (1912) | 85 |
| Homeopathic Medical College of Missouri | (1898) | 78 |
| Washington University, St. Louis | (1899) 78; (1901) | 78, 78 |
| University Medical College, Kansas City | (1912) | 79, 86 |
| Marion-Sims College of Medicine, | (1891) 78; (1898) 78; (1899) 77. | |
| Marion-Sims Beaumont College of Medicine | (1903) | 79 |
| American Medical College, | (1890) 78; (1892) 80; (1894) 78; (1911) 76. | |
| St. Louis University | (1912) | 86 |
| Missouri Medical College | (1889) 78; (1896) | 80 |
| Columbia University, College of Phys. and Surg., | (1910) 83; (1911) 89. | |
| Creighton Medical College | (1908) | 80 |
| Vanderbilt University | (1912) | 88 |
| Royal University of Palermo, Italy | (1906) | 80 |
| FAILED | | |
| Barnes University | (1907) 68.3; (1910) 51.8; (1911) | 64.9 |
| Ensworth Medical College | (1912) | 62.4 |
| St. Louis College of Physicians and Surgeons, | (1906) 46.6; (1907) 66.3; (1908) 65.2. | |
| American Medical College, St. Louis, | (1909) 56.4; (1912) | 71.3 |
| Homeopathic Medical College of Missouri | (1908) | 61.5 |

# Book Notices

A MANUAL OF SURGICAL TREATMENT. By Sir W. Watson Cheyne, Bart., C.B., D.Sc., Senior Surgeon to King's College Hospital, and F. F. Burghard, M.S., F.R.C.S., Surgeon to King's College Hospital. Second Edition. In 5 Volumes. Volume IV. Cloth. Price, $6 net. Pp. 622, with 208 illustrations. Philadelphia: Lea & Febiger, 1913.

The fourth volume of the new edition is a comprehensive one. In it are discussed the surgical affections of the jaws and tongue, pharynx and esophagus, stomach and intestines, rectum and anus. The text has been revised and is said to contain the latest researches in surgery of the digestive tract. Under the caption of treatment of malignant tumors of the upper jaw, the means of producing anesthesia are well described and the intravenous administration of ether and intratracheal insufflation are recommended as being especially adapted to this class of work. All the topics considered are discussed at some length, although always from the authors' point of view; therefore exception might be taken to many statements, not only by reason of difference of opinion but also on the basis of error. For instance, it is said that mechanic ileus due to gall-stones is rare. While that condition is by no means a common one, yet it occurs sufficiently often not to be classed as a surgical or clinical curiosity, and a gall-stone of sufficient size to block the small intestine may and does ulcerate through the wall of the gall-bladder into the intestine. Exception might also be taken to what is said of ileosigmoidostomy and excision of the colon—subjects which are dismissed in a few words with decidedly unfavorable comment. These operations have hardly been performed often enough and for a long enough period of time to warrant drawing positive conclusions as to their worth. The Andrews imbrication method of suture in herniotomy is not mentioned. Intestinal suture is dismissed with a mere mention of only one method of suturing, the Lembert. It would seem that in a work of this size and scope, every subject considered could be discussed fully, yet that is not the case in this instance. On the whole, however, the book contains much of value. It is not comparable with similar American works.

THE SURGERY OF THE SKULL AND BRAIN. By L. Bathe Rawling, F.R.C.S., Surgeon, with Charge of Outpatients, St. Bartholomew's Hospital. Cloth. Price, $6. Pp. 340, with 96 illnstrations. New York: Oxford University Press, 1912.

Ten years of study and observation are said to form the basis of this work. The first chapter deals with craniocerebral topography and the succeeding chapters with the various lesions of the skull and brain. The section which may be considered the best is that dealing with tumors of the brain. In it are given clear descriptions of the tumors, the symptoms to which they may give rise and their treatment. This statement made by the author is deserving of frequent and emphatic repetition: "The great secret in operating on a brain tumor lies in knowing where to terminate the attempt at removal of the tumor and when to rest content with a pure decompression." So long as exploration of the brain substance is resorted to, so long will the mortality remain high. The chapter on technic is well written and reviews that phase of the subject thoroughly. The text is not verbose, in fact, the style is rather terse but none the less instructive. The illustrations are good.

PATHOLOGY. A Manual for Teachers and Students. By W. T. Councilman, M.D., Shattnck Professor of Pathology, Harvard Medical School. Cloth. Price, $4.50. Pp. 405. Boston: W. M. Leonard, 1912.

This book is an enlarged syllabus and is to be used as a teaching accessory. It outlines the plan which has been followed in teaching pathology in the Harvard Medical School. It contains no illustrations. Blank leaves on which students may make notes and drawings of specimens are inserted liberally after the various chapters. As with every syllabus, extensive supplemental reading is necessary. Protocols of autopsies are appended to many chapters. The book is practically a laboratory manual.

# Medicolegal

## Liability for Negligence in Making Diagnoses—Patients Entitled to Thorough Examinations and Proper Instructions—Results and Damages

*(Rogers vs. Kee (Mich.), 137 N. W. R. 260)*

The Supreme Court of Michigan affirms a judgment for $1,000 damages in favor of the plaintiff for alleged malpractice on the part of the defendant in neglecting to properly diagnose a fracture of the neck of the left femur, when professionally called to attend the plaintiff, and for unskillful and negligent treatment of the same. The court says that at the time of his injury the plaintiff was 55 years of age and a saw filer by trade. While lifting a circular saw weighing from 130 to 140 pounds, and turning to carry it, he felt something give way in his hip, causing him to drop the saw. He soon resumed his work, continuing during the balance of the day, mostly in a sitting posture, and walked home at night on an earth path, a distance of about half a mile, by the aid of sticks used as canes. He continued at his usual work the next day, which was Saturday, and the following Monday walking to and from the same with some difficulty, using canes, sometimes receiving assistance from others. On Monday evening his condition was such that he called the defendant to attend him professionally, the defendant being a regular physician retained by the mill company for which the plaintiff worked to professionally care for its employees.

The testimony was in conflict as to much of what was claimed to have occurred during that and subsequent visits. The defendant testified that he found no symptoms of a fracture of the femur; that, if there had been any fracture or dislocation of the hip, he made such an examination as would have disclosed it; that from his examination and the history of the transaction communicated to him by the plaintiff and his wife he diagnosed the case as sciatica, and prescribed therefor the application of a mustard plaster; that he did not think the plaintiff's condition was caused by what occurred at the mill; that on visiting the patient the following day the defendant reached the conclusion from his statement that he then had no pain, that the trouble was not sciatica, but more probably paralysis; that he ordered the plaintiff to rub the muscles, but gave him no further treatment at that time because there was nothing further to do except to wait for developments; that he continued his visits for nearly a month, and was still uncertain what ailed the plaintiff, but thought he had some spinal trouble and suggestions of locomotor ataxia; that the plaintiff was able to be up and around and walk, though with some difficulty; that he furnished him crutches on which he later visited the defendant at his office.

After the defendant ceased his visits, or about two months after the injury, the plaintiff consulted another physician, who diagnosed the case and found him suffering from a fracture of the neck of the femur, and dislocation which had not been reduced, and which had existed for some time, a fibrous union having developed. The limb was shortened over two inches, and could be projected backward and forward but not sidewise. Various other physicians, who subsequently examined the plaintiff and testified as experts in the case, confirmed this diagnosis and a statement as to the importance of prompt attention to such cases, and the hopelessness of successful treatment after the lapse of any considerable length of time.

There was not only an abundance of testimony to justify the court in leaving to the jury the question as to whether the plaintiff was suffering from a fracture of the neck of the femur at the time the defendant first visited him professionally, and the fact that he was being established, there was also abundant evidence to go before the jury on the issue of the defendant's negligence in failing to properly diagnose and treat the case, for, on the assumption that the plaintiff was suffering from the fracture, as stated, when the defendant first visited him professionally, the testimony of the physicians called as experts by both sides as to what he could and should have discovered and done was sufficient to raise an issue of fact as to the defendant's negligence in failing to properly examine, diagnose and discover the fracture, in directing the patient to walk and move the broken limb instead of keeping it quiet in one position, to aid a bony union, and in not informing him as to the nature of the injury, so he would be advised and could cooperate with his physician understandingly in the treatment given.

The law is well settled that a patient who employs a physician is entitled to a thorough and careful examination, such as the condition of the patient and circumstances will permit with such diligence and methods of diagnosis for discovering the nature of the ailment as are usually approved and practiced by medical men of ordinary learning, judgment and skill, in similar localities. If, by the exercise of such care and skill, the fracture would have been discovered, a failure to properly diagnose is negligence; and it is the duty of a physician, in taking charge of a case where there is a broken limb, to inform and instruct the patient as to his conduct and what caution should be observed in moving or using the limb while it is being treated.

The serious proposition urged and argued by the defendant's counsel was this: Assuming that the defendant did or omitted to do all that was claimed by the plaintiff, and conceding that the testimony would support the jury in so finding, there was no proof that the plaintiff suffered any injury as a result; the testimony, on the contrary, showing as good a recovery as ordinarily obtains under skillful treatment with a patient of the plaintiff's age following a fracture of the neck of the femur. That the correct treatment and probable results were scientific questions is undoubted, and the law seems well settled that malpractice must be substantiated by the testimony of expert witnesses in order to prevail, it being proper for other witnesses to testify as to the treatment and acts of the defendant, and the province of experts, physicians and surgeons to say whether or not the same was proper and the proper results. But it was the defendant's own testimony that he did not diagnose the case as a fractured femur, that such condition did not exist, and he gave no treatment for such an injury. As a result the questions for the experts resolved themselves largely into the difference between proper treatment and no treatment at all. The allegations related to offenses of omission rather than commission. The court thinks, however, that there was testimony from which injury to some extent might be inferred from the treatment given. The defendant diagnosed the trouble successively as sciatica, paralysis and locomotor ataxia. So far as he administered any treatment, it was for those maladies. He directed the application of a mustard plaster, and later massage and rubbing the injured hip with a liniment. The plaintiff testified that this was very painful. Pain and suffering from a wrong treatment are an element of damage. He directed the plaintiff to walk and exercise the limb. Portions of his own testimony indicated that this would be injurious and contrary to a proper treatment.

The testimony given by the various physicians relative to the proper treatment of such an injury imported clearly that a patient suffering from such an injury on calling a physician is entitled to approved methods of treatment from which experience of the profession indicates beneficial results are probable and to be anticipated, and, if not an entire recovery, a better ultimate condition than if left to chance. If so, can it not be legitimately inferred by a jury that the plaintiff, a strong man, who untreated and with his recovery left to chance, "shows as good results as would ordinarily obtain in a patient of his age under skillful treatment," if properly and skilfully treated would, in all probability, have a better recovery and be in yet better condition? The court thinks such testimony presents an issue of fact for the jury—on probability, it is true. The issues of sickness and healing, life and death, are too uncertain to be otherwise forecast, but negligence which deprives a man of such probability is more than injury without damage.

What would constitute an injury to the plaintiff in an action like the present has been thus defined: "Any want of the proper skill or care which diminishes the chances of the patient's recovery, prolongs his illness, increases his suffering, or, in short, makes his condition worse than it would have been if due skill and care had been used, would, in a legal sense, constitute injury." *Craig vs. Chambers*, 17 Ohio St. 253. Until the learned experts testify that no treatment would avail or be beneficial, that no better results are probable with treatment than without—in other words, that a physician is useless in such a case—the court thinks that such facts as were shown in this case present an issue for the jury.

### Admissibility and Weight of Evidence in Action for Services in Another State Met by Charge of Malpractice

*(Feingold vs. Lefkovitz (Tex.), 147 S. W. R. 346)*

The Court of Civil Appeals of Texas reverses a judgment rendered for the defendant and remands for a new trial this case brought by the plaintiff to recover $99 for professional services as a physician, rendered in the city of Chicago, Ill. to an infant child of the defendant, and $5 paid for a microscopic examination for the account of the defendant. The court says that the plaintiff was a regularly licensed and practicing physician, and was called in by the defendant to treat the child, and the evidence raised no issue as to the reasonableness of the charges made; but it was contended that the treatment given the child was not proper, and that the plaintiff was incompetent, negligent, and guilty of malpractice and unskillfulness in his treatment. The testimony of the plaintiff and of another physician, however, made a prima facie case, and showed that the treatment given was necessary and proper; that the plaintiff was competent, and guilty of no negligence, malpractice, or unskillfulness.

It was true that the testimony of the plaintiff was contradicted in certain respects by the defendant and his wife; but those contradictions were not on the material issues in the case, and, assuming the truth of the testimony of the defendant and his wife as to those disputed matters, they did not support a finding that the treatment was unnecessary or improper, or of any negligence, malpractice, unskillfulness, or incompetency on the part of the plaintiff. At best, the testimony of the defendant and his wife would no more than suggest a surmise or conjecture of improper treatment. It was true the defendant stated that the plaintiff was an incompetent physician; but that was plainly only an opinion of his own on a subject of which he was in no wise shown to have any knowledge. That the plaintiff was not qualified, or that his treatment was negligent or unskillful, must have been shown by some competent evidence, in order to sustain a verdict in favor of the defendant; and it must not be based on surmise or conjecture, or supported merely by the opinion of the defendant of incompetency, when it was manifest that such opinion was of no value. As to the item of $5 paid for microscopic examination, there was a conflict in the testimony as to whether or not the examination was authorized by the defendant; and if he did not authorize it he would not be liable for it.

The question of whether or not the plaintiff had complied with the laws of the state of Illinois and was authorized to practice medicine in that state should not have been submitted to the jury for their determination if the facts in regard thereto were undisputed; while, if there was any dispute, the court should have informed the jury what was required by the laws of the state of Illinois, in order that they might determine from the facts before them whether or not the plaintiff had complied with those laws. But there was no error in excluding a copy of the plaintiff's license to practice medicine when the failure to produce the original was not satisfactorily explained. Neither did the court err in excluding a certificate of the county clerk of Cook county, Ill., to the effect that the plaintiff had registered his license in that office. At any rate the exclusion of the license and certificate was immaterial, in view of the fact that the plaintiff was permitted to testify, without objection, that he was a regularly licensed and practicing physician.

### Case Properly Presented under Medical Practice Act

*(Stiles vs. State (Tex.), 148 S. W. R. 326)*

The Court of Criminal Appeals of Texas affirms a conviction of unlawfully practicing medicine without a certificate from the State Medical Board, or a diploma from some accredited medical college, etc. The court says that this prosecution was not had under Article 750 of the penal code, which was Section 4 of the Act of 1907, making it unlawful for a person to practice medicine without registering a certificate or license with the district clerk of the county of his residence, but it was under Articles 751 to 756, inclusive, which are, respectively, Sections 5, 6, 7, 10, 13 and 14 of the act of 1907, and which require each person, before practicing, to get a license or have a diploma. Consequently it was not necessary for the information to allege the county of the defendant's residence, and that she had not registered her certificate or license in the district clerk's office of such county of her residence, as certain cases hold is essential when the prosecution is under Article 750. Nor was there error in the charge of the court in that it authorized a conviction on transactions occurring prior to September 1, 1911. It was true that the state could have carved out the first and second days of September as the days on which the offense was committed, as each day was a separate offense, and, if the allegations in the information had charged that the offense was committed on the particular date of September 1, and no other, then the proof and charge should have been so limited; but, instead of carving for said date of September 1, 1911, or any other specific time, it embraced the whole of the period on and prior to September 1, 1911, to within the period of limitation. All this was to the defendant's advantage, and not her disadvantage, for, if convicted, as she was, and the proof embraced a period of from the early summer of 1911 up to and including September 1, 1911, that conviction would be a bar to any and all other offenses in that county for any time within such period.

### Liability of Employers for Injuries from X-Rays Applied on Their Demand

*(Jones vs. Tri-State Telephone and Telegraph Co. (Minn.), 136 N. W. R. 741)*

The Supreme Court of Minnesota affirms a judgment for damages for personal injuries alleged to have been sustained by the plaintiff in being exposed to x-rays by a physician employed by the defendant, which wanted the picture for its own purposes, probably as evidence in case the plaintiff should bring suit against it to recover for the injury received in an accident. The court says that the somewhat unusual facts were that the plaintiff received an injury while in the employ of the defendant as a lineman. A physician was called who diagnosed the case as a displacement of the sacro-iliac joint, and used heroic treatment that was claimed to have resulted in forcing the joint into place. The plaintiff was making good progress toward recovery, when the general manager of the defendant requested him to submit to an x-ray picture being taken. The plaintiff opposed this, expressing his fear of injurious consequences, assuring the defendant's manager he was all right, and offering to release the defendant from all claims for damages on account of the injury. The plaintiff's physician also opposed the taking of the x-ray picture. But the manager guaranteed that the taking of the picture would not injure the plaintiff, and threatened to discharge him if he refused to submit. After a good deal of hesitation and resistance, the plaintiff finally consented that the picture might be taken, and he was taken by defendant's manager to the office of the physician employed by the defendant for the purpose of taking the picture, who applied the x-ray over the abdomen for the purpose of taking a picture of the sacro-iliac joint. The plaintiff testified that the current was left turned on for more than seven minutes, claiming to have received a severe burning of the tissues by the application of the x-ray, and, as a result, to be suffering from paralysis of the bowels.

The relation of physician and patient did not exist between the physician who made the application of the x-ray and the

plaintiff. The physician was the servant of the defendant. The case was the same, therefore, as if the defendant's manager, or any other agent or employee, had inflicted the injury, and the rule of respondent superior, or let the master answer, applied, rather than the law relative to the liability of a physician or surgeon to his patient, or to the liability of a master who employs a physician to treat his servant.

It is quite clear to the court that it was a case for the jury. It was not necessary to determine the effect of the manager's guarantee of safety on the liability of the defendant. The instrumentality was under the exclusive control of the defendant, and there was sufficient evidence that injury to the subject was not a necessary result of the taking of an x-ray picture, if proper instrumentalities and proper care were used. Certainly the court cannot say that the plaintiff's injuries were not the result of the exposure. These facts were enough to make the case one of res ipsa loquitur, or the matter speaks for itself, and to make the burden on the defendant to show that there was no negligence. The defendant did not show this, at least conclusively. Indeed, there was sufficient evidence of negligence, even without the res ipsa rule, to make a case for the jury.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, MINNEAPOLIS, JUNE 17-20

American Academy of Medicine, Minneapolis, June 13-15.
American Proctologic Society, Minneapolis, June 16-17.
Conf. of State and Prov. Boards, St. Paul, June 13-14.
Maine Medical Association, Portland, July 2-3.
North Carolina State Medical Society, Morehead City, June 17.
Washington State Medical Association, Everett, July 14.

## AMERICAN NEUROLOGICAL ASSOCIATION

*Thirty-Ninth Annual Meeting, held at Washington, D. C. May 5-7, 1913*

(*Concluded from page 1819*)

### Giant Tumors of the Conus and Cauda Equina

DRS. JOSEPH COLLINS and CHARLES A. ELSBERG, New York: The patient begins to complain of pain and stiffness in the back, extending down the posterior aspect of one and then of the other thigh. The pain is intermittent at first, and later is continuous. After the expiration of a year or more, the symptoms become worse; single or double drop-foot appears, the lower limbs become weaker and stiffer, and knee- and ankle-jerks disappear. Then follow difficulties in the functions of the bladder and rectum, irregular sensory loss, rigidity of the lumbar vertebral column and tenderness of the lumbar spines. Peroneal palsies are regularly found with electrical changes. The patients are often suspected of tabes, and have usually been treated for long periods for sciatica. The important features of the clinical histories were the following: A history of one or more years' duration; pain in the small of the back sooner or later extending down one and then the other extremity; stiffness of the back in the lumbar region; increasing weakness and stiffness of the lower extremities with loss of power of dorsal flexion of the foot, and slight disturbances of the bladder and rectum. The important features of the clinical examination were the following: rigidity of the lumbar vertebral column; weakness and stiffness of the lower limbs; paralysis of the peroneal groups of muscles and sometimes of the tibialis anticus group; drop-foot on one or both sides; absence of knee- and ankle-jerks; tenderness of the lower lumbar spines; irregular and unsymmetric sensory disturbances; lumbar puncture usually negative, no fluid obtained, Wassermann test and roentgenogram negative. The typical findings at operation consisted of a large reddish-brown non-vascular tumor within the dura, which filled up the entire lower part of the spinal canal, surrounded the roots of the cauda equina and extended upward on the conus, with which it was not closely connected. The growth is not intimately connected with the inner surface of the dura, and can be easily freed from it, after which the inner surface of the dura is found to be smooth and glistening. The growths are well encapsulated above, but are closely connected with the nerve-roots below. The peculiar features of the tumors are their large size, the late appearance of bladder and rectal disturbances, the relatively small amount of sensory loss in spite of the fact that the tumors fill up the entire lower part of the spinal canal, and the benign course of the disease, without tendency to perforate the dura. Operative interference should be done in two stages by the "extrusion" method. If the cases are recognized early, radical removal of the growths should be possible.

DISCUSSION

DR. ARCHIBALD CHURCH, Chicago: I am reminded by Dr. Knapp's paper of an interesting experience of comparatively recent date; the recurrence of three tumors followed by three successful operations in the same patient. The first tumor made its appearance four years ago. At the end of a year the patient was entirely paraplegic. Dr. H. T. Patrick saw the case in consultation. Dr. J. B. Murphy operated. A tumor was removed from the cervical region. The patient made an uneventful recovery and in the course of six months she recovered. At the end of two years she began to have the same symptoms of spinal tumor and within six months had developed the same symptoms. A second operation found another growth in connection with the pia about one inch lower than the first tumor. Whether this was a recurrence of the first growth we did not know. It was supposed to be essentially an independent neoplasm. For nine months she had comparative freedom. Two weeks ago she came back to Chicago for recurrence. Early last week a third operation was done and a third tumor removed. So we had one on the right, one on the front and one on the left. I have had two cases of cauda equina tumor. About eight years ago a surgical friend had the typical manifestations of caudal lesion. This endotheliomatous growth filled the entire neural cavity and was supposed to be so intimately related to the cord that no attempt was made to remove it. The man perished from kidney trouble. About three years ago I saw a young boy with terrible pains in the legs who had been treated for hysteria. After many months of observation he showed a little area of sensory loss corresponding to the cauda, and on this comparatively slight symptom, although the bladder was not materially affected, an operation was done and an infiltrating endotheliomatous neoplasm extending from the middle of the lumbar spine to the lower end of the sacral canal was uncovered. It was not considered feasible to remove it and safest to let the case take its course. The operation wound has remained perfectly solid. The symptoms have not increased, but a tremendous growth has invaded the abdomen, giving the appearance of a six months' pregnancy. Apparently the pressure has been relieved from the caudal region so that further neural symptoms are inhibited, and the growth has gone in the anterior direction. This large caudal involvement may be more frequent than we suppose.

DR. W. M. LESZYNSKY, New York: The mere fact that one cannot obtain cerebrospinal fluid should lead to a differential diagnosis between tumors of the cauda equina and inflammation of the roots.

DR. WILLIAM G. SPILLER, Philadelphia: This subject of the root neuritis confined to the lower portion of the cord is one of great interest. One cannot help wondering whether in this case there was a meningitis of a certain degree, possibly of a considerable degree, and whether the root changes were not part of this meningitis. Dr. Elsberg said that the cord showed nothing to the naked eye. There may be marked meningitis which is not to be detected by naked eye at all. Tumors vary greatly according to whether they are in the upper part of the cord or in the lower. In the upper they are more of the type of fibroma and endothelioma, well-defined tumors that may readily be removed in most cases.

In the lower part of the cord they are much more malignant, infiltrating, liable to be of greater size and offering much more unfavorable conditions for removal. In one case of inoperable tumor I had Dr. Martin cut the anterolateral columns to remove the pain. It was very successful. The patient lived two years after that operation. He died a few months ago, with an enormous tumor filling a large part of the abdomen.

DR. JOSEPH COLLINS, New York: It seems useless so far as the patient's restoration to a degree of health and usefulness is concerned to operate on patients with these caudal tumors as they are now being operated on, my experience being that it does not give them any considerable degree of life and does not restore them to any degree of health. The significance of this fact is that we must diagnosticate these cases earlier than we do now. If we rely on the presence or absence of the cerebrospinal fluid in a case that has the symptoms of caudal tumor in making the differential diagnosis, we shall go wrong frequently. I would make a plea for operation on these patients in every instance at the time when suspicion enters our mind that caudal tumors are present, and, second, for operation on patients with tumors of the conus five, six, eight, ten years before the time they are now operated on.

### Pathology of Myasthenia Gravis

DR. SIDNEY KUH and DR. MORRIS BRAUDE, Chicago: We had a typical case of myasthenia gravis in a physician aged 50, of about five years' duration. Examination of the nervous system was made with the Weigert myelin sheath stain and Pal's modification of this, Mallory's chlorid of iron hematoxylin, Ford-Robertson's toluidin blue, thionin, Nissl's methylene blue, toluidin blue counterstained with erythrosin, uranium carmin, Van Gleason's stain, Weigert's fibrin stain and Weigert's stain for elastic fibers, on about 400 sections. Small areas of vascular sclerosis, recent (agonal?) hemorrhages, increase in glia tissue and corpora amylacea were found in the spinal cord. In the cervical region there was an aberrant bundle of fibers. In the higher levels of the cord capillary polymorphonuclear thrombi and chromatolysic and pigmentary changes were seen in the nerve cells. The relative intensity of the later findings remained approximately constant; that is, where the thrombi were numerous the changes in the nerve cells were greater. The same was applied to the medulla and corpora quadrigemina. In the cortex but few of these changes were to be seen; more in the optic thalami. The muscles showed nothing that had not previously been described. No trace of the thymus was found.

### Bilateral Oculomotorius Palsy from Softening in Each Oculomotorius Nucleus

DR. WILLIAM G. SPILLER, Philadelphia, reported a case in which the chief features were bilateral oculomotorius palsy developing in an apoplectic attack, syphilitic in origin, implicating every muscle supplied by the oculomotorius in each eye, resulting from bilateral softening as two separate lesions confined to the nuclei of these nerves; without implication of other cranial nerves except the opticus, and without other symptoms except preceding mental disturbance, convulsions and some change in the patellar reflexes and succeeding extension of each big toe from plantar irritation. The several symptom-complexes resulting from vascular occlusions which he had studied, namely the occlusions of the posterior inferior cerebellar artery, of the uppermost portion of the anterior spinal and adjoining portion of the vertebral arteries, of the cervical anterior median spinal artery, of the vessels supplying the inner segment of each lenticular nucleus, and (in the case reported in this paper) of occlusion of the vessels to the oculomotorius nuclei were discussed. In the last-mentioned condition there are symmetrical softening and paralysis of all branches of the oculomotorius, although the paralysis may not be complete in all the muscles innervated by the nerve: there are also involuntary incoordinate movements and great rigidity with unconsciousness at the onset of the attack.

### Early Perimetric Deviations Accompanying Hypophysis Lesions

DR. HARVEY CUSHING, Boston: A temporal hemianopsia as commonly recognized is merely a stage in the progress of the visual field defect associated with a growth originating near the chiasm, even when produced by a retrochiasmal lesion, which affects both temporal rather than homonymous fields. It is comparatively unusual to see patients in the stage of bitemporal hemianopsia with a vertical meridian separating blind from seeing halves. It is of clinical importance, therefore, that the preliminary stages in the process be recognized.

### Lesions of the Hypophysis and of the Uncinate Region

DR. CHARLES K. MILLS and WILLIAMS B. CADWALADER, Philadelphia: Of eight cases seen by us one had presented uncinate without pituitary symptoms, necropsy in this case showing a large tumor involving the uncinate convolution, but extending into other regions of the cortex and subcortex. Of the other seven cases, three presented both pituitary and uncinate phenomena of a decided character. In the other four uncinate symptoms were absent, pituitary phenomena being pronounced. These phenomena, however, were of a mixed character, illustrating dyspituitarism rather than either hypopituitarism or hyperpituitarism. In one of the cases with decided uncinate symptoms no lesion of the temporal lobe was discoverable. In one case in which the patient died after operation, a necropsy showed a tumor involving the infundibulum and pineal gland and adjoining structures. In three of the cases in which operation was performed, pathologic conditions of the hypophysis were found at the operation and confirmed by microscopic examinations of parts of the tissue removed. We are favorable to the fronto-orbital operation of Dr. Frazier for the exposure of the hypophysis. We believe that it has distinct advantages over that of approach by the nasal route. Only operation, however, gives successful results in a limited number of cases.

#### DISCUSSION

DR. J. RAMSAY HUNT, New York: Recently I saw a case of pituitary disease in which there were no changes in the sella turcica. The man was placed on pituitary extract for two or three weeks. He returned to the hospital saying that he had been seized quite suddenly with blindness. The blindness, it seems, had something to do with the acromegalic signs.

DR. HARVEY CUSHING, Boston: I have seen many cases of scotoma, and these scotomas, as de Schweinitz has pointed out, are apt to occur in the upper outer quadrant. They are largely due to the fact that there is apt to be fluctuation of these symptoms. The gland swells against the chiasm, which accounts for the loss of vision in the upper and outer quadrant. In cases which have passed beyond the stage to be cured by operation I would limit myself to a minor measure such as the mere relief of pressure rather than a large major operation such as the exposure of these structures through the frontal region. Such a lesion as a cyst is, of course, easily approached from below. The duration of the stay of the patient in the hospital from operation by the transsphenoidal route is comparatively a few days. It is not much more than a submucous resection of the septum, which the laryngologist not infrequently practices in the outpatient department. There have been 104 patients in my series and there have been 75 surgical cases. In 46 of the 75 the transsphenoidal operation has been done, in 22, subtemporal decompressions, and 8 have had transsphenoidal and temporal decompressions, so that there have been 93 operations. There have been 9 fatalities, about 10 per cent. Most of these fatalities occurred in the early series. Thus most of these fatalities were in cases which to-day we should recognize as inoperable or would adopt a simple measure. Two were simple subtemporal decompressions with very large tumors. I think that the operation merely takes part of the growth. It is inconceivable that one can remove the entire growth. If the growth is accessible from below I think it should be approached from below. What we want to do is to make room for enlargement of the growth. We cannot remove it

entirely. I feel that this measure to which Dr. Frazier has again called attention, which was first advocated by Hartley and subsequently by Krause, is in Dr. Frazier's skilful hands a measure that likely can often do good; but it is one which I should not like to see come into general use.

### Huntington's Chorea: A Study in Heredity

DRS. SMITH ELY JELLIFFE, ELIZABETH B. MUNCEY and C. B. DAVENPORT, New York: In the last ten or twelve years we have been able to gather enough information to show that one could group these cases of Huntington's chorea into four large groups. This confirms the statement frequently made that Huntington's chorea does not skip a generation. Once the line of descent is free, always free. If one individual does not have the disease it means that he does not have it in his germ cells and hence cannot transmit it. The practical application of this rule to eugenics is diminished by the fact that Huntington's chorea does not come on until late in life. As to marrying, each member feels that he may escape, and if he considers the matter at all runs the chance. In a person whose onset is relatively late in life it is to be expected that the parents will often die before the disease is due to develop in them. In certain of the families one will find the cropping out of the Huntington chorea with nothing in the antecedent heredity, and later it turns out that there was illegitimacy, which occasionally comes into these charts to explain the law of mendelian dominance.

### The Value of Roentgenoscopy of the Gastro-Intestinal Tract in Some Types of So-Called Functional Nervous Disorders

DR. L. PIERCE CLARK and DR. ARCHIBALD H. BUSBY, New York, reported that in a careful and complete roentgen analysis of eight cases of idiopathic epilepsy associated with severe gastro-intestinal disorder they found some form of abnormal position of the viscera (ptosis) which they judged to be pathologic in each case and which they connected with some of the clinical symptoms in the individual case. They outlined a system of physical therapeutics to overcome the gastro-intestinal ptosis which had been of functional benefit. They advised a routine roentgenoscopy in every case of genuine epilepsy with severe indigestion as an aid in exact diagnosis and treatment of the indigestion and the convulsive disorder itself.

DISCUSSION

DR. D. J. MCCARTHY, Philadelphia: I can support what Dr. Clark has said in his paper from an extensive study of the past year on not only this group of cases but also the entire group of functional cases that come to the neurologist's office. Whenever there has been any suspicion of gastro-intestinal involvement, I have had skiagrams made. The percentage of cases of what has been considered the purely functional neuroses in which lesions are found not only equal to those shown in Dr. Clark's group of cases, but even more intense, is surprising. Uniformly excellent results have been obtained from operation in those cases which have been well selected.

DR. HERMAN H. HOPPE, Cincinnati: I believe that, while the study of this condition is very interesting, before the profession can come to any conclusion as to the therapeutic results a larger number of cases must be studied. On the part of a great many patients there is an objection to having an operation of a serious character done for a primary condition that has existed for a long time. Some practitioners have found the straight-front corset to answer nearly all purposes. One case of epilepsy occurs to me as presenting complete recovery following operation.

DR. C. A. L. REED, Cincinnati: I have had some very satisfactory results following surgical restoration of these displacements. It is no more possible to reduce these displacements by medicines than it is to reduce a dislocated elbow with a dose of pills. I have not infrequently applied bandages, trusses, etc., with benefit, temporary or partial. But that medical treatment can by any possibility restore the patient to normal condition is something not for a moment believable.

## NEW YORK ACADEMY OF MEDICINE

*Meeting held May 15, 1913*

The President, DR. WILLIAM M. POLK, in the Chair

### The Cancer Research Institute

PROF. J. G. ADAMI, Montreal: The primary object of cancer research is the discovery of the means whereby humanity may be protected against cancer. There are two methods of attacking the problem, direct and indirect. Of the former Ehrlich has afforded a demonstration in his discovery of salvarsan. This method of research may be most laborious, hundreds of compounds having to be devised, tested and rejected, but it is a reasonable expectation that gradually certain groups of radicals will be encountered presenting definite specific action on one or another phase of the particular morbid process, and that eventually some permutations or combination of such substance or substances will be discovered which will definitely destroy the causative agent within the tissues, or arrest the morbid process without coincident grave injury to the tissues of the individual. This method is being followed by Wassermann and his coadjutors. It is a purely therapeutic method, even if at the same time purely experimental.

Scientific medicine has scored its most noted successes by means of the indirect method. The treatment and control of tuberculosis, diphtheria and other infections during the past thirty years dates from the moment at which the causative agents were determined, or, as in yellow fever, from the time when, through the employment of rigid analogy, the nature of the disease becomes realized; that is, the detection of the cause throws light on the mode of prevention of an allied disease. The indirect method is the one through which ideal cancer research must approach the solution of the problem by investigation into the nature of the process of normal tissue growth, into the life history of malignant growths and into the causes of neoplasm.

Admitting that an institute along these lines would be the better, and also admitting that despite the labors of a generation of investigators the cause of cancer is still undetermined how are we to proceed? The energies of the institute must not be devoted to immediate endeavors to determine the cause, but the position has to be invested from all sides and thoroughly undermined. It is better for an institute to concentrate on one line of attack, though this requires no little strength of mind with the full knowledge that it may possibly turn out to be futile. Cancer research to be well conducted necessitates heavy expenditure, so heavy that the institute is most likely to be of service if it takes up one or at most two lines of work. An instance of such concentration of effort is the work of the Imperial Institute for Cancer Research in London and of the Ehrlich Laboratory. If Dr. Gaylor and his associates have failed to discover the causative agent of cancer, they certainly have done yeoman service by the methods of exclusion. As a result of such work we have a much fuller knowledge of many aspects of the problem than we had ten years ago. We are now in a position to direct our efforts far more methodically and more serviceably than at any previous period. If, however, there were abundant funds, the ideal institute would be in such a center as this where there are abundant research workers in the various branches of biology and where experts of all orders may be gathered to make a combined attack from many sides. The plan outlined by Columbia College under the Crocker bequest seems to me admirable. My ideal of a cancer research in a great wealthy city is a combination of an institute as termed at Harvard a "commission." There must be a central institute or administration containing a library with all modern literature bearing on cancer research, a director's office and a suite of laboratories and animal rooms for the use of those making investigations under the immediate direction of the head of the institute. There should be a conference chamber, for informal conferences have a great value. It is by combined effort that success is most

likely to be attained. The development of this *esprit de corps* depends essentially on the influence of the head of the institute.

A desideratum of equal value is a hospital or certain wards in a hospital already existing. Failing this, there is danger that the work will become too academic, too remote from practical needs. In hospitals which afford treatment for needy patients, it must be laid down that in return families must consent in the case of death to a post-mortem examination. Beyond these two control sections there is no need to duplicate laboratories of physiology, cytology, general biology, pharmacology and experimental therapeutics. Make the heads of the laboratories members of the executive department of the institute and develop the spirit of cooperation so that there may be free consultation between the members of the executive department. Let these laboratories be thrown open to those willing and anxious to conduct investigations along any particular line under the direction of the head of each laboratory, the maintenance of the investigators and the cost of the investigation being paid by the institute. Let the work thus done be brought together and focused by the periodical conferences already referred to. All this depends on the spirit in which the work is entered into and, above all things, on the spirit and enthusiasm of the director.

### Cancer Statistics

PROF. W. F. WILCOX, Ithaca, N. Y.: A summary of the arguments of Messrs. King and Newholme in their paper written in 1893 supporting the conclusion that "the increase in cancer is only apparent and not real" outlines the objections that have been raised to this conclusion and calls attention to the large body of new evidence on the subject which has accumulated in the intervening twenty years, especially that to be found in the international summaries published by the French government in 1907 and by the Amsterdam statistical bureau in 1911-1912 and in the annual mortality statistics of the registration area of the United States, 1900-1911. After an analysis of this and other evidence it may be concluded that probably the larger part and possibly all of the increase in the mortality from cancer is apparent rather than real. Those who doubt this conclusion and hold that most of the increase is real may interpret the evidence as showing that the real increase is not at a geometrical or even an arithmetical rate but diminishes as the death-rate from cancer rises and that, perhaps, in certain limited areas like Switzerland and a few cities, it is already approaching its maximum.

### Public Education in Cancer

DR. WILLY MEYER, New York: What is the cause of cancer? This question certainly has some bearing on the subject of the public education in cancer. Pathologists in discussing this problem are absolutely opposed to the theory of cancer being due to a parasite or a micro-organism, whereas many general surgeons have by direct observation come to this conclusion. Plain logical thinking in the examination of patients could hardly make one think otherwise than that the cause of cancer is a living organism. The public should be taught that real progress in the cure of cancer can be made much faster after the cause of cancer has been found, just as great progress in our knowledge of tuberculosis has been made since the demonstration of the tubercle bacillus of Koch, and in syphilis after the discovery of the *Spirochaeta pallida*. The great trouble with reference to cancer is that there is not sufficient money, no large endowment fund available in every country in the world. If millions of dollars were available for this work on cancer there is no doubt but that rapid progress would be made in learning the cause of cancer.

Is cancer infectious, or contagious, or both? It does not appear that cancer can be conveyed from one person to another, as from husband to wife or from patient to nurse, and therefore the disease cannot be considered infectious. In one instance, however, I operated on a husband for papilloma of the bladder and later the disease recurred and involved the prostate. While treating this patient I was called to examine his wife and found her suffering from cancer of the cervix uteri.

Is cancer curable? This question is always primarily in the patient's mind. Cancer is curable by the surgeon's knife if the growth is removed radically at an early stage. The whole question resolves itself into early diagnosis and early operation. We all know the clinical development of the three stages: (*a*) when cancer is entirely a local disease; (*b*) when it is still a local disease with regionary lymph-nodes involved, and (*c*) when there are metastases. Undergraduates as well as postgraduates should be taught the importance of early diagnosis and should bear in mind certain symptoms that make these cases suspicious. Blood in the urine, blood from the rectum, or blood from the vagina after the menopause should excite suspicion and call for a thorough examination. The symptoms of cancer of the esophagus are most benign. The patient comes early to the physician because of difficulty in swallowing. The fluoroscope, the Roentgen ray and esophagoscopy, in the diagnosis of cancer of the esophagus, are valuable adjuncts and should be used without delay. The public should be taught these early signs of cancer. There are various associations which have taken this matter in hand. According to the laws of medical ethics it is hardly permissible for a doctor to write for weekly or monthly magazines, much less for the daily papers, in order to educate the public, but it is a splendid idea and possible for a man like Samuel Hopkins Adams to publish in *Collier's Weekly* articles which tend to educate the public regarding cancer. It is to be hoped that by publicity the same results which have been achieved with those afflicted with tuberculosis may be obtained in patients afflicted with cancer.

#### DISCUSSION

DR. ROBERT ABBE, New York: In spite of the greater number of cancer patients presenting themselves to the surgeon, the memory of the large surgical clinics of thirty or forty years ago recalls about the same proportion of cancer cases as at present. It must be the work of cancer research to study the cause more than the treatment of cancer. I have worked more along the line of treatment, especially local treatment. The remark of Dr. Meyer that the tendency now is to regard the causation as microbic does not agree with my observation. Ninety-five per cent. of breast tumors are disorders of the glandular structure of the breast and wholly unlike the other conditions, syphilis, tuberculosis and actinomycosis. In addition one sees that Dr. Carrel's growth of cells *in vitro* carrying on generation after generation of cell development in culture-tubes, demonstrates that living cells are not microbes though they may act like them. A further and very strong argument against the microbic origin of cancer is the fact that radium has a powerful influence on cancer cells, but not through its bactericidal action. The alpha rays are strongly bactericidal but the gamma rays are not so. The alpha rays are destructive only of tissue brought in intimate contact with them, while the beta rays are stimulating and only the gamma rays are efficient in causing retrograde changes in malignant cells. Hence, one must admit that cancers destroyed by radium when no access of alpha rays is permitted are altered by the non-bactericidal gamma rays which entirely alter their life course and render them inert and atrophied. The effects of radium rays on seeds whose vital force may be justly compared to that of animal cells, demonstrates that seeds kept for a while close to radium are killed, those at a slight distance are stimulated, and at a greater range they are devitalized and grow with less and less vigor up to a certain distance in comparison with unradiumized seeds planted under similar conditions. This coincides with the results seen in tumors. The failures of radium to cure certain tumors urges on the study of cause and effect. It is evident that the use of small or weak doses of radium has been inefficient, because of lack of knowledge of filtration to obtain the more competent penetrating gamma rays in massive doses. The cure by radium is not brought about by any action like cautery or caustic, but by restoring to the

aberrant cell growth some lost power of self control restoring it to normal line of growth. It seems that even with the small amount of radium available to the surgeon, the progress already made to apply this subtle and unique power gives promise of increasing future value.

DR. GREENOUGH, Harvard Cancer Research: The public and the general practitioner must be educated and made to understand the meaning of early symptoms which point to cancer. I operated on a patient aged 37 who had a cancer of the breast which she had noticed eight months before consulting me. It was not painful, but she was concerned because of its presence. She went to a general practitioner for advice and he said, "Does it pain you?" She replied that it did not, and he said, "Let it alone until it does bother you." After a period of six months the tumor began to bother her and again she consulted a physician who informed her that it was very suspicious and that she should have it removed. The tumor was removed and the pathologist reported that it was cancer. I believe in educating the public, especially along the lines of the early symptoms of cancers of the stomach, nephromas, etc., and to consult a physician without fail whenever a tumor is noted.

### Resolution

The following resolution was carried:

WHEREAS, A movement has been started in New York City to educate the people at large on the subject of cancer, and,

WHEREAS, Sufficient influence in this work by laymen has been shown to raise money to start the campaign of education; be it

*Resolved*, That the New York Academy of Medicine gives its approval of the movement.

---

## AMERICAN THERAPEUTIC SOCIETY

*Annual Meeting held at Washington, D. C., May 5-6, 1913*

The President, DR. NOBLE P. BARNES, Washington, D. C., in the Chair

The following officers were elected for the ensuing year: president, Dr. Howard Van Rensselaer, Albany; vice-presidents, Dr. Robert T. Morris, New York, Dr. Francis M. Pottenger, Los Angeles, and Dr. J. Madison Taylor, New York; secretary, Dr. Lewis A. Taylor, Washington, D. C.

### A Limited Materia Medica

DR. NOBLE P. BARNES, Washington, D. C.: We need a properly limited materia medica with a rational scientific classification for the use of lecturers, examiners and students. Many sudents are so confused in the study of pharmacology, so discouraged in memorizing the mass of details that they fail to collect and retain the wheat and in time become drug nihilists. If we would treat the practice only with the absolutely proved drugs, materia medica and therapeutics would be placed on a sound and rational basis. Such a work should include only indispensable drugs and, so far as practicable, only those that had been assayed chemically or tested physiologically. The accurate knowledge gained from the study and use of these drugs would soon restrict the multitude of recognized and unrecognized remedies, give better control and better quality to these remedies, and enable the student to master everything from solubility to incompatibility, everything from methods of administration to variance in action.

### The Absurdities and the Commercialism of the Proposed Ninth Decennial Revision of the U. S. Pharmacopeia

DR. OLIVER T. OSBORNE, New Haven, Conn.: Among the articles that should have no place in the new pharmacopeia are drugs having no therapeutic value, like lemon-peel and saffron; metals and chemicals of little or no drug value, like aluminum hydrate and uranium nitrate; drugs not needed or drugs whose effects could better be obtained from other drugs already official, like anthemis, cimicifuga, yerba santa, gambir, cottonroot bark, prickly ash, sarsaparilla, leptandra, etc.; preparations inferior to others, like fluidextract of digitalis (tincture better), fluidextract of gentian, fluidextract of cinchona; mixtures and compounds, like Basham's mixture and elixir adjuvans, and drugs that cannot be standardized, like lemon-peel. It is also unnecessary to include the parent substance just because it is desired to include a derivative; for example, the spices because it is desired to include their volatile oils.

DISCUSSION

DR. HARVEY W. WILEY, Washington, D. C.: There is a great difference of opinion on this point among medical men. If 15,000 prescriptions were collected and it was found that one particular ingredient appeared in a considerable number of them, it seems reasonable to conclude that the ingredient has some therapeutic value.

DR. O. T. OSBORNE, New Haven, Conn.: Fifteen thousand prescriptions are not a good test. The frequency with which a drug is used is no test as to its value. It might be foisted on the profession through advertisements.

### Treatment of Diabetes and Pregnancy

DR. REYNOLD WEBB WILCOX, New York: If hydramnios exists, or the amount of glucose is excessive and uninfluenced by treatment, or the loss of flesh and strength is marked and, absolutely, if the fetus is dead, the uterus should be emptied at once. The viability of the child is usually problematic. A diabetic woman should not marry or, if married, should not be allowed to become pregnant. If a pregnant woman becomes diabetic, the dangers of labor are increased, not only from impaired vitality and lessened resistance to infection, but also because in severe diabetes a dead and even macerated child might result, or if the disease is mild, one of inordinate size. By successive pregnancies a curable case of diabetes might be converted into one that is incurable. Each patient should be studied carefully, and the procedure adopted that is justified by the condition of the patient and the persistence of the glycosuria.

DISCUSSION

DR. ALEXANDER D. BLACKADER, Montreal: I have seen two cases of diabetes of pregnancy: in one there has been no return of the glycosuria after term; the other has gone on to confirmed diabetes.

DR. ROBERT T. MORRIS, New York: Many cases of glycosuria are due to pancreatitis and consequent squeezing of the islands of Langerhans caused by the effects of bacteria escaping from the duodenum. As soon as the pancreatitis is relieved, the glycosuria disappears. The indication is to do away with the infection, if possible.

DR. J. J. KINYOUN, Washington, D. C.: In 200 necropsies at the tuberculosis hospital I have noted changes in the pancreas with squeezing of the islands of Langerhans in a considerable proportion of cases. Only in rare instances, however, have the patients given a history of diabetes.

DR. O. T. OSBORNE, New Haven, Conn.: According to good authority, uranium nitrate is a poison, particularly to the kidneys, and it has no therapeutic value commensurate with the dangers attending its use.

DR. R. W. WILCOX, New York: Any danger there may be could be obviated by frequent examinations of the urine.

### The Treatment of Arteriosclerosis

DR. LOUIS F. BISHOP, New York: Arteriosclerosis is the reaction of the individual to the proteins that cause the disease. It sets in when something occurs in the individual to make him more susceptible to the disease. Accordingly, I have adopted the "few protein diet." All eggs, fish, meats and soup are excluded. Cheese is allowed as furnishing protein in a safe form, and later chicken is added tentatively. An ounce of castor oil is ordered every forty-eight hours for three doses, then another dose at the end of the week, and later a dose not less than once a month. Nitroglycerin is the great symptomatic remedy for all emergencies. Exercise and outdoor life are essential. For the cure of the arteriosclerosis, the underlying causes should be removed, and among these mental stress is important.

DISCUSSION

DR. J. MADISON TAYLOR, Philadelphia: Early recognition of the disease is important. It is fortunate in some cases if the individual has some other form of breakdown, as then the arteriosclerosis may be recognized and treated in its incipient stages.

DR. EDWARD D. FISHER, New York: Alcohol, overeating, gout, etc., are only predisposing causes. Laboring men are especially susceptible to arteriosclerosis; as a rule they are neither excessive eaters nor drinkers, but they are hard workers, and hard work and heredity are important factors in the etiology. Each one is given vessels good for a certain time under proper conditions; if he uses them conservatively, he may live out his allotted time; if he does not, his life is shortened accordingly. A proper diet, open-air exercise, a quiet life and freedom from worry and care are important factors in the treatment. Diet should be regulated to meet the needs of each individual patient. It should not be too strict when the patient is weak, or when his occupation demands great exertion. General principles of treatment should be broken as conditions necessitate.

DR R. T. MORRIS, New York: The response of the blood-pressure to certain proteins might be utilized as a test for arteriosclerosis in its early stages.

DR. A. D. BLACKADER, Montreal: While I cannot help agreeing to a certain extent with Dr. Fisher as to heredity, it is a depressing view. I prefer to think that some persons are more susceptible to certain poisons than others. Some children, for example, are poisoned by eggs. Such substances should be excluded from the diet of those susceptible to hardening of the arteries. Until the factors causing the disease are removed, treatment will prove unavailing. Treatment should be directed to the undue susceptibility of the tissues.

DR. O. T. OSBORNE, New Haven, Conn.: I wish to emphasize the danger of changing the diet too suddenly or radically. I have obtained good results from the use of potassium iodid.

DR. SPENCER L. DAWES, Albany, N. Y.: The salines or calomel are preferable to castor oil. The after-constipating effect of the oil is a decided objection to its use.

DR. GEORGE HERBERT EVANS, San Francisco: I have been impressed with the frequency with which syphilis occurs in arteriosclerotic patients. Cases ascribed to overwork, overeating, etc., are not infrequently the result of syphilis. The real causative factor should be ascertained before treatment is instituted.

DR. F. M. POTTENGER, Los Angeles: Typhoid fever is sometimes followed by hardening of the arteries. Some hardening is usually present in tuberculous patients after two years.

DR. J. J. KINYOUN, Washington, D. C.: In the post-mortem examination of tuberculous subjects I have found marked arterial changes in a considerable proportion of cases. These changes antedated the tuberculosis, however, and must be due to other causes.

DR. L. F. BISHOP, New York: In my experience no cause can be assigned in about nine-tenths of the cases. In the remaining tenth the cause is usually alcohol, syphilis or one of the other causes ordinarily cited. Too much attention is paid to the advanced cases and not enough to the insidious cases, although the latter are the most important. I do not believe in excluding all protein from the diet. Effort should be made to ascertain the particular protein causing the trouble and eliminate it. It is revealed by the special craving of the patient for it when it is withdrawn. Table salt and all other salines are unfriendly to arteriosclerosis.

### Current Developments and Problems in Vaccine Therapy

DR. A. PARKER HITCHENS, Philadelphia: The limitations which at present characterize the treatment of infections by vaccines are not permanent and further investigation will result in a wide extension of their field. Mixed vaccines are often of service in the common acute, subacute and chronic catarrhal inflammations of the respiratory mucous membranes. The most promising field of study for the laboratory man to-day is the relation of the infecting bacteria to the blood- and lymph-supply—the possibility of bringing the antibodies formed as a result of the injection into contact with the infecting bacteria.

DISCUSSION

DR. J. J. KINYOUN, Washington, D. C.: My experience with mixed vaccines has been unsatisfactory. The secret of success lies in determining the cause of infection in each instance as nearly as possible, and acting accordingly.

DR. A. P. HITCHENS, Philadelphia: A hodgepodge or shotgun vaccine cannot be condemned too severely; but in some cases of mixed infection the indications are clear, and mixed vaccines can be used to advantage.

### Recent Improvements in the Quinin Treatment of Lobar and Lobular Pneumonia

DR. S. SOLIS-COHEN, Philadelphia: Apart from fresh air, dependence has been placed on the following measures: first, the effective use of the very soluble hydrochlorid of quinin and urea in 50 per cent. solution by intramuscular injection; second, the hypodermic injection of cocain hydrochlorid solution or an extract of the posterior lobe of the pituitary body for the maintenance of blood-pressure; third, in cases of prolonged fever, delayed resolution or tardy convalescence, the injection of bacterins (pneumococcus or mixed vaccines, autogenous or stock). No invariable maximum limit has been fixed for the number of injections of quinin or of pituitary liquid, but it is not wise to continue the three-hourly injections beyond the first twenty-four hours, and in only a few cases has it been necessary to use them as long as this. Other measures should be employed according to indication. The treatment has reduced the mortality in the severe cases one-half, and the relief afforded in all cases is remarkable.

DISCUSSION

DR. T. F. RILEY, New York: Statistics as to the prevalence of pneumonia are somewhat unreliable and I am inclined to doubt whether there has been any notable increase in the proportionate number of cases as suggested by Dr. Cohen. Quinin has been found to be a dangerous drug for hypodermic use. It has given rise to tetanus in a number of cases, even when given carefully and under antiseptic precautions. In explanation it has been suggested that the tetanus spores existing in the patient, otherwise innocuous, are aroused to activity by the injection. At any rate, the procedure has not been found free from danger, and it is well to bear this in mind in deciding on the injection treatment. I have obtained good results from the use of large doses of digitalis. Of late I have employed acetylsalicylic acid in combination with it.

DR. O. T. OSBORNE, New Haven, Conn.: I do not know of any one "best treatment" for pneumonia. The treatment should always be adapted to meet the needs of the individual patient. Whether or not digitalis should be employed depends on the circumstances. I am opposed to employing it in every case as a routine practice. Its injudicious use has done serious harm in more than one case of pneumonia. When properly given it acts perfectly. Quinin raises the blood-pressure, but its use is followed by a secondary reaction, and I am averse to giving a drug of this kind. The use of the blood-pressure apparatus in private practice has its drawbacks. Among other things it disturbs the patient and makes him nervous, and it is doubtful whether the information obtained by its use makes up for the disadvantages. About all that is necessary to know can be learned with the finger.

DR. ALBERT E. ROUSSEL, Philadelphia: It is important to watch the blood-pressure rather than the temperature in pneumonia. A pulse of from 130 to 140 means a failing heart and low blood-pressure, and the chief indication is to raise the pressure. I have considerable faith in digitalis in these cases. If it fails, pituitary extract or some other drugs mentioned can be used. I have recently used the treatment described by Dr. Solis-Cohen in five cases of pneumonia with good results. The measures to be employed depend on the conditions present in each individual case.

DR. G. H. EVANS, San Francisco: The results obtained in the first case that I treated by Dr. Solis-Cohen's method were

so satisfactory that I have subsequently employed it in others. The pituitary liquid gave a prompt increase in blood-pressure. There is, however, no one successful treatment for pneumonia. The majority of cases went steadily on to termination in spite of any treatment that might be employed.

DR. F. M. POTTENGER, Los Angeles: The examination of tuberculous subjects has led me to believe that the time required for resolution is much longer than is ordinarily supposed. If the disease is due to bacterial invasion and the proper vaccine can be used, there should be a shortening in the length of the attack and in the time required for resolution. Success in treatment is chiefly due to individualization and the observance of minutiae.

DR. R. T. MORRIS, New York: The invasion of the influenza bacillus may account in part for the increase in the number of cases of pneumonia observed in recent years. Whatever method of treatment is employed, it should be given with confidence.

DR. S. SOLIS-COHEN, Philadelphia: I have not had a case of tetanus in over 5,000, possibly 10,000 injections. The element of confidence is undoubtedly of the highest importance. The increased mortality of the disease in later years is partly due to the wave of therapeutic nihilism that has spread over the world. Many of the patients might have recovered if they had been under the care of some one who had confidence in his own treatment. Under the treatment I have described, defervescence usually occurs by lysis rather than by crisis. This, and the great relief afforded by the quinin, without corresponding change in the pulmonary condition, indicates that the treatment is antitoxic in character. It would seem as though pneumonia poison and the quinin counteract or neutralize each other; but there is no one treatment for all cases; in individualization lies the key to success.

### Pulmonary Syphilis

DR. ALBERT E. ROUSSEL, Philadelphia: My patient was a colored woman, single, aged 24, with family history negative as to tuberculosis. Six weeks before admission there had appeared chills, fever, drenching sweats, cough with offensive mucopurulent expectoration and rapid loss of weight. Temperature for weeks reached 106 F., and occasionally it would fall as low as 96.2 F. Sputum negative. Percussion showed scattered but distinct areas of dulness over both lungs, particularly at right base; both apices were hyperresonant, free from râles and the seat of supplementary or puerile breathing; breathing was bronchovesicular and bronchial over the dull areas; vocal resonance was increased; there were subcrepitant râles. Wassermann test was positive. Two months later a gumma developed, and a history of syphilis was obtained. Under vigorous treatment with mercurials and potassium iodid there was almost immediate improvement and rapid recovery.

DISCUSSION

DR. THOMAS E. SATTERTHWAITE, New York: At various times I have tried to bring up a discussion on this subject. At first I could hardly get any one to believe that there was such a disease as syphilis of the lungs. The cases were thought to be instances of pulmonary tuberculosis. The chief difficulty is in the differential diagnosis. The rapid improvement under antisyphilitic treatment and a positive blood-reaction are significant aids.

DR. F. M. POTTENGER, Los Angeles: The absence of tubercle bacilli is not conclusive evidence. Some tuberculous patients rarely present bacilli in the sputum. Whenever I suspect syphilis, I employ antisyphilitic treatment in addition to antituberculosis treatment. I have used potassium iodid in many cases of pulmonary tuberculosis with beneficial effect.

DR. O. T. OSBORNE, New Haven, Conn.: Potassium iodid is of value from a diagnostic point of view. It is contraindicated in many cases of pulmonary tuberculosis. If, however, there are no tubercle bacilli in the sputum it can be given, and if, afterward, bacilli are found, the diagnosis is clear. The iodid seems to increase the number of bacilli thrown out in the sputum. It is liable to stir up the pulmonary condition in incipient cases and make matters worse. In chronic cases the effect is somewhat similar, but it enables the patient to expel the bacilli.

### A Case of Influenzal Meningitis in the Adult Complicated by Pneumonia; Recovery

DR. THOMAS E. SATTERTHWAITE, New York: The case was somewhat unusual in that it presented three types of grippal infection, the respiratory, the gastro-intestinal and the nervous. It is, so far as I know, the only recorded instance of full recovery in influenzal meningitis. The patient was a man aged 25, of normal physique. There had been the usual symptoms of a mild influenza. When first seen he was unconscious, with pupils irregularly dilated and irresponsive, and the breathing rapid and labored. Temperature 103.5 F., pulse 138, respirations 26. Under bromids consciousness returned, but there was restlessness and twitching of right leg and facial muscles. On the second day the signs of pneumonia were easily recognizable; temperature 106 F., pulse 120, respiration 40. Three hundred grains of bromids were given during the day. On the third day there were nausea and vomiting, and on the fourth, vomiting of dark fluid and blood. Calomel, 1 grain in divided doses; hexamethylenamin, 10 grains in a pint of water, 30 grains in all during the day, and strychnin sulphate, 1/60 grain every four hours, were administered. On the sixth day there was low muttering delirium; bromids were given freely and hexamethylenamin suspended. On the seventh day, camphor, 3 grains in aseptic oil, was administered hypodermically every six hours. Strychnin was continued. Temperature had fallen to 99 F., pulse to 84 and respirations to 24. On the tenth day camphor was suspended. From this time on recovery was rapid and uneventful.

DISCUSSION

DR. F. E. STEWART, Philadelphia: Some authorities recommend the use of camphorated water instead of the oil: I should like to see more study along this line.

DR. H. B. ANDERSON, Toronto: I have seen two cases of meningitis due to infection. A student had suffered for some years with ear trouble, but of late it had been quiescent. He became ill with grip and soon developed violent headache, restlessness and delirium, and died after a few days. A woman, aged 45, became ill with influenza of the ordinary type; while she was improving there suddenly developed marked symptoms indicative of meningitis, and she died after a few days. Lumbar puncture failed to disclose the organism.

### The Medical Treatment of Cholelithiasis

DR. H. B. ANDERSON, Toronto: While surgical procedure is frequently the best, and often the only, means of offering a chance of relief, its advocacy based on certainty of cure and assurance of non-recurrence is unwarranted. The object in view can often be obtained by non-operative treatment, especially in early and mild cases, and particularly after the first attacks, before serious local damage has been done by the infection. Medical treatment should be given when the patient's physical condition does not warrant operation, when operation is refused, as a preliminary to operation, and in all cases after operation to prevent reinfection and recurrence, if possible.

### Scarlet Red in Ulcer of Stomach and Duodenum

DR. JULIUS FRIEDENWALD, Baltimore: Scarlet red is a useful adjuvant in the treatment of gastric ulcer. While it cannot replace the usual forms of treatment, when administered with them it increases the beneficial effect. It is particularly serviceable in the treatment of ambulatory cases. It does not interfere with the administration of other remedies, and, indeed, the effect of its combination with the alkalies or belladonna is at times most beneficial. Thirty-seven cases treated with scarlet red were subacute. It is not a specific but it was a useful adjuvant.

### The Dangers and Disadvantages of Spinal Anesthesia

DR. W. WAYNE BABCOCK, Philadelphia: Ether for general use remains the standard anesthetic in spite of its many dis-

advantages; the newer methods of anesthesia have a use restricted to those who have particularly qualified themselves; spinal anesthesia is dangerous in myocardial degeneration, particularly with obesity, and it should be used with care and avoided in grave shock and hypotonicity of the vasomotor system; severe headache and abducens palsy might follow the use of improperly prepared solutions or a faulty method; excessive dosage, high point of injection, improper position or handling of the patient, might be followed by respiratory or circulatory arrest. If the patient cannot be watched constantly for an hour after the injection, or if the operator is not familiar with the technic or is unprepared to meet the emergencies, spinal anesthesia should not be used.

---

## AMERICAN ORTHOPEDIC ASSOCIATION

*Twenty-Seventh Annual Meeting held in Washington, D. C., May 6-8, 1913*

(*Concluded from page 1818*)

### Importance of Positive Support in the Curative Treatment of Weak Feet

DR. ROYAL WHITMAN, New York: In 1890 97 cases of flat-foot were mentioned in the report of the Hospital for Ruptured and Crippled; in 1906 there were 1,219, and in the last report there were 2,109. Flat-foot is an acquired weakness and is understood to be preventable and curable. The lowered arch is the secondary and not the primary deformity. Palliation is often mistaken for cure. I have a brace which I have used for several years with success. A brace that will not only prevent deformity, but the predisposition to it, and will enforce a proper attitude in walking, may be regarded as a most important measure in curative treatment. The most satisfactory material for this brace is thin polished steel, galvanized. The essential accompaniment of positive support is a proper shoe, inclined somewhat outward by thickening the inner part of the heel and sole. The aim of treatment should be to cure, rather than to relieve flat-foot.

### A Rapid and Accurate Method of Taking Casts of the Feet

DR. MICHAEL HOKE, Atlanta, Ga.: This procedure has done away with the disadvantages of the older methods. I take plaster bandages and soak them in water, flattening them out on the table, thus making a square plaster splint 4 inches wider than the foot, and 2 inches longer. Then with a pair of scissors I cut the edges, lay the splint on the foot, and hold the foot with my hand in the position in which I wish it to be. I then wind an ordinary gauze bandage round the plaster and the foot, to hold the plaster while it is hardening. After it is hardened the foot is taken out of the cast.

#### DISCUSSION

DR. ROBERT B. OSGOOD, Boston: We can all agree with the principles enunciated by Dr. Whitman, but the question of the practicability of the method must be faced by us all. If we cannot make a permanent brace, we must use Dr. Whitman's appliance; but I feel that whenever possible we should relieve our patients from the burden of steel.

DR. W. E. BLODGETT, Detroit: My experience has been that the best pain-relieving plate is one that is arbitrary. The plate I make is in no sense a curative plate, but one to relieve pain. The point as to whether or not the Whitman plate is a curative one must be decided either practically or theoretically. From the practical point of view I cannot speak. Theoretically, however, arguments can be urged against the assumption that it is curative. I cannot see that this plate can be expected to strengthen the muscles. If it is not curative, why should we permit its use?

DR. H. AUGUSTUS WILSON, Philadelphia: I have endeavored to establish a standard of what is natural in an unclothed foot. On examining the feet of a number of savages, I found that they all stood flat-footed, with the feet pronated in the position which I had believed necessitated mechanical support; yet they had superb musculature, and capabilities beyond conception. It seems that we are considering a theoretical foot when we apply therapeutic measures. If we can get in our minds a standard natural foot, we shall have something to build a superstructure on. The Japanese have fine feet. They walk without heels, and the result is that the flexors are strong and powerful. They walk with their toes in and have wonderful foot capabilities; and yet, when standing, they are apparently flat-footed. What we are after is not the physical resemblance of a foot, but a physiologic action.

DR. PHILIP HOFFMAN, St. Louis: The question is whether or not the relationship between the shape or form, and the function of the foot is a definite one. I have made observations on 400 primitive subjects, bare-footed and wearing sandals, and I have found the same lack of relationship between the form and the function of their feet, in which the arches were very low. We are taught that this low arch should predispose to weakness; yet, in not one of these natives had any symptoms of weakness ever been present. Then I tried about 200 white men, shoe-wearers, who had never had foot symptoms, and I found about the same percentage of low arches in these symptomless feet. Then I examined a number of symptomless negro feet with the same result. I was therefore convinced that there is no definite relationship between the shape of the foot and the function of that foot.

DR. CHARLETON WALLACE, New York: I classify the types of feet that happen to come into my office. The first class—mild cases that show no symptoms of pain—can easily wear the Whitman brace with more or less pain. The brace, the shoe and the exercise give perfectly satisfactory results. The second class—cases in which the peroneal spasm is rather strong—must be treated to overcome the spasm before the Whitman brace can be used. The third class—the rigid, stiff feet—must be made flaccid before the brace can be worn. We do not expect the Whitman brace to cure the foot; but it aids toward that end. Our whole aim is to cure the foot by stretching the muscles, giving the foot a crutch, as it were, to walk on while being corrected.

DR. E. H. ARNOLD, New Haven, Conn.: Within the experience of all of us, the American sidewalk has changed from a soft to a hard one. In a soft walk the foot shapes the ground; but with an unyielding one, the sidewalk shapes the foot. You will find that the Indian, the colored man or the Japanese will go to pieces on our sidewalks and contract flat-foot. Walking on hard ground is one of the etiologic factors in flat-foot, and goes far to explain the great increase in this condition. The question is how far any plate will cure flat-foot in these conditions.

DR. ARTHUR H. CILLEY, New York: The results obtained from treating flat-foot do not depend on the form of treatment, but on the ability of the man to do the work. If the patients will use the muscles, they will recover. If the Whitman plate is properly applied they cannot help using these muscles.

### Heliotherapy (of Rollier) as an Adjunct in the Treatment of Bone Disease

DR. ROLAND B. HAMMOND, Providence, R. I.: Heliotherapy of sinuses has been practiced for many years. Rollier's method of exposing the entire body is comparatively new. Experiences differ in a high and dry climate, and in a low, foggy land. I believe that heliotherapy is of marked value in the treatment of bone disease by stimulating the recuperative powers of these parts and shortening the course of the disease. It can be used at the seashore as well as in a high altitude. Sinuses tend to close more quickly with its use than without treatment. Combined with sea bathing and outdoor life, it is a most valuable addition to our treatment.

#### DISCUSSION

DR. B. E. MCKENZIE, Toronto: I have had a large experience along this line of outdoor treatment. We do not expose our patients to the sun for so long a time, nor do we expose the entire body. It would probably be better if we did. I believe that the time of treatment essential for the cure of

tuberculous joint disease is reduced 50 per cent. by the method we follow. The number of abscesses is reduced also.

DR. ROLAND B. HAMMOND, Providence, R. I.: For many years we have been treating the sinuses by exposing parts of the body; but according to Rollier's theory we must expose the whole body. We have done this and consider it a distinct advantage.

### The Use of Oil Injections into the Knee-Joint by the Method of Open Incision

DR. E. G. BRACKETT, Boston: The injection should be made by open incision, and not by puncture. The fluid is always left in the joint under tension. Any adhesions existing should be broken up before the joint is filled with oil and the capsule closed. No handling should be permitted, particularly of tuberculous joints. Fixation in plaster or by splint immediately afterward should never be employed. It is doubtful if the final results in a disease so insidious can be given until a very long time has elapsed. An apparent cure, however, has resulted in three cases which have stood the test from a year and a half to two and a half years. The procedure is of use only in cases in which the abnormal condition is confined to the synovial membrane.

#### DISCUSSION

DR. E. W. RYERSON, Chicago: I use white petrolatum only in dealing with dry joints, as some patients have a painful idiosyncrasy toward yellow petrolatum. I have used it in cases of gonorrheal inflammation of the knee-joints in which the capsule was beginning to contract.

DR. L. W. ELY, Denver: The absence of fluid in ankylosed joints is not the cause of the disease, and I think that it is receiving more attention than it should. There is no way by which to tell a tuberculous joint, except by demonstrating the tubercle bacillus, and even then mistakes are sometimes made. You cannot cure these stiff joints by injecting an oily substance into them.

DR. E. W. RYERSON, Chicago: Nothing has been said about curing these joints with petrolatum; but the injection relieves them so much that, by increased motion, the natural synovial secretion returns.

DR. J. T. RUGH, Philadelphia: For cases of distinct infection, in which the germ can be recovered from the joint cavity, I want to mention the glycerin-formaldehyd solution, which has distinct value in these cases.

DR. E. G. BRACKETT, Boston: One of the most difficult things is to distinguish between mild tuberculous infections and other forms of arthritis. Many times I have found my diagnosis reversed after operation. We should imitate Nature, so far as possible, in treating this disease. In making these injections we imitate her.

### A Method of Osteotomy of the Lower End of the Femur in Cases of Permanent Flexion of the Knee-Joint

DR. ROBERT B. OSGOOD, Boston: In fracture of the knee-joint a cuneiform osteotomy of the lower end of the femur, as near the joint surface as possible, would seem to be the operation of choice. Unless a wedge of bone is removed the tension on the vessels and nerves is often too great to allow complete straightening, even if the hamstrings are divided. I have devised an apparatus to overcome the difficult features. I use an ordinary jig-saw. Paper patterns are made in order to determine the proper dimensions of the wedge of bone to be extracted. When the posterior cortex has been partially sawed through the arms of the saw are removed, leaving the saw-blade in as a mark for orientation. Then a second saw with blade, teeth downward, is used to make a cut on a straight line down to the position of the first saw and both blades are removed. Thus a quadrilateral portion of bone is freed and pushed out. In our case union has apparently been formed in from four to six weeks.

#### DISCUSSION

DR. W. S. BAER, Baltimore: I have used Dr. Osgood's method in one case, and have had extremely satisfactory results. There are certain things in regard to the technic of an anthroplastic operation which should be followed. The membrane wants to be sewed in very carefully around the joint. The passive motion after-treatment should not be started too early. Three or four weeks of absolute rest with fixation in plaster should be given.

DR. J. P. LORD, Omaha: Dr. Osgood has greatly refined an operation which I have been doing for four or five years. My operations were done to prevent the patients from having bent knees from contracture deformity, the result of infantile paralysis.

DR. A. H. FREIBERG, Cincinnati: There are two distinct propositions to consider in these cases. The first is the amount of bone that has to be removed, and the second, the character of the joint. In the knee, we have a joint whose mechanical control is ligamentous. If we get a pseudoarthrosis, it is uncontrollable if there is considerable motion.

### Foerster Operation

DR. S. J. HUNKIN, San Francisco: In all I have had eighteen operations on fifteen patients. In the entire series there were but two deaths. Therefore I may say that the results of the treatment of spastic paralyses by Foerster's operation have been fairly good. While they have not been so entirely satisfactory in all respects as I had been led to expect, yet all my patients showed greater improvement than I formerly attained with other procedures.

#### DISCUSSION

DR. J. K. YOUNG, Philadelphia: Two of these cases came under my observation; one was a cervical, the other a lumbar case. Neither was operated on by me. The operation on the first was unsuccessful, and the second patient was made worse by it.

DR. G. G. DAVIS, Philadelphia: I might mention a third operation done by the same surgeon who operated on the two patients referred to by Dr. Young. The patient was a boy of 14, and his condition was markedly improved. He is still alive.

DR. S. J. HUNKIN, San Francisco: The shock in this operation is in proportion to the time taken to perform it. After my first attempt, I have never taken over forty minutes, and I believe that it can be done in thirty.

### Relation of Trauma to Bone Tuberculosis?

DR. H. AUGUSTUS WILSON, Philadelphia: The greatest confusion exists as to trauma causing bone tuberculosis. It is important that the conflicting statements should be analyzed. If severe injuries do not cause bone tuberculosis, why do trivial ones? What is trivial trauma? Formerly, sprains were considered trivial; now the roentgenograph has proved that in many instances sprains are, in reality, fractures. Trauma is not considered a cause of tuberculosis in other structures than bone.

#### DISCUSSION

DR. JAMES K. YOUNG, Philadelphia: Coming from such eminent authority, the statement that trauma has nothing to do with bone tuberculosis may be misleading. Most authorities believe that trauma has something to do with the production of tuberculosis in the joint.

### Neglected Infantile Paralysis

DR. WALLACE BLANCHARD, Chicago: Paralytic club-foot is the most frequent deformity. Its prevention gives far better ultimate results than can possibly be obtained by any of the operative and mechanical treatments. The large number of paralytic club-feet seen in every large clinic emphasizes the vast amount of neglect in these cases.

#### DISCUSSION

DR. C. L. STARR, Toronto: My colleague, Dr. Gallie, is largely responsible for the splendid work we are doing along this line. Take a case of talipes, for instance, instead of putting the silk in and attaching the Achilles tendon to the heel, we flex the foot to a right angle and split the periosteum at the tibia sufficiently to place the Achilles tendon in it. Fastening it in there pulls the foot absolutely into the posi-

tion of straight-foot and achieves the result. This method is adapted to almost any type of paralytic condition.

DR. WALTER TRUSLOW, Brooklyn: The use of a long plaster-of-Paris dressing from the upper third of the spine to the toes acts automatically in overcoming these contractions to the hip flexors and abductors.

DR. E. G. ABBOTT, Portland, Maine: I have made muscle transplantation in many hundreds of cases, and in the majority I have had success, particularly in connection with the foot. I have never had any trouble in getting proper alignment of the bone.

DR. R. E. SOULE, New York: I have lately developed what I believe to be a very advantageous procedure for the treatment of the joint in acquired valgus of the foot. We can restore the foot almost absolutely by anchoring it to the astragalus. I have been able by this method to remove all supports or correcting apparatus, and the patients have had only a slightly perceptible limp.

DR. B. E. MCKENZIE, Toronto: I tried the method spoken of by Dr. Truslow, without success, in a case a few months ago; later I made an extensive section of the muscles in the front by an open incision, keeping the child recumbent with the lordosis fully corrected in plaster until the healing had occurred. Since then I have followed this practice exclusively, and have had good results.

DR. A. H. FREIBERG, Cincinnati: I believe that we are much too precipitate in our determination to operate in neglected cases of this disease. I do not decide on a tendon transplantation, particularly in the lower extremity, until from four to six months of mechanical and massage treatment have been gone through with.

DR. WALLACE BLANCHARD, Chicago: The orthopedic surgeon should be called in early in cases of infantile paralysis, and the prevention of these deformities will be a matter that will be accomplished.

---

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Albany (N. Y.) Medical Annals

*May, XXXIV, No. 5, pp. 253-316*

1 Obituary Sketch of William Hailes. A. Vander Veer, Albany, New York.
2 Bender Hygienic Laboratory. H. S. Bernstein, Boston.
3 Hospitals and Sanatoria for Tuberculosis. W. S. Mills, New York.
4 Defective Delinquent. F. L. Christian, Elmira, N. Y.
5 Three Cases of Diphtheria from Carrier. H. P. Sawyer, Troy, N. Y.

### American Journal of Anatomy, Philadelphia

*May, XIV, No. 4, pp. 411-499*

6 Fasciculus Cerebrospinalis in Albino Rat. S. W. Ranson, Chicago.
7 *Development of Membrana Tectoria with Reference to Its Structure and Attachments. C. W. Prentiss, Chicago.
8 *Chromosomes in Man. H. L. Wieman, Cincinnati.
9 Spermiogenesis of Pribilof Fur Seal (Callorhinus Alascanus J. and C.). J. R. Oliver, San Francisco.

7. **Development of Membrana Tectoria.**—The researches made by Prentiss have convinced him that the membrana arises as a thin cuticular plate which is first developed over the free ends of the columnar cells which form the greater (inner) epithelial thickening of the basal cochlear wall. As it is present in fetuses of 5 cm., before the development of the hair cells in the spiral organ, it cannot be regarded as developed from these hairs. The greater epithelial thickening gives rise to the epithelium of the labium vestibulare, to the lining of the spiral sulcus and to the inner half of the spiral organ (inner supporting cells, and probably to the inner hair cells and inner pillars). The lesser epithelial thickening forms the external portion of the spiral organ. The membrana grows in thickness by the secretion of a cuticulum formed between the ends of the epithelial cells, rapidly at first over the cells of the greater epithelial thickening (5 to 13 cm. stages), later over the cells of the lesser epithelial thickening.

In sections through the axis of the cochlea the membrana has a striated or lamellated appearance. The striae curve outward and downward from the labium vestibulare where the membrane remains thin. In sections perpendicular to the lamellae the structure of the membrana is that of a reticulum with thickenings at the angles of the meshes. It is therefore neither lamellar nor reticular but a chambered structure or "honeycomb" of hollow tapering cuticular tubes or chambers normally filled with a fluid resembling the endolymph. The bases of the chambers during development rest between the ends of the epithelial cells. The thickenings at the angles of the meshes of the reticulum extend lengthwise along the whole extent of the tubes or chambers and in sections through the axis give the membrane its striated appearance, the striae having been variously interpreted as hairs, cilia, fibers and lamellae. As the nasal epithelium increases in width its cells are carried outward, away from the modiolus. This carries the bases of the growing cuticular chambers outward also, though their tips remain stationary. The result is the inward inclination of the chambers as they are followed from base to tip.

The chambered structure of the membrana explains the "border-plexus" of Lowenberg, the accessory tectorial membrane observed by Hardesty, and the "reticular structure" of the membrana described by various investigators. In fetuses of 18.5 cm., the membrana in the upper turns of the cochlea projects outward beyond the spiral organ and is firmly attached to the cells of both the spiral organ and of the greater epithelial thickening. In this turn the spiral sulcus has not yet fully formed and the distance from the inner angle of the cochlea to the pillars is fully as great as in the preceding stage. Thus the position of the membrana cannot be ascribed to an inward shifting of the spiral organ, but is due to its rapid development from the cells of the spiral organ. The attachment of the membrana to the spiral organ was proved not only by sections but by dissections of both fresh and fixed cochleae. Between stages of 15 and 25 cm., the inner cells of the greater epithelial thickening change from a high pseudostratified columnar type to that of a simple cubical epithelium. These cells lose their attachments to the membrana and the space which as high columnar cells they occupied, becomes the spiral sulcus. The change is brought about by the degeneration of many of the cells and the transformation of those remaining.

In sections of the cochlea at full term the membrana was found attached to the inner supporting cells of the spiral organ and to the outer hair cells as well as to the labium vestibulare. This attachment is regarded as normal because it was indicated by dissection of fresh cochleae; because in development it is so attached; because the attached membrane when shrinking under the action of reagents exerts such a pull on the spiral organ as to distort it. Lastly, because physiologically and anatomically it is the condition which we should expect to find if the membrana is functional in transmitting sound waves to the auditory hairs. Although usually described as lying above, the normal position of the membrana may be directly beneath the spiral organ. As it is slightly heavier than the endolymph, if unattached it would float free especially when actively moved or jarred. This would interfere seriously with the function of the organ.

Reasons why the membrana detaches itself from the spiral organ more readily than from the labium vestibulare are as follows: (a) The outer portion of the membrana being chambered shrinks much more than the inner zone which is a solid cuticular plate; (b) shrinkage of the outer zone affects not only the width but the length of the membrana; (c) being a spiral structure, the decrease in length decreases the diameter of the turns, thus drawing the membrana inward. This would tend to separate it from its outer attachment to the cells of the spiral organ. The arguments against regarding the basilar membrane as a medium for transmit-

ting sound waves to the hair cells, do not hold for the membrana tectoria. The membrana tectoria is a delicate chambered cuticular structure, co-extensive with the spiral organ. It is attached by its inner zone to the labium vestibulare by its outer zone between the cells of the spiral organ, thus bridging over the spiral sulcus. Its sectional area at base and at apex is as 1:40 approximately. As the hairs of the auditory cells project directly into the chambers of the membrana, vibrations of the membrana would be directly transmitted to them. As the membrana is much thinner and narrower in the basal turns than in the apical region it is probable that different portions of it respond to sounds of different pitch. In this sense it may act as a resonator.

8. **Chromosomes in Man.** — Wieman describes somatic mitoses in which thirty-three, thirty-four and thirty-eight chromosomes occur. In addition to these he has observed other cases in which the number is thirty-four. In still other instances, he says, it is impossible to state the number with certainty, but careful examination of several scores of mitoses leads him to believe that the number thirty-four approximates the one that occurs most frequently in the cells of the embryo under consideration. The work of Duesberg, Guyer, Branca and Gutherz indicates that the premitotic number is about twenty-four, and that the first spermatocyte metaphases contain one-half this number. Wieman's studies show clearly that in a human embryo the somatic mitoses display chromosomes in a number so much larger than this approximate premitotic one, that the two numbers can not be the same. One may not always be able to determine with exactness the number of chromosomes, but when the number observed in a great many cases is ten more than the expected average, the values in the two cases must be different. While it appears that the somatic number in man, though not a constant one, perhaps, is different from the spermatogonial number, Wieman would not overlook the results of Moore and Arnold who observed sixteen bivalent chromosomes on the first spermatocyte spindle. The diploid number, thirty-two, would be one closely approaching the number found by him in the somatic cells.

## Boston Medical and Surgical Journal

*May 29, CLXVIII, No. 22, pp. 785-824*

10 Protection of Milk. E. M. Buckingham, Boston.
11 Control of Careless and Incorrigible Consumptive. M. W. Richardson, Boston.
12 Efficient Boards of Health. R. N. Hoyt, Boston.
13 *Open-Window Schoolrooms. A. G. Rice, Springfield, Mass.
14 Control of Careless and Incorrigible Consumptive. C. T. Callahan, Holyoke, Mass.
15 *Frequency of Transition of Ulcer of Stomach into Cancer. J. Friedenwald, Baltimore.
16 *Tuberculous Osteomyelitis of Digits. R. M. Green, Boston.

13. **Open-Window Schoolrooms.**—The open-air school from Rice's point of view is not the last word. Conceived with but a single object in view, instituted with impulsive enthusiasm and developed not step by step, but at a single bound, he says that its possible consequences along lines other than hygienic were not foreseen. Moreover, even from a hygienic standpoint, experience with the innovation has brought forth something of a shock, for it has not proved to be the panacea for the physical ills of schoolchildren that was confidently hoped for. Certain children have not only failed to derive benefit from it, but have even suffered harm; and its application has had to be restricted. Sober, second thought has disclosed that the failure to regard possible consequences of the innovation along lines other than hygienic has been disastrous for its continuance as a valuable public institution. From an economic standpoint the open-air school is a poor investment; from an educational point of view it is a step backward, and from a moral standpoint it is unwise. It would seem necessary, therefore, to recede a bit from the perilously advanced position that has been taken and the next step backward is the open-window schoolroom. Its hygienic value is an accepted fact; economically it demands a minimum of expense and affords equal advantages for all; educationally it keeps step with progress, and morally it has nothing to condemn it.

15. **Transition of Ulcer of Stomach into Cancer.**—In a study by Friedenwald of 1,000 cases of cancer in which careful records have been kept, there was a history of some previous digestive trouble in 232 cases (23.2 per cent.). Of the 232 cases 109 had slight attacks of indigestion for a period of five years or more preceding the present gastric disease, while twenty-five had slight attacks only during the last five years preceding the present disease. Of the remaining 123 cases, thirty-two had chronic indigestion more or less all of their lives, of which twenty-nine had chronic indigestion mainly during the last five years preceding the present illness. Seventy-three cases gave a definite history of former gastric ulcer. It is therefore evident that in the 1,000 cases, but 23 per cent. present a history of any previous digestive disturbance whatever, even in the slightest degree, and that but 7.3 per cent. give a direct history of ulcer. If, therefore, all of the former digestive disturbances be considered as due to ulcer, the formation of gastric cancer from ulcer could not have taken place in more than 23 per cent.; if all of the cases with slight digestive disturbances be disregarded in this series this percentage is reduced even to 12.3 per cent. Friedenwald therefore maintains, notwithstanding the sweeping statement of Wilson and MacCarty that "109 cases (71 per cent.) which present pathologic evidence, gross and microscopic, that is, large ulcers with scar tissue centers and overhanging borders, deep in the bases of which cancer is present, in almost every instance have unmistakably originated on the lesser curvature of the stomach, the usual site of gastric ulcer. Further, almost every case gives a clinical history of gastric ulcer for a long period of years preceding the relatively short period when the history became that of gastric cancer," that from a study of his own cases from a clinical point of view, as well as from the pathologic studies of Aschoff, these figures are far too high, and that while he believes that gastric ulcers are at times transformed into malignant growths, he does not believe that this change takes place in more than 23 per cent. of cases and probably in not even so large a proportion.

16. **Tuberculous Osteomyelitis of Digits.**—Tuberculous osteomyelitis of the digits Green regards as essentially a disease of infancy and childhood, presenting a definite clinical picture and tending strongly to spontaneous recovery. Pathologically it is characterized by bone destruction and rarefaction and by chronic inflammatory reaction in the surrounding soft tissues. It may heal by resolution and absorption, or by sequestration, suppuration and sinus formation. Its differential diagnosis from pyogenic osteomyelitis, sarcoma and syphilitic dactylitis may be made by clinical signs and Roentgen ray examination. Its prognosis for anatomic and functional recovery is good and is proportionate to the amount of bone destruction and scar-formation. Therapeutically primary emphasis is laid, Green says, on general hygiene and local fixation. Incision should rarely be resorted to, since it complicates the dressing, protracts convalescence and increases subsequent deformity and disability. Amputation, he says, is almost never indicated. Probably treatment with the Roentgen rays, or other forms of irradiation, is a valuable adjunct to the conservative therapeutic measures above described, since it expedites recovery by stimulating natural reparative processes.

## California State Journal of Medicine, San Francisco

*May, XI, No. 5, pp. 173-210*

17 Summer Diarrhea from Standpoint of Clinician. E. C. Fleischner, San Francisco.
18 Relation of Academic Medical School to Medical Community. H. C. Moffitt, San Francisco.
19 *Treatment of Spiral Fractures of Tibia. C. G. Levison, San Francisco.
20 A Physician's Vacation. D. W. Montgomery, San Francisco.
21 Acute Poliomyelitis in California. F. F. Gundrum, Sacramento.
22 "Impressions." H. J. Kreutzmann, San Francisco.
23 *Staphylococcus Spray for Diphtheria-Carriers. J. Fay, Berkeley.
24 Case of Sarcomatosis. J. H. O'Connor and W. T. Cummins, San Francisco.
25 Management of Typhoid. G. R. Carson, San Francisco.

19. **Treatment of Spiral Fractures of Tibia.**—Spiral fractures of the tibia, Levinson says, should be treated conservatively and if satisfactory approximation after tenotomy of the tendo Achilles has not been obtained after attempts have been made and controlled by the Roentgen ray over a period of four days, then surgical intervention should be resorted to; four days should be the limit, for after this time operation becomes more difficult. Operation should be performed with "Esmarch," which permits it to be done by instruments alone, for in this particular condition the gloved hands should not be introduced on account of the sharpened ends of the bone, which may perforate the rubber glove, thereby increasing the danger of infection. In compound spiral fractures of the tibia the lower end of the upper fragment should be chiseled off as soon as the danger of infection has passed and the skin united, thereby converting the compound fracture into a simple fracture and materially shortening the period of convalescence. In the laboring man no attempt should be made to treat this fracture without operation.

23. **Staphylococcus Spray for Diphtheria Carriers.**—An investigation was undertaken by Fay to make a comparison of the values of sprays of *Staphylococcus aureus* culture and of a mild antiseptic solution in the treatment of the noses and throats of diphtheria carriers. The length of time necessary to cause diphtheria bacilli to disappear from the throats of carriers by the use of sprays of *Staphylococcus aureus* or of dilute antiseptics was sufficiently long to suggest that there was no decided antagonism, under the conditions of treatment, between either solution used and the diphtheria bacillus. The difference between the effects of the staphylococcus spray and of the control spray suggested a slight advantage for the staphylococcus spray. Treatment of diphtheria carriers with sprays of staphylococcus culture or of antiseptic fluids, Fay says, should be continued for several weeks after the last positive culture has been obtained. It is highly desirable that further search be made for a method of treatment which will be promptly efficacious in ridding the throats of diphtheria convalescents and carriers of their infection.

## Indiana State Medical Association Journal, Fort Wayne

*May, VI, No. 5, pp. 201-254*

26 Abdominal Calamities. G. G. Eckhart, Marion.
27 Rheumatism and Its Kind; Classification and Diagnosis. L. A. Bolling, Kramer.
28 Prostatectomy in Aged, with Report of Two Successful Cases Ninety Years of Age. H. A. Moore, Indianapolis.
29 Myelocytic Leukemia. B. G. Keency, Shelbyville.
30 Simple Method for Intravenous Administration of Neosalvarsan. J. R. Thrasher and B. Erdman, Indianapolis.

## Journal of Abnormal Psychology, Boston

*May, VIII, No. 1, pp. 1-72*

31 Relation between Anxiety Neurosis and Anxiety Hysteria. E. Jones, Toronto.
32 Effect of Psychophysical Attitudes on Memory. W. D. Tait.
33 Case of Synesthesia. I. H. Coriat, Boston.
34 Psycho-Analytic Study of Severe Case of Hysteria. L. E. Emerson, Boston.

## Journal of Infectious Diseases, Chicago

*May, XII, No. 3, pp. 277-509*

35 *Etiology of Relapse in Malarial Infections. W. M. James, Ancon, Canal Zone.
36 *Inhibitive Action of Bile on Bacillus Coli. E. O. Jordan, Chicago.
37 Use of Virulent Salt Solution as Virus in Manufacturing Hog Cholera Serum. W. S. Robbins, East Lansing, Mich.
38 *Is Specificity of Anaphylaxis Reaction Dependent on Chemical Constitution of Proteins or on Their Biologic Relations? H. G. Wells and T. B. Osborne.
39 Maintenance of Virulence by Bacillus Abortus, Bang. F. M. Surface, Lexington, Ky.
40 *Experimental Streptococcal Arthritis in Rabbits. L. Jackson, Chicago.
41 *Interrelations in Streptococcus Group, with Special Reference to Anaphylactic Reactions. D. J. Davis, Chicago.
42 *Experiments Bearing on Droplet Infection in Diphtheria. O. Teague, New York.
43 Epidemiologic Diagnosis and Management of Typhoid. C. J. Hunt, Harrisburg, Pa.
44 Systematic Study of Coccaceae in Collection of Museum of Natural History. I. J. Kligler, New York.
45 Morphology of Sporothrix Schenckii in Tissues and in Artificial Media. D. J. Davis, Chicago.
46 *Meiostagmin and Epiphanin Reactions in Diagnosis of Carcinoma. W. H. Burmeister, Chicago.
47 Properties and Agglutinations of Non-Pathogenic Vibrios. C. V. Craster, New York.
48 Outbreak of Septic Sore Throat in Concord (N. H.), January, 1912. T. A. Mann, Durham, N. C.

35. **Relapse in Malarial Infection.**—James suggests that if the hypothesis be accepted that the asexual cycle alone is the cause of relapse, and under certain conditions takes on a relative immunity against quinin, an explanation is offered of all the factors concerned in the etiology of relapse; no other hypothesis will explain satisfactorily the correlation between these factors and the data which to this time have been collected about relapse. These factors in relation to the asexual cycle are summarized by James as follows: Relapse is one of the most common factors in malarial infection; and certainly the asexual cycle is that phase of the malarial parasites found most frequently associated with the primary infection and relapse, and with one relapse and the succeeding one. Relapse follows frequently the so-called spontaneous cure of malaria, because the asexual cycle in such an instance often persists, in numbers that can be detected by the "thick film" method, or slightly below this limit, in the intervals of apyrexia.

Infections treated insufficiently with small doses of quinin will in all probability relapse, because the parasites of the asexual cycle in the spleen and marrow are very slightly, if at all, affected thereby. Relapse is less likely to occur when the infection is promptly and vigorously treated, because the older the asexual cycle, the more resistant to quinin it becomes, as shown by numerous clinical observations. When a relapse occurs, with manifestations of parasites in the peripheral blood, during the administration of quinin by mouth in sufficient doses, faulty absorption of the drug is sure to exist, and the method of medication should be changed. The asexual generation does not have an unlimited potential of vitality. That is why, if death does not supervene in the course of a malarial infection, the infection itself will in time die out, but often not until it has done irreparable damage. It is easier to eradicate an infection in persons in good health, because in these the natural protective forces of the body aid the action of quinin. The hypothesis also concurs with the two factors in the life-cycle of the parasites, which are intimately connected with the etiology of relapse: because (a) quinin given by the mouth very often does not eradicate the asexual cycle in the marrow and spleen, and the residual parasites become immune; and (b) the longer the asexual cycle persists the easier it acquires immunity against the drug.

The practical importance of the hypothesis lies in the value it has as a guide to treatment of malaria. Small doses of quinin, even in the mildest infections, serve only to render the asexual cycle relatively immune, so that larger doses, which, if they had been given early in the attack might have eradicated the parasites, are later without effect. Clinical experience in Ancon Hospital in the treatment of malaria in American employees has shown that when the liquid preparation of quinin sulphate was given in doses of 20 grains per day by mouth, while acute attacks were often controlled, recurrent cases in large numbers followed at very short intervals later, and in the treatment of these, larger doses were necessary. A routine treatment of 20 grains on diagnosis and 10 grains three times a day later, for at least ten days, was then established. This noticeably diminished the number of recurrent cases among the Americans, but not sufficiently among the poorly nourished European laborers. Forty-five grains per day, in doses of 15 grains each, has practically eradicated recurrent malaria among the Americans, and to a large extent among the European laborers.

36. **Inhibitive Action of Bile on B. Coli.**—Jordan's observations show that bile inhibits at least from one-third to one-half of the viable cells of *B. coli* and sometimes a much larger proportion; that freshly isolated cultures are inhibited

in at least the same degree as those under long cultivation or those subjected to prolonged sojourn in water; that there is no evidence that *B. coli* cells that are unable to grow on bile medium are any more "attenuated" or less "vigorous," biologically, than their fellows, and that with some care in making dilutions and replating if necessary *B. coli* will be isolated in a larger proportion of cases from lactose broth fermentation tubes than from lactose bile. These facts may not modify the advantages claimed for bile media for presumptive tests but they do demonstrate that bile is an inhibiting substance for *B. coli* as for other micro-organisms and that its use always involves the suppression of a certain number of viable cells. The cells that are suppressed cannot be assumed to be any less significant in the interpretation of sanitary water analyses than the cells actually surviving the passage through bile.

38. **Specificity of Anaphylaxis Reaction.**—From the results of experiments made by Wells and Osborne it seems probable that the entire protein molecule is not involved in the specific character of the anaphylaxis reaction, but this is developed by certain groups contained therein, and that one and the same protein molecule may contain two or more such groups. These experiments also demonstrate that the "group reactions," characteristic of biologic reactions between closely related species, which usually have been interpreted as indicating the presence in related organisms of identical as well as distinct proteins, can really be exhibited by single isolated proteins from related organisms. In other words, biologic relationship and chemical relationship seem to be much the same. Attention is also called to certain other observations: (a) that animals sensitized with two proteins will, as is well known, react with either, and that after recovery from reaction with one protein the reaction given with the second protein is less severe than it would be if the animal had not already passed through an anaphylactic intoxication; (b) that after injection with an intoxicating dose of a vegetable protein, another injection with the same protein twenty-four to seventy-two hours later, when the animal is usually insusceptible, so far as constitutional symptoms are concerned, often produces a severe, transient peritoneal irritation, which seems to be in the nature of a specific local reaction.

40. **Experimental Streptococcal Arthritis.**—The changes in the joints of rabbits inoculated with hemolytic streptococci were studied by Jackson after periods of four, five and seventy days; those produced by *Streptococcus mucosus* at the end of ninety-five days, and the joint changes caused by streptococcus viridans at the end of 136 days. The largest number of joints studied were from the rabbits inoculated with streptococci isolated from human lesions produced by the milk epidemic. These animals died or were killed after periods of two, four, ten and twenty-four hours and two, three, four, seven, eleven and thirteen days. The alterations described depend on the early and apparently simultaneous and independent localization of the bacteria in the joint cavity, in the tissues surrounding the blood-vessels of the synovial membrane, plica synovialis, tendon sheaths and blood-vessels of the periosteum and bone-marrow near the epiphyseal cartilages. The rather extensive involvement of the peri- and parasynovial structures such as tendon sheaths, epiphyseal cartilages and bone-marrow is perhaps more marked than has been described by others.

The nodular formations developing in the tissues about the joints are essentially similar to those described in the myocardium of some of these same animals and constitute a feature of the healing or later stages of the inflammation produced not only by *Streptococcus viridans* but also by the streptococcus from the epidemic. Of two points deserving special mention, one is the vulnerability of the triangular, loosely constructed fibro-areolar tissue projecting into the joint laterally, the so-called plica which contains varying amounts of adipose tissue. It may be that the spirally arranged blood-vessels here offer exceptional opportunities for the lodgment of bacteria or are as much end vessels as those next to the epiphyseal cartilages. The other point concerns the influence on the character of the inflammatory process exerted by the peculiarities of joints in that they are at the same time free surfaces and closed cavities. Jackson suggests that these features contribute in ways we do not fully understand to the results of infection, especially the absorption of inflammatory exudates and the extent to which healing is possible.

41. **Interrelations in Streptococcus Group.**—The data in Davis' paper are arranged in such a way as to indicate a biologic classification of members of the streptococcus group. Hemolysis, growth on blood-agar, capsule formation, solubility in bile, sugar reaction, pathogenic properties in animals and anaphylactic reactions are considered. Transformation of one member into another within certain limits appears to be a not uncommon phenomenon.

42. **Droplet Infection in Diphtheria.**—In talking and coughing, diphtheria patients frequently emit droplets containing viable diphtheria bacilli, but they emit such droplets usually in small numbers only. Patients with laryngeal diphtheria apparently do not throw out many more droplets containing diphtheria bacilli than do pharyngeal cases. In agreement with this observation, it was found by Teague that after swabbing the larynx with a suspension of *Bacillus prodigiosus*, no more droplets containing this bacillus are thrown out in coughing and talking than after swabbing the pharynx and mouth. The diphtheria bacillus is much more resistant to death from drying than *Bacillus prodigiosus*. Hence, the former would tend to remain alive in suspended droplets longer than does *Bacillus prodigiosus* in the numerous series of experiments in which it has been used. It is pointed out that bacteria in suspended droplets would remain alive much longer in poorly heated tenements during cold weather than is indicated by laboratory experiments performed at higher temperatures. It is believed that the data furnished by these experiments will be of aid to the epidemiologist and to the sanitarian in arriving at a correct estimate of the importance of the part played by droplet infection, as compared to other modes of infection, in causing the spread of diphtheria.

46. **Meiostagmin and Epiphanin Reactions.**—A decidedly negative meiostagmin reaction, Burmeister claims, is of more value than a positive one and may be considered of some weight in ruling out carcinoma. A moderately or even strongly positive reaction is not necessarily indicative of malignant tumor. The epiphanin reaction is valueless in the diagnosis of malignant tumors. The range of error determined by the blind titrations in a measure also explains the results obtained by other workers who have employed this reaction in the diagnosis of diseases other than carcinoma.

## Journal of Nervous and Mental Disease, Lancaster, Pa.

*May, XL, No. 5, pp. 289-360*

49 *Aborted Forms and Preparalytic Stage of Acute Poliomyelitis as Observed in Buffalo Epidemic. E. A. Sharp, Buffalo.
50 Mirror Writing and Other Associated Movements Without Paralysis. C. W. Burr and C. B. Crow, Philadelphia.
51 Cerebellar Tumor; Glioma; Operation; Recovery. M. Mailhouse and W. F. Verdi, New Haven, Conn.
52 Experimental Studies on Nervous Mechanism in Production of Hyperplasia. W. Timme, New York.

49. **Aborted Forms of Acute Poliomyelitis.**—Summarizing the findings in twenty-nine cases and comparing them with the suspicious cases and the remainder of the paralytic cases observed during the epidemic, Sharp found that all grades of transition occur from the mildest gastro-intestinal or simple febrile disturbances to the severe paralytic and rapidly advancing fatal cases. While the majority of the cases observed during the epidemic conformed to the regularly recognized types of the disease, transitional and mixed types were not uncommon. Sharp says that until some reliable diagnostic criterion can be found, based on chemical, bacteriologic or other laboratory evidence, the etiology of many of the febrile disturbances of early life must remain questionable. That some of these are produced by the virus of poliomyelitis appears highly probable.

### Journal of Pharmacology and Experimental Therapeutics, Baltimore

*May, IV, No. 5, pp. 363-451*

53 *Pharmacology of Respiratory Center. A. R. Cushny, London.
54 *Factors Determining Tolerance of Glucosids of Digitalis Series. A. J. Clark, London.
55 Pharmacology of Snake's Heart. A. J. Clark, London.
56 Relation of Vascular Conditions to Pituitrin Diuresis. R. G. Hoskins and J. W. Means, Columbus, Ohio.
57 Saline Perfusion of Respiratory Center in Frogs: Effect of Calcium Chlorid and Potassium Chlorid. E. R. Hooker, Baltimore.

53. **Pharmacology of Respiratory Center.**—The drugs examined by Cushny—morphin, chloral, urethane, caffein and strychnin—affect the frequency of the respiration more constantly than the depth; and as a general rule the change in the frequency is in the opposite direction to that in the depth. Thus the three depressants, morphin, chloral and urethane, tend to slow and deepen the respiration, while strychnin and caffein quicken it and render it shallower. But considerable changes in the rate may occur under all these drugs without any significant change in the depth. The reaction to $CO_2$ is altered in the same way as the respiration in air. For here again the chief alteration is shown in the frequency, while the depth is comparatively little changed. The view that the normal activity of the respiratory center is dependent on the $CO_2$ hormone thus receives support from these experiments in which drugs that reduce the normal rate of respiration also lessen the reaction to $CO_2$, and similarly drugs that increase the normal rate of respiration augment the reaction to $CO_2$.

As regards the nervous control of the respiration, those drugs that accelerate the breathing render the inhibitory reflexes less efficiently, while the depressants facilitate inhibition. An analogy may be drawn between the effects of poisons and those of changing the number of afferent stimuli. For example the respiration of profound morphin poisoning resembles in so many features that after section of the vagi, that it suggests that morphin may act by cutting off afferent stimuli from the center. But the poisons investigated have not proved to possess any very striking action on the passage of impulses to the center and such changes as are observed in the effects of reflex excitation regards rather the result of the changes in the center than the essential cause of these changes. The effects of drugs on the respiration therefore cannot be assigned wholly to either factor in the regulation. The relation of the hormone to the center is altered under drugs but only as regards the rate. Change in the nervous control occurs but also fails to account for all the features observed. The essential character of the respiratory center is its power of rhythmic discharge under a constant stimulus from the presence of $CO_2$. The frequency of the rhythm and the strength of the impulses emitted, may be altered by variations in the $CO_2$ tension and also by nervous influences, but the essential rhythmic power persists.

Drugs quicken or slow the rhythm without necessarily altering the strength of the impulses sent out at each active phase; in other words, the rapidity of the anabolism in the center is changed by drugs but the strength of the catabolic discharge which occurs when the critical point is reached, is unchanged by them except in as far as they change the $CO_2$ tension indirectly. Thus the changes in the respiration under poisons cannot be attributed exclusively to altered susceptibility either to the hormone or to nervous impulses, but rather indicate a more fundamental action on the rhythmic process on which both of these influences act. This change in the rate of the anabolism affects the response to $CO_2$, which induces greater or less acceleration according as the anabolism is promoted or retarded. The afferent nervous impulses are also influenced, but the strength of the impulses emitted are changed only indirectly.

54. **Tolerance of Glucosids of Digitalis Series.**—The experiments described by Clark were undertaken to determine by what mechanism tolerance is established in the snake and the rat, to glucosids of the digitalis series—"the cardiac glucosids." He found that the common grass snake *Tropidonotus natrix*) is very tolerant of strophanthin; this tolerance is due to tissue immunity, strophanthin having little effect on the isolated heart; a similar immunity, due to the same cause has been shown by other writers to exist in the toad and the rat. There is no evidence that any tissue of the animals tested (frog, snake, rabbit and rat) has any power to destroy strophanthin. There is no evidence that the heart muscle of any of the above animals can specifically absorb strophanthin. In the frog, rat and rabbit the liver has no power to absorb strophanthin. The red blood-corpuscles of the frog in the presence of plasma possess the power of absorbing small quantities of strophanthin, but the mammalian blood has no such power.

### Kansas Medical Society Journal, Kansas City

*May, XIII, No. 5, pp. 183-224*

58 Tabes Dorsalis and Allied States: Three Clinical Cases. A. L. Skoog, Kansas City.

### Medical Record, New York

*May 31, LXXXIII, No. 22, pp. 967-1012*

59 Clinical Evidence of Lymphuria. H. Stern, New York.
60 Colon Bacillus Infection of Kidney. W. Ayres, New York.
61 Prostitution in New York City: Study in Social Hygiene. D. C. McMurtrie, New York.
62 Case of Addison's Disease with Severe Abdominal Symptoms. L. S. Milne, Rosedale, Kan.
63 Angioneurotic Edema. J. M. Lobsenz, New York.
64 Study of Flaccid Spinal Paralysis which Attacked Louis Pasteur in Early Maturity and Its Similarity to Attack of Acute Epidemic Poliomyelitis. J. V. Manning, Brooklyn.
65 Plea for Early Laparotomy in Abdominal Diseases. A. Goldman, New York.
66 Venereal Diseases in Negro, with Special Reference to Gonorrhea. J. O. Rush, Mobile, Ala.
67 Simple and Satisfactory Method for Removing Adenoids and Tonsils. W. W. Carter, New York.

### New Mexico Medical Journal, Las Cruces

*May, X, No. 2, pp. 29-59*

68 Lumbosacral Sprain. C. M. Mayes, Roswell.
69 Constipation. S. G. Von Almen, Clovis.
70 Psycho-Epilepsy. C. F. Beeson, Roswell.
71 Carcinoma of Mamma. S. D. Swope, Deming.

### New York Medical Journal

*May 24, XCVII, No. 21, pp. 1061-1112*

72 Nitrous Oxid Gas, Essence of Orange Ether and Sequestration in General Anesthesia for Operations in Upright Position. T. R. French, New York.
73 Recovery in Case of Influenzal Meningitis Complicated by Pneumonia. T. E. Satterthwaite, New York.
74 *Should Internship Be Required? I. Dyer, New Orleans.
75 Meniere Symptom Complex. S. J. Kopetzky, New York.
76 Direct Laryngeal Examination. J. A. Pratt, Aurora, Ill.
77 Enhancing of Auditory Acuity by Psychologic Methods. W. J. W. A. Maloney, New York.
78 Treatment of Tuberculosis. A. B. Jackson, Philadelphia.
79 Sexual Problems of To-Day. B. S. Talmey, New York.
80 Case of Total Deafness Following Dose of Quinin. M. J. Ballin, New York.
81 Gastroptosis and Coloptosis Transversa As Seen from Post-Mortem Examinations. K. M. Lynch, Philadelphia.

*May 31, No. 22, pp. 1113-1164*

82 *Restoring Mobility after Bony Ankylosis of Joints. R. T. Taylor, Baltimore.
83 Care of Tuberculous Employees by Corporations as Employers. A. H. Doty, New York.
84 Philosophy of Preventive Medicine. A. C. Reed, New York.
85 Hospital Uranalysis. V. C. Myers, New York.
86 Enchondroma of Scapula. W. D. Miningham, Newark, N. J.
87 Pylorospasm with Gastric Tetany, Cured by Gastro-Enterostomy. R. L. Pitfield, Philadelphia.
88 Mitral Stenosis. M. Schulman, New York.
89 Old Method of Treatment of Syphilis Versus New. M. B. Parounagian, New York.
90 Three Cases of Epidemic Septic Sore Throat in One Family. M. B. Gordon, New York.
91 Care and Aftercare of Consumptive. B. S. Horowicz, New York.
92 Acute Intestinal Obstruction. R. A. Barr, Nashville, Tenn.
93 Successful Treatment of Atrophic Rhinitis and Ozena. L. Jacobs, New York.

74. Abstracted in THE JOURNAL, March 22, p. 934.

82. **Restoring Mobility after Bony Ankylosis of Joints.**—Taylor cites seven cases of ankylosis in which he injected his mixture of yellow wax, 1 part, and lanolin, 5 parts, melting at about 130 F., with a considerable degree of success.

### Ohio State Medical Journal, Columbus

*May, IX, No. 5, pp. 207-264*

94 Relation of Accessory Cavity Disease to Eye and Orbit. J. E. Brown, Columbus.
95 Pruritus Ani. S. Englander, Cleveland.
96 Thymus and Combination of Thymus-Hyperplasia with Base-Dow's Disease. A. Elsaesser, Youngstown, Switzerland.
97 *Tuberculin in Treatment of Genito-Urinary Tuberculosis. C. A. Coleman, Dayton.

97. **Tuberculin in Genito-Urinary Tuberculosis.**—Inasmuch as tuberculosis of the urogenital tract differs very little from tubercular infections located elsewhere in the body, Coleman says it would be useless to outline what cases should or should not receive tuberculin injections, except that one must differentiate between operable and inoperable cases. The pathologic changes must be considered whether extremely acute or actively progressive, also, the general condition of the patient. If there is a persistent temperature of over 100 F., night sweats, chronic diarrhea, progressive loss of weight and extensive involvement of tissue, tuberculin injections are contra-indicated. In administering tuberculin Coleman considers it a very good rule to continue the entire course of treatment without changing the source of supply, as he has found that two concentrated solutions having the same strength or standardization but from different manufacturers varied in specific gravity, color and physical properties. He also prefers to give the injections subcutaneously, preferably between the scapulae.

Dilutions are made up fresh each day, using one-half of 1 per cent. phenol as diluent. He begins with a minimum dose of 1 c.c. of one-one-hundred-thousandth dilution and increases the dose 1 c.c. each following injection until a reaction is evident. Injections to be given every fifth day unless a prolongation of temperature ensues or increased local or general reaction. After reaction is manifest, that is, rise in temperature not to exceed two degrees above temperature of patient before injection, no increase of dose is made until the reaction inducing dose has been twice repeated without producing a rise of temperature, so that in each injection that again induces reaction, the dose must be tolerated twice before further increase is attempted. The maximum limit is regulated according to the necessity of the case. Do not stop injections until long after all symptoms have subsided; also, do not discontinue the injections of tuberculin too suddenly as rather severe relapses may follow. All other lines of treatment must be used in conjunction with tuberculin therapy. Proper hygiene, in the way of an out-of-door life, fat-producing foods, rest and everything that will aid in restoring health are absolutely essential.

Coleman reports three cases and has had under observation during the past eighteen months twenty additional cases as follows: Fourteen cases of tuberculosis of kidney, thirteen being unilateral and one bilateral; ten of them operable, four inoperable (three of the latter due to extensive pulmonary involvement and one due to both kidneys being affected). Six cases of tuberculosis of epididymis, two cases being operated on; three cases of early infection, one inoperable due to extensive pulmonary involvement. Fifteen of these patients have received tuberculin injections with the following results: 28 per cent. apparently cured, 49 per cent. improved, 12 per cent. unimproved, 11 per cent. not under treatment sufficient time to draw conclusion.

He summarizes his views as follows: There is no spontaneous cure for tuberculosis of the kidney. Tuberculin will not cure but will be a valuable adjunct combined with other methods of treatment. Operable cases of renal tuberculosis are not suited to tuberculin injections, but early cases, in which we can positively find tubercle bacilli without suppuration or impairment of the functional activity of the kidney, are suited to treatment by tuberculin until such time as symptoms present indications for nephrectomy. Tuberculin treatment certainly is worthy of recommendation in cases of renal tuberculosis following nephrectomy when morbid foci still remain in the urinary tract or in other organs. Early involvement of the lower genital tract is certainly improved by tuberculin therapy, although any influence exerted on the morbid focus in the sense of a cure has not been demonstrated. Inoperable cases are scarcely influenced by tuberculin, but, in the absence of other therapeutic means, may be tried; also certain isolated cases will not respond to a reaction of tuberculin and may therefore be carried on without injury to the patient. Tuberculin should not be employed promiscuously as a matter of experiment. If you do not possess a definite knowledge of the physiologic action of tuberculin the treatment is purely empirical. Do not think you can follow the directions given out by manufacturers relative to the regulation of dosage, or depend on the serial dilutions as a method of standardization. If you do, your results will certainly be far from satisfactory. The patient must be closely observed, results accurately tabulated, the effects of a regulated administration of tuberculin noted and from such histories much valuable information can be obtained.

### Ophthalmic Record, Chicago

*May, XXII, No. 5, pp. 23-290*

98 Analytic Consideration of Symptoms of Eye Strain with Special Reference to Those Symptoms Cited to General Practitioner. J. R. Newcomb, Indianapolis.
99 Intra-Capsular Operation for Cataract after Method of Professor Stancleanu, Bucarest. W. L. Simpson, Memphis, Tenn.
100 Eye Unconsciously Injured. S. Mitchell, Hornell, N. Y.

### Public Health Journal, Toronto

*May, IV, No. 5, pp. 267-344*

101 Value of Playgrounds to Community. J. A. Riis, New York.
102 School Clinics. L. H. Guest, Blackfriars, London.
103 Health Visiting in American City. E. Detwiler, Richmond, Va.
104 Relation of Hospital for Mental Diseases to Community. E. H. Young, Kingston, Ont.
105 Eugenics: Sordid, Scientific Side of Life. A. P. Reid, Nova Scotia.
106 Constructive Program for Housing Reform. M. Chadsey, Cleveland.
107 Philosophy of Mastication. G. M. Niles, Atlanta, Ga.
108 Occupational Diseases. H. B. Blakey, Columbus.
109 Disinfection and Disinfectants. F. Schneider, New York.
110 Plants for Rock Garden. R. R. Todd, Toronto.
111 Dry Closets. J. S. Dunn, Kimberley, South Africa.
112 Dust Prevention by Use of Palliatives. A. H. Blanchard, New York.
113 Foot and Mouth Disease. D. G. Collins, Toronto.

### Vermont Medical Monthly, Burlington

*May, XIX, No. 5, pp. 105-130*

114 Recent Experimental Work with Cancer Ferments. C. F. Ball, Rutland.
115 Effects of Alcohol When Used as Medicinal Agent. D. Marvin, Burlington.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### Clinical Journal, London

*May 7, XLII, No. 5, pp. 65-80*

1 Diagnosis of Primary Intrathoracic Malignant Disease. W. H. M. Telling.
2 Causation and Treatment of Gastric Hyperacidity. J. M. Fortescue-Brickdale.
3 Reflections Suggested by Bladder Case. F. W. Langridge.

*May 14, No. 6, pp. 81-96*

4 Pelvic Cellulitis. J. B. Hellier.
5 Conditions Simulating Appendicitis. H. W. Carson.

### Medical Press and Circular, London

*April 30, XCV, No. 3860, pp. 459-484*

6 Procedure for Reduction of Dislocation of Shoulder. M. Marcille.
7 Fixation of Subcuticular Sutures. W. Pearson.
8 Evolution of Epidemics: Present-Day Scientific Evidences of Evolution. J. T. C. Nash.
9 Integration and Disintegration of the Personality. (To be continued.) H. Campbell.

*May 7, No. 3861, pp. 485-510*

10 "Shock" During Anesthesia. J. D. Mortimer.
11 Case of Acute Septicemia Due to B. Pyocyaneus. J. M. Clarke.
12 Paratyphoid Fever. J. Hay.
13 Integration and Disintegration of the Personality. H. Campbell.

*May 14, No. 3862, pp. 511-536*

14 Chronic Joint Disease. D. Power.
15 Diseases of Skin in Relation to Cardiovascular Disturbances. D. Walsh.
16 Balsam of Peru: Historical Note. J. Knott.

17 Medical Gymnastics Considered as Prelude to Physical Education in Treatment of Mentally Deficient Children. E. F. Cyriax.

## Quarterly Journal of Medicine, London

*April, VI, No. 23, pp. 293-434*

18 *Use of Oxydase Reaction in Differentiation of Acute Leukemias. J. S. Dunn.
19 *Investigations on Gastric Juice in Malignant and Non-Malignant Diseases of Stomach and Duodenum. S. B. Schryver and C. Singer.
20 *Quantitative Estimation of Amylolytic Ferments in Urine as Measure of Certain Pathologic Conditions. D. Corbett.
21 "Osler's Sign" and Certain Cutaneous Phenomena Sometimes Associated with Heart Disease. F. P. Weber.
22 *Four Cases of Fulminating Pneumonia from a Public Institution. E. Glynn.

18. **Oxydase Reaction in Acute Leukemias.**—The occurrence of a positive indophenoloxydase reaction in large non-granular cells in acute leukemia Dunn regards as certain proof of their myeloid nature, and allows a diagnosis of acute myeloid leukemia to be readily made from blood-examination. The oxydase reaction is negative in the more embryonic forms of marrow-cells. It is always negative in small myeloblasts, and is probably always negative in the most typical stage of large myeloblasts with uniformly dense basophil reticular protoplasm. When it falls positive in these large non-granular cells it is associated with alterations in the protoplasm which are recognizable by ordinary staining methods, and which indicate stages of ripening toward the granular myelocytes. Cases of acute myeloid leukemia may occur in which the type of blood-formation is so embryonic that the oxydase reaction is valueless for differential diagnosis, but even in such cases the histologic characters of the large leukocytes may render a diagnosis possible. He reports three cases.

The onset and course of the first case were not those of the most acute forms of leukemia, and though serious symptoms existed only for four months, Dunn suggests that it is possible that leukemic changes in the organs had been present with subleukemic blood-picture for some time previously. However, the rise in the number of leukocytes in the circulation occurred with great rapidity, from normal limits to over 200,000 per cubic mm. in ten days' time, and the leukocytes present showed very embryonic characters, as nearly 90 per cent. are, in Ehrlich's sense, non-granular. Examination of the blood by ordinary staining methods suggested that these non-granular cells were myeloblasts, and that the myelocytes were developing from them. A certain proportion of typical myeloblasts such as Naegeli described were present, and an unbroken chain of transitional forms was observed between these and the granular myeloeytes. The oxydase reaction was positive in the great majority of these cells and positive in greatly varying degree in different examples, a fact which, Dunn says, confirms the idea that transitional forms of many varying degrees of maturity are represented. The histologic examination of the organs showed that the type of blood-formation was myeloid, as described by Schultze, and the myeloid nature of the deposits was again fully confirmed by the positive oxydase reaction.

The second case presented a typical picture of acute leukemia. Its brief course was marked by hemorrhages into the skin and from the mucous membranes, by fever, and by ulcerative gingivitis. The lymph-nodes were not enlarged. The blood-picture showed a considerable increase of leukocytes, of which the great majority were large non-granular cells. These presented the typical characters of Naegeli's myeloblasts, and transitional forms between them and myelocytes were present, though scanty. The oxydase reaction conclusively proved the myeloid nature of a certain proportion of these, which differed from the others only by a slight alteration of the protoplasm indicative of ripening. The absence of the reaction from the majority of them Dunn explained by their very embryonic character rather than by pathologic suppression of a function already developed. They corresponded accurately with the first type of myeloblast described in the first case which also gave negative oxydase reaction. The type of the blood-formation in the marrow, in the pulp of the spleen, and in the medullae of lymph-nodes, and the atrophy or inactivity of the lymph-nodes, he says, were confirmatory of the view, based on the blood-examination, that the case was one of acute myeloid leukemia.

This case differed from the first case not only in being more acute and of more embryonic type, but also in showing much less advanced changes in the organs. In the cervical lymph-nodes, for example, there was little enlargement, and the condition of leukemic infiltration was at an early stage which rendered possible some observations on its mode of occurrence. It was seen that the lymphatic tissue remained indifferent and was composed of small lymphocytes: the myeloblasts were most numerous in the sinuses and in the neighborhood of these: one or two foci of more massive development of myeloblasts which were present were also in the neighborhood of the sinuses. (Similar foci were observed in spleen and in mesenteric lymph-nodes.) These appearances, so far as they go, were in favor rather of the metastatic origin of the myeloid tissue than of the metablastic development of it from cells previously present in the organs.

In the third case the Jenner and triacid counts gave almost identical figures: 97 per cent. of non-granular and 3 per cent. of granular cells, and the oxydase reaction was negative in all but the granular cells. Accordingly, this reaction gave no indication whatsoever of the occurrence of transition between the two series, and so far as it goes the nature of the non-granular cells remains in doubt. The leukocytes presented perfectly definite myeloid characters; they corresponded in every detail with those described in the second case. The only differences recognizable between the blood-pictures in these two cases were the smaller percentage of granular cells, 3 per cent. in place of 6 per cent., and the less frequent occurrence of definite transition forms such as cells with looser reticulum or with metachromatic violet granules. Absolute proof of the myeloid nature of the case was impossible in absence of histologic examination of the blood-forming organs, but the characters of the cells seem too definitely those of Naegeli's myeloblasts to render possible any other explanation. This case Dunn would therefore regard a representing stage of embryonic blood-formation at which the value of Schultze's oxydase reaction as a test for myeloblasts breaks down.

19. **Gastric Juice in Malignant and Non-Malignant Diseases.**—The authors state emphatically that all methods of estimating the chlorid-secreting activity of the stomach by examination of gastric juice contain sources of error beyond experimental limits. A proportion of "secreted chlorid" is always in combination with the amino-acid groupings of the digestion products in the form of hydrochlorids. Hydrochloric acid as it is secreted enters, either partly or wholly, into combination with the products of digestion. The amount thus combined depends on the amount and character (e. g., degrees of digestion) of these products. An index as to the amount and character of these products is furnished by the nitrogen estimations and determination of the "nitrogen factor." "Secreted chlorid" (i. e., total chlorid less inorganic chlorid) is the best available index of gastric efficiency as regards hydrochloric acid. The "peptic index" and the "nitrogen factor" are also valuable indications of gastric efficiency. The amount of "secreted chlorid" and the "peptic index" usually vary in parallel fashion. Departures from this rule are, however, frequent, but almost always in the direction of a relative depression of the peptic index.

The most satisfactory method of classifying gastric juices at present available is based on the double consideration of the amount of "secreted chlorid" and the "peptic index." In uncomplicated cases of duodenal ulcer, the amount of "secreted chlorid" is raised together with the peptic index, while the "nitrogen factor" approximates to 2.4. In very chronic cases the "peptic index" is lowered and the nitrogen factor raised. In obstructed cases and cases with gastric adhesions the secreted chlorid also falls. The general characteristics of pyloric ulcer are similar to those of duodenal ulcer and are often even more pronounced. In cases of ulcer of the body of the stomach the author's analytic results vary. Frequently both chlorid-secreting and peptic activity are markedly

depressed. In other cases the secretory activity is high. The "peptic index" did not appear to rise above normal in any case of ulcer of the body of the stomach. The characteristics of the gastric juice obtained from cases of duodenal and pyloric ulcer are capable of explanation as the result of a vicious circle, of which preternatural excitation of the pyloric and duodenal mucous membrane, stimulation of the chemical mechanism of gastric secretion and increased secretion are the links.

The analytic distinctions that prevail between ulcer of the body of the stomach and ulcer of the pylorus are also found in carcinoma of the same two regions. Hyperchlorhydria or at least euchlorhydria is common in carcinoma of the pylorus, but is not found in carcinoma of other parts of the stomach. It is therefore probable that the changes in the composition of the juice depend rather on the site than on the nature of the lesion. Carcinoma of the stomach has no specific effect on the composition of gastric juice, although both pepsin and chlorid readings are generally lower than in other conditions. In alcoholism the "peptic index" is depressed while the chlorid secretion remains normal or only slightly depressed. In some cases the chlorid secretion is raised. With visceroptosis and notably nephroptosis there is a general depression of the gastric functions. At the same time the "nitrogen factor" is raised. The same results are associated with an atonic gastric wall. Hyperchlorhydria, hypochlorhydria, and even achylia are encountered, independently of coarse gastric lesions. The coincidence of a definite hyperchlorhydria with a greatly raised "peptic index" (80 and over) is practically diagnostic of pyloric and duodenal ulcer among gastric diseases. Such cases, however, must be carefully distinguished from certain cases of chronic appendicitis in which no coarse gastric lesion is discernible. Very low chlorid readings (e. g., secreted chlorid below 3.0) practically exclude pyloric or duodenal ulcer. A "nitrogen factor" of 2.8 and over has been found to be almost diagnostic of delayed emptying of the stomach. Dissociation of chlorid and pepsin secretion the authors believe to be probably the result of chronic inflammatory change in the gastric mucous membrane.

20. **Amylolytic Ferments in Urine.**—Corbett found that a starch-reducing ferment is excreted in the urine of normal individuals. The amount passed per twenty-four hours is fairly constant, varying when measured by Wohlgemuth's short method between the values of 6.6 and 33.3 units, the average being 10 to 20. Each unit represents 1 c.c. of 0.1 per cent. starch solution converted into dextrine in half an hour by 1 c.c. of urine. This ferment is also present in normal blood-serum, which has, when examined by an equivalent method, an average value of 10 units. This method of quantitative estimation is reliable, the values found in urine being unaffected by ordinary changes of diet in adults, by the reaction of the urine, the presence of bacteria, or any other abnormal constituent except blood. Nor is the activity of the ferment diminished to any important extent by keeping for many weeks, provided that the urine is preserved with toluol. In an infant fed exclusively on milk, the amount of ferment excreted was very small. This rose at once with the administration of a starch-containing food.

An examination of twenty-four hour specimens of urine yielded results which can be divided into two main classes: (a) As a direct measure of the efficiency of diseased kidneys. (b) As a measure of the amount of ferment which has entered the blood. As regards (a), certain reservations are necessary. It is probable that where there is a considerable amount of albumin passed, there is some leakage of ferment which has required no renal activity for its elimination, so that the values found might be misleading. Therefore, the diastase content of the serum should be also examined on more than one occasion, and the ratio of serum of urine compared. Where the *d* value of the serum constantly exceeds that of the urine, it may be assumed that there is a considerable loss of renal efficiency. Where the albumin is scanty or absent the values for the urine when compared with the normal can be taken as a more accurate indication of the amount of damage to the kidney, although here also observations on the serum as well would give more accurate information. As regards (b), where the kidneys were undamaged and the ferment in the blood abnormally large the readings of *d* in the urine were much higher than those for the serum, showing that it is rapidly eliminated by healthy kidneys.

Such readings can be taken as a measure of the amount of ferment which has entered the blood. At the same time, in certain cases of eclampsia the kidneys were damaged, as evidenced by the large amount of albumin passed, and yet high readings were found in the urine. The *d* values for the serum were not worked out on these cases, but granted that there was an excess of ferment entering the blood, one might conclude that the ferment came through the kidneys with the albumin. High readings in the urine were never found in pure cases of renal disease; they were either normal, subnormal or zero. Values up to 100 units were found in certain acute infective conditions without pronounced renal damage, but the only readings found above this mark were those in the urines from cases of pancreatic disease, certain forms of eclampsia, and one case of "acidosis" in a child. The readings found in some of these cases were so high as to distinguish them from any other pathologic condition examined. All the cases of undoubted pancreatic disease, two being verified by operation and one by microscopic examination, gave high readings whether due to malignant or inflammatory processes. It is, therefore, likely that in certain forms of the toxemia of pregnancy the pancreas is involved.

Corbett believes that the test may, therefore, be a valuable help in the diagnosis of these conditions. In diabetics on strict treatment subnormal readings were generally found, and large alterations in the total amount of urine or sugar passed per twenty-four hours had little or no effect on the *d* values. In severe cases the readings were lower than in the milder forms, although in view of the excessive dilution of the urine the total amount of ferment excreted was well within normal limits.

22. **Four Cases of Fulminating Pneumonia.**—Fifteen cases of atypical pneumonia occurred during two mild epidemics in a Liverpool public institution; in seven the pneumococci were looked for and demonstrated. The four fatal cases cited by Glynn were of a fulminating type, two deaths occurring about seven hours, and two about thirty hours after the first symptom. The two boys dying in about seven hours showed, apart from congestion, no macroscopic, and so little microscopic evidence of pneumonia, that but for the demonstration of the pneumococci in the lung alveoli, the cause of death would not have been discovered. In both the infection was primarily a respiratory one, involving the lung tissue, and had hardly developed into a pneumococcal "septicemia." In both the organisms had produced profound degeneration of the kidneys, thrombosis and hemolysis in the vessels of the lung and kidney, and the deposition of blood-pigment not only in the lung and kidney tissue and in the thrombi, but also in some of the leukocytes in vessels in which thrombosis had apparently not occurred. In the two boys dying after about thirty hours' illness, consolidation was evidently beginning in the lungs of one, while those of the other contained a small patch of pseudolobar pneumonia. Pneumococci were demonstrated in both instances. Clinically all the cases were rather atypical on account of the prominence of gastro-intestinal or cerebral symptoms, and the small amount or absence of consolidation. There is not sufficient evidence to determine whether the atypical nature of the infections was due to some unusual character of the pneumococci as suggested by the thrombotic and hemolytic effects which occurred in two cases, or to some predisposition on the part of the patient, perhaps of the nature of status lymphaticus.

## Annales de l'Institut Pasteur, Paris

*April, XXVII, No. 4, pp. 265-340*

23 Experimental Production of Diphtheric False Membranes. (Etude expérimentale des fausses membranes diphtériques trachéales chez le lapin.) G. Faroy and G. Loiseau.

24 Presence of Manganese in Tissues of Vertebrates, Molluscs, Insects, etc. (Recherches sur la présence du manganèse dans la série animale.) G. Bertrand and F. Medigreceanu.

25 Pneumococci Do Not Proliferate in the Blood in Pneumonia. (Etudes sur le pneumocoque. VI.) L. Cotoni.
26 *The Adrenals in Tetanus and Diphtheria. (Glandes surrénales et toxi-infections.) A. Marie.
27 The Microbian Flora of Large Intestine in Cattle and Sheep. II. J. Choukevitch.
28 Negative Results of Research on Changes in Pneumococcus from Passage through Animals. (Etudes sur le pneumocoque. VII.) C. Truche and L. Cotoni.
29 Sporulation of the Aspergillus Niger and Fumigatus. B. Sauton.
30 Destructive Influence on Central Nervous System of Rabbits and Guinea-Pigs of Long-Continued Minute Doses of Intestinal Poisons. S. Wladyczko.

26. **Epinephrin Neutralizes on Contact Tetanus and Diphtheria Toxins.**—Marie reports research in which epinephrin neutralized in the test-tube fifty times the fatal dose of tetanus toxin and five times the fatal dose of diphtheria toxin. It is merely a contact action and does not occur from a distance. Guinea-pigs and rabbits bore without injury injections of the toxins thus neutralized.

## Annales de Médecine et Chirurgie Infantiles, Paris

*April 15, XVII, No. 8, pp. 237-272*

31 Occasional Renal Origin of Hemoglobinuria in Children. Gaujoux, R. Marie and H. Rouèche.
32 *Adrenal Origin of Cyclic Vomiting in Children. (Sur l'origine surrénale des vomissements dits acétonémiques.) E. Terrien.
33 Complications of Scarlet Fever. (Trois cas de scarlatine.) Chateau.
34 Roentgenoscopy of Tuberculosis in Infants. (Diagnostic radiologique de la granulie chez le nourrisson.) L. Ribadeau-Dumas and A. Weil.
35 *Sugar in Uncontrollable Vomiting of Infants. (Etude des propriétés anti-émétiques du lait condensé sucré.) Variot, Lavialle and Rousselot.

*May 1, No. 9, pp. 273-308*

36 *Pneumonia in Children. E. Weill and G. Mouriquand.
37 Importance of Direct Sunlight in Treatment of Surgical Tuberculosis. (L'héliothérapie.) E. Estor.

32. See Abstract in THE JOURNAL April 19, 1913, p. 1266.

35. Ditto, May 10, p. 1498.

36. **Pneumonia in Young Children.**—Weill and Mouriquand call attention anew to the great diagnostic importance of roentgenoscopy in pneumonia in infants. It not only reveals the focus when it exists, but it has shown that there is a special type for the hepatization at this age. They have applied it to fifty-two infants and to 300 older children from 2 to 15. The list includes eight infants less than a year old. Without the aid of the Roentgen rays in many of the cases the pneumonia would not have been recognized. The findings were positive in all but two of thirty-three cases in infants; in thirteen the shadow long preceded auscultation findings. In eighteen cases the right apex was the seat of the consolidation; in six the left apex; in three each, the right and left base. The area was almost invariably triangular with the base in the axilla and cortical area. Roentgenoscopy has done away—for children—with the old conception of a central focus spreading to the periphery. Bronchopneumonia in children never casts a distinct shadow and especially never this triangular shadow.

Roentgenoscopy may reveal the existence of the triangular patch of consolidation without any stethoscope findings for a while, or the latter may be positive and the former negative. They report in detail a number of cases of each type. When the Roentgen rays have localized one of these silent foci, it will sometimes be possible to note that the vesicular murmur at this point is a little fainter than usual. It is possible, however, for the focus to run its entire course without any signs to be discovered with the stethoscope. In one case both types were associated, a little girl of 2½ having a right triangular patch of hepatization revealed by roentgenoscopy alone, giving no sign of its presence on auscultation, while in the left lung there was a patch of pseudohepatization eliciting murmurs and râles but casting no shadow on the screen. This case demonstrates that the true pneumonic focus is not necessarily always at the same spot as the stethoscope positive findings.

## Archives Générales de Chirurgie, Paris

*April, VII, No. 4, pp. 385-512*

38 Fracture of the Internal Tubercle of the Heel Bone. (Fractures de la grosse tubérosité du calcaneum.) P. Soubeyran and A. Rives.
39 Incipient Ectoplacental Epithelioma. Bassal and Clermont.

## Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

*April, II, No. 4, pp. 321-448*

40 Operative Indications with Uterine Cancer. J. L. Faure.
41 The Intersexual Reactions of the Blood in the Horse. V. Le Lorier.
42 The Disadvantages of Conservative Surgery for Ovarian Cysts. Silhol.

## Lyon Chirurgical, Lyons

*May, IX, No. 5, pp. 461-588*

43 Plastic Operation on Muscles for Facial Paralysis. (La méthode myoplastique dans le traitement de la paralysie faciale.) V. Gomoiu.
44 Simultaneous Resection of the Stomach and Transverse Colon; Recovery in Four Out of Five Cases. M. Goullioud.
45 Tuberculosis of the Appendix. L. Bérard and H. Alamartine. To be continued.
46 Large Glioma in Frontal Lobe. L. Bériel and C. Gardère.
47 *Syphilis of the Thyroid. M. Favre and P. Savy.

47. **Syphilis of the Thyroid.**—Favre and Savy report the histologic findings in a case the clinical history of which was published last year by Poncet and Leriche. The patient was a woman of 38 who had had a year or so before a swelling in the tibia and later one in the sternum, both of which disappeared under iodid treatment. Then the thyroid became enlarged and of a woody consistency. Only transient benefit was realized from partial removal of the gland, but under renewed specific antisyphilitic treatment, conditions returned apparently to normal.

## Presse Médicale, Paris

*April 30, XXI, No. 35, pp. 349-356*

48 Examination of Patients before an Operation. (L'examen des malades en chirurgie.) H. Hartmann.

*May 7, No. 37, pp. 369-376*

49 *Hour-Glass Stomach. (L'estomac biloculaire.) T. Tuffier and J. L. Ronx-Berger.

49. **Hour-Glass Stomach.**—Several cases are described in detail with radiographs, and attention is drawn to the dangers of the cases in which the lower part of the stomach is much larger than the upper part. A gastro-enterostomy on the upper part would have no effect on the stagnation of stomach content in the lower pocket. For this class of cases it is stated that the technic worked out by Clément and Monprofit provides for ample drainage of both pockets, but no description of it is given in this article.

## Archiv für klinische Chirurgie, Berlin

*CI, No. 1, pp. 1-289. Last indexed April 26, p. 1332*

50 *Experimental Production of Gastric Ulcer. (Zur Entstehung des Magengeschwürs.) M. Katzenstein.
51 *Cholelithiasis in Japan. (Statistische, klinische und chemische Studien zur Aetiologie der Gallensteine.) H. Miyake.
52 *Advantages of Meltzer's Insufflation in Respiratory Paralysis During Operations on the Brain. (Experimente zur Bekämpfung der Athemlähmung bei Gehirnoperationen mittels Meltzer's Insufflation.) E. Unger and M. Bettmann.
53 Acute Suppurative Appendicitis; One Hundred Cases. C. Longard.
54 Chyle Cysts in Little Girl. (Multiple mesenteriale Chyluscysten bei einem 7jährigen Mädchen. Volvulus mit Darmperforation und diffuser Peritonitis. Resectio ilei. Heilung.) K. Poulsen.
55 *Undescended Testicles. (Die Pathologie der Hodenretention.) O. Uffreduzzi.
56 *Cancer of the Appendix. (Carcinoide des Wurmfortsatzes.) E. Müller.
57 Disadvantages of Intravenous Isopral General Anesthesia. (Die intravenöse Isopralnarkose.) N. Beresnegowsky.
58 *Syphilis as a Factor in Callous Gastric Ulcer and Other Tumors. T. Hausmann.
59 *Resection of Entire Knee Leaving only Nerves and Vessels. (Resectio extremitatis inferioris. Das neue Princip in der Kniteresection bei ausgedehnter Gelenkaffection.) N. Bogoras.

50. **Cause of Gastric Ulcer.**—Katzenstein gives an illustrated description of several of the sixty-nine dogs on which

he experimented. The results confirm the assumption that gastric ulcer is the consequence of some circumscribed injury of the stomach wall which does not heal because the normal proportions of pepsin and antipepsin have been upset, more pepsin being secreted while there is less antipepsin than normal.

51. **Origin of Gall-Stones.**—Miyake summarizes eighty-six cases of gall-stone and reviews the findings in 191 cadavers, all in Japan. He has encountered choleliathiasis in only 3.05 per cent. of 8,406 necropsies. This is less than half the percentage in Germany, and the sexes were nearly equally involved. He affirms that the comparative rarity of gall-stone trouble in Japan is because less women are affected than in other countries, and this, in turn, he ascribes to the fact that Japanese women do not wear corsets. Cholesterin stones are remarkably scarce in Japan, compared with Europe, probably from the difference between the Japanese and European habits of diet.

52. **Meltzer's Insufflation in Respiratory Paralysis.**—Unger and Bettmann report experimental research to determine whether Meltzer's technic can be applied in the dangerous respiratory paralysis which is a dreaded complication in operations on the brain. Their experiences were extremely favorable and they commend the simple technic with high praise.

55. **Pathology of Undescended Testicles.**—Uffreduzzi's article is concluded. This instalment is devoted to the complications liable to be encountered. It is based on eighty-one cases, his final conclusions being that retention of the testicles is a congenital defect. It seldom occurs alone but with other malformations or developmental defects. The retained testicle in itself does not cause disturbance but complications are frequent, especially hernia, torsion and malignant degeneration. He is convinced that torsion occurs far more frequently than is generally recognized, as only the severer cases compel operative treatment.

56. **Cancer of the Appendix.**—Müller reports five cases of carcinoid of the appendix and the findings in three cadavers. The patients were a girl of 13, two young women and two men of 22 and 49. Cancer of the appendix is generally distinguished by the fact that while the microscope shows carcinoma the clinical course is that of a benign tumor.

58. **Syphilis as a Factor in Gastric Ulcer.**—Hausmann reiterates anew that the syphilitic origin of certain stomach affections frequently escapes discovery. Many of the cases on record of callous ulcer, etc., are in reality merely a syphilitic lesion. Syphilitic stomach affections lead to anacidity, and consequently when the gastric secretion is much reduced, in cases of tumor, a syphilitic origin should be suspected. Chiari has reported a case of boring ulcer in which the syphilitic origin was beyond question, Kuzmik one in which it was probable, and Hausmann has encountered a case of this kind. He urges careful histologic examination to determine a syphilitic as well as a malignant nature when tumor material is sent to a laboratory for examination. Many tumors which have been recorded as sarcomas, especially retroperitoneal tumors, were probably of a gummatous nature. Its detection may require staining with polychrome methylene blue and pyronin methyl green, as the ordinary stains for tumor tissue are not adequate in case of a gumma.

59. **Extensive Circular Resection of Knee.**—Bogoras was able to save the leg in two cases of such extensive disease of the knee that amputation of the thigh seemed the only possible means of relief. He cut out the entire segment into sound tissue above and below the knee, leaving merely the trunk vessels and nerves bridging the gap. He then sutured the parallel planes of the stumps together, with a wire suture on each side, pushing the popliteal vessels and the sciatic nerve up under the muscles of the rear aspect of the thigh in S shape. Although the leg is shorter than its mate, the two young men rejoice in their serviceable limb. Resection of the entire circumference, sparing only the nerve and vessels, permits rapid healing of the even raw surfaces after coaptation. The article is illustrated.

## Beiträge zur klinischen Chirurgie, Tübingen

*April, LXXXIV, No. 1, pp. 1-303. Festschrift for Reczey of Budapest*

60 *Operation for Varicose Veins. (Zur operativen Behandlung der Venektasien der unteren Extremität.) P. Kuzmik.
61 Papilloma or Cancer of the Thyroid; Four Cases. (Der Zottenkropf.) T. v. Verebely.
62 Deformity after Reduction of Congenital Dislocation of the Hip-Joint. (Ueber die nach Reposition von kongenitalen Hüftgelenkluxationen entstandenen Oberschenkeldeformitäten.) M. Horvath.
63 *Ultimate Outcome of Urethral Strictures. (Dauerresultate der verschiedenen Behandlungsarten der Harnröhrenstrikturen.) D. Raskay.
64 *Thrombosis and Embolism after Gynecologic Operations. T. v. Wenczel.
65 The Appendix and Female Genitals. M. Bogdanovitsch.
66 *Abdominal Operations on Children. (Bedeutung chirurgischer Eingriffe in der Bauchhöhle bei Kindern.) D. Balas.
67 Incarcerated Ureter Stones. E. Boross.
68 Bladder Hernia. (Ueber Blasenbrüche.) M. Chudovszky.
69 Undescended Testicles. (Ueber die chirurgische Behandlung der Ectopia testis.) A. Fischer.
70 Operations on the Larynx through the Mouth. (Kehlkopfoperationen auf direktem Wege.) E. Pollatschek.
71 Cancer of the Nose and Accessory Cavities; Nine Operative Cases. (Ueber primäre bösartige Geschwülste der Nasenhöhle und der Nasennebenhöhlen.) J. Safranek.
72 *Passive Hyperemia in Treatment of Inflammation. (Die entzündungswidrige Wirkung der passiven Hyperämiebehandlung.) K. v. Schiller.
73 Otogenic Brain Abscess. (Die Genese, Symptomatologie und operative Behandlung der durch Mittelohreiterung entstandenen Gehirnabscesse.) K. Udvarhelyi.
74 Indications and Technic for Exclusion of the Pylorus. (Pylorusausschaltung.) K. Borszeky.
75 Experimental Resection of the Pancreas and Pancreato-Enterostomy. F. v. Faykiss.
76 Primary Inflammation of the Cecum. (Primäre Typhlitis.) F. Obal.
77 Recent Progress in Plastic Operations. T. v. Mutschenbacher.
78 Frontal Sinusitis; Ten Cases with Suppuration. (Ueber abscedierende Stirnhöhleneiterungen.) K. v. Lang.
79 *Operative Treatment of Rebellious Inflammation of the Bladder. (Die operative Heilung der rebellischen Cystitiden mittelst Blasencurettage und zeitweiliger Blasenfistel.) H. Unterberg.
80 Roentgenoscopy of Hernias. A. Baron and T. Barsony.
81 Appendicitis in Women. J. Fonyo.
82 Actinomycosis of the Appendix. T. Hüttl.
83 Operative Removal of a Non-Malignant Gastric Tumor. (Zur Kasuistik der gutartigen Magengeschwülste.) N. Tyovity.

60. **Treatment of Varicose Veins.**—Kuzmik compares the tedious and extensive operative procedures in vogue for distressing varicose veins and then calls attention to the excellent results he has obtained in ninety-nine cases with a very simple technic. Fifty-six of the ninety-nine patients required the operation on both legs. Recurrence has followed in only three cases. The principle of the technic is to throw a silk thread around the vein at several points in its course without exposing the vein. A day or so before the operation, as the patient stands, the leg is painted with the developer used in photography, and then with a silver nitrate pencil the enlarged veins with all their outlines are lightly drawn on the skin. The mark of the silver pencil turns black under the action of light, and the developer is then rinsed off. The next or the third day the operation is done under general or spinal anesthesia. After shaving and sponging off with ether, the skin is painted twice with a 5 per cent. tincture of iodin. A stout silk thread is then passed under the vein, beginning at the central end, the needle entering and emerging from 0.4 to 0.5 cm. from the edge of the blood-vessel. The needle must be introduced down to the fascia; the thread is tied at once over a little roll of gauze or wick. This spreads the pressure and prevents the thread from cutting through. This procedure is repeated along the vein at about every 5 cm. (2 inches), with care to apply it close to the mouth of every lateral branch. At points where the vein is very much enlarged it is better to make the interval spaces shorter. Healing proceeds without disturbance; the only possible complication is that one or more of the threads may cut through. The patients complain of pain during the first few days after the operation, which may compel small doses of morphin. The blood seems to coagulate in the blood-vessels thus tied off and form thrombi along the walls.

63. **Stricture of the Urethra.**—Raskay has been able to trace to date 130 of 517 cases of urethra stricture since 1893. In

seventeen cases internal urethrotomy was done over ten years ago and the results have been excellent, the permeability of the urethra having persisted unimpaired to date or if the stricture recurred it was readily dilated anew. Excellent results were obtained also with the retention catheter and a course of systematic dilatation. A long interval elapsed before recurrence. With temporary dilatation recurrence was frequent although these cases were of course the mildest form of stricture. The recurrence also proved unusually hard to conquer in this group of cases. The theoretical objections to internal urethrotomy have not been realized in practice. Mishaps are possible naturally with any operation, but internal urethrotomy is as free from danger as any while it entails the least possible loss of time and very little pain or inconvenience of any kind. When the patient cannot spare the time for systematic stretching of the stricture, internal urethrotomy is advisable even in conditions amenable to the systematic dilatation technic. Internal urethrotomy was applied as the routine measure in the cases in which passage of the sound was impossible or there was a tendency to frequent recurrence or the urethra had been undermined by false passages, cicatricial tissue causing an elastic stricture, or when peri-urethral inflammation induced frequent bleeding and absorption and infection were causing a tendency to fever.

64. **Thrombosis after Gynecologic Operations.**—Wenczel reiterates that three factors are involved in the production of thrombosis, some interference with the circulation rendering it sluggish at some point, changes in the vessel walls, and changes in the composition of the blood, causing it to flow more sluggishly. These factors may be combined or one alone may be responsible for the thrombosis. Prophylaxis of thrombosis should take all these factors into consideration before a laparatomy, improving the condition of the blood, toning up the heart and the resisting powers in general. The Trendelenburg position is particularly dangerous on this account as the vessels under the knee are liable to be compressed and interfere with the circulation; other sources of injury are the chilling of the vessels when the abdomen is open, the damage to the vessels in the field of operation, and later the pressure from the paretic distended intestines on the vessels, the rise in blood-pressure from coughing and vomiting, possibly also the hyperleukocytosis, and, last but not least, eventual infection of the wound. Operations for uterine myoma are particularly liable to the above disturbances; even with uterine cancer the heart is never in such advanced atrophy or degeneration as with myoma. Before the heart reaches this stage in connection with uterine cancer the patient has either died or has been cured by an operation. A rapid pulse may be an early sign of a tendency to thrombosis as the heart has to do extra work on account of the obstruction in the vessel. Sometimes the rapid pulse is accompanied by a little rise in temperature. Neither of these are constant nor a sure sign of thrombosis but they should suggest the possibility of it. Another important sign is painfulness at some point along a vein, increased or brought on by pressure, sneezing, coughing, deep breathing, defecation or other exertion. The thrombosis is more readily recognized in the superficial veins; sometimes the inflammation around the vein may be revealed by a red stripe in the skin above. Thrombosis of the vessels in the small pelvis gives few local signs of its presence, at most, edema in the inguinal region and adjoining abdominal wall and tenderness in the vicinity of the inguinal canal; in a few cases the obstructed vessel can be palpated through the vagina or rectum. In case of infection, phlebitis may become manifest. The danger of embolism is most imminent when the valveless veins of the pelvis are involved. It is rare with femoral thrombosis and rarest with thrombosis in the saphenous vein. Embolism follows when the thrombus softens up under the influence of infection, and this is most liable to occur in the pelvic veins. Small incisions, care to prevent postural interference with the circulation and efforts to reduce the injury to the tissues are all useful in prophylaxis, nor forgetting that thrombosis occurs more readily when there has been considerable loss of blood. Little can be hoped from treatment beyond the strictest repose and measures to reenforce the overburdened heart. In 835 laparotomies in the last eight years he had thrombosis in seventeen cases, that is, 2 per cent., with pulmonary embolism in ten. The thrombosis affected women with fever in seven cases, with subfebrile temperature in six and normal temperature in four. The pulse in the cases not complicated with embolism was from 96 to 108; in three pulmonary embolism cases it was 100 or 120, and in seven cases it ran up to 120 or 140. The thrombosis developed in three cases after a merely exploratory laparotomy, and in 4.6 per cent. of the 173 laparotomies for myoma. There was pulmonary embolism in over half of the cases of thrombosis in this group. Thrombosis developed also in one case each in seventy cancer operations on the uterus and in forty-five cases of extra-uterine pregnancy.

66. **Abdominal Operations on Children.**—Balas comments on the marvelous recuperative powers of children which enable them to recover more promptly than adults after abdominal operations, but at the same time they are far more susceptible to shock from the loss of blood, the general anesthesia and chilling of the viscera when the abdomen is opened or the intestines brought out, so that the prognosis depends mainly on these minor points. The diagnosis of appendicitis in children under 4 is sometimes difficult, but differentiation is especially important as pneumonia is liable to develop with symptoms suggesting appendicitis at first: Neglect to operate in appendicitis may prove disastrous, while appendicectomy at the onset of pneumonia might be fatal when the child would have recovered without it. With pneumonia there is not the "abdominal facial expression;" the tongue is moist and not so coated; the respiration rate is accelerated, and the abdominal wall is not so rigid over a circumscribed area as with appendicitis, and deep pressure is not painful although the appendix region may be tender on superficial contact. Broca has reported two cases in children which began with fever, vomiting and severe pains in the ileocecal region but other symptoms developed the thirty-sixth hour to show that the trouble was cerebrospinal meningitis. Digestive derangement may produce a clinical picture simulating that of appendicitis, but rest, abstention from food, purgatives and moist heat to the abdomen will relieve the colic and other symptoms from gastro-intestinal trouble while with appendicitis the tenderness of the region and the rigidity of the abdominal wall persist unmodified. Of great assistance in dubious cases is bimanual examination through the rectum which, he insists, should never be omitted; up to the age of 4 the forefinger can readily reach up above the edge of the small pelvis and palpate the cecal region, the inflamed appendix or the exudate. Balas has had cases of appendicitis in children in which there was no sensitiveness to pressure, the reason being that the appendix in children is longer proportionately than in adults, while the cecum itself lies lower, and thus the appendix extends down into the small pelvis and escapes pressure from palpation. This is the reason why the abscess from appendicitis is generally in the small pelvis in children and why pericystitis is so common. The symptoms from the latter may be the first sign of trouble, and the diagnosis can be cleared up only by palpation through the rectum. Other things being equal—which, however, is seldom the case—the prognosis of appendicitis in children is as good as in adults. Invagination may be differentiated by the palpable tumor, the bloody-mucous stools and the absence of abdominal rigidity. The child should be kept warm, possibly wrapped in cotton, and prepared for an operation. Then under general anesthesia every effort should be made to reduce the invagination, high rectal injections, insufflation of air, and the Hutchinson-Alapi maneuver. If these fail, the abdomen should be opened and the conditions corrected with the simplest and most rapid technic possible. Balas discusses the special features of the six forms of peritonitis to which children are liable and the treatment of each. The advantages of rinsing out the abdominal cavity after a laparatomy are more pronounced, he states, in children than in adults; the warm saline, at 42 to 44 C. induces active hyperemia which augments the resisting powers of the peritoneum and stimu-

lates the intestinal musculature while the peritoneum absorbs enough of the fluid to act as a stimulant for the heart. During the first stage of the affection, when the effusion is still fluid and odorless, rinsing may not be necessary, but after this stage he rinses copiously. Balas believes in draining for children more than for adults. He has repeatedly witnessed that after four or five days during which scarcely any effusion was drained out, a sudden gush of pus came, evidently from some abscess hidden away between the loops of intestines and finally breaking through on the line of least resistance, namely, toward the drain. With tuberculous peritonitis spontaneous recovery under general measures is possible but the healing is facilitated and hastened by a laparatomy. It may not be necessary if the child can have the advantage of sanatorium care and tuberculin treatment. The benefit from the laparotomy is undoubtedly due to the active hyperemia which results. The outlook is best with the form with effusion, worst with the adhesive type. Balas compares the experiences with various abdominal operations on children as reported from a number of different clinics.

72. **Why Passive Hyperemia Has a Curative Influence.**—Schiller describes experiments on animals which have apparently demonstrated that constriction hyperemia owes its healing influence to the fact that leukocytes in the blood thus arrested in the region rapidly succumb in the stagnant lymph as they are especially susceptible. As they die and disintegrate, substances escape from them into the blood and lymph which have a destructive, ferment-like action on the bacteria around. The bacteria are thus killed off, which of course checks the progress of the inflammation, modifies conditions and starts things on the road to healing. The above effects are more pronounced when there is considerable edema, suggesting that the lymph is the main factor involved. The effect of the stasis hyperemia lasts for hours after the constricting band has been taken off, but if the constriction has been too tight none of the above phenomena occurs; the leukocytes are not destroyed and the bacteria are not affected; so that the inflammation continues its course unmodified under excessive passive hyperemia. The constriction should never be applied so tight as to shut off the arterial blood; the venous, passive hyperemia is the aim—the hyperlymphia, as he calls it—and the results are better the more edema there is with stasis hyperemia.

79. **Treatment of Rebellious Cystitis.**—Unterberg has had seven cases of cystitis in which the bladder wall was thick and hard and had lost its power to stretch. Gonorrhea, pregnancy and catheterization are the most frequent causes, but cases are on record in which typhoid, syphilis or furunculosis were responsible for intractable inflammation of this kind. He treats it by scraping away the mucosa through a suprapubic incision, leaving a fistula for permanent drainage and local application of a 1 or 3 per cent. silver nitrate solution. In women it may be possible to curet through the urethra but the outcome is never so satisfactory. The special characteristic finding is that the finger is unable to stretch the small cavity formed by the hard bladder walls. In case the bladder walls have lost all their elasticity, there is no hope even from this treatment; all that can be done is to make a continent fistula through which the urine can be permanently voided and thus relieve the patient from his tormenting tenesmus.

## Berliner klinische Wochenschrift

*May 5, L, No. 18, pp. 813-860*

84 *Treatment of Epilepsy. A. Erlenmeyer.
85 *Camphor in Experimental Bacterial Infection. K. E. Boehncke.
86 The Cholesterin Metabolism. (Untersuchungen und Gedanken über den Cholesterinstoffwechsel.) D. Klinkert.
87 *Unusual Forms of Gastro-Intestinal Hemorrhage. E. Stadelmann.
88 The Chemistry of the Cell. I. (Granoplasma.) P. G. Unna.
89 Influence of the Leukocytes on Anaphylatoxin. W. Spät.
90 The Work Outlined for the Medical Society for Sexology. (Die Aufgaben der "Aerztlichen Gesellschaft für Sexualwissenschaft.") I. Bloch.

84. **Treatment of Epilepsy.**—Erlenmeyer states in the course of this general review of epilepsy that he lays great stress on the circumstances under which the first seizure of all occurred, especially whether it was at night or in the day time. If at night, this suggests certain possible causes, such as overfilling the bladder, emptiness of the stomach, or cicatricial changes in the skull. In any event, inquiry should be made as to physical overexertion, vitiated air and preceding affections, fright, dread, emotional excitement in school or church, quarreling, fighting, etc. In examining epileptics, the size of the skull and the fundus of the eye should not be overlooked. One of his patients had the seizures only in bed and only when he lay on the left side; investigation revealed a tender point on the left side with weakness in the right arm when this tender point was tapped. Treatment must aim above all to depress the morbid irritability of the cortex. Repose is the main thing; with more than two seizures a week, patients taking a course of treatment should be kept in bed or on a reclining chair out-of-doors. He warns that an epileptic should never sleep with a feather pillow but always with a hair pillow, as with this he will not smother to death if he happens to roll on his face during a seizure in the night. Vitiated air alone may bring on seizures. If there is the slightest suspicion that the patient has had encephalitis or meningitis, Erlenmeyer applies a seton in the back of the neck and keeps it active for months. He states that he has obtained with this, especially in the young, brilliant results. He approves of chloral and cocain as adjuvants to bromid treatment, reducing at the same time the proportion of salt in the food. The most frequent causes of epilepsy are encephalitis and meningitis, whether during intra-uterine existence or early infancy or the result of inherited syphilis or not, and the different products and relics of these affections are liable to yield to treatment with iodids. Iodin salts internally, brine baths and a seton in the back of the neck are his main reliance. It is fortunate that children in particular bear the iodids so well. This treatment must be kept up for months and possibly repeated after a pause devoted to tonics. He always gives sodium and potassium iodid together, always in an alkaline solution and beginning with small doses, progressively increasing, with a diet avoiding acids. In prevention of the single seizure with protracted aura, lively friction and faradic electricity may avert the attack. Von Strümpell applies a ring of irritant plaster around the limb. With Jacksonian attacks beginning at the outer end and working upward, a constricting band at the root of the limb may arrest the attack. With a general aura, inhalation of amyl nitrite may be useful as also the swallowing of salt.

85. **Camphor in Experimental Infection.** — This is the research referred to by Leo as mentioned in abstract 98, p. 1672, of THE JOURNAL, May 24, 1913.

87. **Hemorrhage in the Gastro-Intestinal Tract.**—Stadelmann describes a number of unusual cases, including one in which a robust, previously healthy young man succumbed suddenly to hemorrhage from a varix in the stomach and absolutely no cause could be discovered for the varicose enlargement or for its rupture.

## Medizinische Klinik, Berlin

*May 4, IX, No. 18, pp. 693-734*

91 *Abortive Forms of Tabes and General Paralysis. P. Schuster.
92 Nature and Treatment of Dysmenorrhea. A. Balu. Commenced in No. 17.
93 The Diet in Severe Diabetes. L. Blum.
94 Spinal Cord Complications in Acute Articular Rheumatism. Kober.
95 Length of Latent Period in Wassermann Reaction. A. Dreyer.
96 *Respiration Exercises in Treatment of Relics of Pleurisy. (Aktive Pneumatotherapie der Residuen von Pleuritis.) Stemmler.
97 Salvarsan in Syphilis. I. Schönberger. Commenced in No. 17.
98 Technic for Examination of Blood. (Weitere Beiträge zur Methodik der Blutuntersuchung.) E. Münzer.

91. **Abortive Tabes.**—Schuster remarks that the greatest progress in the last decades has been in the line of diagnosis. We have learned to recognize a number of conditions as the premonitory stage of certain familiar diseases. This has permitted the recognition of rudimentary or abortive forms of exophthalmic goiter, myxedema and many other affections. Analyzing his 500 cases of tabes, progressive paralysis or cerebrospinal syphilis during the last ten years, he found seventy-eight cases of the abortive type. Only forty-six of these had pronounced symptoms. In thirty-two there were merely reflex rigidity of the pupil and disturbance in the sensibility, usually in the legs. In none of these abortive cases was there any suggestion of lancinating pains. In a few there was isolated ataxia of the legs. He never encountered a case in which there were crises alone for years without other signs of certain tabes. In a recent case a woman of 30 had suffered for years from pains in the stomach and vomiting and a number of operations had been done on her, but the true source of the trouble was discovered by the rigid pupils, general hypalgesia and extinction of the Achilles reflex. His experience confirms that of others that the pupil disturbances may occur isolated, and for years may be the only sign of the affection. Next to the pupil disturbances come the disturbances in sensibility; sometimes the hypalgesia extends over the whole body. It is possible that the modification of the cerebrospinal fluid, resulting from the syphilis, may check the transmission of the sensations of pain. Another feature of the abortive type is the lack of characteristic subjective phenomena; the patients complain merely of headache, depression or restlessness, more like patients with merely functional derangement.

96. **Active Respiration Treatment to Ward Off Adhesions after Pleurisy.**—Stemmler expatiates on the advantages of respiratory exercises after recovery from pleurisy, thus increasing the ventilation through the lungs and the vital capacity while warding off development of adhesions. Simple deep breathing is useful but various forms of respiratory exercises in the pneumatic cabinet are far more effectual. He describes a number of them as he has perfected the technic.

### Monatsschrift für Kinderheilkunde, Berlin

*May, XII, No. 1, pp. 1-58*

99 *Influence of Psychic Factors on Infants' Nutrition. (Einfluss psychischer Vorgänge auf den Ernährungserfolg bei Säuglingen.) W. Birk.
100 Research on Etiology of Scarlet Fever Negative to Date. (Aetiologie des Scharlachs.) M. Kretschmer.
102 *The Muscular Work Done by an Infant. (Die Arbeitsleistung des Säuglings.) A. Schlossmann.
103 Infant-Feeding. (Ueber Säuglingsernährung.) E. Schloss and L. Langstein.

99. **Psychic Influence in Nutritional Disturbances of Infants.**—Birk maintains that the condition known as "hospitalism" is sometimes brought about by purely psychic causes. In addition to hygienic care and sufficient food, the infant needs a certain inner satisfaction that comes from harmony with his surroundings and affection and understanding on the part of those charged with his care. Merely being cared for individually by a single nurse or in a private family does not always suffice if sympathy is lacking. He describes two cases where all external factors, such as unsuitable food, lack of care or infection could be excluded. He gives a curve showing the variation in weight and general health of the first infant under happy and unhappy surroundings. The second one was the illegitimate child of an extremely nervous and sensitive mother and probably inherited a psychopathic disposition. It developed profound anorexia and died on its second birthday. Neither clinical examination nor autopsy revealed any organic disease.

102. **Muscular Work Done by the Infant.**—Schlossmann registered the amount of muscular work performed by infants in the course of a day. Tables are given showing the results, which demonstrate that in proportion to the weight of its muscles, the infant does about as much muscular work as an active adult. The dietary requirement of the infant varies according to its temperament and activity, just as it varies in the adult, depending on whether he is at rest or engaged in active labor.

### Münchener medizinische Wochenschrift

*May 6, LX, No. 18, pp. 961-1016*

104 *Thyroid Origin of Hemorrhagic Uterine Disease. E. Sehrt.
105 Therapeutic Action of Various Dyes in Diplobacillus Infection of the Eyes. (Experimentelle und klinische Versuche über Chemotherapie bei der Diplobazilleninfektion des menschlichen Auges.) H. Gebb.
106 *Influence of Digitalis on Recuperation of the Heart after Muscular Exercise. (Einfluss der Digitalis auf die Erholung des Herzens nach Muskelarbeit.) E. Bernoulli.
107 Advantages of Intravesical Technic for Operations on the Bladder. L. Kielleuthner.
108 *Treatment of Hemophilic Hemorrhage by Thermocauterization. H. Hahn.
109 Severest Form of Melena Neonatorum Cured by Intramuscular Injection of Defibrinated Human Blood. A. Merckens.
110 *Improved Technic for Preservation of Anatomic Specimens. L. Jores.
111 Tattooing and Erysipelas. E. Sehrwald.
112 *Diagnosis and Treatment of Chronic Pyloric Ulcer. Faulhaber. Commenced in No. 17.

104. **Thyroid Origin of Hemorrhagic Uterine Disease.**—Sehrt reviews recent research which demonstrates anew the close relations between the thyroid and the genital organs. Excessive or insufficient functioning of the thyroid causes changes in the blood, a relative reduction in the neutrophil leukocytes and a relative or absolute lymphocytosis. But with excessive thyroid functioning the coagulability of the blood is much reduced while with insufficient functioning the coagulating time is much hastened. This effect of abnormal conditions in the thyroid on the coagulating power of the blood throws light on certain cases of hemorrhagic uterine disturbances, suggesting that they are abortive forms of myxedema. In twenty pure cases of hemorrhagic uterine disturbances he found in thirteen of the patients pronounced signs of thyroid hypofunctioning and in all but one the coagulating time was from eight to four minutes in contrast to the nine or ten minutes with normal blood. The viscosity was frequently below normal, in a number only half of the normal figure. These findings parallel remarkably those Kocher obtained in 155 cases of subnormal thyroid functioning (myxedema, cachexia strumipriva). Sehrt cites further arguments to sustain the view that thyroid insufficiency is a prominent factor in pregnancy tetany and possibly also in eclampsia. It is possible that all these conditions are different stages of the same disturbance in thyroid functioning. In any event, the condition of the thyroid should be ascertained in all cases of eclampsia and this is easily done by examination of the blood, abnormally rapid coagulation testifying to a lack of the normal thyroid secretion. One of his cases was peculiarly instructive; a young woman with the hemorrhagic metropathy had borne twins three years before and had had severe eclampsia at that time. At present the coagulation time is reduced to 5 minutes and with a relative neutrophil leukopeny of 45 per cent., there is lymphocytosis of 48 per cent. in contrast to the normal 20 to 25 per cent. It is possible also, he remarks, that the thyroid may be involved in the tendency to habitual abortion. Cases have been reported in which women with goiter who had been married for several years without conceiving bore children after thyroid treatment. Cretin mothers are liable to habitual abortion for a time but finally bear living children. The habitual abortions of women with infantile uterus suggest that the thyroid likewise may be in an infantile condition. It seems to be established now beyond question that syphilis is not responsible for all cases of habitual abortion. Sehrt's research indicates that thyroid treatment may have a wider sphere of action than has hitherto been deemed possible.

106. **No Influence from Digitalis on the Work of the Muscles.**—Bernouilli reports painstaking research which fails to show any difference in the recuperation of the heart after graduated muscular work before and after exhibition of digitalis.

108. **The Actual Cautery in Hemophilic Hemorrhage.**—Hahn reports two cases in which as a last resort the bleeding gum was cauterized with the thermocautery. This seems paradoxic treatment as the cautery must open new vessels. The prompt success in both cases shows that under the influence of the heat the contents of the vessels must have coagulated and the production of thrombi from the changes in the vessel must have aided in preventing further escape of blood. It is possible also that the necrosis of the tissues liberated substances which promoted local coagulation. In one of his cases the child had injured its mouth in a fall and the bleeding had kept up for seven days, uninfluenced by injection of antitoxin, horse serum and gelatin. To prevent the child from working off the scab after the cauterization a bandage was tied around to protect the upper lip and gum; also 15 c.c. of fresh human blood was injected in the nates. There was no further hemorrhage in either case after the cauterization.

110. **Preservation of Anatomic Specimens.**—Jores has succeeded in retaining the natural color much more effectually, he states, than has been possible with other technics. He ascribes his success to the use of chloral, which induces the production of hemochromogen. The specimen is soaked at first in a mixture of 5 parts artificial Carlsbad salts, 5 parts formaldehyd, 5 parts of a concentrated aqueous solution of chloral hydrate and 100 parts water. Otherwise the technic is the usual one with six hours rinsing and preservation in a solution of potassium acetate 30 parts, glycerin 60 parts and water 100 parts.

112. **Chronic Pyloric Ulcer.**—Faulhaber reiterates that chronic ulcer of the pylorus is characterized by a well defined syndrome: Besides the usual symptoms of gastric ulcer, cardialgia, manifest or invisible bleeding, vomiting, etc., the symptoms pointing to chronic pyloric ulcer are the periodicity of the disturbances, the constant excessive gastric secretion and the spasm of the pylorus. This symptom of pylorospasm is not observed with ulcers at a distance from the pylorus; only when they are in or near the latter. The pylorospasm can readily be recognized by Roentgen examination even when the motor function of the stomach is but slightly impaired. In eight of his thirty-two cases operative treatment was applied and there have been no disturbances since, but he does not venture to call these patients permanently cured as recurrence is still possible. Of the fifteen patients treated by internal measures alone only three are free from disturbances at present. This enables judgment of the efficacy of medical measures without waiting longer, proving that medical measures fail in from two-thirds to three-fourths of all cases of chronic pyloric ulcer.

### Wiener klinische Wochenschrift, Vienna

*May 1, XXVI, No. 18, pp. 693-736*

113 *Treatment of Exophthalmic Goiter by Roentgenotherapy of the Ovaries. (Ueber Versuche, die Basedowsche Krankheit mittels Röntgenbestrahlung der Ovarien zu beeinflussen.) J. Mannaberg.
114 Reliability of Serodiagnosis of Pregnancy. (Erfahrungen mit der biologischen Diagnose der Schwangerschaft nach Abderhalden.) R. Ekler.
115 Technic for the Meiostagmin Reaction. (Ueber Antigene für die Meiostagminreaktion.) G. Izar.
116 From the Seat of War. (Kriegschirurgische Eindrücke und Beobachtungen aus Belgrad während des Balkankrieges.) E. L. Fieber.
117 Cyclic Oculomotor Paralysis. H. Lauber.
118 *Arsenic Poisoning from Wall Paint. (Zur Kasuistik der Arsenikvergiftung.) E. Lindström.
119 Trained Nurses in Austria. (Die Fürsorgeschwester im Frieden und im Kriege.) L. Moll.

113. **Treatment of Exophthalmic Goiter by Roentgen Exposures of the Ovaries.**—Mannaberg is convinced that the ovaries play some part in the clinical picture of exophthalmic goiter. This may be from some substance formed in the ovaries which acts on the thyroid and modifies its functioning in such a way that the exophthalmic goiter is the result. By the exposures to the Roentgen rays the source of this substance in the ovaries is dried up and the thyroid is permitted to resume its normal functioning. In the ten cases in which he has applied this measure a favorable influence was manifest on all the symptoms except the goiter. He does not call it a cure in any case as the pulse is still unstable. It is possible that a course of thyroid treatment might advantageously supplement the radiotherapy. In eight of the ten cases the patients gained from 2.3 to 21 per cent. in weight. In one case the exophthalmos completely subsided; in half of the cases more or less improvement in this was evident, and in the others there was no change. The most striking improvement was subjective; nearly all the patients now feel entirely well and have regained their full earning capacity. They were women from 21 to 42 years old, and from three to fifteen exposures were given. His impression on the whole is that this method of treatment is more reliable than any other to date in the not too far advanced cases, and leads to improvement more rapidly.

118. **Arsenic Poisoning.** — Lindström occupied with his eleven-year-old son two newly painted rooms in a Swedish hospital, where he was assistant physician. He developed intense "neuralgia" persisting for many months and arsenic was found in the oil paint on the walls, in considerable amounts, 2.8 mg. in 200 c.c. Arsenic was found in his urine for several months after removal of the paint from the walls. The rest of the family had arsenic in the urine also but not in such large amounts as the other rooms had received only two coats of the paint, while in the room occupied by Lindström four coats had been applied. It was found that the arsenic had worked from the deeper layers to the surface, and scraps of wood from the doors also responded to tests for arsenic. He occupied the room for four months and then left for a vacation trip. On the journey the first neuralgic pains developed in the right axillary and sacral nerves, and distressed him during movements but subsided when he lay still. This "neuralgia" lasted a month and then subsided during the summer—the season of open windows—but the next winter it returned in the arm and shoulder, with intense severity, until he could not use his right hand. The pain at last became like that of a phlegmon and involved the back, and his boy developed rebellious conjunctivitis and grew pale and thin. Then for the first time arsenic poisoning was suspected and examination of the urine revealed the arsenic. The pain in his arm for five months was so severe that he even thought of amputation but there was no actual paralysis.

### Zeitschrift für Kinderheilkunde, Berlin

*VII, Nos. 1-2, pp. 1-160. Last Indexed May 31, p. 1753*

120 *Bronchotetany: Dyspnea from Spasm of Bronchial Musculature. (Ueber "Bronchotetanie," ein noch nicht beschriebenes Krankheitsbild der Spasmophilia.) R. Lederer.
121 Atropin, Pilocarpin or Epinephrin Tests for the Autonomic Nervous System in Children. (Die pharmakologische Prüfung des vegetativen Nervensystems im Kindesalter.) Eckert.
122 Classification of Alimentary Disturbances in Infants. (Zur Einteilung der Ernährungsstörungen des Säuglings.) H. Finkelstein.
123 *Constitutional Inferiority of Organs in Certain Breast-Fed Infants. (Ernährungsstörungen der Brustkinder und Konstitution.) J. K. Friedjung.
124 The Intestines in Fulminating Cerebrospinal Meningitis. (Der Darm bei fondroyant verlaufender Genickstarre. Zur Erklärung der parenteral bedingten Durchfälle.) F. Göppert.
125 *Enlargement of Cubital Lymph-Nodes. (Klinische Bedeutung der Cubitaldrüsenschwellungen.) Götzky.
126 *Toxin in the Blood in Diphtheria. (Toxinbefunde im Blute diphtheriekranker Kinder.) Harriehausen and J. Werth.
127 *Action of Tuberculin Introduced Directly into the Lymphatic System. (Wirkung des auf den Lymphwegen den Drüsen zugeführten Tuberkulins.) H. Koeppe.

120. **Dyspnea from Spasmodic Contraction of the Musculature of the Bronchi**—In an article in the *Wiener klin. Wchnschr.* (abstracted in THE JOURNAL April 12, 1913, p. 1196), Lederer described a condition of spasm of the bronchial muscles causing dyspnea and finally death. In the present article he gives detailed histories and the necropsy findings in six cases terminating fatally, one in twelve hours and another only after two and a half months. Four of the children were rachitic, the others showed no signs of rachitis. The condition has not been described before as a distinct clinical

picture. It is in fact only the constitutional spasmophilie diathesis manifesting itself in the smooth bronchial musculature instead of in the striated muscle of the extremities as it more commonly does. Lederer gives it the name of bronchotetany, rather than bronchospasm, to distinguish it from asthma in which there are also bronchial spasms, but it is an entirely different condition. Asthma yields promptly to epinephrin, which only increases the spasm in bronchotetany. There is no atelectasia in asthma. The diagnosis of spasmophilia may be confirmed by the hypersensitiveness of the muscles to the electric current. Attention is called to the involvement of the bronchial muscles by the appearance of the child. There is marked dyspnea (respirations as high as 120 per minute), involvement of the accessory muscles of respiration, dilated nostrils. The physical signs may indicate pneumonia but roentgenoscopy shows atelectasia instead of the typical picture of consolidation. Necropsy shows a compensating emphysema in the part of the lung that is not atelectatic. Treatment is not very hopeful. In the cases of long duration small or frequent feedings of breast milk or gruel should be given, with cod liver oil. In the severe acute cases only symptomatic measures can be applied, chloral for the spasms, camphor and caffein for the heart and oxygen inhalation for the dyspnea.

123. **Heredity as the Cause of Nutritional Disturbances in Infancy.**—In 1907 Adler published the results of his research on organic defects. They indicate that children may inherit more or less defective organs and that these inherited defects manifest themselves later in life in various ways. Friedjung decided to test this theory in regard to the diseases of the digestive tract encountered in his clinic. He selected seventy-six apparently healthy new-born infants, with no history or evidence of tuberculosis or syphilis. They were all breast-fed; he excluded from his research older infants and those fed artificially, in order to avoid the possibility of external causes of disease. His results confirmed Adler's hypothesis. The majority of the children who developed normally had parents who showed no defects in the digestive tract. A majority of those who, in spite of the greatest care, developed some digestive disturbance, had parents with digestive tracts below par. The history of the parents and grandparents was studied, and tables are given showing his findings in detail.

125. **Swollen Lymph-Nodes at the Elbow.**—Götzky examined 647 children for enlarged cubital glands and found them in 113; in eighty-six on both sides, in twenty-seven only on one side. He concludes that almost all cases of bilateral enlargement are syphilitic but only a few cases of enlargement on one side. It is often impossible to determine the cause of the one-sided enlargement. The lymphatic diathesis has nothing to do with it. Rachitis has very little effect on the cubital glands; tuberculosis somewhat more. Roentgenoscopy is a valuable aid in diagnosing syphilitic bone changes.

126. **Demonstration of Toxin in the Blood of Diphtheria Patients.**—By the use of Römer's method of intracutaneous injection of the serum of diphtheritic children into guinea-pigs, Harriehausen and Wirth were able to demonstrate the presence of toxin in the blood. Necrotic areas developed at the site of the injection, while no reaction followed the injection of normal serums. Serum from cases of varicella and cerebrospinal meningitis also caused necrosis, but here the addition of diphtheria antitoxin had no effect, while in the diphtheritic cases the addition of antitoxin before injection prevented necrosis. Beyer concluded from his experiments that since both toxin and antitoxin could be demonstrated in the blood in some cases, only small doses of antitoxin should be given. Harriehausen and Wirth, on the contrary, conclude that so long as there is free toxin circulating in the blood, larger doses of antitoxin can be given with good results, and that, as new toxin is being constantly produced, large initial doses of antitoxin are to be recommended.

127. **The Skin Tuberculin Test Technic as a Therapeutic Measure for Tuberculous Lymph-Nodes.**—Koeppe noticed in giving von Pirquet's test that the enlarged axillary glands on the side of the test frequently decreased in size, while those on the other side were unmodified. He concluded that the tuberculin, entering the lymph-spaces, was carried to the lymph-nodes, where it exerted a direct curative effect. He describes a striking case which confirmed this view. A child of 4½ years was brought to the hospital in an emaciated cachectic state. Chest flat, breathing shallow but no physical signs in the lungs; in the right axilla swollen lymph-nodes, as large as the fist; the lymph-nodes along the sternomastoid also swollen. The lymph-nodes were hard, with no trace of fluctuation. The Pirquet test was strongly positive. Four days later there was a pustule at the site of the test inoculation, surrounded by small vessels. Unexpectedly the child began to improve, and the axillary lymph-nodes to decrease in size. Another Pirquet was given with continued improvement, but the neck glands did not decrease, and then Pirquet was given just back of the ear, as the lymph passages of this region communicate directly with the neck lymph-nodes. Decrease in the size of these nodes immediately followed. The general health and the local condition continued to improve and at present—four years later—the child is well. Other cases have been treated in the same way since, with good results, and Koeppe recommends it as a therapeutic measure in all cases where the lymph-nodes are swollen and hard and the Pirquet reaction is strongly positive.

## Gazzetta degli Ospedali e delle Cliniche, Milan

*May 4, XXXIV, No. 53, pp. 551-566*

128 Local Action of De Giaxa's Tuberculin. (Intorno all'azione locale delle sostanze estratte dal bacillo della tubercolosi.) A. Romano.

*May 6, No. 54, pp. 567-574*

129 Transplantation of Kidneys. (Esperienze sul trapianto dei reni.) C. Mantelli.

## Riforma Medica, Naples

*May 3, XXIX, No. 18, pp. 477-504*

130 Mikulicz' Disease in Connection with Leukemia and Pseudoleukemia. A. Ceconi.

131 Foreign Bodies in Esophagus and Air Passages. (Contributo alla casistica dei corpi estranei dell'esofago e delle vie aeree.) E. Lazzari.

## Norsk Magazin for Lægevidenskaben, Christiania

*May, LXXIV, No. 5, pp. 593-736*

132 *Safe Limit of Loss of Blood at Childbirth. (Store blødninger ved fødsel. Hvor stort blodtap taaler et menneske?) G. Gjestland.

133 The Campaign against Tuberculosis in Christiania. (Tuberkulosearbeidet i Kristiania.) Y. Ustvedt.

134 First Death after Salvarsan Injection in Norway. (Død efter salvarsaninjektion.) K. Grøn.

135 Dislocation of the Foot. (Luxatio pedis sub talo.) N. Paus.

136 Solitary Cysts in Long Bone. (Bencyster, ostitis fibrosa og multiple exostoser.) N. Paus.

137 Glycosuria and Internal Secretions. (Om glykosurien med særlig hensyn til den interne sekretion.) V. Fürst.

132. **How Much Blood Can a Person Lose without Succumbing?**—Gjestland discusses the frequency of fatal hemorrhage at childbirth, stating that there were five cases among the 20,628 women delivered in the last ten years at the Christiania maternity. In four of the five fatal cases there was placenta praevia. The mortality from excessive hemorrhage was thus 0.024 per cent. He cites five other clinics with a mortality from this cause ranging from 0.036 to 0.12 per cent. of from 11,000 to 38,923 obstetric cases. At Christiania there were in addition eighty-one cases in which 2,000 gm. of blood or more was lost but the women recovered. In some the amount was 2,500 gm. and in two instances 3,000. This figure—3 liters—seems the extreme limit, but the two women were discharged the fifteenth and twenty-seventh day in good condition; in one the hemoglobin percentage on dismissal was 80 and the reds had climbed to 4,460,000. The experiences at the maternity have shown that dangerous hemorrhage from atony of the uterus is so rare as to be negligible. The hemorrhage is generally due to retained clots or other material. Gjestland accepts 1/13 of the body weight as the average amount of blood in the body. The women who lost from 2,000 to 3,000 gm. of blood must thus have been drained of about half their entire blood supply. (Discussed also in editorial in this issue.)

# The Journal of the American Medical Association

**Published Under the Auspices of the Board of Trustees**

VOL. LX, No. 25 CHICAGO, ILLINOIS JUNE 21, 1913


## THE TREATMENT OF NARCOTIC ADDICTION


ALEXANDER LAMBERT, M.D.

Professor of Clinical Medicine in Cornell University Medical College; Visiting Physician to Bellevue Hospital

NEW YORK


My article of four years ago[1] in THE JOURNAL describing a treatment for alcohol, morphin and other drug habits has caused a persistent demand on THE JOURNAL and on me for information concerning this subject. Since that time I have had a broad experience in the use of this treatment and a much wider experience with patients addicted to various drug habits. To serve a useful purpose, and at the request of THE JOURNAL, I shall explain further what seems essential in the use of this treatment, what seems non-essential, and in what varying way the treatment may be modified to meet the individual differences found in the patients.

A further experience with the patients has brought out the striking fact that nearly 80 per cent. of those addicted to the use of morphin and opium have acquired their habit through legitimate prescribing by their physicians or by self-medication. This has been due to a lack of realization on the part of physicians that it is by small doses, often repeated over a certain length of time, and not by any definite amount taken for the purpose of acquiring the habit as a luxury or as a vicious self-indulgence, that patients drift into the morphin habit. The patients themselves have failed to realize that if they took morphin even in small doses over a certain length of time, the habit would be fastened on them before they knew it. As the majority of patients have drifted into this habit unwittingly through means furnished by the medical profession, it seems justifiable that we should do all possible to popularize among the profession a method of treatment which with a minimum of suffering can relieve these patients of their unfortunate habit. In the majority of cases when once the morphin habit is acquired, the drug ceases to give pleasure. Often the pain for which it was taken has long ceased to exist; it is continued because of the intensity of the suffering when it is withdrawn. In spite of all statements and beliefs to the contrary, patients cannot break away from this drug of their own volition unless some treatment is at hand to relieve the intensity of the withdrawal symptoms, because of the intense suffering which these symptoms bring.

Several physicians in various parts of the United States are to-day using this treatment with success. Others report that they have failed in it, and from the many questions asked it is evident that often the failures have been due to the fact that physicians, reading the details of the treatment, have concluded that they could modify it at will and could succeed, no matter how much of the plan as published was altered or even omitted. When any treatment is a failure with the morphin patient it means intense suffering for that patient, and he should not be condemned if, in the intensity of his unrelieved suffering, he is able to obtain by some method a soothing drug which will relieve his agony. Great nicety of judgment has to be used in deciding between how much the patient is really suffering and how desirous he is of obtaining some alleviation of the fear that he may suffer. The real suffering should and can always be relieved, and the fear of what may come can always be alleviated.

This treatment is one of many details which have to be mastered before it can be successfully carried out. It is a mistaken kindness to alleviate the dread a patient has of taking the treatment by promising that he shall take it in his own home. The alcoholic will do as he chooses, not as the physician desires he shall do, if he is in his own home. The morphinist has hidden in various places supplies of morphin which he can obtain in spite of the strictest vigilance. If these patients are taken to a hospital the treatment can be given by those accustomed to administer it, where the medical attention can be more constant, where the patients will unconsciously exert more self-control than in their own environment, and where the supply of the narcotic can be controlled. The essentials of the treatment, which cannot be altered, are the persistent administration of the belladonna mixture in small doses and the thorough elimination by means of some form of mercury as a cathartic. This practically means some form of blue mass or calomel, either given in some form of compound cathartic pill or alone. Some patients who cannot take calomel without being salivated can take blue mass. The cholagogue action is essential. The mere clearing out of the intestinal tract is not sufficient in the process of elimination. Enemas given to clear out the colon do not produce the same results as cathartics. There must be the cholagogue action from above. Often calomel in divided doses can be advantageously substituted for the compound cathartic pills, especially if the patients are nauseated. Often if the stools about the fortieth hour become clay-colored, some form of ox-gall preparations is useful.

To save reference to the first article the constituents and amounts of the mixture are repeated here:

| | | Gm. or c.c. | |
|---|---|---|---|
| ℞ | Tincturae belladonnae..... | 62 | ʒij |
| | Fluidextracti xanthoxyli.. | | |
| | Fluidextracti hyoscyami.āā | 31 | ʒj |

In making the mixture of belladonna, hyoscyamus and xanthoxylum, a 15 per cent. tincture of the belladonna must be used or an equivalent amount adminis-

1. Lambert, Alexander: The Obliteration of the Craving for Narcotics, THE JOURNAL A. M. A., Sept. 25, 1909, p. 985.

tered if a weaker tincture of belladonna is used. If this is not done the craving for the drug often remains as a nagging longing, and the obliteration of the craving is incomplete. It is also my personal experience that unless the mixture is pushed to the beginning physiologic tolerance of the belladonna, as shown by dry throat, dilated pupils or even a flushing and a rash, or the beginning incisive voice of the commencing belladonna hallucinations, though the last-named is to be avoided if possible, the desired results are not obtained. The converse is true that the desired results are obtained even if only one, two or three drops of this belladonna mixture can be tolerated by the patient every hour. It is further essential that this belladonna mixture should be given persistently in small doses and not by the teaspoonful three times a day, as has been frequently reported to me.

It is absolutely essential that the morphin patient before starting in the treatment should have a thorough cathartic action before the belladonna treatment is begun. At this time an enema is not sufficient, and unless such cathartic action has been obtained patients are very sure later to be troubled with persistent vomiting. Further, though not essential, it is wiser to give three-fourths of the total twenty-four-hour dose instead of two-thirds as the initial dose of morphin. The patients thus go through their first two periods without any distress, and they do not begin to have the symptoms of discomfort until the third dose of morphin begins to wear off. If but little morphin is given in the beginning dose, and one halves it at the second dose and halves it again at the third dose, owing to the insufficiency in the beginning the patient is not really comfortable at any time, and has a nagging desire for more.

Patients will often try to hide how much they are really taking. Any patient taking over 30 grains of morphin seems to be able to tolerate almost any amount. To one patient taking over 60 grains a day by hypodermic I gave 45 grains hypodermically as the initial dose, to begin the treatment, and he was only comfortably drowsy from it. In the case of another patient who declared he was taking only 6 grains a day I found that in order to make him comfortable I was forced to give him 47 grains hypodermically in two hours. This patient was not even drowsy, but then began his treatment and went through with success. The method in detail is as follows:

### AUTHOR'S METHOD OF TREATMENT

A patient addicted to morphin is given five compound cathartic pills and 5 grains of blue mass, and six hours later, if these have not acted, they are followed by a saline; after three or four abundant movements of the bowels from these cathartics the patient is given, in his habitual way, by mouth or by hypodermic, in three divided doses at half-hour intervals, two-thirds or three-fourths of the total daily twenty-four-hour dose of morphin or opium to which he has been accustomed. The physician should observe carefully after the second dose has been given, as the amount then equals either four-ninths or one-half the total twenty-four-hour dose. A few patients cannot comfortably take more than this amount. Six drops of the belladonna mixture are given in capsules at the same time as the morphin. This belladonna mixture in doses of 6 drops (and by drops I do not mean minims: I mean drops dropped from an ordinary medicine-dropper, which is about half a minim dose) is given every hour for six hours. At the end of six hours the dosage is increased 2 drops. The belladonna mixture is continued every hour of the day and every hour of the night continuously throughout the treatment, increasing 2 drops every six hours until 16 drops are taken, when it is continued at this dosage; it is diminished or discontinued at any time if the patient shows belladonna symptoms such as dilated pupils, dry throat or redness of the skin, or the peculiar and incisive and insistent voice, and insistence on one or two ideas. It is begun again at reduced dosage after these symptoms have subsided. If the patient has an unusual sensitiveness to belladonna it will usually show itself in the first six or eight hours and the hourly dosage can be cut down to from 2 to 4 drops and raised by one drop every six hours. If, on the other hand, even 16 drops persisted in for twelve consecutive hours do not give dryness of the throat the dosage should be raised to 18 or 20 every hour until the dryness occurs and then the amount reduced.

At the tenth hour after the initial dose of morphin is given the patient is again given five compound cathartic pills and 5 grains of blue mass. These should act in six or eight hours after they have been taken. If they do not act at this time, some vigorous saline is given, and when they have acted thoroughly the second dose of morphin is given, which is usually about the eighteenth hour. This should be one-half the original dose, that is, one-third or three-eighths of the original twenty-four-hour daily dose. The belladonna mixture is still continued, and ten hours after the second dose of morphin has been given, that is, about the twenty-eighth hour, five compound cathartic pills are again given and 5 grains of blue mass, these again, if necessary, followed by a saline seven or eight hours later. After these have thoroughly acted at about the thirty-sixth hour, the third dose of morphin is given, which is one-sixth or three-sixteenths of the original dose. This is usually the last dose of morphin that is necessary. Again, ten hours after the third dose of morphin, that is, the forty-sixth hour, the five compound cathartic pills and 5 grains of blue mass are again given, followed seven or eight hours afterward by a saline, and one expects at this time to see the bilious green stool appear. When this appears, after the bowels have moved thoroughly, about eighteen hours after the third dose of morphin, about the fifty-sixth hour of treatment, 2 ounces of castor oil are given to clear out thoroughly the intestinal tract. Sometimes it is necessary to continue the belladonna mixture over one or two more cathartic periods before giving the oil. During this last period when the bowels are moving from the compound cathartic pills and before the oil is given, the patients have their most uncomfortable time. Their nervousness and discomfort can be controlled usually by codein, which can be given hypodermically in 5-grain doses and repeated if necessary; or some form of the valerianates may help them. About the thirtieth hour of treatment these patients should be stimulated with strychnin or digitalis, or both, every four to six hours.

Some patients cannot tolerate codein and break out into an urticarial rash or a fine red punctate rash or swelling and burning of the skin. In these patients relief can be obtained by dionin, which seems about twice as strong as codein in its power to relieve nervousness and the feeling of distress. It should be given, therefore, in doses of about 2 or 3 grains or less. Codein or dionin should be cut off as soon as possible after the castor oil has acted. It may be given during the next succeeding twenty-four hours if necessary, but if patients are for any reason taking codein for forty-eight hours

after they are through their treatment, they will usually persist in doing so and must be broken from this narcotic or they will from this return quickly to their morphin or heroin.

The withdrawal pains or pain in the joints and aching in the bones and muscles can sometimes be relieved by hypodermics of some form of ergot and strychnin, sometimes by massage, sometimes by sodium salicylate, sometimes by a salicylic compound combined with some of the coal-tar products such as antipyrin, phenacetin or pyramidon; they can always be eased up by codein or dionin. The addition of codein to these coal-tar products increases their analgesic effect. These patients have been in the habit of referring all their discomfort and distress to the lack of morphin and have consequently drifted into the habit of referring everything to the lack of it. For two or three days after they are off their drug any indiscretion in eating, or any attempt at too much physical exertion, will bring a recurrence of their withdrawal symptoms. This is simply due to exhaustion or to indigestion, and if treated as such quickly disappears without any narcotic. Insomnia is often a troublesome symptom after the patients are off their drug. This may have to be treated in some patients with doses of bromids, in others by chloral or by other various hypnotics. Veronal has, in my hands, given so much depression and produced so many bad after-effects that it should be avoided. The best hypnotic is muscular fatigue, and these patients should begin to exercise regularly and be built up physically as soon as their condition permits. Usually this is within a week after they are off their drug.

Patients who have been taking both morphin and alcohol should be treated for the morphin and can be tapered off at the same time from their alcohol. They are apt to have an active gastritis, which complicates their ability to retain their medication or to retain food. Sodium citrat in doses of from 5 to 10 grains every hour best relieves this condition, with or without from 10 to 20 grains of cerium oxalate or 5 grains of Tully's powder every two hours for one or two doses.

Cocain and morphin are not infrequently found as a simultaneous indulgence. This is the most difficult combination to treat. Formerly, in my early experience, I considered it not difficult, but later experience has made me realize that cocainism adds to the difficulty of treating a morphin patient. Usually as the effect of the morphin wears off these patients become delirious, unreasonable, unmanageable and exceedingly ugly. They do not know or realize what they are saying or doing and they make trying patients. Often on the morning following their delirium they will have no recollection of what they have said or done or of any of the suffering which they asserted they were enduring, and will declare that they had a very good night.

In treating an alcoholic the belladonna mixture and the five compound cathartic pills and 5 grains of blue mass are given simultaneously at the first dose. The belladonna mixture is continued every hour of the day and every hour of the night the same as with the morphin patients, and twelve hours after the initial dose patients are again given from three to five compound cathartic pills, and at the twenty-fourth hour after the initial dose they are again given the cathartics followed by salines if necessary, and again at the thirty-sixth hour. After these last cathartics, the bilious stools will appear, and by the forty-fourth or forty-fifth hour the castor oil is given. Sometimes it is necessary to carry on the treatment over another period, and the compound cathartic pills and blue mass are again given at the forty-eighth hour, which would bring the end of the treatment about the sixtieth hour. It may even be necessary to carry on the treatment one or two periods longer.

Elderly or very nervous patients who have been on a prolonged debauch are tapered off with 2 ounces of whisky for four or five doses through the first twenty-four hours. If these patients are excessively nervous it is necessary also to see that they sleep, and the mixture of chloral hydrate, 20 grains, morphin ⅛ grain, tincture of hyoscyamus, ½ dram, tincture of ginger, 10 minims, tincture of capsicum, 5 minims, and water, ½ ounce, which was recommended before, is the best hypnotic for them. These patients should also have cardiac stimulants such as strychnin and digitalis after the first twenty-four hours, or sooner if they are weak.

The cocainist can be treated like the alcoholic, except that no cocain is given at any time, and strychnin or some such stimulant must be given from the beginning of the treatment.

To break a man from his tobacco habit alone he should be allowed to taper off the first twenty-four hours or he can be cut off abruptly and should be treated like the alcoholic.

## RESULTS

I am often asked as to the success of this treatment and the percentage of patients who remain free from their addiction. This varies enormously with the individual patients and one can only judge from one's experience. My personal experience is that 11 per cent. of the morphinists and 12 per cent. of the alcoholics return for treatment. Doubling this percentage it still gives us 75 per cent. as remaining free from addiction. Of these a very high percentage are known to have stayed free.

## SCOPE OF THE TREATMENT

This treatment is not offered as a cure of morphinism or as a cure of delirium tremens or chronic alcoholism, as I said in the first article. It will, however, obliterate the terrible craving that these patients suffer when, unaided, they endeavor to get off their drugs or are made to go through the slow withdrawal without some medication to ease them. Compared with the old methods of either slow withdrawal or rapid withdrawal, it is infinitely superior. Deprivation of a drug is in no way equivalent to elimination of that drug from the body. Deprivation causes suffering; elimination relieves it. But neither this combination of drugs nor any other combination known to man can prevent persons, after they are free from their addiction—be it alcohol or morphin—from going out and repoisoning themselves by taking again the drug which has poisoned them and led them on to their habitual intoxication.

Again, as said in the first article, so long as a man lives and just so sure as that man lives, he can never again take a dose of alcohol for any reason whatsoever or in any form whatsoever without the danger of going again to excess. After the patients have been freed from their drug and from the desire for it, they are by no means cured of their former habits of life and environment, and, more especially, of their former habits of thought. Many of these patients are psychasthenics, and the problem of their regeneration is one of psychology to be reached only by psychanalysis and patient rebuilding of their distorted views of life. The quickest method to bring them back to health is to send these patients to some physical trainer in order that their bodies may be put in as perfect condition as their years

and the state of their viscera permit. To mollycoddle them and treat them as neurasthenic invalids means simply to increase the liability of their relapse; but to build them up bodily will do more to build them up mentally for the first three to six weeks than any other method of procedure. If, at the same time, it is possible to treat them psychologically, one will often be well toward the solution of the problem by the time that these patients have regained the full vigor of their physical health.

Many patients who come under the class of periodic inebriates and whose periodicity seems to occur with no known cause or reason are sufferers from chronic tobacco poisoning which, in reality, is the cause of their periodic alcohol inebriety. This is especially true of the excessive cigarette smokers and the many others who inhale their cigar or pipe smoke. These patients smoke to excess, and becoming nervous, increase their smoking that their nerves may be quieted. Finally they become so nervous through their tobacco that they must take some narcotic to quiet them and turn to alcohol. They are exceedingly intolerant to alcohol and after the first drink or so they are mentally not sober and then go on to the full spree. The vicious circle can be broken only by cutting off their tobacco, and unless the tobacco is cut off they will stop neither alcohol nor tobacco. They cannot stop their alcohol under these conditions, and their only chance is to stop the tobacco.

The alcoholic or morphinist is a man who is acutely or chronically poisoned by his drug, and through the poisoning of his intellect cannot be expected to reason or act in a normal way, although heretofore he has always been judged by the standard of normal human beings. Until we realize that we must unpoison him before we can expect his mind to act normally, we shall fail in the solution of the problems which confront us in dealing with alcoholics.

Each individual case has its own separate problems. This treatment is offered as the best means of unpoisoning the patient and putting him in a position where we can deal with him with a clear, unpoisoned mind. By treating these patients, then, as individuals, we can get at each one's own problems and keep him from self-destruction.

36 East Thirty-First Street.

---

## ANIMAL EXPERIMENTS WITH VON RUCK'S NEW TUBERCULOPROTEINS

R. S. CUMMINGS, M.D.

LOS ANGELES

In THE JOURNAL, May 18, 1912, appeared a preliminary announcement by Karl von Ruck[1] of his discovery of a tuberculin with which he asserted that he could produce immunity to tuberculosis in both man and animals.

Later he issued a pamphlet in which was given briefly his method of making this vaccine and the protocols of his experiments by which he demonstrated immunity. Also in another article[2] von Ruck discussed the subject in a little more elaborate way than that taken in his pamphlet.

His tuberculin, or vaccine as he termed it, contained in each cubic centimeter 10 mg. of protein of tubercle bacilli and a small amount of fatty extractives. In children this was injected in doses of from 0.05 c.c. to 0.6 c.c., depending on the age and number of doses given. One or two doses were given, but when two were used neither was so large as the single one.

In all 339 children were treated, both tuberculous and non-tuberculous. Examinations were made over a period extending from three to eight months following vaccination. "Prompt and uniform development of all specific antibodies was demonstrated after a single dose." Physical signs which were present frequently disappeared and "there was not a single instance in which a comparison did not indicate unmistakable improvement."

In a comparatively short time after 0.01 mg. of virulent tubercle bacilli was placed in "immune serum," that is, serum obtained from an animal which had been treated with von Ruck's vaccine, lysis was produced. When these bacilli, after being treated with the "immune serum" until lysis had been produced, were injected intraperitoneally into guinea-pigs, death was not produced, although controls injected with tubercle bacilli which had been treated with normal serum died in from five to six weeks.

Guinea-pigs after being "immunized" were infected by injecting 0.01 mg. of virulent tubercle bacilli into the lumen of the trachea. These were killed at the end of eight weeks and showed only slight enlargement of the lymph-nodes, no tubercle bacilli being found. The single control injected in the same manner as the "immunized" pigs died in twenty-three days, the autopsy findings showing generalized miliary tuberculosis.

Knowing the failure of other investigators to produce immunity to tuberculosis by the use of the dead bacilli, we (the staff of the Barlow Sanatorium, at which I was formerly resident physician) concluded to test the vaccine to see if we could obtain complete active immunity as asserted by von Ruck. Accordingly the laboratory of the Barlow Sanatorium purchased 10 c.c. of the vaccine and the work here reported was done in the sanatorium with the help and suggestions of Dr. Walter V. Brem, who was especially interested in the necropsy findings.

One c.c. of the vaccine was thoroughly mixed with 2 c.c. of sterile normal saline containing 0.25 per cent. phenol (carbolic acid). Of this solution .3 c.c. (1 mg. of tuberculoprotein) were injected each week for ten successive weeks into each of ten apparently healthy guinea-pigs. Injections were made underneath the skin of the abdomen after the hair had been clipped and the area sterilized. The dates of injection were as follows: Aug. 22 and 29, Sept. 5, 12, 19 and 26, and Oct. 3, 10, 17 and 24, 1912.

Five weeks after the end of the course of vaccine treatment of these animals, they were inoculated intraperitoneally with from 0.001 mg. to 0.1 mg. of virulent tubercle bacilli, culture H-37, obtained from the Saranac Laboratory for the Study of Tuberculosis. At the same time nine controls were injected intraperitoneally with the same amounts of virulent tubercle bacilli as the vaccinated guinea-pigs.

Tables 1 and 2 show briefly the weights at the time of inoculation and at death, dosage, days of life and necropsy findings of both vaccinated and control guinea-pigs.

It was noted that about the fourteenth day after the inoculations the vaccinated animals began to appear sick and by the twenty-first day this was very obvious. They did not eat well, their hair became ruffled, much of their

1. Von Ruck, Karl: A Practical Method of Prophylactic Immunization against Tuberculosis, a Preliminary Announcement, THE JOURNAL A. M. A., May 18, 1912, p. 1504.

2. Von Ruck, Karl: A Practical Method of Prophylactic Immunization against Tuberculosis, with Special Reference to Its Application in Children, Med. Rec., New York, 1912, lxxxii, 369.

activity. was lost and they had gnawed deep holes into the boards of their pens. By about the end of the fourth week the controls began to appear ill in quite the same way as the vaccinated ones.

It will be noted that all guinea-pigs died of generalized miliary tuberculosis and that all had involvement of lungs. liver, spleen, bronchial and mesenteric lymph-nodes, with the exception of one guinea-pig in which the spleen was free and one in which the liver was free. While one vaccinated guinea-pig lived much longer than any non-vaccinated, 150 days and 94 days, respectively, yet the average length of life was almost the same, 57.7 days for the vaccinated and 55.2 for the non-vaccinated.

TABLE 1.—VACCINATED GUINEA-PIGS INOCULATED NOV. 25, 1912.

| Pig No. | Weight 8/22/12 gm. | Weight 11/25/12 gm. | Amount of Inoculation, mg. | Date of Death | Life Following Inoculation, Days | Weight at Death | Necropsies |
|---|---|---|---|---|---|---|---|
| 291 | 630 | 600 | .01 | 12/27/12 | 32 | 510 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 292 | 585 | 750 | .001 | 1/ 2/13 | 38 | 510 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 293 | 720 | 821 | .1 | 1/10/13 | 46 | 530 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 294 | 750 | 900 | .001 | 3/ 7/13 | 102 | ... | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 295 | 645 | 870 | .01 | 1/16/13 | 52 | 570 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 296 | 540 | 750 | .1 | 4/24/13 | 150 | 450 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, uterus, and bronchial and mesenteric lymph-nodes involved. |
| 297 | 630 | 900 | .001 | 1/10/13 | 46 | 600 | Generalized miliary tuberculosis. Lungs, omentum, spleen, and bronchial and mesenteric lymph-nodes involved. |
| 298 | 435 | 740 | .01 | 1/18/13 | 54 | 480 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, uterus, and bronchial and mesenteric lymph-nodes involved. |
| 299 | 570 | 660 | .1 | 1/21/13 | 57 | 390 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 300 | 450 | 630 | .1 | 1/18/13 | 54 | 450 | Generalized miliary tuberculosis. Lungs, spleen, omentum, and bronchial and mesenteric lymph-nodes involved. |

TABLE 2.—CONTROLS INOCULATED NOV. 25, 1912

| Pig No. | Weight gm. | Amount of Inoculation, mg. | Date of Death | Life Following Inoculation, Days | Weight at Death | Necropsies |
|---|---|---|---|---|---|---|
| 279 | 780 | 0.1 | 1 /16/13 | 52 | 465 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. A cascating abscess filled the omentum. |
| 280 | 1,110 | 0.1 | 12/29/12 | 34 | 465 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. |
| 281 | 570 | 0.1 | 1 /10/13 | 46 | 555 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. |
| 282 | 750 | 0.1 | 2 /27/13 | 94 | 650 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. |
| 283 | 630 | 0.01 | 1 /18/13 | 54 | 540 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. |
| 284 | 570 | 0.01 | 1 /19/13 | 55 | 360 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. |
| 285 | 600 | 0.01 | 1 /16/13 | 52 | ... | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. One tubercle seen in right kidney. None in left. |
| 286 | 510 | 0.001 | 1 /18/13 | 54 | 510 | Generalized miliary tuberculosis. Lungs, liver, omentum, and bronchial and mesenteric lymph-nodes involved. |
| 287 | 510 | 0.001 | 1 /20/13 | 56 | 435 | Generalized miliary tuberculosis. Lungs, liver, spleen, omentum and bronchial and mesenteric lymph-nodes involved. Peritoneum studded with tubercles. |

## CONCLUSIONS

From our observations during these experiments, we must conclude that immunity was not produced by the vaccine, but it would seem possible that inasmuch as the vaccinated guinea-pigs became sick first, they were more susceptible at the time of inoculation than the controls.

I take this opportunity to thank Dr. W. Jarvis Barlow and the attending staff of the Barlow Sanatorium for their kindly interest and many helpful suggestions during the progress of this work.

1015 W. P. Story Building.

# ACCIDENTS FOLLOWING THE SUBDURAL INJECTION OF THE ANTIMENINGITIS SERUM *

SIMON FLEXNER, M.D.

NEW YORK

The antimeningitis serum has been employed with constantly increasing frequency since 1906-1907, and those physicians who have come to have the widest experience in its use are unanimous in the opinion of its high therapeutic value. Elaborate reports[1] have now been published from America, France, Germany, and still other countries, and they agree in indicating that the reduction in mortality caused by epidemic meningitis and brought about by the serum is from two-thirds to three-fourths of the average percentages occurring in the same periods and places among the patients not subjected to the specific treatment. There is, at present, no other effective means of treatment of the disease known.

* From the Laboratories of the Rockefeller Institute for Medical Research, New York.

1. For bibliography see Flexner: The Results of the Serum Treatment in 1300 Cases of Epidemic Meningitis, Jour. Exper. Med., 1913, xvii, 553.

It becomes, therefore, a matter of great importance to discover and then to ascertain the reasons for any harmful effects arising in the course of the serum treatment and attributable to the treatment itself.

That an immune horse-serum can be safely injected into the cerebrospinal meninges in the lumbar region was first shown in connection with the antitetanic serum, which has been repeatedly injected in this manner without causing, so far as the reported cases indicate, untoward symptoms. That the antimeningitis serum can be administered with safety in the same manner is attested by large numbers of instances among children and adults who have been treated with the serum for suspected or established epidemic meningitis. But that accidents may sometimes attend the subdural injection of a foreign serum is obvious. The meninges are in such close anatomic relationship with the central nervous organs that what affects the one may come to affect the functions of the other. Moreover, in rare instances the injection of horse-serum itself has, as is well known, exerted an injurious action. It becomes necessary, therefore, not only to ascertain what the accidents are that may follow the administration of the antimeningitis serum, but to determine their causes and thus to separate those which are avoidable from those which, at present, may be unavoidable.

We may dismiss as unimportant the ordinary forms and grades of serum disease that follow the subdural as well as the subcutaneous or intravenous injection of horse-serum; but the mere fact of their occurrence should make us alert to the possibility that the severer effects of so-called anaphylactic shock may also, even if rarely, arise. Such an effect was indeed first described by me;[2] but it will perhaps be most useful to consider the severer types of accidents thus far reported. They have been, on the whole, small in number and may be considered according to the several explanations that have been offered for them. They have been variously attributed, first, to anaphylaxis; second, to rapid lysis of the meningococci; third, to excessive intracranial pressure; and fourth, to poisoning by the phenol preservative sometimes present in the serum. Certain physicians having had large experience with the serum have not reported them at all. In one or two instances, on the other hand, the number reported has, as compared to the number of cases treated with the serum, been large. This disparity itself emphasizes the necessity for a careful and critical study of the circumstances under which the severe symptoms have arisen.

I prefer to begin this consideration with the fourth possibility, since it has been brought forward by Dr. S. P. Kramer to explain several unfortunate results which came to his attention in connection with the administration of the antimeningitis serum in the Cincinnati Hospital.[3] Dr. Kramer has undertaken to account for them on the grounds that the serum in certain individuals is delivered into an open central canal of the spinal cord, through which it reaches in a concentrated form the fourth ventricle, at which point the phenol preservative has ready access to the respiratory center in the medulla, on which it acts injuriously, with the result that respiration is paralyzed. This explanation assumes, first, that the central canal of the spinal cord is open in many individuals and, second, that the disturbances of respiration are poisonous or toxic in origin. In order to support his hypothesis Dr. Kramer performed several experiments on dogs. The experiments consisted in the injection into the vertebral artery of a phenolized serum, or in surrounding the exposed medulla with a solution of phenol in water or serum, which procedures are said to have given rise to symptoms of respiratory failure simulating those following the subdural injection of the antimeningitis serum. Since no actual relationship exists between the conditions of these experiments and the conditions occurring in the subdural injection of the antimeningitis serum in human beings, they need not be regarded seriously; and this is particularly true since, as will immediately be shown, it is superfluous to invoke the presence of the phenol in the serum in order to account for the serious results mentioned.

Thus, if the explanation offered by Dr. Kramer is the correct one, no accidents should arise when a serum containing no preservative whatever is employed for subdural injection. The antimeningitis serum produced in France is prepared at the Pasteur Institute by Dr. Dopter and is called by his name. It is supplied in sterile containers, without preservative, and is merely stored for a time before use in order to remove the complement and reduce the risks of ordinary serum disease; and yet, in rare instances, serious symptoms, recalling those described by Dr. Kramer, have followed the administration of Dopter's serum. While it is true that the accidents are not, as a rule, fatal, yet in a very few cases death followed within a short time after the injection. It is, moreover, significant that the injection of the phenolized serum into the lateral ventricle is borne quite as well as its usual injection into the lumbar meninges. Now there does not exist a more direct path to the fourth ventricle than that of the cerebral ventricles. If, therefore, the mere presence of the phenolized serum within the fourth ventricle in children sufficed to bring about severe poisonous effects we should look for such a result from the intraventricular injections. And yet, not only has this not happened, but the latter injections have proved in several remarkable instances to be life-saving.[1] The accidents, moreover, have not been limited to children but have been observed in adults in whom a patent central canal of the spinal cord, if it exists at all, must be an extremely rare occurrence.

The experience with Dopter's serum, as well as with the intraventricular injection of the phenolized serum, disposes once and for all of the hypothesis of a toxic effect as accountable for the symptoms. We turn, therefore, to the consideration of anaphylactic shock resulting from the administration of the antimeningitis serum. In an early publication we described such an instance in a young child who, after receiving several injections of the serum in close succession without disturbing consequences, reacted severely to an injection made after an interval of sixteen days to counteract a relapse of the infection. The result was an acute anaphylactic reaction from which the child recovered only to succumb some days later to the meningitis itself. Since then some other instances of supposed anaphylaxis have been described in patients who had previously been injected with diphtheria antitoxin, or in whom, because of relapse, the injections of the antimeningitis serum have had to be resumed after intervals of days or weeks.[4] What is particularly impressive and reassuring is the

2. Flexner and Jobling: Serum Treatment of Epidemic Cerebrospinal Meningitis, Jour. Exper. Med., 1908, x, 141.

3. Kramer, S. P.: A Possible Source of Danger in the Use of Antimeningitis Serum in Young Children, THE JOURNAL A. M. A., May 3, 1913, p. 1348; Lancet-Clinic, 1913, cix, 304.

4. The reported fatal cases of this class have been as follows: Levy, Klin. Jahrb., 1911, xxv, 188, one; Hutinel, Presse méd., 1910, xviii, 497, two, one of which was complicated by tuberculous meningitis: Debove (cited by Hutinel, *loc. cit.*, p. 498), one; Chevrel and Bourdinière (L'hyg. gén. et appliq., 1910, v, 20), one.

fact that these severe reactions, which, theoretically, have been very much feared, have been, on the whole, very infrequent and, generally speaking, not fatal.

But severe symptoms have also been noted to follow a first injection of the serum. The question therefore arises as to whether these have been in all instances examples of anaphylaxis corresponding to the severe shock that occasionally follows a first subcutaneous injection of diphtheria antitoxin.[5] This is indeed the crucial point. In certain of the instances reported by Dr. Kramer and Dr. Parmelee[6] a severe reaction followed, not on the first, but on the second or third injection of the serum, given at brief intervals. In these instances anaphylactic shock can be excluded. Dr. Parmelee kindly supplied me with a brief account of the cases from which I derive this conclusion. If, then, the effects under discussion are not due either to the poisonous action of phenol or to anaphylaxis, what is their cause?

In the course of the immunization of horses with cultures of the meningococcus for the purpose of producing the antimeningitis serum the fact has been noted that the intravenous injection of the cultures, which at first is well borne, later becomes a source of danger to the animals. That is to say, after a certain degree of immunity has been established the further injection of the meningococcus cultures directly into the veins produces such a severe effect on the animals that some of them die suddenly within a short time after the inoculation. In order to avoid this result it has been found necessary to carry on the immunization of horses by the slower but safer subcutaneous injection of the culture. Dopter has been especially impressed with this phenomenon and has undertaken to explain it on the supposition that the immune animal possesses the power of rapidly dissolving the introduced meningococci, through which lysis there is set free such a large amount of dissolved toxin that the animal dies of an acute poisoning. In support of this view he has observed that when guinea-pigs are inoculated with a mixture of meningococci and immune serum they succumb in a short time and in a manner recalling the sudden death of the horses; while this effect is not observed[7] when a corresponding amount of the meningococcus culture is inoculated without the serum. On the basis of these observations an attempt has been made to explain the severe symptoms sometimes following the first injection of the antimeningitis serum on the supposition that the serum brings about such a rapid dissolution of the meningococci within the cerebrospinal exudate as to cause an acute poisoning of the nervous system. This explanation is surely inadequate to account for most instances observed in man, since it does not apply to the cases in which severe symptoms arose but in which the number of meningococci within the inflammatory exudate has been very small and altogether insufficient to give rise to the soluble toxin in question, or in which the meningitis has been caused not by the meningococcus but by the pneumococcus.[8]

There remains one other possible source of the accidents, namely, that of increased intracranial pressure. In this connection it should be recalled that the severest symptoms relate to disturbance of respiration and in a far slighter degree to the heart's action. Usually the respiration fails while the heart may continue still to act well. For this reason artificial respiration has frequently sufficed to restore the patient. That a dangerous degree of increased intracranial pressure might be produced by the subdural injection of the antimeningitis serum was recognized at the inception of the serum treatment, whence it was advised to inject less serum than cerebrospinal fluid removed and not to employ maximal doses.[2] Because of the rarity of serious effects this warning has fallen more and more into disuse until now the rule is to give far larger doses of serum than were originally employed and often to disregard the relation of dose of the serum to age of the patient. It is necessary always to keep in mind the dangers arising from increased intracranial tension. Cushing, who has especially studied the condition experimentally and in human patients, states that the medullary center of respiration already impaired from compression endures an additional burden less well than a medulla not so embarrassed. He observed that in death from a fatal increase of intracranial tension the arrest of respiration precedes that of the heart; and he pointed out that in clinical states representing conditions of general compression, among which is acute meningitis, the tension of the fluid in the cerebral meninges more nearly corresponds with the degree of pressure capable of producing the symptoms of compression.[9]

We see, therefore, a close relationship between the effects of increased intracranial tension and the serious symptoms which have sometimes arisen on the injection of the antimeningitis serum. Koplik[10] early suspected this danger and therefore advised the substitution of the injection of the serum by gravity for injection by syringe. The employment of the gravity method has another important advantage, namely, that it permits the immediate withdrawal of fluid at the first sign of any embarrassment to the function of respiration. Recently a further safeguard has been introduced by Sophian,[11] who employs the registration of the blood-pressure to supply an ocular guide to the injection of the serum by the gravity method. Sophian has probably had the largest single experience in the personal administration of the antimeningitis serum and he reports some 1,500 injections without a single serious accident. From the effort to guard against this preventable danger Dr. Kramer has made the following wholly gratuitous assumption in his paper: "Indeed, so common has this catastrophe become that in a circular issued by the New

5. This has been the prevailing view. But the especial susceptibility of patients in a desperate condition at the time of injection, that is, fulminating or very severely ill and usually unconscious subjects, should arouse suspicion. Netter (Compt. rend. Soc. de biol., 1910, lxix, 12) has reported four such fatal cases among 100 patients treated by him; Hohn (Klin. Jahrb., 1908, xx, 368), one case among thirty-seven; Martin, of the Pasteur Institute Hospital (Paris Letter, THE JOURNAL A. M. A., Nov. 16, 1912, p. 1807), two cases among twenty treated, with which are to be compared the 7 cases of Dr. Kramer and the 8 cases of Dr. Parmelee. Most observers have not experienced them. Jehle (Wien. klin. Wchnschr., 1909, xxii, 619) refers them to status lymphaticus.

6. Parmelee, A. H.: Epidemic Cerebrospinal Meningitis, THE JOURNAL A. M. A., March 1, 1913, p. 659.

7. Briot and Dopter: Pathogénie des accidents observés au cours de l'immunization des chevaux contre le méningocoque, Compt. rend. Soc. de biol., 1910, lxix, 10; Action expérimentale du sérum antiméningococcique sur le méningocoque, *ibid.*, p. 126. Dopter, Ch.: Action bactériolytique comparée du sérum antiméningococcique sur les méningocoques et les germes similaires, injecté par voie veineuse, *ibid.*, p. 524; Le pouvoir lytique du sérum antiméningococcique est-il spécifique?, *ibid.*, 546; Différentiation du méningocoque et des germes similaires par l'"épreuve du péritoine," *ibid.*, p. 600.

8. Netter, A.: Compt. rend. Soc. de biol., 1910, lxix, 12, 166. Netter, A., and Debré, R.: La méningite cérébro-spinale, Paris, 1911, p. 261.

9. Cushing, H.: Mütter Lecture, 1901, Some Experimental and Clinical Observations Concerning States of Increased Intracranial Tension, Am. Jour. Med. Sc., 1902, cxxiv, 375.

10. Koplik, H.: The Serum Treatment and the Prognosis, under Various Forms of Therapy, of Cerebrospinal Fever, Med. Rec., 1908, lxxiv, 557.

11. Sophian, A.: A New Method for Controlling the Administration of Serum in Epidemic Meningitis, THE JOURNAL A. M. A., March 23, 1912, p. 843; Epidemic Cerebrospinal Meningitis, St. Louis, 1913.

York Department of Health, directions are given as to what should be done when breathing stops following the administration of the serum." The Commissioner of Health of the New York Department of Health has already replied to this unwarranted statement and intimated that the instructions for the administration of the serum were prepared to avoid the dangers the disregard of which may be followed by such serious consequences.[12]

If we now return to the consideration of the circumstances surrounding the treatment of the cases reported by Dr. Kramer, as well as those referred to by Dr. Parmelee, we at once notice the heaping up of unhappy accidents, while similar ones have arisen with rarity in other places. This fact alone suggests causes local in nature, since it can hardly be imagined that the extraordinary experience is the result either of anatomic conditions in the patients or peculiarities in the infecting meningococcus. So far as I have been able to make out, the doses of serum employed in the cases reported by Dr. Kramer, as well as those referred to by Dr. Parmelee, have, almost without exception, been maximal, and this is particularly true among the children in whom severe symptoms developed.[13] Moreover, there is no indication of the use of safeguards in the administration of the serum. The injections, as far as is stated, were made with a syringe. In a number of instances the accident occurred, not at the first, but at some subsequent injection of the serum, which itself is hardly consistent with the supposition of the action of a toxic agent. Altogether, it seems to me that the unhappy experiences can be explained more satisfactorily on the supposition that they resulted from increased intracranial pressure than that they were examples of anaphylactic shock. Since, in some instances, the severe symptoms did not arise on the first injection, but on the second or third injection of the serum, given in close succession, it is quite certain that anaphylaxis played no part. It is equally certain, in view of what has already been stated, that the phenol preservative can be excluded. There remain, therefore, two possibilities; namely, first, that the severe effects were caused by toxins liberated by the immune serum from the meningococci, which then must have been present in large numbers, or, next, that they were the result of excessive intracranial pressure. That they were not caused by meningococcus toxin is shown by the fact that in some of the reported cases the cerebrospinal fluid removed contained either few microorganisms or even none that were demonstrable in microscopic preparations. Hence, the indications are that either in all the instances, or in practically all, excessive intracranial pressure was the source of the accidents.

We must not lose sight of the essential fact that in epidemic meningitis the struggle is with a highly fatal disease and the one means now possessed to combat it is the antimeningitis serum. From this it follows that it is not justifiable to withhold the remedy in spite of some small risk, in view of the far greater dangers to which the patients are exposed by the disease itself. Nor is it always possible to ascribe serious symptoms to the serum even when they follow closely on the treatment. Sudden death in epidemic meningitis is a not infrequent occurrence; and cases have even been reported in which death has taken place while the physician was engaged in getting ready to make the serum injection and even before lumbar puncture had been performed. The attempt to discredit the antimeningitis serum on the basis of an unfortunate experience seems, when everything is considered, hardly defensible.

12. Lederle, E. J.: The Treatment of Cerebrospinal Meningitis with Specific Serum, Lancet-Clinic, 1913, cix, 485.

13. Dr. Kramer's patients received serum as follows: In a child of 10 months 20 c.c. of cerebrospinal fluid were removed, and 20 c.c. of serum were injected; in one of 4 years 30 c.c. of cerebrospinal fluid were removed and 30 c.c. of serum injected; in one of 3½ years 20 c.c. of fluid were removed and 15 c.c. of serum injected; in one of 7 years, 45 c.c. of cerebrospinal fluid were removed and 40 c.c. of serum injected; in one of 5 years, 25 c.c. of cerebrospinal fluid were removed and 37 c.c. of serum injected; a second injection of 30 c.c., on the next day, produced no symptoms; the following day 30 c.c. of fluid were withdrawn and 30 c.c. of serum injected, followed by death; in one of 10 years, 40 c.c. of cerebrospinal fluid were removed and 40 c.c. of serum injected; in one of 9 years, 50 c.c. of cerebrospinal fluid were removed and 40 c.c. of serum injected.

Dr. Parmelee's patients who succumbed after the first injection were adults. There is no record of the quantity of cerebrospinal fluid removed. They received respectively 45 c.c., 45 c.c., 40 c.c., and in one case the quantity is not mentioned. The patients who succumbed after the second injection included a child of 5 years, in whom the first dose was 20 c.c. and the second 15 c.c.; an adult of 50, in whose case the record states merely that 45 c.c. were given in all and does not refer to the cerebrospinal fluid removed; an adult of 40 years, who is said to have received 30 c.c. in all; and a child of 2 years who received 25 c.c., and twelve hours later 20 c.c., and regarding whom it is not stated whether or not cerebrospinal fluid was removed.

---

## EXPERIENCE WITH OVER ONE THOUSAND CASES OF A FORM OF CHRONIC URETHRITIS *

SYLVAN H. LIKES, M.D.
AND
HERBERT SCHOENRICH, M.D.
Visiting Physicians in Dermatology and Genito-Urinary Diseases to the Hebrew Hospital of Baltimore
BALTIMORE

It is generally conceded that there are few conditions more nerve-racking or distressing to a person than an infection with a venereal disease. This is particularly manifested and emphasized in those afflicted with a long-standing urethritis. The serious nature of the maladies which may be acquired through sexual intercourse is being daily impressed on the public by the dissemination of literature bearing on this subject. Most men are already cognizant of these dangers, however, either in having been victims themselves, or from knowing the experience of others. The patient has to bear not only the physical suffering incident to venereal diseases, but also the mental distress due to the embarrassing secrecy of the situation, to the objectionable restrictions, which frequently cause humiliation, to fear of exposure, to the danger of infecting others, and to the possibility of the many painful and serious complications. However well-recognized these facts may be, they apparently do not and never will deter men from gratifying their sexual inclinations. Therefore it becomes incumbent on us to give this class of patients our earnest attention and best endeavors.

A study of the mental attitude assumed by men regarding the condition of their sexual organs is interesting. We have found most patients to be safe and sane, fortunately, so that they will follow instructions fairly well and persist in the treatment, even if it is weeks or months before they are pronounced cured. Then there is the highly nervous or ultraconservative man who is more or less of a fanatic or neurasthenic. He persistently complains and worries over the most trivial conditions, exaggerating every symptom and pain, however insignificant. When a patient of this class has gonorrhea, he acquires the objectionable habit of stripping the urethra at frequent intervals, following

* Read at the One Hundred and Fifteenth Annual Meeting of the Medical and Chirurgical Faculty of Maryland, April 22-24, 1913.

the stripping with a macroscopic examination of the urine. Should he find any discharge, whatever the quantity or character, or should the urine contain the minutest shreds, it will prey on his mind, causing despondency, and psychic disturbances out of all proportion to the disability. It is not always the ignorant who make up this class, many being the more intelligent patients. Finally, we have the reckless fellow who is too ignorant or too careless to understand the serious nature and grave consequences incident to venereal infections and fails to realize that the essential step in promoting a cure is proper attention. He believes that the absence of a purulent discharge in gonorrhea is significant of a cure, and neglects medical advice, especially when the treatment in any way inconveniences him. He restricts himself to nothing, and permits his condition to run on from bad to worse, possibly infecting others as well as jeopardizing his own welfare.

In the treatment of a urethritis it first becomes necessary to ascertain the nature of the most important symptom, namely, the discharge, particularly if gonococci are the underlying cause. However simple this may be in acute cases, in chronic conditions it is not always an easy matter to determine and, as the treatment in non-gonorrheal urethritis is so essentially different, it is of paramount importance to prove decisively the presence or absence of the gonococci.

It is not our intention to go into detail as to this examination, but, speaking generally, it includes:

1. A microscopic and bacteriologic examination of the urethral, prostatic and seminal vesicular secretions obtained by the usual proceedure of massage, etc., and of the urinary sediment. The possibility of the prostatic utricle and Cowper's gland harboring the infection must also be borne in mind. These examinations to be made under favorable, and if found negative, under unfavorable conditions; namely, after the drinking of alcoholic beverages, preferably beer, after exercise, and after the anterior urethra has been irritated by the passing to and fro of an abonle (bulbous bougie), the largest that the meatus will admit. The procedure last mentioned is important for it not only helps to reveal the condition of the anterior urethral mucous membrane but, after its application, gonorrheal organisms which have been deeply imbedded in the mucous membrane or particularly in the follicles and infiltrated areas, and have there assumed a more or less latent state of activity, will again show their presence in clinical manifestations and may then be detected by the usual bacteriologic examination.

2. The complement-fixation test. This test is based on the same theory as the Wassermann test in syphilis. Mueller and Oppenheimer[1] deserve the credit of being the first to describe this test, and for having performed it on patients suffering with gonorrheal arthritis. The stumbling-block has been in the antigen, owing to the fact that the different strains of gonococci serologically act independently. Schwartz[2] and McNeil prepared polyvalent antigens and found that the one containing twelve strains gave the best results. The test promises much for the future as a means of testing the presence of gonococci in the human body.

When non-gonorrheal, the discharge may be due to a variety of causes:

1. It may be due to infections with other organisms, such as the colon bacillus, the staphylococcus, the tubercle bacillus, *Micrococcus catarrhalis*, etc.

2. The discharge may be secondary to non-gonorrheal prostatitis, manifested by a more or less indurated, large or normal-size gland, the secretion showing pus-cells with or without organisms.

3. The discharge may be non-bacterial, due to gouty, rheumatic or lithemic disturbances, or to traumatism.

4. The discharge may be due to a urethritis secondary to a cystitis or pyelitis, or occurring during the course of an eruptive fever. Syphilis and grippal infections also occasionally give rise to a urethritis.

5. The discharge may be due to granulations and infiltrations of the urethra (non-gonorrheal).

In our experience the last-named form, granulations and infiltrations of the urethra, outnumbers by far all the others in making up the list of non-gonorrheal urethral conditions; and it is on this class that we desire to lay particular stress.

### GRANULATIONS AND INFILTRATIONS OF THE URETHRA

The condition was described first by Otis and later by Oberlander, who made urethroscopic studies of the urethra and described these pathologic areas more or less minutely and divided them into soft and hard infiltrations.

The soft infiltrations are localized foci of round-cell infiltration chiefly around the urethral glands, the forerunner of a connective-tissue change. Slightly elevated granular areas or distinct granulations may also be seen. The catarrhal condition present over these areas and the desquamated epithelium is the source of the discharge found at the meatus. Hard infiltrations, the advanced stage of the soft, show that connective-tissue formation has taken place. The walls of the canal in these places are harder, owing to the presence of fibrous tissue. Distinct narrowing (beginning stricture) is observed. It is not our aim to differentiate the varieties of these urethral infiltrations, but to locate them, irrespective of their condition, whether hard, soft or medium, and to give the method and urge the importance of the restoration of the urethra to its normal caliber and distensibility.

The usual symptoms of this form of urethritis consist of nothing further than a more or less purulent drop which collects at the meatus from time to time, or is seen only after stripping the urethra, particularly in the morning—the notorious "morning drop"—or when the patient has refrained from passing urine for some hours. There is little or no pain, except perhaps during periods of intense sexual excitement. There is no disturbance in micturition, but the urine in the first glass will invariably contain shreds, that in the second and third being clear; or, if the anterior urethra is first washed out, all glasses will contain clear urine. Trifling as these manifestations may be, it is just such patients who run from one physician to another and undergo the extremes of treatment. Advised by some to let it alone, in the hands of others they go through the whole gamut of treatment—prostatic massage, irrigations, instillations, injections, vaccines, serums and instrumentations of various kinds and degree, to say nothing of balsams, *ad nauseam* for not only the patient but also the doctor as well. Realizing the importance of relieving this class of patients both physically and mentally, we have pursued the following method:

After a thorough examination has proved the absence of the gonorrheal organisms or other infections, or of any involvement of the posterior urethra, prostate and other adnexa, we may be certain that the focus of trouble is in the anterior urethra. This can and must be found

1. Mueller and Oppenheimer: Wien. klin. Wchnschr., 1906, No. 19, p. 894.
2. Schwartz: Am. Jour. Med. Sc., 1911, cxli, 693.

by the introduction of an aboule of sufficient caliber to stretch the walls of the urethra, so that in contradistinction to the normal smooth mucous membrane the granular and infiltrated areas may be felt as rough spots or perhaps as actual obstructions. It is our belief that the degree of distensibility of the normal urethra is far greater than is generally taught and accepted; consequently we find that to demonstrate these pathologic lesions requires instruments of much larger caliber than commonly employed. An aboule, the largest that the meatus will admit, may or may not detect these spots; for instance, the urethra may feel perfectly smooth with No. 30 F., but with No. 33 F. distinct roughness will be observed, and a 35 F. may be arrested at this thickened area. Another urethra may feel smooth with 33 F. and require a 35 F. to detect the pathologic areas. As the caliber of the urethra varies in different individuals we cannot place the normal at any fixed number. It may be put down, almost as an invariable rule, that when the symptoms as described are present, the proper search of the anterior urethra with the proper size aboule will surely detect the area whence the morning drop or mucopus has its origin. The one thing above all others likely to interfere with the proper search of the urethra to detect these infiltrated areas is a meatus too small to admit an aboule of sufficient size. It is an anatomic fact that the meatus is the narrowest point of the urethra; therefore, should the meatus be of insufficient caliber, one need not hesitate to perform a meatotomy and remove the obstacle which blocks the way for the proper examination and future cure. Indeed, if the infiltrations are near the meatus, which is often the case, the meatotomy alone without subsequent dilatation will effect a cure.

### AUTHORS' METHOD OF TREATMENT

Our method for performing meatotomy has already been described in detail.[3] Briefly, it consists in suturing the edges of the skin and mucous membrane on either side of the median incision on the floor of the urethra. This suturing of mucous membrane to skin leaves no raw surfaces to give rise to troublesome bleeding or possible agglutination of the cut edges which would afterward necessitate their being pulled apart, or kept open by the use of plugs. The freedom from pain, annoyance and discomfort experienced by the patient after meatotomy done in this way justifies one in making use of this operation more frequently, especially as it so markedly facilitates the dilating process.

In addition to the ordinary bougies, various instruments, particularly the two-bladed dilators of Oberlander and the four-bladed dilator of Kollman, were devised for the purpose of removal of these areas of infiltration. These dilators have the advantage of not requiring a large meatus, but the many objectionable features outweigh the advantages. Some of these are that the dilatation is not uniform; in hard infiltrations the dilator yields rather than the thickened area itself; furthermore, asepsis is carried out with difficulty and the instruments are expensive, fragile and easily broken. In the event that a meatotomy was necessary, and allowing sufficient time for the proper healing of the wound, a fairly large aboule, about a No. 30 F., is introduced into the urethra as far as the bulb. Any obstructions or rough spots may easily be felt by the examiner, particularly as the instrument is being withdrawn. Should nothing be detected with a 30 F., larger sizes are introduced one after another until one of sufficient caliber is reached that will detect these areas. The number, extent, character and location of the areas should be noted, but the technicalities of the actual measurements with various instruments devised for this purpose are entirely superfluous and have no practical bearing on the future treatment.

To obtain the best results in the removal of these infiltrations it is imperative to make each treatment as painless as possible. This may be successfully accomplished by a simple method of using the local anesthetic. The technic consists in introducing into the urethra a 1/8-grain cocain tablet as far back as the bulb. This is easily executed with a bayonet-shaped ear-forceps well lubricated with glycerin or other lubricant, preferably one which is not oily. Four of these tablets are required to produce the necessary anesthesia. They are deposited in the urethra, beginning at the bulb, the last one being at the meatus. With the fingers closing the meatus, the canal is massaged so that the cocain is well and effectually distributed. The advantage of this method over the use of solutions is that not infrequently the solution, unless precautions are taken, will pass back into the bladder and thus fail to accomplish its desired purpose. Furthermore, it is less dangerous and incidentally less expensive, for the amount of cocain employed is much smaller than when used in solution. We have followed this method thousands of times and have yet to see the slightest untoward symptoms.

Allowing five minutes for the cocain to act, a straight or curved bougie of the same caliber as the number of the aboule with which the pathologic areas were previously detected, is introduced into the urethra as far as the bulb. Gentle massage over the now distended urethra may be used, although this is not absolutely essential. The instrument is allowed to remain *in situ* for five minutes unless the introduction was easy and accompanied with but little resistance, in which case it is withdrawn and the next size inserted and allowed to remain. The amount of bleeding likely to follow this instrumentation will of course depend on the extent to which these infiltrations have been stretched and broken.

The interval before the next treatment, and the decision whether the same number bougie or one of larger caliber should be used, depend wholly on the amount of reaction following the previous treatment, namely, bleeding and pain. In any case it is advisable in subsequent treatments to begin with an instrument of the same size as that employed on the previous occasion, and then to follow it up with the next number. Naturally a great deal will depend on the judgment and experience of the operator to determine the length of time between treatments and how much to do at each one. The old adage, "more haste less speed," is appropriately applied here and should be borne in mind. In our experience we have found that the intervals between treatments should never be less than five days, and as larger instruments are indicated, the caliber should never exceed one number at a time and preferably not more than one number per treatment.

It is well from time to time to examine the urethra with various sizes of aboules, to note what progress has been made toward ironing out the rough areas which, in order to be detected, would now require an instrument of larger size. For instance, a No. 34 F. aboule which might previously have been arrested or might have caused considerable bleeding in its passage, can now be passed easily with little or no hemorrhage following. The treatment along these lines should be continued

3. Likes, Sylvan H., and Schoenrich, Herbert: Meatotomy: A Simple Method, THE JOURNAL A. M. A., May 3, 1913, p. 1359.

until an aboule from five to ten points larger than the one originally used can be passed through the urethra without being arrested and without causing much bleeding. When this has been accomplished and sufficient time, generally about two weeks, has elapsed after the last treatment for the resulting soreness and edema to disappear entirely (the edema in our opinion acting like Bier's passive hyperemia and helping to absorb the inflammatory products), it will generally be found that the mucus will no longer appear and the shreds be so reduced in quantity that probably only a few flakelets will be left. Should the treatment, however, not have the desired result, the stretching process must be resumed and the urethra dilated up to a higher point. One may feel almost certain that with the proper degree of stretching, differing in different individuals, a cure will almost invariably result when the treatment is carried out to a sufficient extent to restore all parts of the anterior urethra to its normal caliber. It will rarely be found necessary to use any injection treatment or internal medication; but it is suggested that occasionally smears be made. In the event that numerous organisms are found, mild non-irritating injections will not be amiss.

While we recognize the excellent work and achievements so recently accomplished by improved urethroscopes in the posterior urethra their application in the anterior urethra has not in our experience given the same gratifying results, except for diagnostic purposes.

No attempt has been made in this article to tabulate the results in the large number of our cases of this form of urethritis, extending over a period of many years, or to append burdensome statistics of the percentages of cures and failures; but our results have been so uniformly gratifying and successful that we do not think it amiss to direct the attention of the profession to this phase of anterior urethritis. We believe that if these fundamental facts are borne in mind, valuable service can be rendered by this simple method of careful and thorough exploration of the urethra, with subsequent systematic dilatation, and that a class of patients who are frequently a bugbear to the practitioner as well as to the specialist may be permanently cured. These patients often give a history of having gone through a variety of treatments, conscientiously following all forms of restrictions necessary and unnecessary until they become mental and physical wrecks; and incidentally financially embarrassed and thoroughly disgusted with themselves, the doctor and gonorrhea.

1134 Linden Avenue.

---

## CASE OF (SYPHILITIC?) ULCER OF THE BLADDER

IRVING SIMONS, B.S., M.D.
NASHVILLE, TENN.

On account of the rarity of ulcer of the bladder, in behalf of its successful treatment, and lastly, on account of some unique features in this particular case, it occurred to me that it might be worth recording.

*History.*—The patient, P. J., male, aged 24, house-painter, married, denies gonorrhea and lues. He has three healthy children; all have come under observation, and have been thoroughly examined. Wife has had no miscarriages. For almost two years he has had hypogastric pain, dull and dragging in character; it was at first intermittent, but now has become practically continuous day and night. Pain increases as soon as the bladder becomes even moderately distended with urine, so that he has been voiding about every hour daily, and during the last six months about five or six times at night. He experiences relief after emptying the bladder. There is no loin pain, or pain suggestive of either renal or ureteral stone. He has never noticed any abnormality in the urine passed at any time. He complains of dyspnea practically all the time, even on very slight exertion. About a year ago he had an attack of weakness, loss of appetite, some fever (?), and lost 15 pounds in weight; was suspected of being tuberculous.

*Record of Micturition.*—Patient voided urine, November 11, at 6:00, 7:20, 8:00 and 8:25 p. m.; three times during the night; at 6:00 a. m., November 12, and three times from 6:00 to 11:00 a. m.—during seventeen hours, eleven times.

*Examination.*—(Abstract) November 12: Negative, except for the following: Lungs: A few subcrepitant râles heard just above the left clavicle at the end of inspiration. Abdomen: Not tender to pressure. Prostate: Somewhat generally enlarged; not tender; no nodules felt. Urine: Several examinations showed clear, amber, acid urine without sediment; normal except for the presence of a moderate number of white cells in centrifuged specimen. These were present in every examination. No red cells present. Urine repeatedly negative for tubercle bacilli.

*Course.*—December 3: Stone searcher passed; no stone felt.

December 5: Cystoscopy. In the region just behind the trigone several round ulcers with clean-cut edges, about twice the size of a normal ureteric orifice; on one of them an attached blood-clot. Left ureteric orifice not enlarged, but covered with a bit of mucus. Right ureteric orifice somewhat irregular, due to the proximity of a larger irregular, ulcerated patch adjoining it on its lateral aspect. Just mesial to the right ureteric orifice and in the trigone, a very small reddened spot, resembling a tubercle that has not yet ulcerated.

A few bladder irrigations were given with silver nitrate, but patient passed from observation until six weeks later, when he returned, complaining of exacerbation of the condition, especially of the hypogastric pain. Urine showed red as well as white blood-cells.

January 22: Cystoscopy: Entire trigone and small part of post trigonal region looked raw, angry, red; markedly injected; no distinct ulcerations seen. Indigocarmin injected and a dark blue stream appeared from both ureters in twenty minutes.

On account of lack of satisfactory improvement under local treatment, a complement-fixation test for syphilis (Noguchi method) was done February 15, and proved positive.

Deep injection of mercury salicylate in ordinary doses about four or five days apart were instituted, and after the fifth injection the patient was symptomatically cured of the hypogastric pain and frequent micturition. Five more injections were given, and treatment stopped March 17.

A second Noguchi reaction done April 5 (and done with great care, along with several slightly positive serums) proved absolutely negative.

Cystoscopy on April 15 showed a normal bladder.

At the present time, May 30, 1913, the patient remains symptomatically cured.

This case, while not unique, is, I believe, worth recording. The presence of ulcers in the bladder, the failure to respond to treatment with the usual drugs, the positive Noguchi reaction, the rapid disappearance of the symptoms after a few mercurial injections, and the negative Noguchi reaction following these injections, would suggest a diagnosis of syphilis of the bladder.

Objections could be raised on the ground that some chronic inflammatory processes are favorably affected by the injection of mercury; and it is to be inferred that this is the point of view taken by Buerger in his second case of bladder ulcer in which, because the lesion did not react to fulguration, he advised and obtained a cure

with mercurial injection in the presence of a negative Wassermann.[1]

In favor of the syphilitic etiology is the fact that along with the cure due to the deep injection of mercury the complement fixation reaction became negative. This is of importance, because it is a substantiated fact that in cases with non-specific positive reactions the non-specific amboceptor in the patient's serum does not, as a rule, disappear after the institution of mercurial treatment.

Whether this case is the result of inherited syphilis can only be suspected. In favor of this, however, is the absence of any syphilitic manifestations in any of the third generation, who have been thoroughly examined, and the absence of history of miscarriage of any of the issue.

I regret that photographs of the bladder lesion were not made at the first cystoscopy. They were seen at that time also by Dr. E. M. Sanders, who agreed with me that tuberculosis was the most probable diagnosis. A careful reading of the description will show that we were somewhat justified in this tentative diagnosis.

For the Noguchi tests I am indebted to Dr. R. L. Jones of the City Board of Health.

132 Eighth Avenue North.

---

## ADVANCED TREATMENT OF PUERPERAL INFECTION *

ROBERT T. GILLMORE, M.D.
CHICAGO

The history of the treatment of puerperal fever parallels our most intricate problems. It has taken many years and many headstones to enable us to read the handwriting on the wall and abandon the indiscriminate uterine curettage, uterine and vaginal douching, hysterectomy and vaginal drainage, and dissection of thrombosed veins. This does not seem strange when we pause to consider the difficulty which the average author of medical books experiences in eliminating the traditions of medicine from his text. Added to this is the chaotic status of our nomenclature, which has not reached a universal classification. While it necessarily limits our conclusions to those drawn from personal experience, it also deprives us of accurate statistics which could present clearly defined pictures and furnish us with valuable data on which we could formulate a rational medical procedure. This unfortunate condition is not limited to America; the nomenclature is equally as unreliable in European medical centers, even among those who speak the same language and are of the same nation.

Owing to the confusion associated with the title "puerperal infection," I take the liberty of defining my personal interpretation of the term. Puerperal infection includes all local and general infections following abortion and labor either premature or at term, in which the primary focus is in the pelvis.

The exciting cause is one of the pathogenic bacteria: streptococcus, colon bacillus, staphylococcus, pneumococcus or gonococcus. I have no intention of covering the milder infections in this paper, such as those caused by the colon bacillus, staphylococcus or gonococcus and the mixed infections, all of which frequently escape detection and are classified by the medical attendant as milk fever, malaria, typhoid, or "cold."

The graver forms of puerperal infections are those due to the streptococcus, occasionally the pneumococcus, and require the most careful management to conserve the vitality of the patient. In this type any operative procedure, the derangement of the stomach by medication, or even allowing the baby to nurse from the mother's breast, may be the determining factor in a fatal termination of the disease.

For the intelligent consideration of this important subject, the following points must be considered:

1. Puerperal infection is not usually a local disease but is a general infection or bacteriemia, and the microorganism may be detected in the blood-stream by making a blood-culture. This is clinically demonstrated by the complication of endocarditis, pyelitis, pleurisy, phlegmasia alba dolens and other remote infections.

2. The primary focus is located in the parturient canal, endometrium, tubes, cervix, vagina or perineum, and is secondary in importance to the general infection.

3. In the severe bacteriemic, or general infections, the streptococcus is usually responsible. The pneumococcus, a variety of streptococcus, is sometimes found.

4. When there is a pyemia some variety of the staphylococcus or the colon bacillus is usually the cause. This organism does not multiply in the blood-stream as does the streptococcus, and is usually localized.

In order to inaugurate a rational treatment in puerperal infection, it is imperative to ascertain by a blood-culture the germ causing the infection. This is accomplished by applying a tight bandage to the upper arm and puncturing the distended median basilic vein with a large needle under careful aseptic technic, and drawing out about half an ounce of blood into a sterile glass container. From this specimen an autogenous bacterin is made. It requires five days to be absolutely certain that no other living germ is present; consequently it is wise, after the micro-organism has been isolated, to start in a bacterin treatment first with 15 c.c. of serum intravenously to be followed with a reliable stock vaccine.

### TECHNIC FOR MAKING AN AUTOGENOUS VACCINE

The simplest and best method is by means of a clot-culture. Five c.c. of blood are drawn and placed in an ice-box for eight hours to cool. The serum which contains the antiseptic properties of the blood is removed with a pipet. The blood-clot is removed to a sterile container and incubated, eighteen hours for the streptococcus and twenty-four hours for the colon bacillus and staphylococcus. A smear is made for microscopic examination. Agar-agar is smeared with normal blood and a mass-culture made by inoculating it from the blood-culture, and incubating for eighteen hours. The streptococci are removed by suspending the mass-culture in sterile, normal salt solution. This suspension is now a concentrated bacterin with living germs.

The number of germs is determined by counting a drop of the serum from the red pipet which has been diluted with 1:20 carbol fuchsin. The counting method is the same as that which is used in making a blood-count, and will give the number of germs in 1 cm. With this number as a basis, any desired number of bacteria per cubic centimeter may be prepared by diluting with sterile normal saline solution.

The killing of the micro-organism is ordinarily accomplished by heating to 56 or 60 C. (132 or 140 F.) for one hour, or by some chemical means. Greater heat than 60 degrees produces a chemical change that ren-

1. Buerger, Leo: Ulcer of the Bladder, THE JOURNAL A. M. A., Feb. 8, 1913, lx, p. 6.

* Read before the Kane County Medical Society, May 7, 1913.

ders the germ therapeutically inactive. This change frequently occurs if the germs are heated to 70 C. (158 F.) for one hour, as some text-books recommend. One heating at the proper temperature is sufficient. When the bacterin is prepared, its sterility remains to be determined. There is a possibility that it has been contaminated with organisms, especially tetanus bacilli. This is determined by the ordinary bacteriologic method of plating out and examining after incubation for twenty-four hours of growth.

The bacterin is next examined for tetanus, by inoculating 1 c.c. of bacterin into 25 c.c. of freshly boiled glucose bouillon. The air is driven out by covering the culture with sterile paraffin, which produces an anaerobic condition. The culture is incubated for seventy-two hours, and 1 c.c. of this culture is injected into the root of the tail of a white mouse. If tetanus bacilli are present, the mouse will develop symptoms of tetanus toxemia within ten hours. It is customary, but not necessary, to preserve the bacterin by the addition of 0.4 per cent. of trikresol.

When a patient suffering with streptococcus infection recovers, she passes through two stages:

1. The bacteria in the blood have become opsonized by the antibodies produced by the bacteria.

2. The opsonized bacteria have been devoured by the leukocytes.

It is therefore apparent that if we are to obtain results with autogenous vaccine, the patient must have within herself the power to opsonize the bacteria, as well as a sufficient number of white blood-corpuscles to consume the opsonized bacteria. Clinical experience demonstrates that the administration of vaccines is unsatisfactory unless there is a leukocytosis above 15,000. When the count is below this number, the administration either hypodermically or orally of nuclein is indicated. Observations have been made in which the leukocytosis has increased numerically within an hour after the administration of nuclein. Cold bathing, salicylic acid and pilocarpin also increase the leukocytes.

*Negative Phase.*—After the first injection of a small dose of vaccine — 15 million — the antibodies are decreased with a falling of the opsonic index. This is followed by a rise of the opsonic index, due to a reaction on the part of the patient. This phase is recognized clinically by a slight rise in temperature and an increase in the discharge from the wound. If there is a decided rise in temperature, the vaccine dose has been too large.

Failure to obtain results with the vaccine treatment is due to one of the following causes:

1. The exciting cause, or the proper organism, has not been found.

2. The initial dose may have been so large that the patient has been overwhelmed. Bacterin is a toxin, not an antitoxin, and is administered in order that the individual may acquire the ability to produce antibodies.

3. While the vaccine may act as an antibody on the bacteria present, if there is not a sufficient number of leukocytes to dispose of the bacteria, the bacterin administered is therapeutically ineffective.

Before instituting treatment for puerperal infection, make a thorough physical examination of the patient, including a bimanual pelvic examination, with inspection of the perineum and a urinary analysis. In making a white blood-count, remember that there is normally a leukocytosis during pregnancy and the puerperium.

### NON-OPERATIVE TREATMENT OF AN UNCOMPLICATED CASE OF PUERPERAL INFECTION

1. The patient should have complete rest, physical and mental.

2. A well-ventilated room should be selected in which there is plenty of sunshine.

3. Drainage should be favored by the Fowler position.

4. The hyperpyrexia should be controlled by cold sponging and an ice-bag on the head. In the case of a local pelvic inflammation, an ice-bag should be applied over the affected area. Elimination is an important factor and should be favored by both the bowels and the kidneys. The drop method of introducing normal saline solution into the rectum is desirable, as it saves the stomach, allays thirst and favors elimination by the kidneys.

5. As it requires five days to make an autogenous vaccine, first a serum or antitoxin should be administered to be followed by a reliable stock vaccine if the blood-count is favorable and there is an indication that the patient lacks sufficient reaction to combat the infection.

6. The stomach should be carefully guarded. All useless medication, whisky, quinin, etc., should be avoided, and the stomach practically reserved for nourishment only. Feed the patient carefully, at regular intervals. Discontinue breast-nursing unless the mental effect is too depressing in the mother's weakened condition.

### OPERATIVE TREATMENT

This is positively limited to absolute indication. Uterine curettage is to be recommended only for a hemorrhage, which indicates that there is a foreign body in the uterus. When this procedure is decided on, the patient should be put under scopolamin and morphin, or a gas anesthetic, and with careful aseptic preparation, the operator wearing rubber gloves, the cavity of the uterus is explored and carefully cleaned out with gauze wrapped around the finger. I clean out the uterus if any of the placenta has been left after delivery. The consensus of opinion is that the uterus should be left alone in the event of the retention of the membranes. The objections to the indiscriminate curettage with the sharp curet or anything that will produce much traumatism is that there will be a breaking down of protective membrane with the liability of a dangerous amount of toxin or bacteria into the blood-stream.

Should a pelvic abscess develop, the indications are for an extraperitoneal drainage, preferably by the vaginal route, and under gas or scopolamin and morphin as an anesthetic.

Conservative surgery is the watchword of the advanced gynecologist. Palliative measures should always be tried before a radical operation is considered. In the lying-in period, pyosalpinx demands the same procedure as would be indicated otherwise. A radical operation must not be attempted until pyosalpinx becomes chronic. This is determined by a normal temperature and a low leukocyte count. The operative procedure in acute pyosalpinx should not exceed vaginal drainage except in rare instances.

In those unfortunate cases of uterine multiple abscess there is authority for considering the necessity of removing the uterus, but in considering the extirpation of this organ in puerperal sepsis, I agree with J. von Veit of Halle, Germany. After weighing his own and his contemporaries' results, he believes that in those cases in which the puerperal sepsis has become alarmingly gen-

eral and the blood is swarming with streptococci, the removal of the uterus is decidedly a doubtful procedure. When there are few streptococci in the blood, the patient will recover without a hysterectomy. When the streptococci are confined to the lochia, the operation is contraindicated.

In the event of stitches having been placed in the perineum, they should be removed if there is any redness indicating a local infection.

### CONCLUSION

In closing, I earnestly desire to emphasize the necessity of resisting the temptation to give vaginal and uterine douches. The discharge, if any, should not be washed away with an antiseptic, as such a procedure inhibits the antiseptic action of the normal secretions and prevents the phagocytic action of the white blood-cells on the bacteria. In no disease which confronts us are we so tempted to resort to some active measure, and in no other disease has our patient's reserve force and resistance such need of conservation.

31 North State Street.

---

# CONSERVATIVE TREATMENT OF SOME AURAL AND NASAL CONDITIONS BY HOT AIR AND IODOFORM

## A SIMPLE AND PRACTICAL METHOD

EDWARD J. BROWN, M.D.

MINNEAPOLIS

The unsatisfactory, not to say dangerous results of much of the nasal and nasal-sinus surgery of radical character which has prevailed during the past few years are now being recognized more generally, and conservative methods of treatment are being developed. Such agencies as negative pressure and hot dry air have been somewhat extensively used and praised; but Jonathan Wright[1] questions the therapeutic value of the former in sinus disease, and the dry hot-air treatment of ear and nasal suppurations has failed to become popular largely because of the inconvenience and unreliability of the available means of its application. During the past year I have made rather extensive use of hot air and nascent iodin, following the publication of a paper by Dr. C. J. Koenig[2] of Paris.

Complicated and expensive apparatus is wholly unnecessary. My latest and simplest heater consists of section of brass gas-tubing, 3 inches long, one end of which screws onto the burner extremity of a two-jointed gas bracket. The latter is attached to the compressed-air service-pipes by means of curved sections of similar brass tubing in such way that a 10-cent gas-heater slipped over the burner of a two-jointed gas bracket (the gas and compressed-air service-pipes being in close proximity) can be swung under the curved brass tubing. To the distal end of the small piece of tubing is soldered a conical reducer which will fit either a by-pass compressed-air exhaust or a soft rubber tube for conducting the hot air into the nose or throat or ear. If it be desired to use any form of powder, the heater can be unscrewed and the medicament introduced, absorbent cotton first being placed in the small end to guard against its sudden exit.

For convenience I have another heater which, instead of being screwed to the compressed-air bracket, screws lightly into a small iron gas-cap to which is clamped a wooden handle. The gas-cap is perforated by an opening through which it may be connected with a similarly arranged compressed-air bracket at my operating-chair. A pressure of air sufficient for effective negative pressure is so destructive of rubber tubing that the metal tubing is a great relief. The heater as described can be held by the handle over the Argand or other gas-light, and in half a minute or less acquire sufficient heat to vaporize iodoform. A politzer or atomizer-bulb or even a mouth-tube will enable the physician to force the vapor into ear or nose, if not provided with compressed air. For use away from the office when a continuous stream of hot air was desired, I have connected the little heater with a coil of brass tubing (easily made from a few feet of 1/8-inch tubing) and a bicycle pump. A kerosene lamp, if nothing better, as a source of heat can be found in almost any house. Such an apparatus is dependable, controllable and efficient as well as inexpensive.

### REPORT OF CASES

CASE 1.—Mrs. F., aged 72, a sufferer for many years from deafness of the left ear and nasal sinus disease, was operated on in April, 1912, for the removal of caries of the superior mastoid cells, a recurrence following a Heath operation of the year before. In spite of persistent treatment a sinus extending from the attic to a point high up in the greatly enlarged external canal was present the middle of August, with granulations in the tympanum and considerable purulent discharge. There were also at times shooting pains around the ear and side of the head.

Notwithstanding that the hot air was not well tolerated, because of making this patient dizzy, a few days' use with sufficient heat to vaporize iodoform caused the sinus to close and the discharge to disappear almost entirely. Not only has continued treatment removed the granulations and dried the discharge in the tympanum, but the heated air and iodoform passing through the eustachian tube have markedly improved the nasal conditions.

CASE 2.—Miss H., aged 24, of delicate physique, had had chronic nasal discharge for years and occasional foul discharge from the right ear. The right septum was in contact with the turbinal bodies by a sharp angular deflection, and the anterior end of the left inferior turbinal polypoid and both nares were bathed in pus. October 15 the polypoid growth was removed. On the 18th my attention was called to the foul discharge of the right ear, the membrana tympani of which had a small central perforation. The ear was cleansed and a prolonged application made of hot air and nascent iodin, following negative pressure to the nares. The ear was dry and clean on the 20th and has remained so. October 24th both ears heard the watch at 4 feet and ten days later at 15 feet. There have been no nasal symptoms since.

CASE 3.—Following the interesting review[3] of the work of Rendu in diphtheria, I had the opportunity in a member of my own family to try the effect of the hot air in clearing up the throat during the prolonged persistence of the positive culture after a mild diphtheria. The only noticeable result was the non-appearance of the various bacilli which usually accompany the staphylococci as the diphtheria bacilli disappear.

CASE 4.—L. K., aged 30, who had had nasal diphtheria just two years before, presented himself March 16, with complaint that he had had pain in the right fronto-ethmoidal region for three weeks and the past week a profuse discharge. I aspirated 2 drams of thick yellow pus and made a prolonged application of hot air. The blood-serum culture was almost

1. Wright, Jonathan: Laryngoscope, February, 1913.
2. Koenig, C. J.: Iodin Fumigation, New York Med. Jour., March 2, 1912; abstr., THE JOURNAL A. M. A., March 23, 1912, p. 896.
3. Hot-Air Treatment for Diphtheria, Current Comments, THE JOURNAL A. M. A., Aug. 3, 1912, p. 376. Rendu, R.: Treatment of Diphtheria with Hot Air, Lyon méd., Jan. 12, 1913, abstr., THE JOURNAL A. M. A., March 1, 1913, p. 701.

exclusively a polar-staining bacillus. One week later at his next visit the culture showed only staphylococci.

A considerable number of sinus cases have been treated with very satisfactory results. Some patients have apparently been cured on whom the operations done were very conservative and in whom the negative pressure, hot air and iodoform were manifestly of the greatest benefit.

CASE 5.—Sophie W., aged 22, has been under my care at times for seven years, suffering from chronic ozena, suppuration of both antra and left ethmoid, and in 1912 of both ears. In June of that year there was a sharp attack of facial erysipelas beginning on the right at the root of the nose, and crossing and involving the greater part of the left brow and cheek, evidently an infection extending from the nares. There was no evidence of disease at this time of any sinuses except of the left antrum and sphenoid. Both ostia were freely patulous. The use of the air douche and vaporized iodoform directly to the sinus through the catheter brought about the disappearance of the morning crusts, though slight occasional discharge was still present at last accounts.

CASE 6.—B., aged 21, has suffered for years from pansinusitis, and Sept. 1, 1912, was having profuse discharge from right antrum, the ostium of which was surrounded by swollen and degenerated tissues. The tissues were removed and the air douche applied directly to the sinus, followed by the hot air and iodoform. A few treatments resulted in the practical disappearance of discharge from both antra. A month later a few treatments with negative pressure and nascent iodin supplemented by a course of autovaccine (*Staphylococcus albus*) brought about a remarkable improvement of the condition of the other sinuses.

Two other patients were apparently greatly benefited by the addition of an autovaccine, the one a *Staphylococcus albus* and the other a polar-staining bacillus.

## CONCLUSIONS

Patients complaining of sore throat and earache from acute pharyngitis have been relieved by a single application of the hot air and nascent iodin and have reported the following day that there had been no return of their discomfort. Altogether there is so much advantage and so little of unpleasantness to the patient or inconvenience to the doctor, that these conservative methods of treatment ought to commend themselves to the careful physician.[4]

The results of these hot-air and nascent iodin treatments seem to be specifically the destruction of the less resistant bacteria and the drying and shrinking of the tissues with the secondary increase of cellular activity and removal of inflammatory products which interfere with drainage.

524 Syndicate Building.

4. The violet fumes of vaporized iodoform may be used in the ear but are too irritating for the air passages. For the nose and throat the iodoform heated to a point just short of decomposition is wholly unirritating, while the Koenig mixture of iodin, camphor and menthol crystals in talcum powder is decidedly irritating.

**Creed of Social Hygiene.**—The sex problem, the venereal peril and the social evil are questions as much concerned in the future welfare of the race as the intellectual enlightenment of the public schools or the moral precepts heralded from the average pulpit. I am in favor of the prohibition of consanguineous marriages; the presentation of a physician's certificate of normal soundness of mind and freedom from incurable and communicable diseases prior to marriage; the registration of all persons afflicted with any form of venereal disease and of prostitutes; the sterilization by vasectomy or otherwise of all confirmed criminals, moral degenerates and sexual perverts, and the castration of all confirmed rapists. —Clinton E. Spicer, M.D., in North Dakota State Med. Assn.

# THE SERUM DIAGNOSIS OF PREGNANCY*

CHARLES C. W. JUDD, B.A., M.D.
Instructor in Clinical Pathology, College of Physicians and Surgeons
BALTIMORE

Though normal pregnancy is usually diagnosed with fair exactitude by the patient herself, the early diagnosis of the condition is often open to many fallacies by the trained obstetrician, while even as the months pass by some cases remain obscure. The desirability of an early diagnosis in all cases, and the imperative necessity in some is only too obvious.

To these and other ends many signs and symptoms have been described relative to the probability of pregnancy, but until late in gestation no pathognomonic evidence has been adduced by these means. To satisfy this deficiency, of late years serologic methods have been applied.

The antitrypsin test has been utilized in this connection by Franz and Jarish,[1] E. Rosenthal,[2] Jochmann[3] and others with the fairly uniform result that in pregnancy, beginning practically at the time of implantation, the antitryptic index is materially increased. This test is, however, far from specific and, as one investigator pertinently remarks, if it is possible to exclude carcinoma, exophthalmic goiter, nephritis, the infectious fevers, some gynecologic affections, the puerperal state and recent abortion—then a considerable increase in the antitryptic index speaks for pregnancy.

Fieux and Mauriac,[4] who applied a complement fixation test to the condition, a placental extract of an early therapeutic abortion being used as antigen, claim that this is a very successful means of determining an early pregnancy. Though their work has had confirmation,[5] syphilis must be excluded in all cases and moreover, the method is only applicable to pregnancy before the fourth month of gestation. The technic of any fixation test, and in particular when the necessary antigen is so difficult to procure, can only be done in well equipped laboratories with a large clinical service available.

Since the introduction of the miostagmin reaction by Ascoli[6] this method has also been applied to the diagnosis of pregnancy by Julchiero,[7] while Mosbacher[8] has employed another physicochemical measure, the epiphanin reaction, in the same condition. The unusual technical skill required for the performance of both these tests is a serious drawback to their frequent application, the apparatus is expensive, and the results require further confirmation.

Recently Abderhalden[9] has promulgated the theory that free chorionic villi of an implanted ovum induce in the maternal organism a reaction which produces digesting ferments for placental tissue. He has obtained this proteolytic enzyme from the serum of impregnated females of various species, has placed it in contact with placental tissue of the same species and has been able

* Delivered before the One Hundred and Fifteenth Annual Meeting of the Medical and Chirurgical Faculty of Maryland, April 23, 1913.

1. Franz and Jarish: Wien. klin. Wchnschr., xxv, No. 39, 1912.
2. Rosenthal: Ztschr. f. klin. Med., Berlin, 1911, lxxii, No. 6.
3. Jochmann: Arch. f. Gynäk., Berlin, 1910, lxxxix, No. 3.
4. Fieux and Mauriac: Ann. de gynéc. et d'obst., February and May, 1912; Jour. de méd. de Bordeaux, March 24, 1912.
5. Quintella: Ann. de gynéc. et d'obst., July, 1912, Vaysière and others.
6. Ascoli: München. med. Wchnschr., 1910, lvii, 62.
7. Julchiero: Wien. klin. Wchnschr., 1912, xxv, No. 43.
8. Deutsch. med. Wchnschr., 1911, xxxvii, No. 22.
9. Abderhalden: Schutzfermente des tierischen Organismus, Springer, J., Berlin, 1912; München. med. Wchnschr., 1912, lix, Nos. 24 and 36; Deutsch. med. Wchnschr., 1912, xxxviii, No. 46.

to detect digestive changes in that tissue. Moreover, the performance of the test is simplicity itself.

A fresh placenta is obtained, finely ground in a meat-chopper, washed entirely free of blood and then thrown into about a quart of vigorously boiling water to which it is preferable to add a few drops of acetic acid. After five minutes' boiling, the water is drained off and the tissue boiled in a second quart of water for a period of five minutes. This process is repeated as often as is necessary to render the water at the end of five minutes' boiling free from the biuret reaction or a modification of it. Thereafter, the tissue is either drained and thoroughly dried in a desiccator or stored away as a housewife does preserves, except that to further prevent putrefactive changes, a layer of toluene should be added.

The apparatus is meagre, consisting of the following:

1. Dialyzers impermeable to serum albumin and to the intact placental protein but permeable to its cleavage products. Those of Schleicher & Schüll No. 579, are very convenient.

2. Glass containers for the dialyzers, whose inside diameter is not more than 4 mm. greater than the outside diameter of the dialyzers (the ordinary urinometer cylinder serves well).

3. A few capillary pipets, test-tubes and a Bunsen burner.

4. An apparatus for procuring at least 6 c.c. of sterile blood from a vein of the patient.

5. Reagents for doing the biuret test.

The biuret test is performed by adding in a test-tube about an equal volume of a strong caustic soda solution to the fluid tested and layering this mixture with a weak (about 0.25 per cent.) solution of copper sulphate. At the line of juncture, if biuret or allied bodies are present, a violet-purplish ring of demarcation occurs. A more delicate method for the detection of the decomposition products of the placenta is by means of a reagent, triketohydrindenhydrate or ninhydrin. Of a 1 per cent. solution of this 0.2 c.c. are added to 10 c.c. of the test fluid. This is then boiled for one minute. A lavender to deep purplish-blue indicates the presence of the suspected substances, a colorless or slight yellowish tint, its absence.

The performance of a test is likewise simple. The blood is obtained from the patient by venipuncture and allowed to separate or is centrifugalized. The clear, fresh (not over six hours old) and hemoglobin-free serum is pipetted off and 1.5 c.c. of it placed in a dialyzer which has become thoroughly saturated with water. To it is added about 1 gm. of placental tissue. The outside of the dialyzer is then thoroughly rinsed in tap-water. Twenty c.c. of distilled water are placed in the container and the charged dialyzer partially submerged in it. A layer of toluene is added to both dialyzer and container and the whole incubated for from twelve to sixteen hours. As a control, serum alone or serum with tissue (the serum in this case being heated for half an hour at 56 C. [132.8 F.] to destroy any enzyme present), is placed in another dialyzer and incubated as in the other instance. This controls a possible error due to the permeability of substances other than the placental digestion products, which yield a biuret reaction.

At the end of the time of incubation, 10 c.c. of the solution in the container are tested for biuret. If positive, it indicates that the complex placental protein molecule has been broken down to simpler molecules, which, passing through the dialyzer, have imparted to the water on the other side of the membrane—the dialysate—a biuret reaction.

If putrefactive changes can be excluded it indicates that the tissue was digested by an enzyme of the patient's serum, which, so far as investigations have been able to determine, is present only in the gravid state, the puerperium, and in cases of retained membranes. If a negative test is obtained it is strong if not conclusive evidence that placental tissue is not or has not recently been in the patient's system. Some thirty or more of my own cases tested by this method have been quite in accord with the strict specificity of this test when putrefactive changes, fresh serum, and the proper selection of dialyzers have been carefully controlled.

1902 Eastern Avenue.

---

# THE EXPERIMENTAL PRODUCTION OF PELLAGRA IN THE MONKEY

## BY A BERKEFELD FILTRATE DERIVED FROM HUMAN LESIONS—A PRELIMINARY NOTE *

WILLIAM H. HARRIS, M.D.
NEW ORLEANS

The inability to produce satisfactorily pellagra in animals by means of various foodstuffs (spoiled maize and other cereals) which are considered by many observers to be in some manner responsible for the production of the disease, led to investigations based on the hypothesis that pellagra is caused by a living micro-organism and not by a chemical intoxicant. Therefore, it seemed logical that the causal agent would be contained in one or more of the various tissues affected, and by utilizing these the disease could be reproduced in a susceptible animal. It was considered inadvisable to attempt injections of the whole tissue emulsions because of the heavy bacterial flora of the intestinal tract, the contaminations of the skin and the probable secondary infection of the patient dead of pellagra. These considerations together with the view that the disease in man might be due to a filterable virus occasioned the employment of filtrates from the various organs. For this purpose the skin, alimentary tract and more especially the brain and cord, since many of the characteristic symptoms of pellagra indicate disorders of this system, were filtered and utilized for animal injection.

In the spring of 1910 experiments with a Berkefeld filtrate of the infected human tissues were carried out on the monkey. These materials were selected from the fresh necropsy of a case of undoubted pellagra which presented clinically a typical picture of the disease; namely, extensive skin lesions, stomatitis, diarrhea and the various nervous manifestations. The skin lesions involved the hands, face, legs and scrotum, and were sharply defined, being of a distinct black color, dry, elevated and scaly. A complete necropsy was held within two hours after death, and the only lesions found in the gross and microscopically were those present in fatal pellagra; no concomitant disease was present. The tissues of the different parts of the central nervous system, especially the cord, portions of the skin lesions and of the alimentary tract including the nasopharyngeal mucous membrane were removed. These were mixed with equal amounts of normal saline solution, ground together in a mortar and allowed to stand in the ice-chest over night. After coarse filtration the juice was passed through a Berkefeld filter, letter N.

---

* From the Laboratories of Pathology and Bacteriology, Tulane University.

As the primary aim was to infect an animal with the disease, the filtrate from the tissue mixture was injected subcutaneously, intravenously and intracranially in large quantities into a full-grown, normal male *Macacus rhesus* (Monkey 1). After showing immediate pressure symptoms the animal recovered from the operation and remained apparently normal for many months, when he developed irregular dark patches on the face, forearms, hands, back and sides of the body. He gradually grew thin and weak and finally died with all the signs of pellagra. The length of time for the development of the disease in this animal occasioned considerable skepticism of the results and the experiment was not repeated until a similar typical fatal human case was



Fig. 1.—Monkey 2, showing lesions of face.

again available. The necropsy protocol of this animal is given below.

On Dec. 2, 1912, a full-grown healthy *Macacus rhesus* (Monkey 2) was inoculated with large quantities of a filtrate from parts similar to those previously used, which were obtained from a fatal case of recurrent pellagra that showed on post-mortem examination no evidences of other disease. The injections were given intracranially, intravenously and subcutaneously and, aside from some immediate pressure symptoms, the animal remained apparently normal for a period of two months.

Another distinct case of fatal pellagra presented itself in February which revealed at necropsy only the lesions consistent with pellagra. The small intestine showed extensive inflammation of the mucosa. Two separate filtrates for animal inoculation were prepared from the tissues of this subject: one from the brain and cord and another from the intestinal and skin lesions. The nasopharyngeal mucous membrane was not used and only a very small amount of skin. The animal which had previously received injections of pellagra filtrate (Monkey 2) was given a second injection of equal parts of these two filtrates mixed together. Another animal of the rhesus type (Monkey 3) was injected intravenously and intracranially with the filtrate prepared from the brain and cord. These two animals were inoculated on Feb. 12, 1913.

Early in May, Monkey 2, which had received two inoculations, one in December and the other in February, showed irregular patches of a copper or dusky red color about the face. On May 10 these patches were raised, considerably darkened, very dry and more clearly defined, being located across the nose and spreading in wing-like manner on either side under the eye and over the cheek. The shape of the lesion in general was somewhat that of a butterfly. At this time copper-colored lesions had appeared on the summit of the concha of both ears and at the external canthus of the eyes and also over the backs of the hands. There was a distinct symmetry in the bilateral arrangement and shape of these lesions. Subsequently the animal has become melancholic, emaciated and weakened; he sits about the cage (dimensions 8 by 10 by 15 feet) or slowly climbs instead of jumping about as previously. The lesions apparently itch since he scratches them frequently and often is seen picking off the scaly plaques. His appetite is poor. A slight diarrhea has developed and he shows considerable salivation, slobbering freely; the tip of the tongue is granular in appearance and the papillae are considerably enlarged. On May 28 the skin lesions have become almost black in color and are easily visible at a considerable distance; when viewed closely evidences of cracking and scaling are seen. At present date (June 1) the lesions look about the same except that there are deeper pigmented areas within the large plaques, producing a somewhat mosaic appearance. Along the bridge of the nose some of the scaly plaques have fallen off, one of which measures approximately 0.5 cm. The hands over the dorsal surface of the fingers and over the wrists posteriorly now present distinct dry black lesions and show, especially on the fingers, distinct scaling. The hairs over the phalanges have disappeared (see photographs). The animal is growing progressively weaker and thinner and the signs and symptoms are becoming more marked.

Monkey 3 is still in good condition and quite lively but presents about the face a few irregular, rust-colored macules, quite like the early lesions of Monkey 2.

Though the clinical observations on Monkey 1 are not so detailed as desired since the period of incubation was so long



Fig. 2.—Monkey 2, showing lesions of face and hands

that routine examinations had been discontinued, the necropsy findings are of particular interest. The animal is extremely emaciated and presents large irregular pigmented plaques on the face, forearms and back. These are in some areas of a chocolate color while other areas show a gray scaly surface; they vary in size from approximately 2 by 3 by 3.5 cm. to 4 by 6 by 7 cm. and in other places they have merged together to form more extensive patches. The lungs and the heart are normal and aside from some inflammation of the small intestine no other gross lesions are present. Microscopically, the most typical lesion is found in the sections of the skin, which show extensive hyperkeratoses of the

epidermis, marked increase in the depth of the papillae and abundant pigmentation in the deeper portions of the corium where many chromatophores have wandered into the deeper strata. The cutaneous lesions are identical with the microscopic picture of the skin in human pellagra.

These experiments would indicate that pellagra may be transmitted to the monkey *(Macacus rhesus)* by means of a Berkefeld filtrate derived from the tissue of the human subject; at least, the animals develop all the essential clinical signs and symptoms together with the pathologic picture discerned in the disease in man. Furthermore, they suggest that the etiology of pellagra is a filterable virus or a micro-organism capable of passing through the pores of certain Berkefeld filters. The details of this work and the further experiments which have been undertaken with a view of determining the nature of this filtrate and other phases of the problem will appear in a subsequent publication.

For many suggestions during the progress of this work I wish to extend thanks to Prof. C. W. Duval in whose laboratory the work was carried out.

---

## SPECIFIC AND EXTREME HYPERLEUKOCYTOSIS FOLLOWING THE INJECTION OF BACILLUS TYPHOSUS IN IMMUNIZED RABBITS *

FREDERICK P. GAY, M.D.
AND
EDITH J. CLAYPOLE, M.D.
BERKELEY, CAL.

In a previous note[1] dealing with induced variations in the agglutinability of the typhoid bacillus, we have indicated a method for testing the protection of animals that have been immunized by various preparations of the typhoid bacillus. This method consists in employing the typhoid-carrier state in rabbits, which, under proper conditions, may be produced regularly in control animals. This carrier state, which is usually followed by the death of the animal in from five to twenty days, does not occur in animals that have been properly immunized against the typhoid bacillus. In a further study of the mechanism by which the injected bacteria are disposed of in the immunized animal, an apparently unrecognized and significant phenomenon has been observed which further emphasizes the importance of polymorphonuclear leukocytes in disposing of bacteria.

The preeminent importance of leukocytes of the polymorphonuclear type in taking care of bacterial infections has been amply determined by the work of Metchnikoff and his followers. We know that these cells dispose of bacteria either through direct phagocytosis or indirectly following the action of tropic substances in serum on the bacteria. Further evidence that indicates the importance of leukocytes is their response to the injection of any foreign protein substance, particularly to bacteria, by an increase in number (hyperleukocytosis). So far as we are able to determine, no distinct evidence has been brought forward that hyperleukocytosis occurs to any greater extent in specifically immunized than in normal animals.

We find that the injection of living typhoid bacilli, grown on rabbit-blood medium, directly into the circulation of normal rabbits produces first a hypoleukocytosis, which may fall to from one-fourth to one-eighth of the original count, and which is followed by a hyperleukocytosis reaching its maximum in from sixteen to twenty-eight hours. The average maximum in five observations in which the maximum was almost certainly obtained is 46,000 leukocytes to the cubic millimeter (lowest count 34,000; highest count 56,000). This fluctuation is due entirely to variations in polymorphonuclear leukocytes, which disappear almost entirely from the peripheral circulation during the stage of hypoleukocytosis.

In typhoid-immunized animals the response is enormously increased over that obtained in normal animals. The hypoleukocytosis occurs somewhat earlier than in the normal animals (from about one and one-half to three hours), although it does not reach any remarkably lower grade. The count has returned to the normal usually in about six hours, whereas it does not return in the normal animal until about fourteen hours. The maximum in immunized animals, which is also reached earlier than in normal animals, was found to vary from 80,000 to 274,000, with an average in five cases of 138,000. Owing to the fact that observations were not taken at sufficiently frequent intervals, there is no certainty in many of these cases that the crest of the curve of hyperleukocytosis was actually obtained. The figures are, however, perfectly comparable with those obtained in normal animals and show on the average a leukocytosis that is three times as great. It is further to be noted that this response of leukocytes in typhoid-immunized animals is specific for the typhoid bacillus, as such animals are found to respond no better than normal animals to injections of the *Micrococcus aureus.*

It is evident, therefore, from this observation that the activity of polymorphonuclear leukocytes in immunized animals may be not only qualitatively but quantitatively increased. We are engaged in extending these observations to other types of immunity.

2347 Prospect Street—2826 Garber Street.

* From the Hearst Laboratory of Pathology and Bacteriology, University of California.

1 Gay, Frederick P., and Claypole, Edith J.: Induced Variations in the Agglutinability of Bacillus Typhosus, THE JOURNAL A. M. A., April 12, 1913, p. 1141.

---

## EPIDEMIC OF TYPHOID DUE TO MILK

WILL SHIMER, M.D.
Superintendent, Bacteriologic Department
AND
WILL McABEE
Drug Chemist, Chemical Department, Laboratory of Hygiene, Indiana State Board of Health
INDIANAPOLIS

Indiana Harbor, a city of 10,000 people, in Lake County, Indiana, in common with the other cities about the southern end of Lake Michigan, is accustomed to have a rather high death-rate from typhoid during August, September, October and November. During the month of October, 1912, however, the number of cases was unusually high.

November 8, 1912, we visited Indiana Harbor. Thirty-two cases of typhoid had been reported to the town health-officer. Of the patients twelve were men and twenty were women and children. The water-supply for Indiana Harbor is taken from the same source and pumped through the same mains as that for East Chicago. There was not an unusual number of cases of typhoid in East Chicago. This fact, along with the age

and sex of the sick, practically eliminated the water as the source of infection. The homes of those sick were in that part of town where the sanitary conditions were of the best. Secondary cases in the same family were infrequent because most of the people employed trained nurses.

A careful tabulation of the cases showed that all the patients took milk from a milkman who obtained his supply from four farms 40 miles away.

Investigation of these four farms showed three to be in good condition. On the fourth farm there were suspicious conditions. The family consisted of a dairyman, his wife and nine children. The eldest son, who had been working away from home, returned in the early part of August with what the doctor called "walking typhoid." About August 10 the mother, who had been nursing him, went to bed with "bilious fever." She was able to be out of bed about October 10. At this time her husband began to feel ill. He did not go to bed, but "just took a little brandy every once in a while and kept going." The husband, during his wife's illness, nursed her and did the milking with the help of a 14-year-old boy. The attending physician did not diagnose any of these cases as typhoid; blood taken November 13, however, gave the following results: Mr. X.,

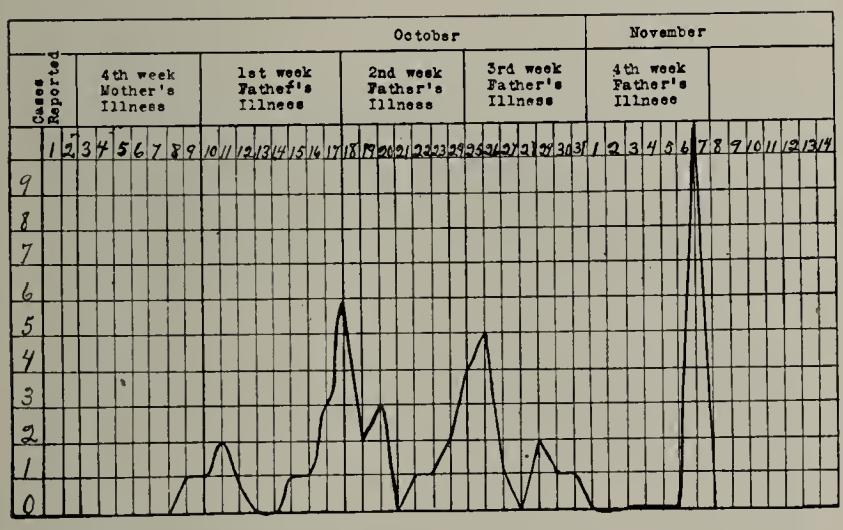



Chart showing approximate date of infection in fifty-four cases reported.

Jr., suggestive; Mrs. X., positive; Mr. X., Sr., positive.

Up to Dec. 1, 1912, fifty-four cases had been reported to the local health officer. The chart shows the approximate date of infection in these cases. The date of infection is obtained by counting back fifteen days from the time each case was reported. Under the present circumstance this time is rather short, we believe. It will be seen from the chart that most of the infections occurred during the illness of Mr. X., Sr., and the last week of the illness of his wife. During the last week she assisted her husband to care for the milk.

After November 10 no milk was sold from this farm that was not thoroughly pasteurized. Only one or two new cases were reported during December and these were, it is more than likely, secondary cases.

---

**The Obligation Resting on the Physician.**—It seems to me that every man who has had the opportunity to benefit by a college or university education should feel that he has thereby been put under bonds, as it were. . . . Modern medical education is the most expensive of university, perhaps of any large scale, education. If the [non-medical] undergraduate costs the college twice as much as he pays, the medical student costs probably five times as much, a portion of hospital expense being fairly chargeable to his needs.—F. C. Shattuck, M.D., in *Boston Med. and Surg. Jour.*

## OPERATING-TABLE FOR RHINOLOGISTS

CORYDON G. DWIGHT, M.D., MADISON, WIS.

I have long felt the need of a surgical table which would be more convenient and adaptable than the ordinary operating-table, which is at best an awkward piece of furniture for eye, ear, nose and throat specialists. Such long and tedious operations as submucous resections of the septum on the ordinary operating-table are very tiresome to the surgeon. He is compelled to stoop and to lean over the edge of a wide table. To overcome this difficulty I have devised the table shown in

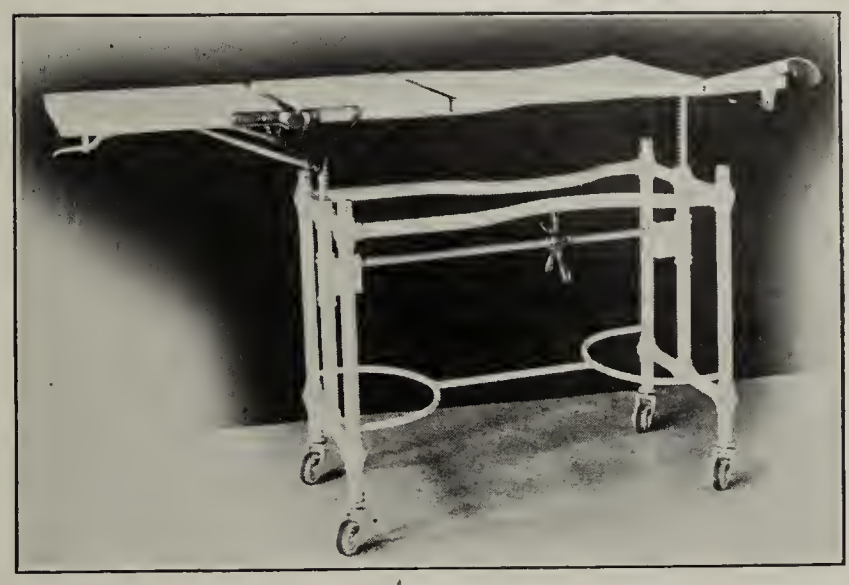


Fig. 1.—Rhinologists' table. Note the hollowing out of the framework and of the back section of the table together with the worm screw arrangement for raising the top of the table above its normal height.



Fig. 2.—Rhinologists' table showing manner of adapting it to the varied positions required in eye, ear, nose and throat work.

the illustrations, a description of which is as follows: height 33½ inches, length 70 inches, width of top 20 inches. As will be noted in the illustrations, the framework of the table and the portion of the top coming in contact with the patient's back are hollowed out on each side to permit the surgeon to take a position more directly in front of the field of operation. By means of two worm screws and gears, regulated by a spoked wheel, the top of the table can be quickly elevated 10 inches, thus allowing the surgeon to stand erect while working. The head-rest extends across the entire width of the table and its edge is shaped to fit the back of the patient's neck, giving the greatest degree of comfort. It is raised or

lowered quickly by a hand-wheel operating a screw with a sliding nut. When the top of the table is at its normal height, it may be used for eye operations, dressings, etc. The table is mounted on four rubber-tired casters, two of which are equipped with brakes operated by the foot, by means of which the table can be made stationary if desired. The other mechanical features of the table will be apparent from an examination of the illustrations. Its flexibility and its adaptable height make it serviceable in the entire field of eye, ear, nose and throat work.

215 Pioneer Block.

## CASE OF URETHRAL CALCULUS, PROSTATIC DIVISION*

D. LEE HIRSCHLER, M.D., SAN FRANCISCO

Urologic literature contains numerous references to urethral calculi, over one hundred reports being recorded, from many of which important lessons can be learned. The most frequent variety of urethral calculus is that of the single impacted stone, of vesical origin, caught behind one of the physiologic narrowings of the urethra or behind a stricture. In the case here reported it is evident that had the strictured area




Fig. 1.—Roentgenogram showing calculus in urethra extending from *a* to *b* and from *c* to *d*.

been kept dilated for some time after the prostatectomy, the calculus would not have formed.

The purpose in reporting this case is to demonstrate a roentgenogram taken of the calculus *in situ*.

*Patient*.—Charles A., aged 61, single, civil engineer, born in Massachusetts, was admitted Jan. 10, 1913. His father died at advanced age, his mother in childbirth. There was no history of cancer or tuberculosis. The patient denied lues, and had never been ill except as will be described. He was addicted to morphin for five years until "cured" one year ago. Emaciation had been recent and gradual. The patient used tobacco moderately, but never alcohol. Appetite and digestion good; bowels constipated.

External urethrotomy for stricture was performed in 1887, internal urethrotomy for stricture in 1892, and perineal section for "enlarged and diseased prostate" in 1906. Following last operation patient had been discharging half of the urine through perineal fistula. Patient was in good health until one year before admission, when he began to ache in region of perineal fistula. Ache was continuous, not influenced by urine passing through fistula or through penile urethra. Ache increased by sitting posture. Patient also described the "ache" as a "burning pain," and complained of a pain in penis, following course of urethra, griping in character, not influenced by urination and usually ceasing early in the day. The frequency of urination was from half an hour to two hours, day and night, and equal. Urine caused slight burning when passing through penile urethra and at times contained a few shreds of blood.

*Examination*.—General: Negative except for emaciation. Pulse regular, good volume, much sclerosis. Reflexes normal.

Local: In midline scar in perineum there is a fistula which does not admit any instrument except a very fine probe. Sound passed into penile urethra cannot be made to enter the bladder. By rectum there is a dense, extremely sensitive immovable mass which fills the prostatic region and extends forward to the bulbomembranous juncture. The rectal wall is not adherent to the mass. Both inguinal regions are free of enlarged lymph-nodes.

Urine: Acid; specific gravity 1.017, no albumin, no sugar. Microscopic examination showed numerous pus cells but no casts.

The x-ray plate was placed beneath the buttocks, with the patient flat on his back and the compression diaphragm just above the pubes at an angle of about 30 degrees. In the roentgenogram (Fig. 1) the calculus extends from *a* to *b* and *c* to *d*.

*Operation*.—Jan. 30, 1913, under general anesthesia, a median perineal incision was made through the scar, and the calculus (Fig. 2) was grasped with forceps and withdrawn,




Fig. 2.—Calculus weighing 13.21 gm.

followed by a gush of foul urine. The calculus extended from the bulbomembranous juncture anterior to within the vesical sphincter posterior, the large end (*a*) being anterior (penile). A dense stricture, anterior to site of calculus, was cut and a permanent catheter inserted through the penis into the bladder.

The weight of the calculus was 13.21 gm. Section showed it to consist of a homogeneous mass in layers, without any definite nucleus.

My sincere thanks are due to Dr. W. P. Willard for the privilege of reporting this case, to Dr. H. H. Markel for the roentgenography, and to Dr. A. W. Lee for the photographs of the roentgenogram and calculus.

* Read before the San Francisco County Medical Society, March 18, 1913.

* From the Urologic Service of the University of California San Francisco Hospital.

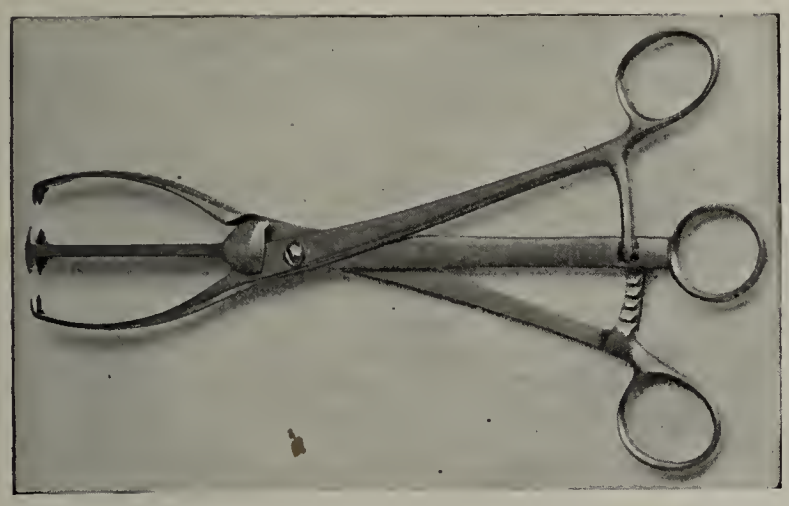
## DOUBLE VULSELLUM CERVIX FORCEPS

HILBERT F. DAY, PH.B., M.D., BOSTON
Assistant to the Surgeons, Boston Dispensary; Surgical Associate, Maverick Dispensary

It has been my misfortune to have to repair lateral tears of the cervix of the uterus without proper assistance, and it seemed to me that an instrument should be devised which would be of assistance in approximating the edges of such a tear by drawing the lips down at the same tension, thus making it possible to sew them together while keeping their correct relation with each other. Two pair of tenacula are difficult to hold and require an extra pair of hands; therefore, I have designed an instrument for such use. After placing it on the cervix, one set of teeth gripping each lip, it is possible to hold it off to one side, and place the sutures with the other hand. I have found it particularly useful in a

few cases where an immediate repair of a small tear in the cervix after delivery is essential.

The instrument itself can easily be understood by reference to the accompanying illustration. It is heavy enough to be strong, but not bulky. It is nine inches in length, and the space between the outside blade and the central shaft, when the instrument is closed, tapers from half an inch to a quarter of an inch. As is shown in the illustration, the three parts of this instrument are held together by screws, and in some ways are similar in mechanism to the various forms of stomach clamps. Each blade has its own ratchet allowing the adjustment of one set of teeth at a time into each lip of the cervix.



Double vulsellum forceps, made by the E. H. Mahady Company, Boston.

In practice, I have found it easier to grasp the posterior lip first, and then approximate the anterior lip to it and grasp it in the same way.

657 Boylston Street.

---

## ASCARIS LUMBRICOIDES AS A COMPLICATION OF A SURGICAL OPERATION

MARY D. ALLEN, M.D., HAMADAN, PERSIA

The physician who practices medicine in tropical or semi-tropical countries has constantly to bear in mind the omnipresence of intestinal parasites and especially the *Ascaris lumbricoides*.

In Persia it is almost always a safe assumption that every person, whether child or adult, harbors several if not scores of these parasites. It is in fact a custom among some of the more enlightened of the Persians to take a dose of santonin as a matter of routine every few months. A brief history of a gynecologic case in which these worms played a curious part may perhaps not be without interest to others.

*Patient.*—A Jewish girl, aged 16, married, was admitted to the hospital Nov. 4, 1912, complaining of abdominal pain. General health had been good up to a few months previously when she had a miscarriage at three months. Since that time she had had fever, pain in the lower abdomen, and throughout the time a marked diarrhea, worse at night, when she would have from seven to eight evacuations. Two or three months before admission I examined the patient, made diagnosis of right pyosalpinx and advised operation, to which she would not consent. She was put on a treatment of hot vaginal douches with an ice-bag to the abdomen. Her condition steadily grew worse. At last the patient and her family, fearing death, consented to the operation.

*Physical Examination.*—On admission: Temperature 100, pulse 120. Heart and thorax, negative. Abdomen distended and held very rigidly over the lower half. From a point a little above the umbilicus on the right side, sloping down to the middle of Poupart's ligament on the left, could be felt a line of marked resistance with great tenderness on pressure. There was apparently some sort of a mass filling up this portion of the abdomen. There was no discharge or external evidence of infection on vaginal examination. The cervix was small and quite freely movable. There was marked induration behind the uterus and in both fornices. Neither the fundus nor the appendages could be felt. White blood-count 15,400. On account of the history of diarrhea the stools were examined and found full of ascaris eggs. On that account 3 grains of santonin were given before the operation, but up to the time of operation no worms were passed.

*Operation.*—The abdomen was opened in the mid-line. Peritoneum was found markedly thickened and so firm that it resembled an aponeurosis. As soon as the peritoneum was opened a large quantity of foul-smelling pus escaped. About 2 liters (2 quarts) were evacuated and the abscess cavity explored. The uterus was at the bottom of the cavity, small, and adherent to the intestines. The right tube and ovary were tied up in a mass of adhesions to the right of the cavity. The left tube and ovary were not seen. No attempt was made to free adhesions. The cavity was irrigated with salt solution and the incision closed and drained above. A vaginal drain was not put in as it was feared that too many adhesions would be broken up in an attempt to get behind the uterus.

*Postoperative History.*—Second Day: Patient doing well, wound draining freely and looking well. Dressings changed.

Third Day: Patient given a water and glycerin enema, which was effectual. Ascaris worms passed with it. Dressings removed from wound and a large ascaris, perhaps 8 inches long, found lying across the wound under the dressings. Wound draining very freely; pus very foul but with no suggestion of a fecal odor.

Fourth Day: Water and glycerin enema again effectual, ten or more worms passing with it. One ascaris again found under the dressings and another in the abscess cavity when one of the drains was pulled out Still no suggestion of fecal odor to the pus.

Fifth Day: One ascaris found under dressings. An occasional sound heard as of gas bubbling through the wound but no fecal material in the pus.

Seventh Day: Two ascaris worms removed from the abscess cavity. Five grains santonin given with Epsom salts; two grains santonin passed through unchanged with stools. No worms with stools. At night a third worm was found in the cavity.

Eighth Day: Wound much cleaner in appearance and beginning to granulate up. No worms.

Ninth Day: Considerable pus but no worms.

Tenth Day: One worm found under dressings. No fecal matter.

Eleventh Day: Pus less.

Twelfth Day: Pus again increased; one small worm found in the incision.

Sixteenth Day: No more worms; still a great deal of drainage; wound slowly filling up.

Twenty-Second Day: Patient's temperature 102; complained of pain in right side of abdomen. No cause for the fever found.

Twenty-Sixth Day: Fever has gradually cleared up; pus, which was more abundant for a few days, has become less.

Twenty-Eighth Day: Patient goes home. Wound still draining profusely and large abscess cavity still present. Family unwilling that she should remain longer.

Four Weeks Later: Patient in same general condition. Since going home developed a cough and had a great deal of diarrhea. Wound not improved. Five grains santonin again given with calomel and castor oil. Patient completely prostrated by the treatment. For about a week, no worms appeared in stools; one appeared in the wound the day after the santonin.

Two Months After Operation: Wound still unhealed. Profuse purulent exudate present; granulation tissue very sluggish. Diarrhea better; cough very troublesome. Patient developing an extremely edematous and painful phlegmasia alba dolens of the left leg.

The patient died about two months after the operation.

*Remarks.*—At no time was there any evidence of a fecal fistula. There was no fecal odor to the pus nor, in spite of

frequent fluid stools, any fecal drainage through the incision. Naturally it would be supposed that the worms made their way into the abscess cavity from some portion of the intestinal tract, but why, if ten worms of the size of most of these made their way through the intestinal wall, had there been no escape of any other intestinal contents? This remains a mystery. The worms were most of them full-sized individuals varying from 5 to 9 inches in length and were all alive at the time of removal.

There seems to have been some relation between the doses of santonin and the appearance of the worms, the majority of them having appeared soon after administration of the drug. It would be interesting to know whether, if the santonin had never been given, the worms would have appeared or not.

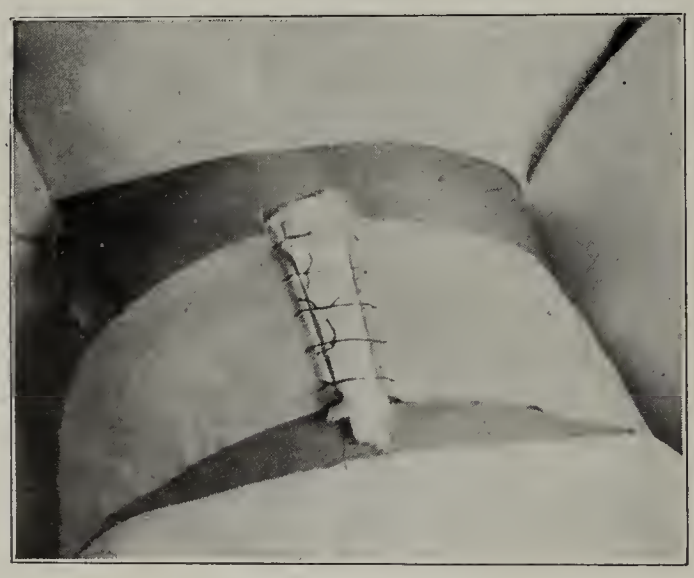
Whether the worms were responsible for the exceeding sluggishness of the wound or whether that was due to other causes is also a question. The pus was always more abundant on the days that the worms appeared and for several days afterward. Unfortunately, in Central Persia, there is no means of access to the literature on the subject, so I am unable to find out whether the case is a unique one or not.

It may be interesting to note, in connection with this case, an instance related by the father of this patient, who is a native physician. He tells of a patient of his whom he had tapped repeatedly for dropsy. On one such occasion, greatly to his surprise, when he inserted the trocar a roundworm came forth. Cases in which worms have been vomited, have appeared at the nose or gone through the eustachian tube into the ear are not uncommon in this country; and cases have been reported in which a worm has perforated the intestinal wall, causing peritonitis.

## ADHESIVE SUPPORT FOR TENSION SUTURES

C. L. Heald, M.D., Cedar Rapids, Iowa

When placed under tension sutures are apt to cut their way through the tissues, thus diminishing their support of the wound.



Parallel glass tubes, covered with adhesive plaster, placed over incision to relieve suture tension.

In closing wounds in which there is likely to be much tension, as from tympanites, vomiting or when the patient is to be got up early after operation, I have used the following simple method with satisfaction:

Two pieces of ¼-inch glass tubing are filed and broken off the length of the wound. Two pieces of zinc oxid adhesive plaster are cut as wide as the length of the rods, and as long as necessary to give firm support. One end of each piece of adhesive plaster is rolled once around a glass rod, adhesive surface in, and overlapped on itself ¼ inch.

After the wound has been closed with sutures in the usual way, with silkworm-gut tension sutures inserted but not tied, the adhesives are applied, the rods coming just within the line of tension sutures on each side of the wound. Close to the rods, with knife or scissors, are cut small slits, through which the ends of the sutures are passed, drawn taut, and tied over a strip of gauze laid on the wound. Additional support may be obtained by passing tapes through other slits and around the rods, tying the ends together over the gauze. The usual dressings are then applied.

The sides of the wound are firmly and evenly supported, and the wound is placed at rest, a condition favoring prompt healing with minimum scar formation and liability of hernia.

## THE RADICAL CURE OF AN UNUSUAL TYPE OF HEADACHE

T. J. Orbison, M.D., Los Angeles

The following clinical record is presented as an example of a rarely diagnosed disease-form and its cure:

*History.*—Mrs. L. L., aged 35 years, referred by Dr. William Duffield, Los Angeles, is the fifth in a family of nine children. Her parents are alive and healthy. There is no history of headaches or nervous disease in the family. Up to her seventeenth year the patient was in rugged health. Her menstrual history began at the age of 15, and is the dominant feature of the case. Menstruation has been very irregular. During the last five years it has appeared normally but twice, and not at all in the last thirteen months. Some of her headaches seem to have been due to cerebral hyperemia caused by suppressed menstruation, inasmuch as at every period when menses should show and failed to do so she suffered with terrific hyperemic headache. She was married five years previous to her first examination and has never been pregnant. Apart from her headaches and attendant symptoms the patient does not complain, except that she has had pain at times in the region of the appendix. She complains of terrific, prostrating headaches, and has suffered with them since her seventeenth year. They have been growing worse, and have become so intolerable that she has contemplated suicide.

*Onset and Progress.*—The headache begins as a sharp, cutting pain in both temporal regions. Thence it moves backward, and seems to go through the brain deeply. It is not noted in the frontal or occipital regions. There is the subjective symptom of excessive pressure from within outward and never the reverse. When it is at its worst she must jump to a sitting or standing posture; she has at times sat up in a chair all night because of it. When she lies down or stoops forward it is made worse. During the headache she vomits often. The duration of severe pain is generally from one afternoon through the night and until about 10 o'clock the next morning. There are no visual phenomena and no aural symptoms, except a dull throbbing. During the throbbing she feels as if there was pressure back of both eyes pushing them forward. The pain is generally one-sided, and is most often on the left. When it is at its height the face is cadaveric and she becomes very anxious. There seem to be two symptom-complexes: (1) intense encephalic hyperemia, especially when the menses are due (vicarious); and, grafted on this (2) migrain.

*Examination.*—Muscular condition is excellent, though there is evidence of underweight. Heart sounds and blood-pressure do not vary from the normal. There is no abnormality of the bony spine. Pupils are equal and react normally. There is spasm of the orbicularis palpebrarum on the left side. Pelvic examination demonstrates a small, undeveloped uterus but no ovarian disturbance (both ovaries seem normal as to size and position).

The patellar and biceps tendon reflexes are equal and somewhat exaggerated. Painful zones are noted below the left external ear and along the left side of the cervical and upper dorsal vertebrae, and over the trapezius muscle on the left side. There is some tenderness over the region of the appendix. Examination of the eyes (by Dr. Mansur) shows normal fundi, vision and muscle balance. There is no papillo-edema. The urine is normal.

*Non-Operative Treatment.*—The patient was first seen Aug. 29, 1911. For six weeks she was treated by the application of rest, massage and hydrotherapy, with regulation of occupation and diet. The headaches were treated symptomatically. The result was only fairly palliative, but not a cure. Operative treatment was held in abeyance until there was no doubt as to its indication.

*Operation.*—Nov. 13, 1911, she was operated on by Dr. William Duffield for the purpose of relieving ovarian dyscrasia, if possible. The ovaries were found normal in size, but rather more dense and tense than normal. A wedge-shaped piece was removed from each ovary, when the parenchyma of both was found to be riddled with small, pearly, cyst-like bodies. The ovaries were then sewed up. The appendix was removed, because of the history of persistent pain, and the abdomen closed. The uterus was found to be very small and hard. The cervix was dilated. The patient was given ovarian extract by mouth.

*Results.*—From that time to the present (she was last seen April 22, 1913), she has had no headaches except once, when she suffered with ptomain poisoning. The patient says that she is perfectly well and is able to do anything she likes. For some time she has taken no ovarian extract or any other medication. Not the least interesting phase of this case is that the patient has menstruated regularly ever since the operation.

I have presented this case with some hesitation and reluctance, because I am far from advocating surgical interference with the female genital organs except in those patent cases in which the indication is so plain that to disregard it would be unreasonable or obtuse. Aside from the results, the etiology, in this instance, fully justified the course pursued.

Auditorium Building.

---

## Special Article

# BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

*(Continued from page 1881)*

IX

### *VACCINES OF SINGLE BACTERIAL SPECIES*

For use under circumstances in which autogenous vaccines are not available, or in the occasional cases in which corresponding stock vaccines suffice, making the autogenous vaccine superfluous, it is customary to have on hand a supply of stock vaccines of the more usual species of pathogenic bacteria. These may now be considered one by one, the list including those with a wide vogue irrespective of the scientific claims for therapeutic value. With each vaccine, however, the effort will be made to indicate to what extent there is a reason for its existence. At the same time, under the heads of indications, there will be a brief discussion of the infections or diseases for which the vaccine is recommended, specifying those with real claims and those entirely unreasonable.

#### STAPHYLOCOCCUS VACCINE

This was the first of Wright's bacterial vaccines for therapeutic use—one of *Staphylococcus pyogenes aureus* used in the treatment of chronic furunculosis.

*Preparation.*—A pure culture of *S. aureus* recently isolated should be used to furnish the suspension for a stock staphylococcus vaccine. It is the opinion of the most experienced workers that whatever therapeutic potency a stock staphylococcus vaccine possesses can be secured by using *S. aureus*. The "polyvalent" vaccine consisting of a mixture of different staphylococci has not been found superior to that of *S. aureus* alone. Instead of attempting to stock oneself with single vaccines of the various staphylococci (*S. albus, S. flavus, S. citreus,* etc.), or resorting to a polyvalent combination, one who fails to secure a satisfactory response with stock *S. aureus* vaccine should administer a correct dose of freshly prepared vaccine of the autogenous staphylococci.

*Indications.*—Staphylococcus vaccine is prominent among the comparatively few which by common consent are valuable as stock preparations. A freshly prepared stock vaccine from a recently isolated culture of *S. aureus* seems to be quite as effective in those staphylococcic infections suitable for bacterial inoculation as the autogenous vaccine. In cases in which stock staphylococcus vaccine falls short and the autogenous preparation proves beneficial, it is probable that the successful outcome is due to the latter being fresh, while the former may have deteriorated.

Boils: Wright employed a staphylococcus vaccine first in a case of chronic furunculosis, sycosis and eczema. Singularly enough these three are still the chief ailments in which inoculations of staphylococci prove useful, and the order of probable success is that in which the diseases are named. In other words, a case of chronic boils is the most promising for the therapeutic application of staphylococcus vaccine, if it is not, indeed, the most promising in the whole range of bacterial infections amenable to bacterial therapy. Such a case still offers the most auspicious, and at the same time the least complicated, opportunity for a beginner in vaccine therapy who aspires to master its technic. Still not every case of chronic boils yields to staphylococcic inoculations whether of the stock or the autogenous variety. Mishaps in dosage or inoculation-interval explain some of these unsuccessful results, while others must be placed in the list of cases not suited to vaccine therapy, and explained by Wright as those in which the immunizing mechanism has been exhausted by the repeated failures of auto-inoculation. When this, comparatively the simplest clinical problem in therapeutic immunization, proves insurmountable by the most expert of specialists, no extended argument need be advanced in favor of prudence as regards vaccine therapy in general.

Eczema: Both the subacute and chronic varieties of eczema with serous oozing or pustules yielding *S. aureus* in abundance are often amenable to inoculations of staphylococcus vaccine. Good results are sometimes achieved in the generalized eczema of infancy, and more rarely in that of adults. Localized eczema is less responsive, and in the dry, scaly forms of the type of seborrheic eczema, unsatisfactory results are the rule, with an occasional satisfactory issue as the exception. Bacteria are not the primary cause of eczema, but aggravate an already existing lesion in some cases. When ordinary treatment directed to the underlying condition is of no avail it is well for the physician to remember that in some cases it has been supplemented successfully by the use of vaccines.

Sycosis: That form of "barber's itch" yielding *S. aureus* from the infected hair follicles will at times succumb to inoculations of staphylococci even after obstinate resistance to the usual forms of local treatment. Allied to this affection and sometimes terminating rap-

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

idly under appropriate bacterial inoculations is chronic staphylococcic folliculitis, as of the nostrils.

Acne: Although chronic acne originally was hailed as a most promising field for vaccine treatment, several years of thorough trial have shown that this treatment in acne is quite as uncertain as other measures. In cases of acne vulgaris with pronounced pustular formation a satisfactory outcome often follows a patient trial of staphylococcus vaccine usually extended over a period of weeks or months. Now and then one witnesses a complete recovery even after a few inoculations in a case of acne of the mixed type which has persistently refused to yield to all the usual therapeutic procedures; but extended experience will disillusionize the practitioner who from such a result anticipates unvarying success in the vaccine treatment of acne. The next case, perhaps, of acne of the face alone, or even localized in certain portions of the face and moderate as to lesions, may prove refractory to all effort. These considerations apply particularly to the use of stock staphylococcus vaccine, for a somewhat larger measure of satisfaction attends the inoculation of fresh autogenous vaccine.

To be convinced that commercial stock vaccines have been disappointing in the treatment, one has only to scan the list of "staphylo-acne" mixtures now on the market, illustrative of the rule that the mixed vaccines indicate a decreasing sale for those of a single bacterial species. Some manufacturers offer to overcome the difficulty by compounding a polyvalent vaccine in which are included staphylococci of the white, lemon-yellow and golden-yellow varieties, and from "many different lesions."

The discovery of various bacilli in comedones and seborrheic secretions, among which is one styled the "acne bacillus" by Sabouraud, has furnished a new impetus to the treatment of acne by bacterial vaccines, and especially to the commercial exploitation of a new line of mixed acne vaccines. As a matter of fact, the bacilli encountered in seborrheic acne are several as to species and variety. Special investigators in the bacteriology of skin diseases are not in accord as to these varieties or as to what if any pathogenic rôle to ascribe to them. Hence it follows that the so-called "acne bacillus" of commercial acne bacillus vaccines is a variable and uncertain quantity as to its identity and biologic properties. Therapeutically, this uncertainty is even more marked, as a fair clinical trial will demonstrate.

A safe working rule for the physician who would attempt the vaccine treatment of acne is to make a cautious trial of a good stock staphylococcus vaccine. If no improvement follows a reasonable trial of this preparation, it is fair to assume that the case is one which will resist all his efforts in vaccine therapy.

Other Localized Staphylococcic Infections: Staphylococcus vaccine is of questionable utility in staphylococcic carbuncle. In any event it should not be used to the exclusion of adequate surgical intervention. The same consideration applies to acute osteomyelitis. Staphylococci may be the exciting agents in a number of other acute, subacute and chronic localized infections, and occasionally of generalized infections like septicemia and pyemia. Here, however, the indication for staphylococcus vaccine (except in the generalized infections in which the expediency of vaccine therapy is doubtful) should rest solely on a preliminary bacteriologic diagnosis; and, of course, it is but a step from such a bacteriologic diagnosis to the preparation and trial of a fresh autogenous vaccine.

*Contra-Indications.*—In the literature advertising commercial vaccines, staphylococcus vaccine is recommended in impetigo, psoas abscess, suppurating glands, cystitis, "septic infections," otitis media, "mixed infections," mastoid infection, frontal sinus and antrum of Highmore infection, "infections following injury," "abscesses" and pyemia. Any one with sufficient knowledge of bacteriology knows that such a list embraces both localized and general infections of variable etiology with staphylococci as exceptional factors, or if involved, usually secondarily. The list is here reproduced as a warning against the empiric use of stock staphylococcic vaccine in any of the diseases mentioned.

*Dosage.*—Based on the standard of numerical value the dose of staphylococcus vaccine varies from 50 to 1,000 million. It is rare, even in infants, that a dose less than 50 million will evoke a therapeutic response; but occasion may now and then arise for the employment of doses larger than the average maximum of 1 billion.

### STREPTOCOCCUS VACCINE

Compared with that of the staphylococcus, an entirely different situation is presented in the consideration of streptococcus vaccine from the point of view of the stock preparation. The field of usefulness of the stock streptococcus vaccine is strictly limited, and this limitation seems to be directly related to the variations which streptococci from different sources and different morbid conditions present—variations whose underlying cause is still undetermined, but which lead to the appearance of those diverse biologic characteristics by which they are differentiated into the groups, races or strains which subdivide the pathogenic streptococci as a species.

On occasion one may resort to a stock streptococcus vaccine in a given streptococcus infection with what appears to be a specific effect, but the same vaccine tested against another infection likewise due to streptococcus alone will prove quite unavailing. A physician who recognizes this drawback will not experiment, but while waiting for a possible response to the test inoculation of stock vaccine, will take steps to procure and use a vaccine of the autogenous streptococcus, provided the case appears to be one of promise from the point of view of vaccine therapy.

*Preparation.*—A standard stock streptococcus vaccine should be prepared from a suspension of recently isolated streptococcus of the variety classified as *Streptococcus pyogenes.* Such a strain is usually yielded in streptococcus cellulitis or in abscesses of streptococcic origin. This particular strain appears to possess all the therapeutic virtue possible to any stock vaccine of streptococcus. It usually is more valuable than any polyvalent vaccine of streptococcic races or strains. Perhaps one reason for such superiority lies in the fact that a polyvalent vaccine composed of numerous strains of streptococci can be administered only in the average dose—a dose which may fail to contain a sufficient number of bacteria of the one particular strain which perchance is indicated.

*Indications.*—Wound Infections: The most auspicious opportunity for the corresponding stock vaccine of streptococcus is in wound infections by this organism with such lesions as cellulitis, lymphangitis, adenitis, tendovaginitis and phlegmon, especially if this vaccine is of the *S. pyogenes* group. A sufficient measure of satisfaction has accrued to the inoculation of such a vaccine to warrant the trial of at least a single dose pending the making of an autogenous vaccine.

*(To be continued)*

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

**PITUITARY LIQUID.—Extractum hypophysis cerebri liquidum, Armour.**—Pituitary liquid is a sterile solution containing the active principle of the posterior lobe of the pituitary body of the ox, free from preservatives. Each cubic centimeter represents 0.2 Gm. of the fresh posterior lobe of the pituitary body in physiologic salt solution.

Pituitary liquid is made from the posterior lobe of the pituitary body of the ox by finely mincing the fresh glands and extracting with acidulated water. As the active principle is not destroyed by heat, the liquid is heated to boiling for the purpose of removing coagulable proteids and is then further purified by removing organic impurities such as peptones and other proteids. The clear colorless liquid is filled into one cubic centimeter ampoules and sterilized.

Pituitary liquid is a clear, colorless liquid having a faint but characteristic odor and slightly salty taste.

Pituitary liquid gives the biuret reaction. Alkaloidal precipitants such as phospho-molybdic acid, phospho-tungstic acid, bromine water, etc., all give faint but distinct precipitates of the active principle.

*Actions and Uses.*—Pituitary liquid stimulates the unstriped muscle, especially affecting the arteries, spleen, uterus and intestinal muscles.

Pituitary liquid is said to be useful in cases requiring stimulation of the heart or raising of the arterial tension, but these effects are of short duration. It is claimed to be diuretic, but this statement has been questioned. It is claimed to be valuable in paralytic distension of the intestines and in postoperative and other pareses as well as in promoting uterine contractions during labor.

This remedy should not be injected during the first stage of labor, because if the os uteri is not fully open the energetic contractions may cause a rupture of the uterus.

*Dosage.*—1 Cc. (15 minims) repeated in one hour if necessary. Pituitary liquid should be administered intramuscularly in the gluteal region under strict antisepsis in order to secure quick action and prevent necrosis. Pituitary liquid is supplied in one Cc. ampoules only.

Manufactured by Armour and Co., Chicago, Ill. No. U. S. patents or trademarks.

*Ampoules Pituitary Liquid.*—Each ampoule contains pituitary liquid 1 Cc.

**LUMINAL TABLETS.**—The following dosage forms of an accepted proprietary article have been accepted for inclusion with New and Nonofficial Remedies:

*Luminal Tablets, 1½ grs.*—Each tablet contains luminal 0.1 Gm. (1½ grains).

*Luminal Tablets, 5 grs.*—Each tablet contains luminal 0.3 Gm. (5 grains).

Prepared by E. Merck, Darmstadt, Germany (Merck and Co., New York).

---

**Surgeons Blame Fee-Splitting Practice on Physicians.**—"Several of the most prominent surgeons in Indiana," says the *Journal of the Indiana State Medical Association*, "have volunteered the information that they are opposed to fee-splitting because they think it is a pernicious practice, and morally wrong, but that they are forced to divide fees on account of the avarice of the general practitioner who demands compensation for referring his cases. As an evidence of this, specific cases are cited in which general practitioners have written letters in which they state that they have certain cases for operation providing a stipulated percentage will be paid by the surgeon doing the work. One general physician is bold enough to send a form letter to several surgeons asking what commission is paid for cases referred." The *Journal* explains that while the services of the general physician are usually worth what he gets out of the case by dividing the fee with the surgeon, he should charge the patient direct. "The average patient is not only willing, but anxious to pay just compensation for medical services rendered. The family physician will find that he can collect his fee from the patient without the slightest trouble whatever, whenever he earns it, and he earns it whenever he gives the patient good advice and attention in a professional capacity. To collect the fee secretly through a surgeon is an admission of weakness which has no place in the honorable practice of medicine."

**Rapid Estimation of Uric Acid.**—Dr. J. E. Huber, Peoria, Ill. (*Bulletin of the Peoria City Medical Society*, January, 1913), suggests the following modification of Folin's method of estimating the uric acid in urine:

The following reagents are required:

1. Ammonium-uranium solution:
   Ammonium sulphate, 500
   Uranium acetate, 5
   Water, 650
   10 per cent. acetic acid, 60
2. Saturated ammonium chlorid solution
3. 10 per cent. ammonium sulphate solution
4. 1 per cent. sodium carbonate solution
5. Fiftieth-normal potassium permanganate volumetric solution

The method is as follows: Treat 50 c.c. urine with 12 c.c. of the ammonium uranium solution, allow to stand ten minutes and filter clear. Of this filtered urine concentrate 31 c.c. on a water-bath to about 5 c.c., which should take about half an hour. Wash this 5 c.c. urine into a centrifuge tube, with saturated ammonium chlorid solution, using not quite enough to fill the tube, then stopper with a clean cork and shake thoroughly, and allow to stand from ten to fifteen minutes in cool water. At the end of this time the ammonium urate will have crystallized out; the tube is then placed in the centrifuge and whirled for a minute or two. The deposit will be well packed in the bottom of the tube so that the ammonium chlorid solution can be poured off completely. Fill up the tube with 10 per cent. ammonium sulphate solution and shake up well, so that the precipitate is broken up and distributed through the fluid. Centrifugalize again, pouring off the ammonium sulphate solution, and repeat the process once more. Pour off the ammonium sulphate solution and add about 5 c.c. of 1 per cent. sodium carbonate solution, gradually warming the tube so that everything goes into solution. Transfer this solution to a beaker, washing out the tube with water until about 25 or 30 c.c. total fluid is obtained. Then add 7 c.c. concentrated sulphuric acid and titrate with fiftieth-normal potassium permanganate, titrating to the first diffuse blush of red throughout the whole of the fluid. Each cubic centimeter of potassium permanganate equals 0.0015 gm. uric acid. To the calculated amount of uric acid found, a correction of 1 mg. must be added. The operation need not take more than one hour; the actual work after the evaporation is finished should not consume fifteen minutes.

**Emergency Lighting Plant for Ships.**—To swell the horrors of a sea disaster at night the lights are apt to be put out by the flooding of the electric generating plant. But is it necessary to depend on a plant located where it is liable to be flooded? Experiments are being made now on a large British vessel that is under construction, with a gasoline electric plant that may be placed on the bridge deck. This set will not only supply the light, but the wireless telegraph apparatus as well, so that the occupants of the vessel may be supplied with light and the means for calling for assistance until the very moment of complete submergence of the vessel. This generating set will be used only in emergencies.—*Scientific American.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

*Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.*

SATURDAY, JUNE 21, 1913

## ORGANIC PHOSPHORUS COMPOUNDS

The organic compounds of phosphorus present little difference in nutritive value so far as the phosphorus is concerned, since they are all decomposed in digestion and absorbed as inorganic phosphates. What differences exist depend on the differing nutritive power of the organic compounds with which they are combined. A well-known physiologic chemist says:[1] "The value of the organic phosphorus compounds in nutrition entirely depends on the nature of the organic matter with which the phosphoric acid is combined." This statement may come as a surprise to many who have heard the supposed virtues of "organic phosphorus" lauded in emphatic terms. We have already pointed out[2] that without question the organic phosphorus compounds can be built up in the animal body from inorganic phosphate. Both organic and inorganic phosphorus compounds can therefore be utilized in the organism; but mere feeding experiments with the organic types do not show in what form their phosphorus is assimilated. Whether or not they are first hydrolyzed and then resynthesized can be determined only by special trials in which the influence of the digestive juices and alimentary conditions on the different organic compounds of phosphorus is ascertained; for whether the intake of phosphorus be organic or inorganic, the end-product excreted in the urine is almost entirely inorganic.

The fact that the phosphorus of the feces is mainly in the inorganic form of phosphate is in itself suggestive of a decomposition in the organism. Dr. Plimmer[1] has, however, subjected the question of the behavior of the more familiar types of organic phosphorus compounds toward the enzymes of the pancreas, intestine and liver, as well as some of plant origin, to the test, so as to obtain a comparative survey of the subject. The organic representatives—glycerophosphoric acid, hexosephosphoric acid, ethylphosphoric acid, phytic acid, nucleic acids, the phosphoprotein casein—were, excepting phytic acid, hydrolyzed by the intestinal mucosa, and their fate in assimilation is like that of the other foodstuffs, all of which are known to be broken down as they pass the intestinal wall and before they enter the circulation. The organic phosphorus compounds, in Plimmer's estimate, are therefore almost certainly assimilated as inorganic phosphate together with the organic radical with which the phosphorus is combined.

There is no evidence that phytic acid—the basis of phytin, which is the calcium magnesium salt of this inositolphosphoric acid—is absorbed as such, despite its refractory behavior toward the alimentary enzymes. For there are phytases in the vegetable foods, so that in herbivora phytin can be hydrolyzed, that is, digested, much as cellulose is by the cytases of plant tissues which enter into the diet. In man and the carnivora bacteria in the large intestine may perform this cleavage function so that in any event phytic acid will enter the circulation as inositol and phosphoric acid. Inositol has, in fact, been found in many tissues. The nutrient virtues or the pharmacologic properties of such phosphorus compounds, if they possess any aside from that of the phosphoric acid radical contained in them, are therefore probably those of the simpler components which they yield in the way here suggested.

1. Plimmer, R. H. A.: The Metabolism of Organic Phosphorus Compounds. Their Hydrolysis by the Action of Enzymes, Biochem. Jour., 1913, vii, 43.

2. The Nutritive Value of Inorganic Phosphates, editorial, THE JOURNAL A. M. A., April 20, 1912, p. 1198; Organic and Inorganic Phosphorus Compounds, editorial, THE JOURNAL A. M. A., May 25, 1912, p. 1605.

## THE PROPOSED INTERNATIONAL CATALOGUE OF INCUNABULA

At the meeting of the Medical Library Association, held in Washington, D. C., May 5, Sir William Osler gave an interesting talk on the plan now being carried out in Germany of making a complete catalogue of all the known incunabula in the world, including the medical. The advantages of such a project will be obvious to any one who has had anything to do with these ancient tomes, which, as their designation implies, are the very "cradles" or "swaddling-clothes" of European learning—in effect, the earliest printed books, including, by common agreement, all published up to the year 1500. Many of these books are without title-page, colophon, author, date and place of publication or publisher, and these data can be supplied only by an intensive study, along the lines pursued in any comparative science, of their typography, initial letters, paper, watermarks and other features, in connection with the internal evidence which may be derived from a study of their contents and what is known of their individual histories.

Anyone who looks at the splendid catalogue of "xylographica and books printed with types at Mainz, Strasburg, Bamberg and Cologne" issued by the British Museum in 1908, will realize how much can be supplied by competent scholarship to the life history of a given book. For example, the identity of Adolf Rusch, the "R-printer" of Strasburg, who did the typesetting of the "Liber Aggregationis" or "Aggregator de Medicinis Simplicibus" of Jacopo de Dondis (1298-1359), one of the

earliest books to be printed (1470), was established by a good deal of Sherlock Holmes investigation in which the distinguished philologist, Karl Dziatzko, played an important part. We do not yet positively know what is the earliest printed book, and it was only recently that Karl Sudhoff of Leipsic discovered in the Bibliothèque nationale at Paris the first medical publication to be set in type, the Purgation Calendar (*Laxierkalender*), printed by Guttenberg, in the type of his thirty-six-line Bible, in 1457.[1] This is only a single sheet of paper, fragmentary at that, and not a book. Valescus de Taranta's tract on the plague and the Pandects of Matthaeus Silvaticus are also supposed, like the R-printer's book, to have been published about 1470, and there is internal evidence that Roland of Parma's tractate on the treatment of pest may have been printed about 1468; but nothing definite can be asserted until all the known medical incunabula have been properly classified, collated and studied as to their contents and life histories.

The "Repertorium Bibliographicum" of Ludwig Hain (1826-1828), with the valuable supplements of the learned English barrister, Walter Arthur Copinger (1895-1902), and of Dietrich Reichling (1905-1911) are still the sources of authoritative knowledge in regard to the incunabula, marvelous monuments of learning and industry. Ludwig Choulant (1852-1858) and Karl Sudhoff (1908) have exhausted the possibilities of the graphic incunabula of anatomy, medicine and natural science, Ernst Vouillième, of the Royal Library of Berlin, has catalogued the incunabula in the Berlin collections (1906), Otto Günther the Leipsic and Altenburg incunabula (1909), and Sudhoff has devoted an exhaustive monograph to medical incunabula in the German language (1908). The four-volume "Typenrepertorium" of Konrad Haebler of the Berlin library (1905-1910) is a valuable storehouse of the type-fonts of the fifteenth century books, a detail which is one of the principal clues to their authorship, publisher, probable date and place of publication. Haebler has also catalogued the Spanish incunabula (1904), and Marie Pellechet, now deceased, began a catalogue of the French (1897-1905). In 1910, R. A. Peddie began a numeral check-list of fifteenth century books or "conspectus incunabulorum;" which, to date, has progressed no further than the letters A and B.

The proposed catalogue of the Prussian commission, if it can be properly carried out by international cooperation, will probably surpass all other efforts in this kind and will be a standard source of reference for the future. It appears that about 150,000 incunabula have already been catalogued in Germany, and official requests for check-lists from the different libraries of other countries are being sent out by the Prussian commission. American medical libraries, including those of the Surgeon-General's office and the College of Physicians of Philadelphia, will send their quota in due course. What is wanted, at present, is an alphabetical catalogue, by authors, when known, of each library's or person's incunabula, following the lines laid down by Hain and Copinger. These will then be collated with the titles making up the whole collection, and, if it should turn out that a library or an individual has an incunable which cannot be identified or is different from the others, a full description and life history of the book, its style of typography, initial letters and water-marks would probably be requested. For purposes of identification and for establishing trade values, such a catalogue must necessarily appeal to the owners of these rare books in the same way that the printed catalogues of the genuine Stradivarius and Guarnerius violins appeal to collectors of these instruments; and we have no doubt that public libraries and private persons owning incunabula in America will be glad to comply with the request of the Prussian commission (Kommission für den Gesamtkatalog der Wiegendrucke) which has its headquarters at Berlin.

1. Sudhoff, Karl: Arch. f. Ges. d. Med., 1907-1908, i, 223.

---

## OXALURIA

The enormous literature which exists on the subject of oxaluria is attributable to the fact that the insolubility and characteristic crystalline appearance of the well-known oxalate of calcium make it one of the most conspicuous objects discernible by the microscopic examination of the urine. Every routine inspection of urinary sediment furnishes an opportunity for even the inexpert to have attention called to an easily identified component. Little wonder then that the question of the significance and the origin of oxalic acid in the urine has long been a familiar topic for discussion. As a result the importance of this substance as a cause of pathologic phenomena has been greatly magnified. We believe that it is a tenable conclusion to say that the only conspicuous significance of the oxalates at present is to be found in their tendency to form sediment or concretions. The latter have been known since the days of Wollaston in the eighteenth century. Oxalates may form the nucleus for deposits of urates or phosphates, aside from existing alone without admixtures. They produce the hardest and roughest of stones, which are usually first formed in the pelvis of the kidney so that they frequently cause bleeding.

The therapy of oxaluria, for which the chief call appears to be in connection with threatened formation of oxalate concretions, must aim at a diminution in the excretion of oxalic acid and a greater solvent power of the urine for calcium oxalate. The latter is not easy to bring about with any degree of certainty, and the possibility of decreasing the output of oxalic acid depends on exact knowledge of its precursors and sources in the organism so that they may be controlled and curtailed. This is where the practical difficulties have arisen owing to the confusion that exists on the subject.

If we attempt, without any guarantee of finality in the matter, to present the current consensus of opinion, it is done with a confession of the difficulties which attend the unraveling of conflicting claims. Three possibilities present themselves. First, oxalic acid may be present preformed in the food and serve as a source of the excreted product. Secondly, it may be produced from certain foodstuffs themselves. To the biochemist this contingency always appeals because of the great ease with which oxalic acid can be obtained in the laboratory from such diverse compounds as sugar, protein, uric acid, etc., by oxidative processes. Thirdly, it may have a purely endogenous origin in reactions occurring within the tissues themselves.

Unquestionably certain foods like rhubarb and spinach contain oxalic acid. Whether this is attacked and destroyed in the organism, or passes through it unoxidized, being thereupon eliminated in the urine, has not been easy to decide owing to the difficulty of ascertaining to what extent ingested oxalic acid or its salts are actually absorbed. There is growing evidence that if they really enter the circulation, little if any destruction occurs. Aside from the excretion of preformed oxalic acid, however, it seems undeniable that this compound can also be manufactured from the familiar foodstuffs. An unexpected source has been described in the excessive gastric fermentation of carbohydrates.[1] The latest investigator in this field[2] concludes that the proteins have no influence on the production of oxalic acid, in contrast with the positive rôle of the carbohydrates and the glycerol complex of the fats. All of our foods contain components which either directly or indirectly contribute to oxalate formation. When, however, the extremely small output attending a large intake of the most varied substances is taken into account, the impression is gained that the capacity of the organism itself to form oxalic acid is at best a limited one.

The part taken by the alimentary tract in relation to the excretion of oxalic acid in the urine unquestionably calls for greater elucidation. The oxalates in foods are present largely in insoluble forms that require some cooperation on the part of the digestive agencies to make them available for absorption. Perhaps the problems of oxaluria need to be studied more extensively from the point of view of the gastro-intestinal situation than has been customary hitherto.

1. Baldwin: Jour. Exper. Med., 1900, v, 27.
2. Wegrzynowski, L.: Beiträge zur Lehre von der Entstehung der Oxalsäure im tierischen und menschlichen Organismus, Ztschr. f. physiol. Chem., 1913, lxxxiii, 112.

## THE ORIGIN OF COMPLEMENT

The substance (or substances) known as complement is of essential importance in the defense of the body against infection and in the processes of parenteral protein digestion in general. It is also an integral factor in the reaction called complement-fixation, now used largely for diagnostic purposes. Naturally the question of the origin of a substance of this kind early attracted notice. Soon after its discovery Metchnikoff took the stand that complement is derived from the leukocytes, being liberated as they undergo disintegration. Since then this explanation has been repeated on various occasions, but as yet we have no really convincing experimental results that point directly to the leukocytes as the source of complement. Indeed, the most recent work fails to establish any definite connection between complement and leukocytes.

Addis[1] and Dick[2] were unable to confirm the result originally obtained by Gengou, that the plasma of the blood is free from complement, nor were they able to demonstrate any increase in complement in the serum when left in contact with the blood-clot and its leukocytes which has been asserted to be the case. Lippmann and Plesch[3] gave thorium X in large enough doses to destroy practically all the leukocytes in the blood of guinea-pigs, but this was not followed by any increase in the complement. It would be reasonable to expect an increase if the leukocytes are the source of complement; these investigators found, furthermore, that complement is regenerated as quickly as in normal animals even when the leukocytes and bone-marrow have been destroyed by thorium X. Dick searched for complement in the various organs by methods suitable for that purpose and also studied the effects of the removal of various organs that can be removed without necessarily killing the animal, but failed to discover any indications as to the place of formation of complement. He then resorted to the use of chloroform and hydrazin sulphate, poisons which cause severe changes in the liver, and he found that there resulted a marked diminution in the amount of complement in the blood. Others have observed that complement is reduced in phosphorus poisoning, in which the liver is also affected.

Here, then, are three substances which cause grave disturbances in the liver especially, and as this is associated in each case with reduction of complement the indications point to the liver as directly or indirectly concerned in its production. And there the matter rests for the present.

1. Addis, T.: The Bactericidal and Hemolytic Powers of "Paraffin" Plasma and of Serum, Jour. Infect. Dis., 1912, x, 200.
2. Dick, George F.: The Origin and Nature of Complement, ibid., 1913, xii, 111.
3. Lippmann and Plesch: Sind die Leukozyten die Quelle der Komplemente? Ztschr. f. Immunitätsforsch., 1913, xvii, 548.

**Public Health against Private Gain.**—The food adulterators and the "patent-medicine" fakers are the real foes of the national department of health. They skulk in the background behind vapid legislators who prate of state rights, behind complaisant officials willing to support silly charges against upright administrators, behind honest Christian Scientists misled as to the real purpose of the proposal, behind antivivisectionists and antivaccinationists and all the fanaties they can rally to their support with talk of medical freedom. The medical freedom they seek is freedom to poison, debauch and slay, and their opposition should bring to the support of the movement every decent citizen.—*Pearson's Magazine.*

# Current Comment

## METABOLISM STUDIES IN PELLAGRA

In a recent number[1] we referred to the dietary studies which have been conducted by the Illinois Pellagra Commission in the attempt to elucidate the baffling problems connected with the incidence of pellagra in some of the institutions of the Middle West. Those studies were confined almost entirely to the question of the adequacy of the dietaries and the possibility of discoverable deficiencies in respect to their general make-up. Under the auspices of the Thompson-McFadden Pellagra Commission of the New York Post-Graduate Medical School and Hospital, Drs. Myers and Fine have attempted to extend our knowledge of the metabolism in this disease by painstaking investigation of a number of pellagrins. These newest studies include a very comprehensive examination of the intake and output of individuals exhibiting the disease in various stages of severity. The detailed results cannot be reproduced here.[2] It appears that anacidity is a symptom in pellagra, and is chiefly associated with an entire absence of pepsin or with the presence of only a diminutive content of this enzyme. These features of gastric insufficiency doubtless serve to account for the marked indicanuria reported in the case of the pellagra patients. The feces exhibited decidedly abnormal amounts of indol and skatol, especially the latter. In the light of these facts it is not impossible, as Myers and Fine suggest, that some unusual bacterial conditions are present in the intestine, although the evidences of excessive putrefactive changes need in no wise be regarded as specific for pellagra, since they are frequently found in other complications associated with the absence of hydrochloric acid from the gastric secretions. Aside from these alimentary bacterial changes, the metabolism experiments on the pellagrins show no unusual inability to utilize the various foodstuffs of the dietary. The elimination of mineral and nitrogenous constituents in the urine is what would be anticipated under the regimen and physical conditions of the individuals concerned. The presence of a few hyaline casts in a number of cases may point to some possible irritation of the kidneys. Small amounts of creatin have also been detected in the urine. Aside from incidental findings of this sort, however, there is little indication of any lowered physiologic efficiency. It is still obvious that other points of attack must be found before the obscurities in respect to the etiology of pellagra shall be entirely dispelled.

1. The Nutrition Investigation of the Illinois Pellagra Commission, editorial, THE JOURNAL A. M. A., March 15, 1913, p. 833.
2. See Myers, V. C., and Fine, M. S.: Metabolism in Pellagra, Am. Jour. Med. Sc., 1913, cxlv, 705.

## THE ASSOCIATION IN SESSION AT MINNEAPOLIS

According to telegraphic despatches received as we go to press, the sixty-fourth annual session of the American Medical Association being held this week in Minneapolis bids fair to be one of the most successful meetings in the history of the Association. Weather at the Twin Cities is warm and clear with occasional showers. The number of physicians registered is large for a northwest point and Minnesota physicians, in particular, are out in force. The anticipated attractions that this meeting would have in being held on the university campus are being realized. The reception which medical men from all parts of the country are receiving is most cordial and the arrangements made for the entertainment of the city's guests are of the pleasantest. The hotels are well filled; many who failed to make their reservations in advance of the meeting are being cared for at chapter houses and in private homes. The visiting physicians are unanimous in their praise of Minneapolis. The House of Delegates met Monday and a report of their meeting appears in this issue, beginning on page 1962. This also includes reports of the Secretary, the Board of Trustees, etc. The opening session of the Association was held at the Auditorium Tuesday morning. The meeting was called to order by President Abraham Jacobi, and before the meeting closed President-Elect John A. Witherspoon was installed as president. Governor A. O. Eberhart welcomed the visiting physicians on behalf of the state, Mayor Wallace G. Nye for the city, President George E. Vincent for the University of Minnesota and President H. H. Kimball for the Hennepin County Medical Association. During the noon hour Tuesday, a complimentary luncheon was served on the university campus, an innovation that seemed to appeal to the visiting physicians. "Public Health Sunday" was a great success; the addresses delivered by physicians in the various churches deservedly received high praise.

## MICROBIC SYMBIOSIS

The "antagonism" of bacteria, or more precisely the detrimental effect of bacterial products produced by one species on the cells of another species, has been more or less completely studied in a number of instances, but less is known about the favorable or stimulating effect of microbic association. An interesting example of the latter phenomenon has recently been described in a bulletin of the Michigan Agricultural Experiment Station.[1] It is there shown that certain acid-destroying yeasts have the power of maintaining lactic acid bacteria in a condition of activity for long periods when grown with the latter in mixed culture. A "weak" lactic bacillus may be "rejuvenated" by continued association in mixed culture with these yeasts. The filtrate of the yeasts, heated as well as unheated, has a marked stimulating effect both on the vitality and on the acid production of weak lactic bacteria. Northrup is convinced that acid introduced artificially or produced naturally in milk or whey is not merely neutralized but is destroyed by the yeasts. It is not shown that the yeast on its side derives any benefit from the association. This kind of work offers some suggestions for bacteriologists in other fields. It may be asked, for example, if human carriers of diphtheria bacilli or of the streptococcus of septic sore throat may not possibly owe their condition to a symbiotic relation established between the pathogenic microbes and other forms.

1. Northrup, Zae: The Influence of Certain Acid-Destroying Yeasts on Lactic Bacteria, Technical Bulletin 15, Michigan Agr. Exp. Sta., 1912.

# PROCEEDINGS OF THE MINNEAPOLIS SESSION

## MINUTES OF THE SIXTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT MINNEAPOLIS, JUNE 16-20, 1913

## *HOUSE OF DELEGATES*

### *First Meeting—Monday Morning, June 16*

The House of Delegates met in the Engineering Building of the University of Minnesota, and was called to order at 10:10 a. m. by the President, Dr. Abraham Jacobi of New York.

The first thing in order was the report of the Committee on Credentials.

Dr. Morgan Smith, Arkansas, a member of the committee, reported that thirty-nine delegates had been regularly enrolled and were entitled to seats in the House of Delegates, and stated that the Committee would make a supplementary report later.

Before the close of the meeting sixty-six members of the House were reported in attendance.

The President called for the reading of the minutes of the sixty-third annual session.

On motion of Dr. Arthur T. MacCormack, Kentucky, which was duly seconded and carried, the reading of the minutes was dispensed with.

President Jacobi then addressed the House. His address, which follows, was referred to the Reference Committee on Reports of Officers, with the cordial approval of the House of Delegates.

### President Jacobi's Address

The President of the American Medical Association is not expected to consider on this platform strictly scientific or technical problems. He must not compete with the sections whose contributions are expected to secure or just miss individual immortality, but I think so much of their value for the work of the American Medical Association that at the very beginning of my remarks I suggest that the sections could make their usefulness greater than ever before if their papers were fewer in number. The sections would not suffer, while the papers would still convey credit to the authors. Not all the papers necessarily benefit the thousands of listeners, and ample discussion may afford more knowledge and enlarge our horizon more than a voluminous paper. Questions announced beforehand for the purpose of eliciting brief papers from whosoever is ready — call them symposiums or what not. or the extemporaneous remarks of men of maturity and wisdom will enlist sympathy and not only draw audiences but also hold them. We write too much and debate too little.

I wonder how the chairmen of our sections feel when their brief term of office has terminated. Their secretaries, however, are men to do the hard work and to be satisfied with small type on circulars and announcements. They should, however, have a different position and office. In Europe the secretaries of academies and learned societies do not change. There Helmholtz and Humboldt and Waldeyer hold their trusts forever. In them are represented the scientific achievements of decades. I suggest such changes in our organization. All our section secretaries should be the prominent scientific men of our profession. From year to year they should be anxious to add to the perfection of the scientific work of their sections and through it attain what will bring to them a solid national reputation. I suggest that the proper committee consider that question with a view at least to a change in the duration of the service of the section secretaries.

The President is justly expected to pay his attention to the physical, educational, economic and moral interests both of the profession at large as represented in our vast organization. and of the nation whom we should be eager to teach and guide. I suggest, however, that his responsibility be not exhausted by attending to our common and individual interests only, but to our duties toward those who are less instructed than we are, or believe we are, and less capable of rendering appropriate services to the millions of fellow citizens all over the country. That is why from time to time the most comprehensive questions of the people's health and welfare are discussed by you or by your officers. Now, the opportunities your President has to address you are few, and thus far, while the honor you have conferred on him and on his predecessors is great enough to satisfy the most ambitious, his influence has been trifling and far from permanent. Maybe I shall be permitted to make a few suggestions in regard to his position and the duties which should be connected with his exalted place. Your Constitution, however, limits him for the present to the performance of a very few duties. Now, while he is in office he should not try to change or suggest a change of his constitutional rights or responsibility. He must not while in office even be suspected of attempting to add to the prerogatives of his position, which was tendered by the kindliness of his peers and which has rarely, if ever, been conquered by undemocratic covetousness and should never in this non-sectarian, unselfish, altruistic profession of ours be the prey of political push and underhanded solicitation.

The honor of my election enforced very little work, but profound silence, in the various councils which your presidents should have the right to attend and in which they should have the right to speak and to labor for you. That should be so in the future. You may not know that your President was obliged to ask for invitations which, indeed, were cordially given, to attend the meetings of your selectmen. This congress of delegates should change that. Your future presidents should automatically occupy a full seat in all your councils except, perhaps, the Board of Trustees. They should be the chairmen in some of them; they should have a veto or deciding vote in case of necessity, and one of their duties must be the obligation, not the right only, to talk to the Association more than at present.

In the Athenian Republic the leaders addressed the whole people, who came to listen and to judge. But unfortunately, even the mass-meeting of the Association is far from being the whole people but only a select and conscientious few. We are altogether 70,000 strong and the absentees amount to more than 90 per cent. of our people. That is why I feel like addressing the absentees mostly through you their representatives. Why are you absent from this one opportunity to meet your more punctual brethren and perform your obligation by proving your citizenship? Neglect is the road to extinction — through permitting the possibility of neglect on the part of those whom you have made your masters, aye, even the alleged conspiracies of whom some of you like to talk about mostly in private, sometimes in the market-place. If there be any cause for that it is your indifference. It is a wonder you have, after all, conscientious hard-working officers whose worth I have had, in my frequent contact with them, many reasons to admire. Your indifference may at least tempt your delegates and other officers to think little of their duties. You make them the aristocracy of our profession, but do not always succeed in making them what they would gladly be — your willing servants, for that is what we are and should be. A predecessor of mine may have had experience like that when he mournfully complained that the activities of the American Medical Association were at a standstill. Was it indifference he complained of? I wish I could look into 10,000 more pairs of eyes of our friends.

Maybe you are pleased to know a little more of what may happen behind the curtains. Many letters received by me during this year express the dissatisfaction of the writers

with the methods arranged for the business of the Association. Some want a day set aside — a whole day, for the discussion of its business. They do not remember, however, that the necessity of making ample room for our legitimate scientific work caused the creation of the House of Delegates and the transmission of all scientific work to the sections. It has amply fulfilled the expectations expressed at the time of its foundation. There is no reason, it seems to me, for a change.

The House of Delegates has always great responsibility and much work. Nobody knows that better than you, and mainly those who have had a seat here many years. One of them shares my suggestion, or rather I share his — that your house should convene three days in advance of the official meeting, should not be compelled to hurry its work, should take ample time for consideration and discussion, should not be tempted to rush and run the risk of regretting, and should be ready for the scientific work of the sections with easier minds. My experience in this and other bodies has been that men with scientific minds and altruistic hearts are for the most part those who wish to do all their work, and fulfil all their obligations. As we are situated now, with only one day open for the extensive work of this house, many who would be anxious to serve the Association refrain and decline because they are just as anxious to perform their duties both to others and themselves, in the sections.

The House of Delegates, in the opinion of some, is possessed of more absolute power and autocratic possibilities than the Congress of the United States. It is for you and you alone in your states to select the personalities of your delegates and to outline their responsibilities. If my angry correspondents would pray less and watch more, and would interest themselves in their county and state societies and in the election of their various delegates, they would have less reason to complain of what some of them term the oligarchy of Chicago and the autocracy of the House of Delegates. Both a vast organization like ours and the country at large have exactly the government they deserve. My correspondents will please mind the advice I have given a few of them, namely, to make themselves felt in their county and state and make their influence felt for the good of all. Perhaps it will be opportune, however, to learn that in connection with a few epistles of rebuke and expostulation I found I had to put up with the wiseacres who were members of no societies and even with those who were not yet citizens of the country and without any affiliation except with freedomers. If you had the benefit of an Ellis Island of your own you would have fewer undesirable citizens of the profession, fewer backbiters, fewer calumniators of persons and aims, fewer enemies of the profession, and fewer conspirators.

The President read a communication from the American Institute of Homeopathy.

---

## Reference Committees

The following Reference Committees were appointed:

### SECTIONS AND SECTION WORK

Thomas A. Woodruff ..... Section on Ophthalmology.
William LeMoyne Wills ..... Section on Surgery
S. W. S. Toms ..... New York
Rock Sleyster ..... Wisconsin
Hugh H. Young ..... Maryland

### RULES AND ORDER OF BUSINESS

Theo. B. Appel ..... Pennsylvania
John O. Polak ..... New York
Hubert A. Royster ..... North Carolina
Edgar A. Hines ..... South Carolina
M. N. Voldeng ..... Iowa

### MEDICAL EDUCATION

Henry L. Elsner ..... New York
H. D. Arnold ..... Massachusetts
A. C. Cotton ..... Illinois
V. G. Vecki ..... California
W. A. Jayne ..... Colorado

### LEGISLATIVE AND POLITICAL ACTION

E. J. Goodwin ..... Missouri
P. A. Haley ..... West Virginia
Joseph Y. Porter ..... Florida
A. R. Mitchell ..... Nebraska
Thomas S. Cullen ..... Section on Obstetrics, Gynecology and Abdominal Surgery

### HYGIENE AND PUBLIC HEALTH

Oscar Downing ..... Louisiana
M. P. Ravenel ..... Section on Preventive Medicine and Public Health
John W. Kerr ..... U. S. Public Health Service
W. E. Anderson ..... Virginia
W. S. Lalor ..... New Jersey

### AMENDMENTS TO CONSTITUTION AND BY-LAWS

Floyd M. Crandall ..... New York
B. R. McClellan ..... Ohio
Edwin Walker ..... Indiana
W. W. Richmond ..... Kentucky
W. B. Russ ..... Texas

### REPORTS OF OFFICERS

Donald Campbell ..... Montana
Chevalier Jackson ..... Section on Laryngology, Otology and Rhinology
Thomas McDavitt ..... Minnesota
Seale Harris ..... Alabama
M. Howard Fussell ..... Pennsylvania

### CREDENTIALS

D. Chester Brown ..... Connecticut
E. A. Vander Veer ..... New York
H. W. Van Allen ..... Massachusetts
Morgan Smith ..... Arkansas
J. H. White ..... Oklahoma

### MISCELLANEOUS BUSINESS

C. R. Woodson ..... Missouri
J. Z. Shedd ..... New Hampshire
Louis J. Hirschman ..... Michigan
A. T. McCormack ..... Kentucky
K. A. J. Mackenzie ..... Oregon

The Secretary read his report, which was referred to the Reference Committee on Reports of Officers.

---

## Report of the Secretary

*To the Members of the House of Delegates of the American Medical Association:*

For the year 1912-13 I submit the following report:

### MEMBERSHIP

The membership of the American Medical Association on May 1, 1912, was 34,283. During the past year, 303 members have died, 1,179 have resigned, 405 have been dropped as not eligible, 521 have been dropped for non-payment of dues and 13 have been removed from the rolls on account of being reported "not found," making a total of 2,421 names to be deducted from the membership list. There have been added 6,051 names to the membership roll, of which 4,695 were transferred from the subscription list. The membership of the American Medical Association on May 1, 1913, was 37,913, a net increase for the year of 3,630.

As is readily seen, this gain in members is due largely to circularizing subscribers to THE JOURNAL who were eligible, urging them to become members. While it is gratifying to report so large an addition at this meeting, it should be remembered that this increase under normal conditions would have been distributed throughout the years during which the question of postage on Journals mailed to members was unsettled.

### MEMBERSHIP OF STATE ASSOCIATIONS

The membership of the various constituent state associations according to the records in the Secretary's office, May 1, 1913, is shown in the table on page 1964.

### AD INTERIM COMMITTEE CHANGES

Since the last meeting of the House of Delegates, June 6, 1912, the following changes in the personnel of the committees have been made at the direction of the President:

Committee on Scientific Exhibit—Frederick S. Mandelbaum, New York, resigned from the committee.

The Committee on Memorial to Medical Officers Who Died in the Civil War was reorganized by electing S. Weir Mitchell, Philadelphia, chairman of the committee, vice William C. Gorgas, resigned, from the chairmanship of the committee.

Committee on Clinic Days—James E. Moore, Minneapolis, vice Alexander Lambert, New York, resigned.

Committee to Advise with the British Medical Association—W. W. Grant, Denver, chairman, vice A. T. Bristow, New York, deceased.

STANDING RULES TO GUIDE THE COMMITTEE ON CREDENTIALS

The following correspondence with the Secretary of the Medical Society of the State of New York is submitted to the House of Delegates that it may be referred to the Reference Committee on Rules and Order of Business for its consideration and report, that the House may direct the reply to be made to the Medical Society of the State of New York:

| Constituent Association of | No. Counties in State. | No. Component Societies in State Assn. | No. Co.'s in State Not Org'z'd | | No. Physicians in State (3d Ed. Directory) | No. of State Members Association | | No. A. M. A. Members in State | No. Subscribers to Journal in State.* |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1912 | 1913 | | 1912 | 1913 | | |
| Alabama .. | 67 | 67 | ... | ... | 2,418 | 1,646 | 1,617 | 370 | 230 |
| Arizona ... | 14 | 10 | 6 | 4 | 247 | 128 | 139 | 107 | 53 |
| Arkansas .. | 75 | 65 | 11 | 9 | 2,596 | 954 | 994 | 376 | 190 |
| California . | 58 | 37 | 21 | 21 | 4,767 | 2,232 | 2,445 | 1,765 | 811 |
| Colorado .. | 62 | 25 | 22 | 25 | 1,772 | 846 | 740 | 542 | 230 |
| Connecticut | 8 | 8 | ... | ... | 1,564 | 842 | 864 | 483 | 196 |
| Delaware . | 3 | 3 | ... | ... | 246 | 105 | 102 | 52 | 33 |
| Dist. of Col. | ..... | ..... | ... | ... | 1,350 | 580 | 587 | 308 | 177 |
| Florida ... | 48 | 21 | 21 | 27 | 974 | 329 | 353 | 213 | 134 |
| Georgia ... | 148 | 73 | 81 | 60 | 3,022 | 1,408 | 1,106 | 416 | 409 |
| Idaho ..... | 27 | 2 | 10 | 15 | 420 | 103 | 95 | 87 | 99 |
| Illinois .... | 102 | 100 | 2 | ... | 9,988 | 5,647 | 5,275 | 3,678 | 1,974 |
| Indiana ... | 92 | 86 | 6 | 4 | 4,984 | 2,146 | 2,392 | 1,125 | 449 |
| Iowa ..... | 99 | 94 | 2 | 3 | 3,653 | 1,978 | 1,653 | 1,150 | 564 |
| Kansas .... | 105 | 72 | 22 | 23 | 2,688 | 1,358 | 1,370 | 652 | 329 |
| Kentucky .. | 120 | 115 | 5 | 3 | 3,601 | 2,090 | 2,250 | 657 | 243 |
| Louisiana .. | 64 | 41 | 18 | 21 | 1,930 | 1,002 | 957 | 407 | 284 |
| Maine ..... | 16 | 15 | 1 | 1 | 1,176 | 606 | 623 | 298 | 97 |
| Maryland .. | 24 | 22 | 2 | 2 | 1,972 | 1,106 | 1,081 | 609 | 425 |
| Mass.[1] .... | 14 | 18 | ... | ... | 5,648 | 3,393 | 3,450 | 1,898 | 930 |
| Michigan .. | 83 | 60 | 3 | 4 | 4,104 | 2,227 | 2,232 | 1,158 | 457 |
| Minnesota . | 86 | 39 | 5 | 5 | 2,262 | 1,319 | 1,426 | 1,056 | 353 |
| Mississippi . | 79 | 49 | 9 | 7 | 2,009 | 995 | 875 | 254 | 210 |
| Missouri[2] .. | 114 | 99 | 18 | 9 | 6,037 | 2,695 | 2,938 | 1,571 | 505 |
| Montana .. | 32 | 14 | 17 | 18 | 512 | 229 | 243 | 150 | 120 |
| Nebraska .. | 92 | 58 | 23 | 25 | 1,796 | 957 | 832 | 516 | 264 |
| Nevada .... | 16 | 5 | 10 | 11 | 144 | 69 | 82 | 58 | 24 |
| N. Hampsh. | 10 | 10 | ... | ... | 704 | 536 | 502 | 221 | 46 |
| N. Jersey .. | 21 | 21 | ... | ... | 2,884 | 1,443 | 1,483 | 858 | 289 |
| N. Mexico . | 26 | 14 | 12 | 11 | 430 | 164 | 175 | 118 | 69 |
| New York . | 61 | 57 | 3 | 4 | 14,815 | 7,088 | 7,330 | 4,069 | 1,517 |
| N. Carolina | 100 | 85 | 6 | 10 | 1,849 | 1,126 | 1,115 | 269 | 221 |
| N. Dakota . | 46 | 14 | 5 | 10 | 594 | 388 | 350 | 263 | 77 |
| Ohio ..... | 88 | 88 | ... | ... | 7,513 | 3,328 | 3,495 | 1,923 | 786 |
| Oklahoma . | 77 | 66 | 12 | 5 | 2,620 | 1,089 | 1,111 | 427 | 230 |
| Oregon .... | 34 | 11 | 3 | 6 | 1,041 | 426 | 393 | 270 | 228 |
| Penn.[3] .... | 67 | 63 | 4 | 4 | 11,345 | 5,724 | 6,014 | 3,194 | 1,325 |
| Rhode Isl.[4] | 5 | 6 | ... | ... | 751 | 377 | 370 | 267 | 180 |
| S. Carolina | 43 | 38 | 5 | 7 | 1,275 | 688 | 712 | 244 | 195 |
| S. Dakota . | 65 | 7 | 8 | 8 | 651 | 272 | 292 | 205 | 125 |
| Tennessee .. | 96 | 61 | 33 | 35 | 3,338 | 1,373 | 1,380 | 499 | 294 |
| Texas ..... | 248 | 134 | 85 | 91 | 5,888 | 3,081 | 3,059 | 1,014 | 474 |
| Utah ..... | 27 | 7 | 21 | 20 | 427 | 228 | 234 | 156 | 76 |
| Vermont .. | 14 | 11 | 3 | 3 | 679 | 389 | 387 | 164 | 80 |
| Virginia[4] .. | 100 | ..... | ... | ... | 2,359 | 1,488 | 1,591 | 470 | 272 |
| Washington. | 39 | 20 | 19 | 19 | 1,630 | 819 | 874 | 540 | 310 |
| W. Virginia | 55 | 32 | 10 | 12 | 1,639 | 941 | 865 | 419 | 157 |
| Wisconsin . | 70 | 53 | 2 | ... | 2,652 | 1,726 | 1,700 | 1,057 | 511 |
| Wyoming .. | 21 | 5 | 9 | 11 | 235 | 118 | 121 | 60 | 51 |
| Canal Zone | ..... | ..... | ... | ... | 107 | 72 | 86 | 32 | 10 |
| Hawaii ... | ..... | ..... | ... | ... | 123 | 79 | 73 | 26 | 10 |
| P. Islands . | ..... | ..... | ... | ... | 691 | 108 | 105 | 25 | 52 |
| Totals .. | 2,961 | 2,001 | 545 | 553 | 138,120 | 70,021 | 70,538 | 36,746 | 17,375 |
| Honorary members and members listed at foreign addresses ..... | | | | | | | 78 | | ..... |
| Members in government services..... | | | | | | | 1,089 | | ..... |
| Journals to foreign addresses, government services, etc. ..... | | | | | | | ..... | | 2,264 |
| Grand totals..... | | | | | | | 37,913 | | 19,639 |

* Not including members of American Medical Association.

NOTE.—The number of members of the different associations stated in this table is in accord with the membership of the several associations as they were reported to the Secretary on May 1, 1913.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. These state associations are divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

2. The state of Missouri has 114 counties and the city of St. Louis.

3. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

4. Virginia has not adopted the plan of organization. Hence, strictly speaking, it has no component county societies. Members join the state society direct.

NEW YORK, April 3, 1913.

DEAR DOCTOR CRAIG:—

I am returning to you herewith enclosed the certificate form but I have taken the liberty of changing it in some respects to conform to the By-Laws of the American Medical Association.

Our delegates are elected as delegates. Our alternates are also elected. No particular alternate is elected for any particular delegate. In other words, if there is any delegate elected, absent, he may designate any alternate who is present to act for him. You will see that this is in conformity with the By-Laws.

The standing rules of any particular House of Delegates, according to law, has no binding effect on any later House of Delegates thereof, as you doubtless are aware.

It would seem almost an absurdity to urge that because both a delegate and his particular alternate under your certificate plan was absent, therefore that State organization would be deprived of a representative. No statute of any State would sanction any such arbitrary rule.

Our State Society at the last annual meeting elected as delegates Drs. Johnson, Madill, Murray, Phillips and Warbasse. We also elected as alternates for these delegates Drs. Ullman, Neuman, Morton, Jones and Carr. If any delegate is absent, he has a right to designate any alternate to represent him.

Our delegates and alternates elected this year are all elected for two years pursuant to the By-Laws.

In accordance herewith I have simply filled in the names of the delegates elected, and also filled in the names of the alternates elected.

If it is your understanding that there is impropriety in this proceeding, please advise me at once, as I desire to appeal to the Judicial Council.

Please let me hear from you by return mail, as this is a serious matter and must be given instant consideration.

With assurances of regard, I beg to remain,

Cordially yours,

WISNER R. TOWNSEND, Secretary.

P. S.—Please send me a certificate blank so that I may, after the new men are elected, fill them in in the proper manner, as we have always done heretofore.

---

CHICAGO, April 7, 1913.

*Dr. Wisner R. Townsend, Secretary, Medical Society of the State of New York, 17 W. Forty-Third St., New York City.*

MY DEAR DOCTOR TOWNSEND:

I thank you for the programs of the annual meeting of the Medical Society of the State of New York and also for the annual reports.

Replying to your letter of the 3d, I am returning the certificate of election which I formerly sent you, together with a blank form. I note your statement that the alternates elected by the Medical Society of the State of New York are not assigned to definite delegates. I would suggest that the Council of your State Society do so designate your alternates in order that the report of your delegates may comply with the standing rules of the House of Delegates of the American Medical Association. These standing rules were adopted by the House of Delegates at the Atlantic City meeting and remain in force until the House rescinds or modifies them. If the Medical Society of the State of New York feels that the rules are not just, it is within its province to protest against the rules and to ask the House to reconsider the action which established the rules. Until some such action is taken, these standing rules are to be considered as being an amplification or explanation of the By-Laws. Your statement, "the standing rules of any particular House of Delegates, according to law, has no binding effect on any later House of Delegates thereof, as you doubtless are aware," is not in accordance with Roberts' Rules of Order which state:

"These are called Standing Rules and can be adopted by a majority vote at any meeting. After they have been adopted, they cannot be modified at the same session except by a reconsideration. At any future session, they can be suspended, modified, or rescinded by a majority vote."

This statement is my authority for stating that a standing rule remains in force until the body which constituted it annuls or modifies the rule. Of course, I shall be glad to present the credentials in any form you desire to have them presented but if you depart from the approved form, the acceptability of the credentials must be passed upon first by the Credentials Committee and later by the House of Delegates before seating the delegation from New York. I doubt whether the Judicial Council has authority in this matter but I will be glad to refer the question to the Judicial Council if that is your wish.

Trusting that you will be able to use the approved form for reporting alternates and delegates, I am

Very truly yours,

ALEXANDER R. CRAIG, Secretary.

---

NEW YORK, May 22, 1913.

*Dear Doctor Craig:*

I presume that the blank cards you sent us for delegates are to be filled out by us. We are entitled to eleven delegates, but you only sent us ten cards and one of these was sent to Dr. Warbasse by mistake, as he is not going and we wanted his certificate for

his alternate. Therefore, please send me half a dozen of your blanks and we will have them properly signed and given to the delegates and to alternates where delegates cannot go.

I beg to call your attention to the marked copy of THE JOURNAL, which is mailed with this letter. It explains the matter very fully.

Very truly yours,

W. R. TOWNSEND, Secretary.

---

CHICAGO, May 26, 1913.

*Dr. Wisner R. Townsend, Secretary Medical Society of the State of New York.*

*My Dear Doctor Townsend:*

Replying to your letter of the 22d, I regret that we did not send you a supply of cards sufficient for each of the delegates from the Medical Society of the State of New York. I enclose additional cards for your use.

You will kindly note that these cards should be issued to the delegates only. In case a delegate finds that he cannot attend the meeting of the House, he should fill in the form authorizing his alternate to act in his place.

The marked copy of the *New York State Journal of Medicine* has just reached me. Your letter of April 3 and a record of the minutes of the action of the House of Delegates of the Medical Society of the State of New York concerning these standing rules will be presented to the House of Delegates at the coming meeting of the American Medical Association.

Very truly yours,

ALEXANDER R. CRAIG, Secretary.

The following from the *New York State Journal of Medicine*, May, 1913, is the marked passage referred to in Dr. Townsend's letter of May. 22:

In connection with the election of delegates to the American Medical Association, the Secretary stated that the blanks which had been forwarded to the Society to be filled out, signed by the President and Secretary of the State Society, and returned to the Secretary of the American Medical Association, 535 Dearborn Avenue, Chicago. including the certificate of election of delegates, contained the following clause, "Note the standing rules printed on the back of this form." The printed form was as follows:

Chapter III., Sections 1 and 2 of the By-Laws of the American Medical Association and the standing rules adopted by the House of Delegates at the 1912 session for the guidance of the Committee on Credentials are quoted here and the Secretary continues:

And on the opposite side of the page were the delegates and alternates arbitrarily arranged by the A. M. A. as follows: Delegate, William D. Johnson; Alternate, Walter Lester Carr; Delegate, Grant C. Madill; Alternate, Owen E. Jones; Delegate, Dwight H. Murray; Alternate, Rosalie S. Morton; Delegate, Wendell C. Phillips; Alternate, Leo. H. Neuman; Delegate, James P. Warbasse; Alternate, Julius Ullman.

The attorney for the State Society, Mr. Lewis, was consulted as to the legality of these papers because of the fact that the standing rules adopted at Atlantic City conflicted with the by-laws, which was contrary to Roberts' Rules of Order, which are in force in the A. M. A. The Secretary sent a protest to the A. M. A., but so far has not received any definite reply in the matter, except that Dr. Craig believes the standing rules to be right and proper. The opinion of Mr. Lewis is herewith appended.

---

April 26, 1913.

*Dr. Wisner R. Townsend, Secretary of the Medical Society of the State of New York, 17 West Forty-Third Street, New York City.*

MY DEAR DOCTOR SECRETARY:

I have your letter of request for an opinion as to the effect of the American Medical Association's resolutions in regard to the election of delegates which you sent me.

In my opinion these resolutions conflict with the by-laws of the American Medical Association, and the resolution also conflicts with the provisions of Roberts' Rules of Order, which the American Medical Association accepts as its governing authority in parliamentary matters.

The delegates elected at the last annual meeting of the Medical Society of the State of New York were elected pursuant to the by-laws of the American Medical Association, and any resolution passed at the last annual meeting of the American Medical Association would of course have no binding effect upon the delegates already elected. A different question is presented with reference to the delegates to be elected at this annual meeting of the Medical Society of the State of New York.

I am of the opinion that the delegates to be elected at this present meeting of the Medical Society of the State of New York, should be elected in conformity with the resolution passed, although it contravenes the by-laws of the American Medical Association. and although in my opinion such a resolution is absolutely illegal. But it is proper for me to add that the delegates from the State of New York should immediately see to it that this resolution is rescinded, because it is likely to interfere with the proper representation from the various states, is in contravention of the Statute Law of the American Medical Association, and violates even Roberts' Rules of Order.

The American Medical Association's by-laws and constitution provide ample means of changing its by-laws, and they should not be changed in such an informal way as by the adoption of a resolution.

To enter into an argument as to the importance of attacking this resolution at the next meeting of the American Medical Association, is unnecessary. The meeting place of the national body in various states makes it imperative that there be no hard and fast rule with reference to delegates and their alternates. Any alternate should be allowed to represent any delegate, otherwise it might often occur that a State would be deprived of representation. The sooner the New York delegates attend to this matter, the better for the interests of the American Medical Association.

Faithfully yours,

JAMES TAYLOR LEWIS.

---

DR. WENDELL C. PHILLIPS: I think it would be well for the secretary to give us his views regarding this communication from the secretary of the American Medical Association.

THE SECRETARY: I will endeavor in a few words to explain this action, although in some respects it is unexplainable. In the first place, the By-Laws of the American Medical Association give to the different state societies the right to elect delegates to the American Medical Association, provided they had been members for two years of that body, and stated that the delegates and alternates should be elected for two years. We have complied strictly with the By-Laws. The Committee on Credentials at the last meeting of the American Medical Association, held in Atlantic City, had some trouble with delegates from Illinois, one man having no less than three alternates with certificates, all duly signed and vouched for. These vouchers were presented to the Committee on Credentials and it put them in a very embarrassing position, and to prevent a repetition of such a state of affairs a resolution was then introduced in the House of Delegates on the last day formulating these new rules which will prevent delegates in the future from designating their alternates. Now, they come to us and arbitrarily assign certain alternates to certain delegates. This arrangement the Secretary of the American Medical Association justifies by these rules, which in my opinion is no justification whatever, because if the rules are invalid and illegal, they are not binding. Any law is a law, however, until it is repealed or declared unconstitutional by some higher authority, and the Medical Society of the State of New York not being a higher authority can only make a protest. The American Medical Association through its House of Delegates, can repeal these Rules, and we shall have to obey them until they are repealed. In the meanwhile we will have to designate each individual as the alternate for a particular member. In the place of Dr. Carr, we will have to elect some one for alternate of Dr. Johnson, of Batavia, until these rules are set aside.

In electing delegates I would like to make the suggestion that the delegate receiving the highest number of votes shall be No. 1, and so on down to the last delegate; that the House then proceed to elect the alternates, and the alternate receiving the highest number of votes shall be declared the alternate for the delegate No. 1 and so on. This will simplify the election.

DR. PHILLIPS: I move we adopt the suggestion of the secretary. Motion seconded and carried.

### THE PUBLIC HEALTH SERVICE

By an act of Congress, approved Aug. 14, 1912, the name of the Public Health and Marine Hospital Service was changed to the Public Health Service. Consequently, the House of Delegates should direct that wherever in the Constitution and By-Laws of the Association the name of this service appears, it be changed to the new title.

### PETITION TO CREATE A SECTION

I present a petition to create a Section on Gastro-Enterology and Proctology, in the form of several applications which have been received at the office of the Secretary.

### MEDICAL ASSOCIATION OF PORTO RICO

I have the honor to submit a petition from the Medical Association of Porto Rico addressed to the House of Delegates of the American Medical Association praying that the Medical Association of Porto Rico be accepted as a constituent branch of the American Medical Association.

Respectfully submitted,

ALEXANDER R. CRAIG.

Dr. W. W. Grant, Colorado, Chairman, presented the report of the Board of Trustees, which was referred to the Reference Committee on Reports of Officers.

The report is as follows:

## Report of the Board of Trustees

*To the Members of the House of Delegates of the American Medical Association:*

*Gentlemen:*—It is with feelings of deep regret and sadness that we record in our report to-day the death of our colleague, Dr. C. A. Daugherty, which occurred at his home in South Bend, Ind., on April 23. Last June he was elected for the second time a member of the Board of Trustees. In his four years' service he won the regard and loving esteem of all members by his conscientious, faithful devotion to duty and to every measure contributing to the honor and the progress of the Association. His gentle, kindly nature and ethical bearing endeared him to all, and the Association and the profession mourn the loss of one who deserved the confidence and esteem accorded him by his professional brethren.

It is a pleasure to report favorable and, in the main, very satisfactory progress in Association work during the past year.

The establishment of a surgical journal is still under consideration by a committee of the Board of Trustees.

The Council on Health and Public Instruction is doing an educational work of the greatest interest and importance in public health matters. Its cooperation with, and use of, clubs and non-medical organizations in creating a public interest and demand for medical lectures and information on public health matters is worthy of the commendation and endorsement of the profession.

The Committee on Medical Education continues its active labors in behalf of fewer and better schools, better standards of admission, more scientific instruction and a higher class of men for the practice of medicine and surgery. More detailed and complete information will be embodied in the special reports of these committees.

### SECTION PAPERS

In the Trustees' report last year your attention was called to our action relative to the length of section papers in THE JOURNAL. It was stated that the Board had passed a resolution limiting papers read before the sections to four pages of THE JOURNAL, and the discussions by each speaker to five hundred words, unless otherwise ordered by the Publication Committee of the Board. This action was taken on account of the large number of papers sent to THE JOURNAL immediately after the annual meeting of the Association.

The conditions during the past year, however, have been aggravated by the increased number of sections. As will be remembered, in 1910, the Section on Genito-Urinary Diseases, and in 1911, the Section on Hospitals were created. The former did not hold a meeting at Los Angeles, so that last year, 1912, two new sections took part in the scientific work. This, together with the fact that all the sections seemed to be increasing the number of papers, made conditions worse than in any previous year. For instance, in 1908 there were 294 papers read before the sections; in 1909, 290; in 1910, 315; in 1911, 251; and last year, 411. Thus in 1912 there were nearly 100 in excess of those read at St. Louis in 1910, and 160 more than were presented at Los Angeles in 1911.

Last year you created another section—that on Orthopedic Surgery This will still further increase the number of papers to be published.

The Board feels that you should be acquainted with these conditions, that you may realize its meaning so far as THE JOURNAL is concerned. This large number of papers makes it impossible to complete their publication within a reasonable length of time. This is a serious disadvantage both to THE JOURNAL and to the authors of papers. After four or five months, some papers are stale and the reader does not feel that he is getting up-to-date matter; especially is this true when he sees by the footnote that the article was read four, five or six, and possibly seven or eight months before. The author, too, becomes dissatisfied and impatient at the delay. But there is a more important point, and that is the fact that in the endeavor to crowd section papers through, little space is left in THE JOURNAL for voluntary articles. This is a serious handicap because THE JOURNAL is compelled to reject excellent, practical, timely papers; and more especially because the hackneyed phrase "returned on account of lack of space" impresses some with the idea that there is never any space for them, and they occasionally take offense. Thus many excellent men hesitate to submit a second paper when one has been returned. Of course, it is realized that on the success of THE JOURNAL depends the possibility of continuing much of the excellent work the Association is doing, especially so far as finances are concerned. Therefore the Board suggests that the House of Delegates give the subject serious consideration before it establishes more sections.

In considering this matter it should not be overlooked that the problem of publication of the papers in THE JOURNAL is not the only point of view from which to consider a possible increase in the number of sections. Aside from the fact that the larger the number of sections the more papers, the House of Delegates is reminded that even when there were only twelve sections there was often difficulty in providing suitable accommodations for the meetings. With the additional three sections recently created it will be still more difficult in some cities to secure the necessary meeting-places. Further, the danger of making the section work top-heavy, the unnecessary subdivision of specialties, and the duplication of subjects by two or more sections, are only some of the phases of this matter that are worthy of your attention.

### LIMITING NUMBER OF PAPERS TO THIRTY

The Board adopted a resolution at its February meeting, recommending that the number of papers to be read in any one section, at the annual meeting, shall not exceed thirty. It is the general opinion of those who have given the matter thoughtful consideration that most medical societies—the sections included—are handicapped in having too many papers, and not giving sufficient time for discussions. Some of the sections, from experience, appreciated this fact, and, on their own volition, have limited the number of papers much below that authorized in the by-laws.

The Board recommends that "thirty" be substituted for the word "forty" in Section 12, Article XI, of the By-Laws.

### ENDORSEMENT OF PAPERS BY CHAIRMAN OF SECTION

Section 5, Chapter XI, of the By-Laws is not sufficiently definite as to the composition of the Executive Committee that shall examine and pass on the section papers. The Board recommends that this by-law be amended so as to make it definite, and that the retiring chairman—that is, the one who presides during the session—should be one to pass on and approve, or disapprove, the publication of the papers read. The Board therefore suggests that you consider the advisability of modifying the last sentence by inserting in parenthesis, after the word "committee" in the last sentence—"as constituted at the close of the annual session," and changing "The" to "This." The sentence would then read: "This committee (as constituted at the close of the annual session) shall examine and pass on all papers read before the section, and shall endorse for publication only those that are of scientific or of practical value, and which will reflect credit on the section before which they were read."

### CHANGING SECTION SECRETARY EACH YEAR INADVISABLE

The Board feels that some of the sections are handicapped because of changing the executive officer—the secretary—every year. Those most interested and familiar with the subject are of the opinion that this is a mistake. An investigation of the matter will reveal the fact that in practically all successful medical societies—as well as in other organizations—the secretaryship is a more or less permanent office. The Board recommends that the House of Delegates take some action, either in the form of resolutions or otherwise, urging the sections to consider the advisability of making the secretaryship a more permanent office than it is now. The Board believes that this recommendation is of vital importance.

(*Minutes continued on page 1989*)

# *Medical News*

## CALIFORNIA

**Personal.**—Dr. and Mrs. Joseph Kurtz, Los Angeles, have started for Berlin.——Dr. L. Olivieri, Stockton, has returned after a trip to Italy.——Dr. R. Bremner Smith, San Francisco, against whom insanity proceedings were started three weeks ago, has been declared sane and discharged from custody.——Dr. William Henry Newell, San Francisco, is said to have been declared insane and committed to the Napa State Hospital.

**Summer Home for Tuberculous Children.**—A summer home has been established near Elmhurst by the Board of Women Managers of the Children's Hospital, San Francisco, for the eighteen patients in the Children's Hospital suffering from tuberculosis. The summer home has been given to the hospital by Mrs. Tay Danforth. There are, at present, three tent houses on the grounds to be used for sleeping quarters and one tent house for a treatment-room.

## COLORADO

**New Officers.**—Denver Physicians' and Surgeons' Club: president, Dr. H. C. Brown; secretary, Dr. C. E. Cooper (reelected).

**Personal.**—Dr. G. F. Wentch, Montrose, fractured two ribs and a elaviele and sustained internal injuries in a recent runaway accident.——Dr. J. M. Perkins, Denver, has been elected eommissioner of social welfare. His duties include the eharge of the eity and county hospitals and of the local bureau of health.

## DELAWARE

**Sanatorium Dedicated.**—The new administration building of the Hope Farm Tuberculosis Sanatorium was dedicated May 10. The building has eost $90,000. After the dedication exercises, the guests inspected the building.

**State Hospital Trustees Reorganize.**—The annual meeting of the trustees for the State Hospital for the Insane, Farnhurst, was held June 5. Dr. E. R. Steele, Dover, took his seat as trustee and Dr. J. H. Wilson, Dover, was reeleeted secretary.

## DISTRICT OF COLUMBIA

**Personal.**—Dr. F. M. Barnes, Jr., has resigned as clinical director of the Government Hospital for the Insane, Washington.——Dr. William Henry Syme, who underwent abdominal seetion recently at the Emergency Hospital, is reported to be convaleseent.

**Emergency Hospital Fund Assured.**—During the first half of the twelve days' eampaign for raising $300,000 for the erection of the new Emergency Hospital in Washington, $73,384.05 was obtained. Permission has been given by the President to solicit subscriptions from employees in governmental departments.

## FLORIDA

**Hospital Closes for Summer.**—Dr. Bohannon's Hospital and Sanitarium, Daytona, will be elosed during the summer.

**New State Board.**—The newly appointed State Board of Health met in Jacksonville, June 10, and organized by electing F. J. Fearnside, Palatka, president. Dr. J. Y. Porter, Key West, was reelected secretary and state health officer and Dr. Hiram Byrd, Jacksonville, was reelected assistant. The new board consists of G. G. Memminger, Lakeland; F. J. Fearnside, Palatka and Dr. S. R. Mallory Kennedy, Pensacola. The state health offieer was directed to secure and appoint reputable graduate physicians in Jacksonville, Pensaeola, Tampa and Key West to be known as and to be assistant state health officers in their respective districts.

## GEORGIA

**Commencement.**—The Medical College of Georgia, Augusta, at its annual eommencement, graduated a elass of thirty-four. In addition to the commencement exercises, alumni clinics were held, eonducted by the members of the faculty.

**Examiners Hold Election.**—At the annual meeting of the Board of Medical Examiners for Georgia, Dr. J. W. Palmer, Albany, was elected president and Dr. N. Peterson, Tifton, vice-president. Dr. C. T. Nolan, Marietta, was relected secretary.

**Personal.**—Dr. L. C. Furr was shot in the abdomen during an affray near Crandall, recently.——Dr. A. P. Kemp, Macon, is ill with malaria in the Macon Hospital.——Dr. J. M. Crawford, Atlanta, has decided to remain in Vienna for eight months taking special eourses.

**Merger of Atlanta Colleges.**—Authentic word has been received that the Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine have been merged and will adopt the name of the Atlanta Medieal College, a name held by one of the predecessors of the Atlanta College of Physicians and Surgeons.

## ILLINOIS

**Sanatorium Opened.**—The Springfield Open Air Colony was opened under the auspices of the Springfield Tuberculosis Association, last week. The colony is located west of Springfield and is under the personal direction and ownership of Dr. George T. Palmer.

**Resolutions Regarding Dr. Egan.**—The State Board of Health at a special meeting held in Chicago, June 2, adopted resolutions setting forth that in the death of Dr. James A. Egan, the state has lost its foremost advocate of disease prevention, of sanitary education and legislation, of higher medical education, of interstate reeiprocity in medieal practice; eulogizing the vigilant zeal of Dr. Egan in the elimination of epidemics, his labor in making life more secure and his work in striving to place medical education, science and practice on a more exalted plane, and mourning the loss of an untiring fellow-worker and a much loved comrade and friend.

### Chicago

**Alumni Meeting.**—At the annual meeting of the Rush Medical College Alumni Assoeiation held June 11, the following officers were eleeted: president, Dr. Arthur M. Corwin; viee-presidents, Drs. Joseph Z. Bergeron, John J. Stoll and Libni B. Hayman; neerologist, Dr. John Ritter; secretary, Dr. Charles A. Parker; treasurer, Dr. Morris L. Fishbein; ehairman of editorial board, Dr. B. McPherson Linnell; chairman of fellowship committee, Dr. George H. Weaver.

**Ice Commission Formed.**—A recent ruling of the United States Public Health Service has been made demanding that all interstate carriers supply certified water and ice to be used in public drinking fountains, tanks, etc. Under this ruling the various ice and water eompanies are compelled to obtain eertification of their ice and water to be used on steamboats and trains. Accordingly a commission, to be known as the Chicago Iee Commission, has been formed, composed of Drs. Ludwig Hektoen, director of the Memorial Institute for Infectious Diseases, Edwin O. Jordan, professor of bacteriology, University of Chicago, and Prof. John H. Long, professor of physiologic chemistry, Northwestern University, whieh will undertake the examination of ice, its source, transportation, delivery, etc., and certify the results when found satisfactory.

## INDIANA

**Hospital Reopened.**—The city hospital, Peru, which was built in 1910 and closed for lack of funds, has been reopened through the efforts of a committee of women who expect to raise $5,000 for its maintenance.

**New Officers.**—Fourth Councilor District Medical Association at Columbus, May 29: president, Dr. William E. Thomas, Clarksburg; secretary, Dr. F. C. Denny, Madison. The next meeting will be held in Madison.——Ninth Councilor District Medical Society at Lafayette, May 15: president, Dr. W. R. Moffitt, West Lafayette; secretary-treasurer, Dr. Fred A. Dennis, Crawfordsville.

**Personal.**—Dr. W. A. Geckler, superintendent of the State Tuberculosis Sanatorium, Rockville, has sailed for Marburg, Germany.——Dr. M. J. Spencer has been elected president, and Dr. T. Victor Keene, vice-president of the Indianapolis Board of Health.——Dr. G. A. Whitledge, Anderson, has been appointed a member of the Indiana State Board of Registration and Examination in Optometry.——Dr. Oliver P. Graham, Jeffersonville, is reported to be critically ill with pleural pneumonia at Battle Creek, Mieh.——Dr. Frank J. McMichael, Gary, is reported to be seriously ill in the Gary Hospital.——Dr. Henry C. Rogers, Rockville, has been exonerated of charges of criminal practice, the sheriff of the county stating that "there was at no time the least evidence to sustain the charge."

## IOWA

**Tuberculosis Hospital for Blackhawk County.**—Plans have been prepared for the county tuberculosis sanatorium for Blaekhawk County to be erected on the tract on which the detention hospital is being built. The new hospital will be provided with open wards.

**New Officers.**—Northeastern Iowa Medical Society at Cresco, June 5: president, Dr. George Kessel; secretary-treasurer, Dr. W. C. Hess, both of Cresco.——Des Moines Valley Medical Association, forty-second annual meeting at Ottumwa, June 5: president, Dr. Frank M. Fuller, Keokuk; secretary-treasurer, Dr. F. W. Bowles, Ottumwa (reelected).—Lynn County Medical Society at Cedar Rapids, June 4: president, Dr. R. B. Hasner, Cedar Rapids; secretary, Dr. Frank S. Skinner, Marion.——Dayton County Medical Society reorganized at McGregor, June 9: president, Dr. H. H. Clark, McGregor; secretary-treasurer, Dr. J. D. Brownson, Monona.——Marshall County Health Association at Marshalltown, May 14: president, Dr. Pauline Myers Townsend-Hanson.

**Personal.**—Dr. P. O. Convery, Waterloo, is reported to be seriously ill at a sanatorium in Des Moines.——Dr. G. P. Reed, Davis City, has returned from Vienna.——Dr. Paul W. Van Meter, city physician at Atkins, is to spend the coming year in China as a medical missionary of the Presbyterian Board. ——Dr. Albert R. Wilsey, Keokuk, charged with manslaughter the result of criminal negligence after an abdominal section, has been found not guilty.——Drs. D. Macrae, C. A. Hill, A. P. Hanchett, F. W. Dean and F. Earl Bellinger have been selected as the public health committee of the Commercial Club, Council Bluffs.——Dr. G. H. Sumner, Des Moines, has been reelected secretary of the State Board of Health.——Dr. and Mrs. R. O. Early, Buxton, have started for Europe.——Dr. John Charles Ryan, Des Moines, on May 23, was found not guilty of operating his automobile in a careless and imprudent manner.

## KANSAS

**Colleges Merge.**—Authentic information has been received stating that at the close of the present session the Kansas Medical College, Medical Department of Washburn College, will be merged into the University of Kansas School of Medicine.

**Personal.**—Dr. Fred A. Forney has succeeded Dr. J. E. Foltz as superintendent at the State Industrial Reformatory, Hutchinson.——Dr. J. A. DeMoss, Thayer, was seriously injured in a collision between his automobile and a railway motor car, May 14.——Dr. James Faulkner, Lansing, has succeeded Dr. S. L. Axford, Lansing, as physician to the State Prison, Leavenworth.——Dr. S. L. Axford, formerly prison physician at Leavenworth, has been appointed superintendent and physician-in-charge of the Evergreen Place Sanitarium and Hospital, Leavenworth.

## MARYLAND

**Physician Exonerated.**—In the case of Boyd Buey versus Dr. William F. Twigg, Cumberland, for damage for alleged malpractice in the matter of a fracture of the arm at the wrist, the attorneys for the plaintiff nolle prossed the case at Hagerstown, June 5.

**Gift to State Tuberculosis Association.**—The Maryland Jockey Club has given $10,000 to the State Association for the Relief and Prevention of Tuberculosis and has promised to make a similar gift annually, hereafter. Dr. H. Warren Buckler and Gordon Wilson, both of Baltimore, are named as commissioners for the disbursement of the fund which is to be used for the employment of visiting nurses of Baltimore County; for the maintenance of free beds in tuberculosis hospitals, for the relief of families impoverished by the disease, and for providing free luncheons for public school children improperly nourished or with tendencies toward tuberculosis.

### Baltimore

**Medical Certificates before Marriage.**—A meeting was held June 1 in the interest of the medical endorsement of marriages under the auspices of the Social Hygiene Society. Local clergymen of the city and Drs. Lewellys F. Barker and Donald R. Hooker discussed the subject. The Social Hygiene Society has endorsed the resolution passed by the Episcopal Diocese of Maryland, and all clergymen of that body have pledged themselves to encourage the requirement of medical certificates from all persons who apply to them to be married.

## MASSACHUSETTS

**Personal.**—Dr. Roland W. Brayton, Dorchester, Boston, was seriously injured in a collision between his automobile and a street car, May 26.——Dr. J. Arnold Rockwell, Cambridge, has succeeded Dr. F. W. White as medical advisor of the Massachusetts Institution of Technology, Boston.

**Hospital Notes.**—Carney Hospital, Boston, celebrates its semicentennial this month.——The New Melrose Hospital was formally dedicated May 30. The building has cost about $20,000, is two stories in height and of cement construction. ——The Board of Charity has granted a charter to the incorporators of the Wing Memorial Hospital, Palmer, and it is planned to have the hospital ready to open September 15.—— The workers who canvassed the North Shore towns, May 31, collected $6,000 for the North Shore Babies' Hospital, Salem. ——The city council of Boston has adopted a loan order for $298,000 for additional buildings for the City Hospital.

## MICHIGAN

**State Board Election.**—At the annual meeting of the State Board of Health at Lansing, Dr. Victor C. Vaughan, Ann Arbor, was reelected president and Dr. Thomas M. Koon, Grand Rapids, was elected vice-president.

**Health Train to Tour State.**—Arrangements have been made for a State Health Train under the personal direction of Dr. Robert L. Dixon of the State Board of Health, to leave Lansing, August 4, for a tour of the entire lower peninsula. The train will contain at least three exhibit coaches, and pictures, charts and models will be shown and demonstrations will be made, teaching the principles of disease prevention and setting forth the importance of good health.

**New Staff for United Benevolent Association Hospital.**—Dr. J. B. Griswold has been appointed honorary chief of staff, Dr. Alexander M. Campbell, chief of staff, Dr. Francis J. Lee, vice-chief and Dr. A. Verne Wenger, secretary of the new United Benevolent Association Hospital, Grand Rapids. Dr. Thomas M. Koon has been made chief of the medical department; Dr. William G. Young, chief of the surgical department; Dr. Mortimer E. Roberts, chief of the department of abdominal surgery and gynecology; Dr. Earl Bigham, chief of the department of obstetrics; Dr. Roy T. Urquhart, chief of the department of ophthalmology and otology; Dr. A. V. Wenger, anesthetist; Dr. Charles E. Hooker, dermatologist, and Dr. William Northrup, bacteriologist of the hospital. The consulting staff is composed of Drs. Orris E. Herrick, William Fuller, Malcolm C. Sinclair, Daniel S. Sinclair, Joseph B. Griswold, Frances A. Rutherford, James O. Edie and Homer C. Brigham.

## MISSOURI

**Secretaries Met at St. Louis, Not at Joplin.**—The Society of Secretaries of County Medical Societies of Missouri held its annual meeting in St. Louis and not in Joplin, as was erroneously stated in THE JOURNAL, May 24, p. 1648.

**New Officers.**—North Missouri Medical Association at Marion, June 5: president, Dr. Ed S. Smith, Macon; recording secretary, Dr. C. W. Reagan, Macon; corresponding secretary, Dr. A. L. Cambre, Atlanta. The next meeting will be held in Moberly.——Ray County Medical Society at Richmond: president, Dr. Robert Sevier; secretary, Dr. L. D. Green, both of Richmond.

**Personal.**—Dr. M. O. Biggs, Bowling Green, has succeeded Dr. George Williams as superintendent of the Fulton State Hospital. Drs. E. F. Evans, Columbia, Z. T. Knight, Monticello, and Hermon S. Major, Hardin, assistants on the staff, have also reported for duty.——Dr. T. A. Coffelt has been elected president of the Springfield Hospital Association. The other officers are Drs. D. B. Farnsworth and H. S. Hill, vice-presidents; Dr. J. R. Boyd, secretary, and Dr. Lee Cox, treasurer.——Dr. Russell Hodge, night superintendent of the Kansas City General Hospital, left for Vienna, June 20.——Dr. James E. Logan has resigned as a member of the park board of Kansas City.——Dr. G. E. Scrutchfield, Marshall, has been elected superintendent of State Hospital No. 4, Farmington. ——Dr. C. Lee Woolsey, Braymer, has been appointed assistant physician at State Hospital No. 2, St. Joseph.

### St. Louis

**Cornerstone Laid.**—With simple ceremonies, the cornerstone of the Washington University Medical Department was laid, May 17. The scheme as planned is for a group of buildings including the medical school proper, the Barnes Hospital and the Children's Hospital. Robert S. Brookings, who donated $1,000,000 to the school, delivered an address and Rev. James W. Lee laid the cornerstone.

**Commencement Exercises.**—At the eighty-fourth annual commencement of the St. Louis University School of Medicine, June 5, a class of sixty-seven received degrees and the honorary degree of Doctor of Medicine was reinstated and conferred on Dr. Caleb Winfrey, Kansas City, a graduate of the school in the class of 1847, "as a just and proper recognition of his sixty-six years of service to humanity in the medical profession."

## NEW YORK

**New Officers.**—Medico-Chirurgical Society of Central New York at Syracuse, June 5: president, Dr. E. G. Kern, Herkimer; secretary-treasurer, Dr. E. A. Gayde, Utica (reelected).

**Personal.**—Dr. Arthur J. Bedell has been appointed attending opthalmic and aural surgeon to the Albany Hospital.——Dr. Andrew F. Sheldon, Lyons, for sixty-three years a practitioner, is reported to be seriously ill at his home.——Dr. Raymond F. Kieb, Dannemora, has been appointed superintendent of the Matteawan State Hospital for the Criminal Insane, vice Dr. John W. Russell, resigned.——Dr. Edwin J. Kibbe, Saranac Lake, has been appointed resident superintendent of the Montgomery County Antituberculosis Hospital.

### New York City

**Policy of Carnegie Foundation.**—Dr. Henry S. Pritchett, head of the Carnegie Foundation states that it is not the policy of the foundation with its fund of $140,000,000 for educational purposes, to crush sectarianism in colleges which cherish denominational tendencies. The resources of the Foundation may be used to whatever extent may be necessary in the crusade against the worthless medical schools throughout the country that operate under the names of worthy institutions under whose charters they take refuge.

**Memorial to Bristow.**—At a meeting of the New York Society of Anesthestists, the following memorial was drafted: "Algernon Thomas Bristow.—His editorial and practical hospital support of the advancement of the art of general anesthesia has time and again aroused the admiration and emulation of this body of anesthetists, and so active and influential has this work among his many followers been, that this society wishes itself placed on record as considering it monumentally constructive, and its cessation as a great loss to the surgical world."

**Summer Campaign of Infant Salvation.**—The announcement of plans for the summer has been made by the Babies' Welfare Association. These include active advertising work and systematic educational propaganda among mothers with a view to keeping the tenements clean. The prevention of deaths due to preventable conditions will be particularly emphasized. Up to June 1, there have been this year from all causes in this city a total of 5,852 deaths of babies under one year of age. This is a decrease of fifty-nine as compared with the same months of last year, a decrease that has been more marked in the Borough of Manhattan than in the other boroughs, there having been 108 fewer deaths than last year.

## NORTH CAROLINA

**The Hookworm Work.**—Dr. B. E. Washburn, Rutherfordton, has been added to the field force engaged in the hookworm work of the State Board of Health. At present seven physicians are devoting their entire time to the hookworm dispensaries and up to date, eighty counties have made appropriations for this work. Eight of the counties which were first gone over have recently made additional appropriations for the purpose of having the hookworm dispensaries reopen in their territory.

**Personal.**—Drs. Hubert A. Royster, Raleigh, A. J. Crowell, C. M. Strong and J. P. Munroe, Charlotte, sail for Europe, July 3.——Dr. Albert Anderson has succeeded Dr. L. J. Picot as superintendent of the Central Hospital for the Insane, Raleigh.——Dr. L. B. McBrayer has been reelected health officer and city physician of Asheville.——Dr. William C. Horton, Raleigh, has gone abroad.——Dr. John S. McKee has been elected city physician of Raleigh.——Dr. F. T. Meriweather, Asheville, was operated on for appendicitis, June 7.

## OHIO

**State Board Changes.**—At a meeting of the State Medical Board at Columbus, June 4, Dr. T. T. A. McCann, Dayton, was elected president and Dr. Lee Humphrey, Malta, vice-president.

**Hospital and Dispensary Notes.**—A tubereulosis dispensary has been opened at 8906 Woodland Avenue, Cleveland, by the Board of Health. The garden at the rear of the building is to be used as an open air retreat for patients.——Jewish physicians of Cleveland have opened a dispensary for patients of that faith at 2433 East Fifty-Fifth Street under the name of the East Side Free Medical Dispensary.——The new St. John's Hospital, Cleveland, is to be located on the site of the present hospital on Detroit Avenue and will have a capacity of 170 beds. The building will be four stories and a basement in height and of brick and terracotta construction.

### Cincinnati

**Flag Day Campaign.**—Nearly $20,000 was raised by the Antituberculosis League at its Flag Day eampaign, June 6.

**Forchheimer Memorial.**—The establishment of the Frederich Forchheimer chair of medicine has been decided on by the senate of the University of Cincinnati.——A memorial meeting of the Academy of Medicine was held June 9 in honor of Dr. Forchheimer at which many of his friends and associates paid tribute to his life and character.

**Personal.**—Dr. Harry Carroll has been appointed assistant physician to the Dayton State Hospital.——Dr. Martin H. Fischer, who has been seriously ill with appendicitis, is reported to be improving.——Dr. Charles A. Stammel, Jr., has been appointed a member of the staff of the contagious branch of the Cincinnati General Hospital.

## PENNSYLVANIA

**Commencement Week Clinics.**—The School of Medicine of the University of Pittsburgh announces a medical program in connection with the commencement week exercises. Special clinics have been arranged at the Mercy, Children's, St. Francis' and the Eye and Ear hospitals on June 16 and 17 and lectures and demonstrations at the School of Medicine building on June 18.

**Personal.**—Dr. J. Clinton Starbuck, Media, was seriously injured June 10 when a motor car in which he was riding was struck by a trolley car. His left arm was so injured that amputation was necessary and it is feared that he also has internal injuries.——Dr. C. D. Wilkins, superintendent of the Wilkes-Barre City Hospital, has resigned to accept the position of superintendent of the Charity Hospital, New Orleans. Dr. J. T. Williams has been appointed associate surgeon and Dr. A. T. McClintock pathologist to the hospital.——Drs. G. M. Phillips and Joseph T. Rothrock, West Chester, have been elected members of the board of managers of the Chester County Hospital.——Dr. Charles S. Rebuck, Harrisburg, sailed for the Mediterranean June 14.——Dr. George B. Kalb, Erie, has been reelected president of the Erie County Antituberculosis Society and Drs. J. W. Wright and F. P. McCarthy have been elected directors.

### Philadelphia

**Baby Saving Show.**—A baby saving show opened in Conversation Hall, City Hall, June 16. The exhibit is held under the auspices of the Child's Hygiene Association and will continue for three months. Nurses and other attendants will be present to give information and there will be daily lectures.

**Further Increase in Typhoid.**—The outbreak of typhoid fever has not been abated and the health authorities, who thought it due to industrial establishments allowing "raw water" to seep through loose connections in the city's filtered water mains, have had to make a further investigation as twenty-nine of the fifty-five new eases reported during the week ended June 14, are in South Philadelphia, where broken connections have not been found.

**Personal.**—Drs. William J. Taylor, George A. Ross and Clarence Faries sailed for Europe, June 5.——Dr. Charles F. Nassau had conferred on him the degree of Doctor of Laws by Villanova College, June 12.——Dr. Matthew Woods entertained the surviving members of the class of 1873 of the University of Pennsylvania at his home, June 17.——Dr. John S. Moffit, who has been seriously ill at his home from the effects of poison accidentally self-administered, is reported to be improving.

**Social Work in Insane Hospital.**—Assistant Director of Health and Charities Alexander Wilson has established a social service division at Blockley with Miss Harris, special agent of the department, at its head. She has four assistants and their work consists of learning the conditions responsible for the presence of the dependent children; making a social history of every case in the men's and women's psychopathie wards; visiting home of inmates to study conditions and causes. If it is found that a patient, suspected of insanity, can safely be put on parole for further developments, the social service division takes charge of the patient and reports progress.

## GENERAL

**Anticancer Society.**—The executive committee of the organization recently formed to fight the increase of malignant disease in the United States, met in New York City, June 9, and selected as the name of the association, the Ameriean Society for the Control of Caneer.

**Suspension of Manila Medical Bulletin.**—In a communication dated Manila, April 23, the council of the Manila Medical Society announced that the publication of the *Bulletin of the Manila Medical Society* is suspended indefinitely in consequence of a fire which destroyed manuscript, plates and other property.

**Southern Railway Surgeons Meet.**—At the eighteenth annual meeting of the Association of Southern Railway Surgeons at Old Point Comfort, Va., June 3 and 4, the following officers were elected: president, Dr. R. J. Noble, Selma, N. C.; vice-presidents, Drs. J. F. Weathers, New Albany, Ind., W. P. Horton, New Wilkesboro, N. C., G. B. Thornton, Memphis, Tenn., and E. P. McCollum, Greensboro, Ala.; secretary-treasurer, Dr. J. U. Ray, Woodstock, Ala. (reelected), and member of the executive council, Dr. R. R. Shands, Washington, D. C.

**Vessels from Guayaquil Fumigated.**—On account of recent regulations of the port authorities of Guayaquil, Ecuador, under which vessels are required to anchor near the lower end of the city and thus become liable to infection from infected mosquitoes and because the officer of the United States Public Health Service on duty at Guayaquil has informed the chief quarantine officer of the Canal Zone that he has not the equipment for fumigating the larger vessels the fumigation of ships bound for Balboa from Guayaquil must be done after their arrival in Panama Bay, and after the fumigation, they must be held to complete a six-day quarantine.

## FOREIGN

**Malay States Medical Officer in the Canal Zone.**—Dr. Malcolm Watson, at one time chief medical officer of the Estates Hospital Association, and senior district surgeon in the Federated Malay States Service and connected for thirty years with sanitary work in the Malay states, is visiting the Canal Zone to inspect the work being carried on there. On May 28 he gave a talk in the Mess Hall in Ancon Hospital descriptive of his work in the East.

**Other Deaths Abroad.**—Aside from the deaths reported by our foreign correspondents the following have recently occurred: Lyttleton Stewart Forbes Winslow, M.B., Cambridge, 1870, M.R.C.P. London, 1871; expert in lunacy and investigator of many famous criminal cases involving insanity; founder of the British Hospital for Mental Disorders; vice-president of the Medico-Legal Congress, New York, and chairman of the psychologie department; author of a manual on lunacy and of many other books and monographs on his specialty; editor for eight years of the *Psychological Journal*; died suddenly at his home in London, June 8, aged 69.

## LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, June 7, 1913.

### Amendment of the Insurance Act

As shown by recent by-elections, the insurance act is very unpopular. Government interference with the friendly societies which have during more than half a century evolved a plan of providing benefit for illness is irritating to a people who have always preferred to do things by voluntary effort rather than by the compulsion of the state. The immense undertaking of providing a sick allowance and medical attendance for twelve million persons has been attended with considerable friction. The red tape of bureaucracy renders action painfully slow in a matter in which promptitude is required. Sick persons complain that before receiving "sick-pay" they have to wait as long as three weeks while various blanks are being signed and inquiries made, whereas under the friendly society system this process occupied only a few days.

Again, the number of insured persons entitled to free medical attendance who nevertheless decline it and prefer to pay the physician of their choice who is not on "panel" (that is, has not accepted service under the act) is very large. In London it is 400,000. At present they lose the advantage of the capitation fee provided for them. The government intends to bring in an amending act to remedy these and other grievances. The British Medical Association is taking the opportunity of bringing forward a number of professional grievances for remedy. Thus if an operation has to be done under an anesthetic no fee is provided for the payment of the anesthetist; the physician has to provide one himself. This is an encouragement for him to administer the anesthetic as well as to operate, which is admittedly a dangerous course. The association also objects to the regulation which obliges insurance doctors to attend patients for illnesses, such as venereal diseases, caused by their own misconduct. In the contract practice of the friendly societies a man was not entitled to attendance under these conditions. Another condition included in medical benefit, which was also excluded in the contract practice of the past, is miscarriage or abortion. The association also requests that the physician may be allowed to make a small charge for night calls so as to discourage unnecessary calls and that when an insured person has an income exceeding $800 he shall not be entitled to medical attendance under the act but be required to make his own arrangements. At present persons with an income of $800 are eligible for insurance, but once insured they remain so although they afterward attain an income above this. The association is strongly in favor of the appointment of medical referees to whom cases of alleged malingering shall be referred.

### The International Congress of Medicine

For the first time there will be a section of radiology at the forthcoming International Congress of Medicine. The meetings will be held in a lecture theater in the School of Mines which can be completely darkened and will be provided with a lantern for the demonstration of lantern slides. Provision will also be made for the illumination of original negatives. In the museum a room will be set apart for the exhibition of transparencies. The following are some of the subjects down for discussion, with the reporters of each: "Radiography of the Stomach and Intestine," Dr. Holzknecht and Dr. Leonard; "Radiography of the Chest," Dr. Walsham and Professor Wenckebach; "Radiotherapy and Malignant Disease," Dr. Abbé and Dr. Kienböck; "Roentgen and Radium Therapy in Gynecology," a joint discussion with the section of obstetrics and gynecology, Dr. Albers-Schönberg, Dr. Foveau de Courmelles and Professor Krönig; "Radiography of Bones and Joints in Orthopedic Surgery," joint discussion with the section of orthopedics, Drs. Haenisch, Nové-Josserand and Redard.

### The Government Inquiry into the Sale of Nostrums

Some remarkable disclosures were made at the last sitting of the committee appointed by the government to investigate the sale and advertisement of nostrums. The attention of the committee had been called to a series of advertisements in popular magazines of preparations. The advertisements took the form of recommendations of these goods by a number of women. These were sometimes given in the form of answers to correspondents, and sometimes without requests for information having been received. Mr. Sidney F. Ely, the secretary and manager of Dearborn (a limited liability company) which indulged in this practice, was called. He was asked by the chairman if he was prepared to answer certain questions. He said that he was not, and that the sole proprietor of the business, Mr. James D. Daniels, was in America. A lawyer then asked leave to appear for Mr. Ely, and the chairman suggested that he had better give evidence. He said that some time ago Mr. Daniels consulted him and since then the advertisements had not appeared in the form of answers. He was asked if he knew whether or not the following women, with high-sounding names which had appeared, existed: Mlle. Florence Gauthier, Mlle. Mareelle Rouvier, Mildred St. Aubyn, Mlle. Agnes Depres, Mlle. Marguerite Fournier, and Mme. Lucie Robert. He replied that he did not know. Mr. Ely was recalled and asked the same question. He said that he had formed the impression that Mildred St. Aubyn existed. Asked whether he could produce any letters from women bearing the names he said he would not do so as they were private! The chairman warned him that the committee had power to call on him to produce any papers he had. He then said that the advertisements had appeared six months ago and that the names might be *noms de plume*! The advertising in the form of these reading-advertisements were paid for on a higher scale than would be advertisements in display type.

## PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, May 30, 1913.

### Personal

The Académie française has just awarded the Broquette-Gonin prize, amounting to $2,000 (10,000 francs) to Dr. Grasset, professor of general pathology and therapeutics at the Faculté de médecine de Montpellier, for his collective

works. This prize, intended to reward the author of a philosophical, political or literary work considered capable of inspiring love of the true, the good and the beautiful, has been awarded for the first time. Besides his works in pure science and medicine, Grasset is the author of numerous publications or studies of a psychologic, moral or social character.

The council of the Faculté de médecine de Paris has nominated Dr. Auguste Broca, *agrégé* of the school, and surgeon of the hospitals of Paris, for the chair of minor surgery.

The Faculté de médecine de Paris has awarded the Chatanvillard prize, amounting to $400 (2,000 francs) for 1913, to Drs. Beurmann and Gougerot of Paris for their work on sporotrichosis.

### The Use of Ether for Peritonitis

Dr. Morestin, surgeon of the Bichat Hospital, recently read an interesting paper before the Société de chirurgie in regard to two cases of serious peritonitis in which Dr. Témoin of Bourges obtained unexpected results by using ether to cleanse the peritoneum. Morestin has used ether since 1901 in peritoneal infections both as a disinfectant and as a preventive measure after suppurative salpingitis or an intestinal operation in which the contents of the digestive tube have leaked into the abdomen, etc., and also as a curative measure in dangerous peritonitis after the perforation of a gastric or duodenal ulcer and in acute appendicitis. He begins by cleaning the peritoneum carefully. Then he pours ether into the interior of the abdomen and into the pelvis and closes the abdomen. The ether begins to volatilize as soon as it is poured out. Abundant vapors are formed. The volatilization continues after the abdomen is closed, and a marked meteorism is produced. As soon as the ether is poured in, the patients have a short period of agitation; then they become calmer and an hour following the operation seem relatively quiet. There is a sort of torpor during which the pulse is excellent. Vomiting is much less frequent. In a word, the operative sequelae are very favorable. In most cases recovery is ideal.

The ether has several actions: It acts as a local antiseptic; it spreads throughout the abdominal cavity, the intestines and stomach are bathed in ethereal vapors and this appears to have no injurious effect on the serosa. No inflammatory reaction capable of causing adhesions occurs, and Morestin has never observed any accidents attributable to these vapors in the patients operated on. Ether has a tonic and antiseptic action.

Dr. Auvray recently operated on a patient aged 59 who had very serious peritoneal symptoms. He had double hernia with symptoms of strangulation, but the orifices were free, the sacs empty and the hernial regions not painful. Auvray made a medium laparotomy and found pus in the abdomen; the intestinal loops were red and covered with a false membrane. At one point was a little perforation situated on an intestinal loop which had become caught and which the patient had released himself. This perforation was sutured and about a quart of ether poured into the abdomen. Then it was sponged off before the abdomen was closed. Auvray says that he has never seen a patient in such a condition recover so easily.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, May 23, 1913.

### Personal

The attempts of the Vienna faculty to find a substitute for von Noorden among the German professors have so far been fruitless. After the refusal of von Krehl, who is usually proposed for a substitute whenever an opportunity arises, Adolf Schmidt of Halle is now being considered.

May 22, A. Baginsky, the Berlin psychiatrist, celebrated his seventieth birthday. On this occasion he was elected honorary member by the section on pediatrics of the Verein für innere Medizin und Kinderheilkunde.

### A Titled Exponent of Friedmann's Methods

Americans may justly resent the opinion often expressed in both the lay and medical press, that Dr. Friedmann's great success was due to the fact that his dealings were with the American public and that nothing of the kind could occur in Germany. But in Germany also we have only too often had the experience that physicians, whose scientific importance and practical success would not stand the scrutiny of a conservative critic, have had many followers in the public. I will not refer to examples in the past, but will limit my remarks to an oculist who has been practicing in Germany for some time, and who has succeeded in gaining the reputation of a miracle-worker. In this instance it is a certain Count Wieser, whose former history is apt to lend him some fame in the eyes of the public. It is said that he used to be an army officer and was also active in a military campaign, and only later in life turned to a medical career. In some way he was able to gain access to the court circles and to treat at first some ladies of the court and others in high station, and, through their mediation, later on the empress herself. Although a wide democratic feeling prevails in Germany the knowledge of such social relations is apt to instil in many people an idea of the high importance of such a physician, and the suggestion thus created enhances their belief in the success of his treatment. Besides, Count Wieser impresses on his patients, as is generally the case only with charlatans and swindlers, the idea that his treatment is sure to succeed, and especially that he is able to cure senile cataract without operation. Notwithstanding the good results gained in surgery and their acknowledgment by the people, the fear of the knife is still sufficiently wide-spread to prompt patients to seek a physician who promises to cure with lotions and salves affections which all regular ophthalmologists can remove only by operation. This "miracle worker" is said to have cured not only senile cataract, but also detachment of the retina, atrophy of the optic nerve, glaucoma and similar troubles, and thousands of patients are ready to endorse his statements. The worst thing is that to my knowledge and according to the observation of experts whom I have questioned, not a single case of any real affection known to have been diagnosed by a scientific ophthalmologist has been cured by Wieser's treatment. And inasmuch as the titled oculist keeps his different procedures secret, has never published any scientific article or spoken before a medical society on his method, and has never submitted his patients to the examination of other members of the profession, the proceedings of Wieser may justly be classified in a category not very different from that of Dr. Friedmann's.

### The Fees of the Insurance Physicians

After the promulgation a short time ago of the standard regulations which will form the basis of the new Krankenkassen and will come into effect Jan. 1, 1914, the Leipsic League on its part also issued standard regulations, which were worked out in accordance with the resolutions of the Aerztetag at Stuttgart, and will form the basis for the dealings of the organization of insurance physicians with the new Krankenkassen. The most important change which the new arrangement of the imperial insurance law has caused and which is of the greatest influence on the fees of the insurance physicians is the requirement that the income limit for wage-earners to take out sickness insurance is to be increased from the $500 (2,000 marks) formerly required to $625 (2,500 marks), and the extension of the right of insurance to classes of higher economic position.

It would be the economic suicide of physicians to continue to treat these classes on the basis of the former minimal fee, which, for instance, in two great Berlin insurance organizations, amounts to 11 cents (45 pfennige) for one consultation and 50 cents (2 marks) for a quarter of the year. In the Reichstag the opinion was expressed by the representatives of almost all parties that in connection with the higher insurance limit, larger and more definite fees should be required of these financially better-situated classes, but no feasible method was provided for accomplishing this. For the Reichstag failed to establish a higher class than $450 (1,800 marks) and thus to include the insurable in the new class with an income above $500 (2,000 marks).

For this reason the Leipsic League, while abandoning the former demands, requires a differentiation of the fees for members of the insurance societies under $450 and those above $450. Different fees will also be required for different classes entitled to insurance, and the model contracts distinguish the following: (1) those who take up insurance voluntarily, that is, those who were not insured immediately before the time for enforcement of the new law; (2) those who abandon the obligatory insurance and continue a voluntary insurance. Among the latter, however, are many of those who have lost their position (on account of lack of work, etc.), where they held obligatory insurance, who wish to retain the benefits of the insurance until they obtain a new position. On the other hand, a large number of those who have reached a better social position and an income above $625—which circumstance frees them from insurance—continue the voluntary insurance. Both categories may now determine for themselves the wage-class in which they wish to be further insured, and by their belong-

ing to a class below $450 they are allowed to pay the smaller medical fee. It can be assumed that the first category, that is, those without employment who continue their insurance voluntarily, will find within six months a new position with obligatory insurance. For this reason the model contract provides that the higher fee shall be charged only to such members as continue their insurance longer than a half year, as otherwise it can be assumed that they have found better income.

It is provided that, if the income will justify it, the fee for the wage-class under $450 shall be not less than $1.25 (5 marks) for a single member and $3.75 (15 marks) for the insured family, including the member himself; for the obligatorily insured members with a higher income, 50 per cent. higher payment, and for voluntary members, with the foregoing exception, a 100 per cent. higher fee will be charged. The situation is quite different with classes who take up insurance voluntarily, without having been insured shortly before. These are usually: I. Persons who would be amenable to obligatory insurance if their main occupation were of a higher grade; but they may join voluntarily if their work is performed outside of their regular employment and without any pecuniary returns, or if it is a temporary one; included in this class are persons who stand economically and socially higher on account of being independent because they own their business, or people with an independent income, pensioned officials, etc. 2. Employers of labor who employ regularly not more than two persons liable to insurance, and whose income is not over $650; in this class are the majority of the small and middle-class farmers, merchants and artisans in small and medium-sized cities. 3. The family dependents of the persons in the second class if they are employed by the head of the family, without any money compensation and without any personal industrial relation to his business, and if their entire income does not exceed $650. The income of the head of the family, which is to serve for the support and medical care, is not included. It is known how few persons there are in rural districts who have an income of $500, not speaking of more. It is the right of insurance of these classes which forms the chief danger for the physicians in the country and small cities, and threatens to deprive the rural districts of physicians when the insurance practice with its fees growing continually smaller becomes the only source of possible income and private practice entirely disappears, as the entire rural population is in the insurance class.

In order to eliminate this danger, it is proposed to refuse altogether to treat these groups as insurance patients, and according to Section 215.2 to limit the service of the insurance societies to furnishing sick-money or sick-care. So far as the free choice of physicians is concerned, this shall be required at least for groups of insured with income more than $450, and for those who voluntarily continue their insurance, although, to do justice to the existing conditions, a limited system of choice may still be carried on for the groups of the obligatorily insured.

By this wise limitation of the requirements in regard to the free choice of physicians, the German medical profession has shown strikingly that it is not inclined to "terrorize" its opponents and that no conflict with the insurance societies is intended.

## BUDAPEST LETTER

*(From Our Occasional Correspondent)*

BUDAPEST, May 31, 1913.

### Age Limit of Professorship in the University

The professorial board of the University of Budapest is of the opinion that a man's best days are over at 60 years of age. According to report several professors of the medical faculty and some of the other faculties will be asked to retire because they are beyond 60. Luckily those professors who will be retiring are all teaching theoretical subjects and thus the loss of the university will be reparable.

### Death of Professor Korányi

The dean of Hungarian medical science, Frederic Korányi, died, May 19, after a long, eventful and laborious life. He died in his eighty-fifth year. Sixty years of his life were spent with incessant work in the field of medicine. He began his career as a county physician in Nagg-Kallo, Hungary, where he soon attracted the attention of the medical authorities so that in two years he was the chief physician of the county hospital (in 1863). His fame, however, went also beyond his county, so that in 1864 he received an invitation from the city of Budapest to fill the position of physician-in-chief of the city typhoid hospital. Less than two years later the professorial council of the university invited him to give trial lectures (this is the rule in the Hungarian universities) before medical students. His lectures had such an effect on his audience that the students applauded and sent a deputation to the professorial council, asking it to instal Korányi as professor as soon as possible. He was installed in 1866, and since then he has taught medicine (for to say that he "lectured" does not fully characterize his work, because he taught his students in the true sense of the word) until 1912, when he retired from teaching in order to devote himself to social hygienic reforms.

Korányi's fame and reputation could not remain within the boundaries of the country. He was well known in Germany where all the first-class medical societies hastened to invite him to hold lectures, and offered him corresponding memberships. In the German medical papers Korányi's name was often found as author of various articles or in references to him as authority on some clinical subject. Korányi was invited also to the chairs of foreign universities, but he never even considered leaving his country. Korányi was *persona grata* to the king. In 1876 he was given the title of "Advisor to the King"; in 1881 he received the Iron Cross; in 1894 he was enlisted among the noblemen and became "von Korányi"; in 1909 he was given a baronetcy.

Von Korányi and his clinic have worked on almost every important question of clinical medicine. His achievements, however, were most noted as to the diagnostics of heart-diseases, the displacement of the spleen, the relative insufficiency of the heart valves and the relation of typhoid to malaria. His clinic was built in 1878, and it created quite new medical conditions in Hungary. The yearly turnover in this hospital amounted in the first years to eight or ten thousand. In order to promote the better education of the medical students he organized the "clinical clerk" system, which consisted in employing twelve students alternately for two months in the clinic. As the clinic has from ten to fifteen assistants too, the clerks had ample opportunity to learn from expert clinicians. Korányi will never be forgotten for his work in postgraduate medical education. His greatest achievement, however, was his work against the spread of tuberculosis. He started a movement about twenty-five years ago which has grown to be such an organization that foreign doctors are coming to study our system (sanatoriums, dispensaries and convalescent homes for lung patients). The latest result of his incessant activity toward the check of tuberculosis was the notification six weeks ago by the minister of public hygiene of every doctor in the country, of the coming in force of the new law, according to which every case of advanced tuberculosis is to be reported to the hygienic authorities of the towns, villages or parishes, in order that isolation may be provided and the homes disinfected after the eventual death of tuberculosis patients. I do not exaggerate by saying that in the last twenty-five years the mortality from tuberculosis in Hungary decreased on an average from 22,000 to 25,000 deaths. This is mainly attributable to Korányi's praiseworthy energy.

### The Curability of Cancer

The Hungarian medical journals are extensively criticizing the new treatment of cancer, which was too optimistically dealt with at the gynecologic congress in Halle. Although the new treatment was recommended by such prominent professors as Krönig of Freiburg and Döderlein and Bumm of Berlin, still we must be skeptical, our papers say, in accepting such rumors with full faith. In the last decade almost every year has brought a crop of new and "certain" treatments for cancer, but all failed. It is desirable that this new treatment shall be permanent and reliable, capable of ending the sufferings of many a thousand men and women—not to say children, although we have seen cases of cancer in subjects aged 17 and 18. The new treatment combines mesothorium rays and Roentgen rays. The latter are successfully employed through aluminum filters, without doing any damage even by long use; the mesothorium rays are employed in special apparatus. Mesotherium is scarce, the whole production being taken up already. One application lasts twelve hours, and thus with one tube only one patient can be treated. The professors exhibited patients who were entirely cured, one for five years, two for three years and sixteen for one year, without trace of recurrence. In all, one hundred cases have been treated. I saw the patients exhibited; they were beyond all doubt cured, and the absence of any cancerous growths or remainders was striking.

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, May 26, 1913.

### Discussion on Medical School Inspection

The problem of medical inspectors of schools has attained marked prominence in our country lately. The Vienna Medical Council has organized a special investigation of this question by various officials and medical men. The first question was: Shall the appointment of medical school inspectors be a whole-time appointment, or shall it be an "accessory" appointment leaving the doctor free time for other remunerative work? The majority of the answers favored the "accessory" appointment, as only very few medical school officers, perhaps only the superintendent of the medical school inspectors, could at present expect to be paid on a scale sufficient to compensate for the income from a private practice.

The second question was: Shall the medical school inspector be a subordinate of the municipal or political board of health, or should he possess a consultative or decisive vote in all matters pertaining to school hygiene? Nearly without exception, this was answered in favor of the first alternative.

The third question was: Which schools should be under medical inspection, and which schools could do without it? The answer was that all schools, beginning with the kindergarten, up to the high schools and universities, including the apprentices' schools, should be under medical supervision. Special care should be given to the private schools and the boarding-schools. A number of questions dealt with the duties of the school doctor, and his rights. The hygiene of the schoolrooms, ventilation, light, cleanliness, water-closets and the hours of work should be controlled by him. But the main point of the doctor's work should consist in the hygienic control of the pupils: exact examination of the "school recruits," search for any defects, examination of pupils every few months, exclusion of children with contagious or infectious diseases, and the instruction of parents in regard to the advisability or necessity of treatment of existing defects or diseases. The majority of the experts were opposed to all treatment by the medical school inspector. His task should be purely a prophylactic one. Therefore special attention should be paid to the eyes, ears and teeth and to diseases of the organs of locomotion, of circulation and respiration. Furthermore, the school doctor should endeavor to prevent such defects as are often the result of the school: nervous overstrain, defects of an orthopedic or static nature, school anemia and school-propagated infections. The oversight of athletics, of games and of open-air classes would also belong to his duties. A diversity of opinion prevailed in regard to sexual instruction, which of course should not take place in the lower grades. Some experts thought that this problem did not belong to the doctor's domain, while others insisted that the school should not tackle this problem at all. A valuable suggestion was offered that pupils leaving the school should be examined and advised as to the choice of an occupation from the point of view of physical fitness. The medical school inspector should also observe the hygienic conditions of the teachers and the people living in the schools.

All experts advised against treatment by the school doctor; some wanted to send the poor children to the public clinics or outpatient departments of the hospitals; some demanded special school clinics and an increase of the numbers of appointed specialists under the poor-law. Only a few thought that an examination by the house physician of the family should make the pupil exempt from the examination by the school doctor. In any case, the school doctor should never restrict the field of the private doctor or the family physician. The office of school doctor should be open to all professional men, but they should absolutely abstain from treatment in this official position. A maximum limit of 12.000 pupils, if the doctor is appointed for the whole time, of 3,000 if the appointment is only part-time was favored. The fee should be about 2 kronen (40 cents) per head per year. An animated discussion took place about the question, What kind of postgraduate work is required for a school doctor? The majority were of the opinion that the general practitioner was not able to decide alone in many cases of otologic, ophthalmologic and odontologic diseases, although by attending special classes in these branches of medicine, he might be able to do valuable work in examinations in special branches. Therefore the appointment of specialists (for eye, ear, nose, throat, for speech defects, for teeth) was imperative. The Board of Education will undoubtedly use the investigation in framing new rules pertaining to the service of medical school inspection in Austria.

# Marriages

WALTER DENNIS KENDIG, M.D., Kenbridge, Va., to Miss Helen Murray Yates, in Lunenburg County, Va., June 5.

FREDERICK DE SALES CHAPPELEAR, M.D., Hughesville, Md., to Miss Katherine P. Hughes, at Baltimore, June 3.

GEORGE ROE LOCKWOOD, JR., M.D., New York City, to Miss Louise Anne Dobel of Montreal, June 5.

CHARLES ALFRED WEST, M.D., Cleburne, Kan., to Miss Rosa Lee Bryan of Kansas City, Mo., June 4.

SYDNEY M. MACLEAN, M.D., Tacoma, Wash., to Miss Rosebud Featherling of Seattle, Wash., June 7.

GEORGE ALBERT MAY, M.D., Audubon, Iowa, to Miss Beulah Hayden of Wall Lake, Iowa, June 4.

WALTER F. SCOTT, M.D., Birmingham, Ala., to Miss Sally van Zile in New York City, June 3.

EARL ERRET BABCOCK, M.D., to Miss Lena Belle Losee, both of Adams Center, N. Y., June 4.

GEORGE S. EVERHART, M.D., Hagerstown, Md., to Miss Edith Phreaner, at Baltimore, June 6.

# Deaths

**Harman George Howe, M.D.** University of Vermont, Burlington, 1873; New York University, New York City, 1875; a member of the American Medical Association; president of the Hartford Hospital for many years; at one time president of the Hartford City Medical Society; visiting physician to the Retreat for the Insane, Hartford, and surgeon to the Hartford Hospital; died in Stamford Hospital, June 12, from fracture of the skull, received in a rear-end collision between trains at Stamford, aged 63.

**Hugh Baker, M.D.** University of Pennsylvania, Philadelphia, 1901; a member of the American Medical Association; local surgeon for the Baltimore and Ohio System; a member of the staff of the Cottage State Hospital and one of the founders of the Yough Medico-Social Club; a leading practitioner of Connellsville, Pa.; died in Mercy Hospital, Pittsburgh, May 28, from septicemia, due to an operation wound, aged 45.

**Walter C. Gilday, M.D.** Albany (N. Y.) Medical College, 1894; a member of the American Medical Association and New York Academy of Medicine; lecturer on surgery in the New York Polyclinic Medical School; attending surgeon to St. Elizabeth's, French and Polyclinic hospitals; died at his home in New York City, May 31, from acute gastritis, following ptomain poisoning, aged 42.

**Gustavus Philemon Head, M.D.** Rush Medical College, 1884; a member of the American Medical Association; professor of otology, laryngology and rhinology in the Chicago Post-Graduate Medical School; well known as a specialist and publisher, for several years, of the "Practical Medicine Series of Year Books"; died at his home in Austin, Chicago, June 11, from pneumonia, aged 51.

**William Rush Patton, M.D.** Rush Medical College, 1862; commissioned surgeon of volunteers during the Civil War but relieved from active field service by the War Department on account of a family left dependent on him by the death of his father and brother; for seven terms mayor of Charleston, Ill.; died at his home, May 12, from cardiac embolism, aged 76.

**Robert Lauder, M.D.** Yale University, New Haven Conn., 1871; a member of the Connecticut State Medical Society; a veteran of the Civil War; for forty years a practitioner of Bridgeport, Conn.; surgeon in charge of Fitch's Home for Soldiers, Noroton, Conn.; died suddenly in that institution, May 31, from disease of the kidneys, aged 72.

**William Joseph Wickman, M.D.** University of California, San Francisco, 1883; a member of the American Medical Association; president of the San Rafael (Cal.) Board of Education for seventeen years and president of the San Rafael Club for fifteen years; died at his home, May 29, from cerebral hemorrhage, aged 58.

**Ernest M. Ellaby, M.D.** Hospital College of Medicine, Louisville, Ky., 1904; a member of the Kentucky State Medical Society; formerly a member of the American Medical Association; died at his home in South Park, June 3, from disease of the stomach, aged 37.

**John Neff, M.D.** New York University, New York City, 1858; a member of the American Medical Association; acting assistant surgeon, U. S. Army, from 1861-65; vaccine physician of Baltimore from 1863-67 and president of the Baltimore Medical Association in 1878; for more than twenty years chief surgeon of the Baltimore and Ohio Railroad and for more than fifty years a resident of Baltimore; died at his home, June 5, from the effects of periostitis of the inferior maxilla, aged 81.

**Austin Taylor Fink, M.D.** New York University, New York City, 1869; a member of the Medical Society of the State of New York and a veteran of the Civil War; first health officer of the town of La Grange, postmaster and justice of the peace; died at his home in Freedom Plains, May 30, aged 69.

**Allen Mott Ring, M.D.** New York University, New York City, 1867; a member of the American Medical Association and for more than twenty-five years proprietor and superintendent of a sanatorium at Arlington Heights, Mass.; died at his home in Arlington Heights, June 3, aged 68.

**Jonas J. Good, M.D.** Northwestern University Medical School, Chicago, 1868; for many years a member of the Indiana State Medical Association; and for sixty-three years a resident of Huntington County; died at his home in Warren, June 9, from paralysis, aged 81.

**Louisa Van Vleet Spicer Wright, M.D.** University of Michigan, Ann Arbor, 1885; a member of the American Medical Association; of Camas, Wash.; aged 50; while harnessing a horse, May 31, was kicked by the animal and died from her injuries a short time afterward.

**Frederick T. D. Cherry, M.D.** University of Nashville, Tenn., 1868; a member of the Oklahoma State Medical Association; health officer of Sequoyah County, Okla., since statehood; died at his home in Sallisaw, May 26, from aneurysm of the thoracic aorta, aged 72.

**Jens Ohnstad, M.D.** Minneapolis College of Physicians and Surgeons, 1903; a member of the American Medical Association; died at his home in McIntosh, Minn., May 25, from injuries received in the overturning of an automobile a few hours before, aged 44.

**Luther M. Davis, M.D.** Physio-Medical College of Indiana, Indianapolis, 1900; a member of the Indiana State Medical Association; for five years township trustee; died at his home in Hayden, March 20, from the effects of an overdose of morphin, aged 39.

**Frederick Asa Crane, M.D.** Bellevue Hospital Medical College, 1866; a member of the Medical Society of the State of New York; physician to the Lewis County Home; for two years president of the village of Lowville; died at his home, June 2, aged 72.

**Augustus S. Smith, M.D.** Pennsylvania Medical College, Gettysburg, 1859; a veteran of the Civil War; for one term prothonotary of Lebanon County, Pa., and for more than fifty years a practitioner of Lebanon; died at his home, June 4, aged 73.

**Charles H. Holt, M.D.** University of Pennsylvania, Philadelphia, 1882; a member of the Michigan State Medical Society and Grand Rapids Academy of Medicine; died at his home in Grand Rapids, June 2, from cerebral hemorrhage, aged 58.

**Lyell Reppert, M.D.** State University of Iowa, Iowa City, 1902; a member of the American Medical Association; of Muscatine, Iowa; died suddenly at the Broughton Sanitarium, Rockford, Ill., May 29, from heart disease, aged 34.

**Silas Addison Wessels, M.D.** University of Michigan, Ann Arbor, 1878; a member of the Medical Society of the State of New York; died at his home in Canajoharie, N. Y., March 20, aged 61.

**John R. Tilbrook, M.D.** Western Pennsylvania Medical College, Pittsburgh, 1901; a member of the Medical Society of the State of Pennsylvania; died at his home in Pitcairn, June 3, aged 40.

**Archibald Borden Sellards, M.D.** Miami Medical College, Cincinnati, 1875; a veteran of the Civil War; died at his home in Lawrence, Kan., April 20, from cerebral hemorrhage, aged 68.

**Roland Cramer, M.D.** Drake University, Des Moines, Iowa, 1895; University of Pennsylvania, Philadelphia, 1896; died at his home in Des Moines, June 3, from heart disease, aged 41.

**Margaret Violet Covey Doane Kimball, M.D.** University of Michigan, Ann Arbor, 1880; died at her home in Healdsburg, Cal., April 17, aged 60.

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## THIOCOL AND SYRUP THIOCOL, ROCHE

### Reconsideration of Acceptance and Deletion from New and Nonofficial Remedies—A Report of the Council on Pharmacy and Chemistry

Seven years ago the Council accepted Thiocol for inclusion with New and Nonofficial Remedies and more recently also a preparation of it, Syrup Thiocol, Roche. Recently the Council was advised that the product was being advertised to the public, both in this country and abroad, under grossly exaggerated claims. It, therefore, directed that the matter be brought to the attention of the American agent for Thiocol. This was done. The Council, having considered the agent's reply, voted that Thiocol and Syrup Thiocol, Roche, be omitted from New and Nonofficial Remedies; it further authorized publication of the following report, which has been submitted both to the American agents and to F. Hoffmann-LaRoche & Co., Basel, Switzerland.

W. A. PUCKNER, Secretary.

Syrup Thiocol, Roche (New and Nonofficial Remedies, 1913, p. 124), is a syrup containing Thiocol as its effective component. It has come to the knowledge of the Council on Pharmacy and Chemistry that a similar preparation, namely, a syrup containing Thiocol as its effective component, is advertised to the public abroad under the name "Sirolin," by the manufacturers of Thiocol, F. Hoffmann-LaRoche and Co., Basel, as a cure for consumption ("Lungencatarrh"), asthma and whooping-cough (*Fliegende Blätter*, March 1, 1912).

The same firm through the American house, the Hoffmann-LaRoche Chemical Works, New York, registered the name "Sirolin" for this preparation as a trade-mark in this country and shortly thereafter sold and assigned to the Sirolin Company, a newly organized New York corporation, the Sirolin trade-mark and everything that went with it. This company has advertised the product to the American public as rendering people "*immune* against the most common, troublesome and dangerous of ailments—the host of diseases that affect the throat and lungs" and has recommended its "remedial virtues" "in incipient Consumption, in deep-seated Coughs and Colds, La Grippe, Bronchitis and Whooping-Cough" and "effects" are said to be "quick and permanent." (Worcester *Telegram*, March 25, 1911).

The rules governing the acceptance of proprietary articles for N. N. R. prohibit the direct advertising to the public, in this and in foreign countries, of articles other than disinfectants and foods. In explanation of this prohibition the Council says:

"The impossibility of controlling irresponsible claims which are usually made in advertisements to the public, the well-known dangers of suggesting by description of symptoms to the minds of people that they are suffering from the many diseases described, the dangers of an unconscious and innocent formation of a drug habit, and the evils of harmful self-medication, including the dangers of the spread of many infectious and contagious diseases when hidden from the physician, and similar well-known considerations, are the reasons for discouraging, in the interest and for the safety of the public, this reprehensible form of exploitation."

In view of the well-established fact that the most important of all factors in the cure of consumption consists in an early and accurate diagnosis, followed by general treatment, the Council considers that the advertising of a syrup of Thiocol, under the name "Sirolin," by the manufacturers of Thiocol, F. Hoffmann-LaRoche and Co., and by a company, the Sirolin Company to which the manufacturers sold the trade-mark and other rights for this preparation, involves not merely a serious infringement of its rules, but a menace to the public. The Council has, therefore, voted to delete Thiocol and Syrup Thiocol, Roche, from the list of New and Nonofficial Remedies.

## WHAT PHARMACISTS THINK OF THE SARSAPARILLA FETISH

For pharmacy at its best we turn to the *Druggists Circular*. The following, from the May, 1913, issue, is one of the reasons we do so:

"*Compound Extract of Sarsaparilla.*—F. P. V., New Jersey, writes: 'Can you suggest a formula for a compound extract of sarsaparilla that could be retailed for about 50 cents a pint?'

"We can, but know of no reason why we should, and do not believe that we shall. We think pharmacists should practice pharmacy, and if they do not find this sufficiently remunerative and so decide to go into the handling of merchandise, they should select lines that will not bring discredit on their vocation. There are already too many fake cure-alls on the market. It would be better for pharmacy as a profession and for the drug business as a mercantile pursuit if the whole nostrum outfit were relegated to what someone has spoken of as the 'category of unindexed oblivion.' Fakers *will* fake; they don't seem to care; but druggists, as followers of an honorable calling, cannot afford to play grim jokes on trustful seekers after health."

# Correspondence

### Sanitary Flood Survey

*To the Editor:*—The first sanitary flood survey of the Ohio and Wabash rivers was made during the week of April 7, 1913, and is a good example of emergency sanitation. The United States government is better fitted than any of the states to initiate emergency sanitation, and on this account on April 7 the Indiana State Health Commissioner, Dr. Hurty, was notified that a boat survey expedition would start from Louisville, Ky., April 8, and that the government wished representatives of the states of Indiana, Kentucky and Illinois to accompany this expedition.

Major James A. Logan, Jr., of the Quartermaster's Department of the U. S. Army chartered a steam packet, the *Ed Myer*, on which were placed several car-loads of lime in 40-pound sacks, this size being the easiest handled, a large quantity of potassium permanganate in 1-pound cans, several thousand units of typhoid vaccine, several thousand small-pox vaccine points and several thousand units of diphtheritic antitoxin. For emergency work a ration consisting of salt pork, flour, coffee, sugar and condensed milk was added.

Major P. C. Hutton, surgeon, U. S. Army, was put in command of the expedition. Dr. W. L. Heiser of Bowling Green, Ky., represented the State Board of Health of Kentucky and Mr. R. W. Douglas of the Indianapolis *News* and I represented Indiana.

The first problem in sanitation was our boat, the condition of the bed-clothing and the food. The latter was served by a cook who, together with his wife and son, was undoubtedly a victim of the hookworm. The water to drink was the filthy Ohio. This water I found was used by the crews of the river boats and many inhabitants along the river without any boiling whatever.

The scheme for this emergency survey was as follows: By telegram or telephone, the health officer or some prominent citizen at each point was notified of the probable hour of the boat's arrival and requested that as many of the leading citizens as possible be asked to meet the boat. The people were notified of the arrival of the boat by the United States lighthouse tender's signal, and Major Hutton would give a short talk on preventive work, instructing the people to cleanse their houses by scraping the mud off the floor and then scrubbing the floors with a solution of potassium permanganate, sprinkling lime in the cellars and outhouses and wherever there was decomposing material. In some places in which the mud and filth were great in the streets, it was shown that these should be scraped or washed by the fire department and the liquid mud and débris carted away to be used as fertilizer. Its richness in fertilizing material was easily shown to those with normal olfactory nerves. After Major Hutton's talk, Dr. Heiser spoke in Kentucky towns and I in Indiana towns, showing the necessity and the use of the typhoid vaccine and exhibiting ourselves as having passed through the ordeal without any bad effects. I am sorry to say that quite often it was necessary to instruct the health officers and some of the physicians present as to the method of using the vaccine. Our endeavor was to leave enough disinfectants and vaccine to supply the emergencies, later doses to be forwarded from the State Board of Health.

As a concrete instance of efficiency and inefficiency in sanitary work, I would mention Cannelton and Tell City, Ind. At Cannelton the mayor and the Citizens' Relief Committee were supplied with rations from the government and no man was given food until he had assisted in cleaning the streets, a portion of each day being devoted to cleaning the town. At Tell City the mayor distributed rations himself to whomever he pleased and did nothing to clean the town. Emergency work of this character must be done at the start by the local authorities. The streets of Tell City had been untouched for four days at the time of our arrival. As another example of efficiency, I wish to mention that at New Harmony, Ind., the city health officer had printed sanitary regulations and in a boat paddled around the streets pasting them in places long before the flood receded.

To make work of this character effective, it is necessary first to have strong and substantial backing, financially and otherwise, the moral support of the authorities, efficiency and courage in health officers and, most of all, "hustle" in the man who is doing the work. A day's loss in time of start may result in hundreds of cases of typhoid fever and thousands of dollars of damage.

After the first survey is made, this should be followed up in a week or ten days by a second to see whether or not the recommendations of the first have been carried out and the proper amount of typhoid vaccine given. At the end of another week a third survey can be accomplished by mail from the reports from the health officers at each place.

In towns in which there were inefficient health officers or incompetent mayors, I recommended to the governor and also to Dr. J. N. Hurty that a National Guard medical officer with a sufficient number of hospital corps be stationed to supervise the sanitary measures instituted. The National Guard knows no politics in distributing relief and the uniform impels respect and obedience; great good is thereby accomplished.

At the time of writing this article, Gen. Charles A. Garrard, Quartermaster-General of the Indiana National Guard, has by order of the governor been sent to the towns along the Ohio and Wabash rivers needing assistance. I believe that by so using a National Guard officer a uniformity in relief and sanitary measures can be accomplished which will be followed by better results than if left to local authorities. Although at some places such as Evansville, Cannelton, New Harmony and Leavenworth the health officers and authorities were working well together for the public's good, at other places friction had developed, allegations of a political nature had been made and inefficiency was present.

The excellent work done by the National Guard during the flood emergencies in Indianapolis, Peru and other places is well known. With medical supplies and equipment ready and men trained in this special kind of work they were ready to go at a moment's notice, and I am more than ever convinced that flood emergencies should be handled by the medical officers of the regular Army and the National Guard.

FRANK W. FOXWORTHY, M.D., Indianapolis.
Captain, Medical Corps, Indiana National Guard; First Lieutenant, Medical Reserve Corps, U. S. A.

### Medical America Seen with Foreign Eyes

*To the Editor:*—Under this title an editorial was published in THE JOURNAL, Jan. 25, 1913, p. 286, in answer to my article in the *Münchener medizinische Wochenschrift*, Nov. 5, 1912, p. 2463.

You evidently feel hurt in your quality of American by several of my critical remarks about some American organizations, and pour the vials of your wrath on the stranger, whose article is not supposed to have its origin from a "prominent German physician," but a "Cook's tourist."

I frankly admit that from a three weeks' trip through the centers of the United States nobody can give an exhaustive description of the medical conditions of the country. I therefore gave my article the title of "Traveling Impressions" and expressly declared that I did not want to give a detailed report, but only momentary sketches. Besides, I openly acknowledged that the Americans surpass us in some instances also in medical matters, particularly in the grandeur of hygienic installations and scientific institutes, and even in the editorial it is admitted that my censure about the congress organization in Washington was "entirely deserved." This does not prevent you, however, from attacking me because I did not say about the Rockefeller Institute more than that it has been built at immense expense by a rich man. If you had read my article with more attention, you would have found the acknowledgment in the following sentence, in which I observed that it served scientific studies and contained departments for experimental pathology, physiologic chemistry, bacteriology and comparative anatomy.

You call childlike my admiration of the numerous opportunities for bathing in American hotels. Against this I must protest. I indeed find this arrangement exceedingly hygienic, and can only express my pleasure about the European hotels, which are going ahead in the same way. Imitation is the sincerest flattery. I advise my American medical colleagues to use their influence that this custom may extend in their own country more and more.

Most of all, however, you are indignant at my recommendation of the American remedy against seasickness. You declare it to be impossible that an American doctor, especially a prominent one, would praise such a "humbug" in a scientific publication. I certainly do not understand your sensitiveness on this point. There does really not exist another country in the world which brings out so many "patent medicines" as America. You need only read the numerous advertisements of an American medical journal and you will find quite a number of such medicines. The one I recommended, because I tried it myself, is a "patent medicine" only in its quantitative composition. As already said in my article, it contains potassium bromid, camphor and caffein. On a longer sea-journey seasickness does not play an inconsiderable rôle, as anybody who has had to suffer from it will agree, and I maintain that one has to be grateful for every remedy which delivers one from this unpleasant complication. It having become evident that remedies like validol, veronal, etc., are of no use, we were glad to have found at last a remedy which, though not always, proved efficient in most cases. My own experience thoroughly confirms that of Professor Fuchs of Vienna, who mentioned it first in the *Neue freie Presse*. Our chemists may perhaps succeed in discovering the quantitative composition of this remedy, and we could then give it to our patients in form of a recipe.

It seems to be impossible for the practical American to understand that a German doctor recommends a "patent medicine" only because he had good experiences with it and wants to help all those who have to suffer. I wish that you might recognize that your criticism, as you say yourself, was "hypercritical" and went beyond its limits.

K. JAFFÉ, M.D., Hamburg, Germany.

[COMMENT.—Our correspondent is mistaken in attributing injured feelings to us; we realize that there is no occasion for such feelings. Any one must be implacable indeed who could not forgive a three weeks' tourist his natural misapprehensions with regard to entirely new and unfamiliar phenomena and institutions. If our correspondent will pardon us our perhaps equally natural amusement that he and the *Münchener medizinische Wochenschrift* should have chosen to publish to the world such impressions, we will take the responsibility of absolving him, in our "quality of American," from all blame for injured feelings on this side of the Atlantic. Meanwhile, those who wish to read impressions of America of another character may turn to those of Strauss of Berlin (Reiseeindrücke aus amerikanischen Krankenhäusern, *Deutsch. med. Wchnschr.*, Feb. 13, 1913, p. 323), and von Noorden of Vienna (Amerikanische Reiseeindrücke, *Neue freie Presse*, Vienna, December 6, 7, 1912).

It would take too much space to make clear to our correspondent the difference between our point of view and his. We will try, however, to explain one point which he frankly declares he does not understand, namely, our comment on his recommendation of the nostrum for seasickness in question—the composition of which, by the way, he gives incorrectly—it does not contain bromids. "It seems to be impossible," complains our correspondent, "for the practical American to understand that a German doctor recommends a 'patent medicine' only because he had good experiences with it and wants to help all those who have to suffer." Not at all; we understand Dr. Jaffé's good intentions perfectly. What we do find somewhat strange is the fact that a physician, presumably trained to think cogently with regard to the therapeutic action of drugs, should reason as naïvely as any of the multitude of dupes who give their testimonials for Pain-Killer or Magic Elixir. "I took this wonderful remedy; I ceased to have pain. This proves that it cured me and also that it will cure any one else who will take it." Americans are familiar with such testimonials, but they are not accustomed to seeing the signatures of physicians of standing appended to them.—ED.]

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

### ARTICLES ON MEDICAL ETHICS

*To the Editor:*—During the summer I propose to make a study of medical ethics. It would be a great courtesy if you would publish a list of books or articles which would be of help.

P. W. L.

ANSWER.—Following is a list of references on the subject which should prove of service. The list comprises articles or abstracts appearing in THE JOURNAL, and articles appearing in other publications and books.


Division of Fees, Queries and Minor Notes, THE JOURNAL, Dec. 18, 1909, p. 2117.

Lord, J. P.: The Secret Commission Evil, THE JOURNAL, March 11, 1911, p. 725.

The Secret Commission Evil, editorial, THE JOURNAL, March 11, 1911, p. 748.

The Secret Commission Evil, editorial, *Colorado Med.*, February, 1911; reproduced in THE JOURNAL, March 11, 1911, p. 770.

The Secret Commission Evil, Correspondence, THE JOURNAL, March 25, 1911, p. 916; April 1, 1911, p. 987.

The Evils of the Contract System: Report of the Committee Appointed by the Erie County Medical Society to Investigate Unethical Contract Practice, Medical Economics Department, THE JOURNAL, Aug. 19, 1911, p. 674.

Nutt, G. D.: Medical Profession To-Day and Business End of It, *Pennsylvania Med. Jour.*, August, 1911; abstr., THE JOURNAL, Sept. 16, 1911, p. 1009.

Perkins, I. B.: Plan for Uniting Medical Profession in Effort to Maintain Highest Possible Standard of Ethics, *Denver Med. Times*, November, 1911, abstr., THE JOURNAL, Dec. 2, 1911, p. 1868.

Skeel, R. E.: Ethics of Contract Medical Practice and Its Economic Advantage to the Community, *Cleveland Med. Jour.*, November, 1911; abstr., THE JOURNAL, Jan. 6, 1912, p. 65.

Tuckerman, J. E.: Economic Effect of Contract Medical Practice on Medical Profession, *Cleveland Med. Jour.*, November, 1911; abstr., THE JOURNAL, Jan. 6, 1912, p. 65.

Hamann, C. A.: Condition and Control of Contract Medical Practice in Other Cities of the Country, *Cleveland Med. Jour.*, November, 1911; abstr., THE JOURNAL, Jan. 6, 1912, p. 66.

Method of Procedure when Supplanted by Consultant, Queries and Minor Notes, THE JOURNAL, Feb. 3, 1912, p. 364.

Ethics of Accepting a Position on a Church Dispensary, Queries and Minor Notes, THE JOURNAL, March 16, 1912, p. 804.

Relation of Consultant to Patient and Attending Physician, Queries and Minor Notes, THE JOURNAL, April 13, 1912, p. 1136.

Principles of Medical Ethics, a Proposed Revision, THE JOURNAL, June 8, 1912, p. 1790. Adopted by the House of Delegates June 4, 1912, with slight modifications noted in THE JOURNAL, June 15, 1912, p. 1906.

Instruction in Medical Ethics, Paris Letter, THE JOURNAL, June 22, 1912, p. 1957.

Charging a Brother Practitioner for Services, Queries and Minor Notes, THE JOURNAL, Aug. 10, 1912, p. 465.
Questions of Usage and Medical Ethics, Queries and Minor Notes, THE JOURNAL, Oct. 26, 1912, p. 1560.
Discreditable Remuneration in Contract Practice, Berlin Letter, THE JOURNAL, Dec. 14, 1912, p. 2169.
Conference on Contract Practice, Berlin Letter, THE JOURNAL, Dec. 28, 1912, p. 2324.
Instruction in Medical Ethics and Economics, Vienna Letter, THE JOURNAL, April 12, 1913, p. 1168.
Medical Ethics, by a physician's wife, THE JOURNAL, April 26, 1913, p. 1290.
Report of the Judicial Council to the House of Delegates, 1913, treats the subjects of the secret division of fees and contract practice. It appears in the minutes of the House of Delegates on a later page of this issue or else June 28.
Boswell, J. H.: Ethics, *Jour. Kansas Med. Soc.*, May, 1907.
Pinard, A.: Medical Ethics, *Presse méd.*, 1907, xv, No. 7.
Castleman, H. L.: Medical Ethics, *West Virginia Med. Jour.*, October, 1907.
Baum, W. L.: The Medical Profession and the Public, *Illinois Med. Jour.*, July, 1908.
Shattuck, F. C.: Medical Ethics, *Cleveland Med. Jour.*, August, 1908.
Hall, O. B.: Medical Ethics, *Jour. Missouri State Med. Assn.*, November, 1908.
Frost, C. E.: Professional Ethics, *Jour. Oklahoma State Med. Assn.*, February, 1909.
Renaker, J. G.: Medical Ethics, *Kentucky Med. Jour.*, February, 1909.
Potts, F. L.: Medical Ethics, *Jour. South Carolina Med. Assn.*, April, 1909.
Vander Veer, A.: The Ethics of Our Profession, *New York Med. Jour.*, Jan. 30, 1909.
Martin, E. D.: The Doctors and Their Ethics, *New Orleans Med. and Surg. Jour.*, June, 1909.
London, W.: Medical Ethics, *Kentucky Med. Jour.*, July, 1909.
Lawbaugh: The Physician, His Duties and Relation to the Profession, *Jour. Michigan State Med. Soc.*, Detroit, October, 1909.
Willour, L. S.: Medical Ethics, *Jour. Oklahoma State Med. Assn.*, November, 1910.
Hiltner, W. G.: Timely Ethical Problems, *Western Med. Rev.*, February, 1911.
Elder, A. V.: Medical Ethics, *Med. Press and Circular*, Oct. 4, 1911.
Achard, H. J.: The Farce of Medical Ethics, *Chicago Med. Recorder*, Dec. 15, 1911.
Wood, P. R.: Disloyalty to Medical Ethics Responsible for Small Societies, *Jour. Iowa State Med. Soc.*, January, 1912.
Emerson, L.: Ethical Problems Confronting Eye, Ear, Nose and Throat Specialist, *New Jersey Med. Soc. Jour.*, March, 1913.
Anon, M.: Subversion of Medical Ethics, *Denver Med. Times and Utah Med. Jour.*, April, 1912.
Hooker, R. T.: How Do We and How Should We Treat a Brother Physician? *Kentucky Med. Jour.*, May, 1912.
Furman, D.: Medical Ethics, *Jour. South Carolina Med. Assn.*, July, 1912.
Caraway, M.: Medical Ethics, *Mississippi Med. Month.*, August, 1912.
Kern, B.: The Basic Principles of Ethics, *Deutsch. med. Wchnschr.*, Sept. 5 and 12, 1912.
Surratt, I. W.: Medical Ethics, *Old Dominion Jour. Med. and Surg.*, October, 1912.
Anthony, F. R.: Medical Ethics, *Jour. Missouri State Med. Assn.*, November, 1912.
Dubois, P.: Ethics of Psychology, *Cor.-Bl. f. schweiz. Aerzte*, Dec. 10, 1912.
Roberts, John B.: The Doctor's Duty to the State: Essays on the Public Relations of Physicians, *New York Med. Jour.*, 1904, lxxx.
Saundby: Medical Ethics, Lippincott, price $2.50.
Cathell: The Physician Himself, F. A. Davis Co., 1914 Cherry Street, Philadelphia, price $2.50.

## THE SPELLING OF "ANESTHESIA"

*To the Editor:*—I wish to call your attention to an error in spelling which occurs in the symposium on anesthesia. The word "anaesthesia" is spelled "anesthesia" which means "without garment." To those who understand Greek the error is quite amusing.

ISABELLA C. HERB, M.D., Chicago.

ANSWER.—The spelling to which attention is called is not an error. Our correspondent would be quite right if "anesthesia" were a Greek word, but it is as much English as "anesthésie" is French and "anestesia" Italian; and it surely will not be maintained that either of the latter words is misspelled, or that the meaning of either is aught but "without sensation."

In the English language "hwaenne" has become simplified to "when" and "wasshe" to "wash." Why should an adopted word claim an immutable sanctity superior to that accorded to words native to the language? Even those who, like our correspondent, are familiar with the original sources of words, will scarcely, we imagine, insist that "equity" should be spelled "aequity" lest some one should fancy it derived from "equus" instead of "aequus," or that "question" should be spelled "quaestion" lest some careless student should believe it derived from "questio," a complaint, instead of "quaestio," an inquiry. The amusing phase of this spelling controversy—if our correspondent will pardon us for saying so—is, to our mind, the plea that the classical origin of certain English words makes of them a privileged class, exempt from the laws to which more plebeian words must submit—and this although the French, Italian and Spanish cousins of these very linguistic aristocrats submit meekly enough to the laws of the respective languages in which they are naturalized.

## PREVENTION OF THE DISSEMINATION OF MEASLES

*To the Editor:*—Please give the present-day opinions on the following points in regard to measles:

1. Is the disease frequently disseminated by third persons, as doctors, fomites, etc.?
2. How soon after onset does a case of measles cease to be a danger to other children?
3. Should a discharging ear affect the length of the quarantine period?
4. At what period after onset would you recommend fumigation of the sick-room? Do you consider fumigating necessary, as a routine measure, three weeks after onset?

FREDERIC C. SHARPLESS, M.D., Rosemont, Pa.

ANSWER.—1. While possible, this is not a frequent means of dissemination.

2. The period of infectivity is uncertain, but recent experiments on the virus in animals seem to indicate that the infectivity is lost quite early. It is usually estimated that danger exists so long as there is a lesion, such as sore throat, discharging ear or desquamation. Probably this rule would extend quarantine beyond the absolutely necessary period. Three weeks is generally fixed as the limit of quarantine.

3. Yes.

4. Fumigation, if used at all, should not be attempted until the patient is ready for discharge from quarantine. Fumigation is desirable as a routine measure, but greater attention should be given to the condition of the patient as a transmitter of the disease.

## ARTICLES ON SEWER-GAS AND ITS EFFECTS

*To the Editor:*—Please give names of some of the best books or papers on sewer-gas and its effects on the human being. E.V.N.

ANSWER.—This is a subject on which little seems to have been written of late, possibly because the trend of opinion now is that sewer-gas is less important than was formerly believed. Following are titles of some of the more accessible recent articles:

Winslow, C. E. A.: Conveyance of Bacteria by Sewer-Air, *Am. Jour. Pub. Hyg.*, 1909, xix, 640.
Mead, K. C.: Is Sewer-Gas Detrimental? *Yale Med. Jour.*, 1903, x, 91.
Jacobi, A.: The Production of Diseases by Sewer-Air, *New York Med. Jour.*, 1894, lx, 104, 135.
Fatal Sewer-Air Poisoning, *Laneet*, London, 1898, ii, 1722.
Edgeworth, F. H.: Some Diseases Occurring in Men Who Worked in a Sewer, *Bristol Med.-Chir. Jour.*, 1898, xvi, 33.

## TREATMENT OF VICE PROBLEM ABROAD

*To the Editor:*—In some of my medical journals during the past year or so I saw a report on the manner in which various countries were dealing with the vice problem. I am anxious to find that report again, and cannot.

E. G. BRANDENBERGER, M.D., Evansville, Ind.

ANSWER.—Our correspondent may refer to one of the articles in the following list:

Bierhoff, F.: Sanitary Control of Prostitution in Some European Cities, *New York Med. Jour.*, Sept. 2 and 28, and Oct. 5, 1912.
Kelly, H. A.: Influence of Segregation on Prostitution and on the Public. Obtainable from Dr. R. W. Willson, 1708 Locust St., Philadelphia.
Forest de, H. P.: Police Methods of Dealing with Prostitution in Germany, *New York State Jour. Med.*, October, 1908.
Bierhoff, F.: Control of Prostitution and Venereal Diseases Abroad, *Am. Jour. Urol.*, July, 1911.

## ARTICLES ON FETAL MEMBRANES FOR SKIN-GRAFTING—FORMULA OF CARREL'S SOLUTION

*To the Editor:*—1. Please refer me to what literature there is on the subject of fetal membranes for skin-grafting.

2. Also kindly give me the formula for Carrel's solution.

D. D. TURNACLIFF, M.D., St. Paul, Minn.

ANSWER.—1. The following articles may be referred to:

Sabella, N.: Use of Fetal Membranes in Skin-Grafting, *Med. Rec.*, New York, March 15, 1913; abstr., THE JOURNAL, March 29, 1913, p. 1029.
Stern, M.: The Grafting of Preserved Amniotic Membrane to Burned and Ulcerated Surfaces, Substituting Skin-Grafts, THE JOURNAL, March 29, 1913, p. 973.

2. A formula of Carrel's solution is given in an article by him in THE JOURNAL, Aug. 17, 1912, p. 523.

# Medical Education and State Boards of Registration

## COMING EXAMINATIONS

ALABAMA: Capitol, Montgomery, July 8. Sec., Dr. W. H. Sanders, Montgomery.

ARIZONA: Phoenix, July 1. Sec., Dr. John Wix Thomas, National Bank of Arizona Building.

COLORADO: Denver, July 1. Sec., Dr. David A. Strickler, 612 Empire Building.

CONNECTICUT: Regular, City Hall, New Haven, July 8-9. Sec., Dr. Charles A. Tuttle, 196 York Street; Homeopathic, Grace Hospital, New Haven, July 8. Sec., Dr. Edwin C. M. Hall, 82 Grand Avenue; Eclectic, New Haven, July 8. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

DISTRICT OF COLUMBIA: Washington, July 8. Sec., Dr. George C. Ober, 125 B St., S. E.

INDIANA: State House, Indianapolis, July 8-11. Sec., Dr. W. T. Gott, 120 State House.

MASSACHUSETTS: State House, Boston, July 8-10. Sec., Dr. Walter P. Bowers, Room 159, State House.

MONTANA: Senate Chamber, Capitol Bldg., Helena, July 8. (First special examination held aside from regular semi-annual examinations.) Sec., Dr. William C. Riddell, Helena.

NEW HAMPSHIRE: Concord, July 8-9. Regent, Mr. H. C. Morrison, State Library.

NEW MEXICO: Santa Fe, July 14. Sec., Dr. W. E. Kaser, East Las Vegas.

NEW YORK: June 24-27. Chief of the Examinations Division, Harlan H. Horner, Department of Education, Albany.

NORTH DAKOTA: Grand Forks, July 1. Sec., Dr. G. M. Williamson.

OKLAHOMA: Guthrie, July 8-10. Sec., Dr. John W. Duke, Guthrie.

OREGON: Portland, July 1. Sec., Dr. E. B. McDaniel, 704 Electric Building.

PENNSYLVANIA: Harrisburg, Philadelphia and Pittsburgh, June 23-25. Sec., Mr. Nathan C. Schaeffer, Department of Public Instruction, Harrisburg.

RHODE ISLAND: State House, Providence, July 10. Sec., Dr. Gardner T. Swarts, State House.

SOUTH DAKOTA: Capitol Bldg., Pierre, July 8. Sec., Dr. L. G. Hill, Watertown.

TEXAS: Capitol Bldg., Austin, June 24-26. Sec., Dr. W. L. Crosthwait, Suite 1110 Amicable Bldg., Waco.

UTAH: Salt Lake City, July 7-8. Sec., Dr. G. F. Harding, 310 Templeton Building.

VERMONT: Burlington, July 8-11. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 24-27. Sec., Dr. Herbert Old, Norfolk.

WASHINGTON: Stadium High School, July 1-6. Sec., Dr. F. P. Witter, Spokane.

WEST VIRGINIA: Charleston, July 14-16. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Milwaukee, June 24-26. Sec., Dr. J. M. Beffel, 3200 Clybourn Street.

WYOMING: State House, Cheyenne, June 25-27. Sec., Dr. J. B. Tyrrell, Laramie.

## Wisconsin January Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports the written and practical examination held at Milwaukee, Jan. 14-16, 1913. The total number of subjects examined in was 20; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 18, of whom 12 passed, including one osteopath, 2 failed, 3 were conditioned and 1 withdrew. Seventeen candidates were licensed through reciprocity. The following colleges were represented:

| College | Year Grad. | Per Cent. |
|---|---|---|
| **PASSED** | | |
| College of Physicians and Surgeons, Chicago | (1911) | 75 |
| Rush Medical College | (1897) | 78 |
| Hahnemann Medical College and Hospital, Chicago, | (1894) | 75; (1910) 75. |
| Bennett Medical College | (1912) | 84 |
| Creighton Medical College | (1912) | 82 |
| University of Pennsylvania | (1911) | 91 |
| Hahnemann Medical College of Philadelphia | (1912) | 79 |
| Marquette University, Medical Department, | (1910) | 75; (1912) 75, 75. |
| **FAILED** | | |
| Marquette University, Medical Department | (1912) | 62, 69 |
| **CONDITIONED** | | |
| Bennett Medical College, Chicago | (1911) | *75 |
| Indiana University | (1910) | *75 |
| Marquette University, Medical Department | (1912) | †75 |

*Conditioned in Physical Diagnosis.
†Conditioned in Pathology.

| College | Year Grad. | Reciprocity with |
|---|---|---|
| **LICENSED THROUGH RECIPROCITY** | | |
| Rush Medical College | (1904) (1911) | Illinois |
| Northwestern University Medical School | (1910) (1911) | Illinois |
| Chicago Coll. of Medicine and Surgery, | (1909) (1911) | Illinois |
| Bennett Medical College | (1906) | Illinois |
| Hahnemann Medical College and Hospital, Chicago | (1906) (1910) | Illinois |
| University of Iowa, College of Medicine | (1888) | Iowa |
| University of Louisville | (1894) | Kentucky |
| University of Minnesota, School of Medicine | (1911) | Minnesota |
| Hamline University | (1904) | N. Dakota |
| Long Island College Hospital | (1899) | Nevada |
| Bellevue Hospital Medical College | (1882) | Minnesota |
| Western Reserve University | (1909) | Ohio |
| Meharry Medical College | (1912) | Tennessee |

# Book Notices

ELECTRICITY IN DISEASES OF THE EYE, EAR, NOSE AND THROAT. By W. Franklin Coleman, M.D., M.R.C.S., Professor of Ophthalmology in the Post-Graduate Medical School of Chicago. Cloth. Price, $5. Pp. 595 with 156 illustrations. Lincoln, Ill.: The Courier-Herald Press, 1912.

Part I is devoted to the physics of electricity and electrotherapeutic apparatus. Part II treats of the therapeutic uses of electricity and the technic of its application, including phototherapy and the Roentgen rays. Part III covers the use of electricity in diseases of the eye and describes its application in practically every abnormal condition from blepharitis marginalis to atrophy of the optic nerve, including errors of refraction. The author does not claim to have personally seen benefit from electricity or "electric massage" in cases of error of refraction, but quotes from Dr. S. J. Harris of Boston some astounding statements. For example, in speaking of the effect of such treatment in hyperopia, he says: "Out of two hundred children ranging from 10 to 15 years, having a hypermetropia of .50 to 3.00 D., one hundred of them have been able to go without glasses, fifty of them needed only very weak glasses, and the other fifty required glasses less than half the strength of those they originally wore. In some cases the improvement is immediate, and in others it is not noticed until after the ten sittings. In 40 per cent. of the cases, ranging from 15 to 20 years, no glasses were needed; in 60 per cent., ranging in age from 20 to 50, I was able to reduce the error and prescribe weaker glasses than would have been required before the treatment." Such assertions should be fortified by the reports of cases in which most painstaking examinations have been made, under complete eyeloplegia, both before and after treatment. Part IV is devoted to electricity in diseases of the ear, and the balance of the book to diseases of the throat and nose. No one who reads the book can doubt the author's sincerity or his enthusiasm, and he recounts many truly remarkable cures (?); but many of the cases cited are so incompletely reported that they are valueless as evidence. In some of the cases of common diseases of the eye reported as cured by electricity, the patients would ordinarily recover in the same or less time under the usual methods of treatment.

LANG'S GERMAN-ENGLISH DICTIONARY OF TERMS USED IN MEDICINE AND THE ALLIED SCIENCES. Second Edition, Edited and Revised by Milton K. Meyers, M.D., Neurologist to the Jewish Hospital Dispensary, Philadelphia. Cloth. Price, $5 net. Pp. 564. Philadelphia: P. Blakiston's Son & Co., 1913.

This dictionary is printed with large and convenient type and classification, but some of the definitions, although they convey the idea, have a distinctly foreign flavor which might sound odd if used in an English article. The additions noted in the new edition are free from this objection. The scientist will miss some words he hopes to find there; *Hirnblutleiter*, for instance, is not given although it occurs in a title in a current medical exchange; *Unterbinden* is defined as "to ligature." The term "lymph-node" does not seem to be used, *Drüsen* being translated "gland" throughout. A few typographic errors, such as "Towara" for "Tawara" are excusable, but the word *Soda* might have been translated otherwise than by "soda" as the German term is applied to washing-soda while the English term is used often more indiscriminately. The dictionary also enriches the English language with the term "squeeze-preparation," which is the definition of *Klatschpräparat*, generally translated as "impression specimens."

The second edition is a great improvement over the first, but even with its handsome print and convenient size, 6 by 9½ inches, the dictionary is a little disappointing. What the scientist wants is the exact definition, not just "soda"; he can find that in any schoolboy's German dictionary.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Archives of Internal Medicine, Chicago

*May, XI, No. 5, pp. 469-563*

1 *Relation of Gastric and Duodenal Ulcer to Vascular Lesions. W. Ophüls, San Francisco.
2 *Effect of Change of Posture—Without Active Muscular Exertion—on Arterial and Venous Pressures. J. H. Barach and W. L. Marks, Pittsburgh.
3 *Budding and Other Forms in Trophozoites of Entamoeba Tetragena Simulating Spore Cyst Forms Attributed to Entamoeba Histolytica. S. T. Darling, Ancon, Canal Zone.
4 Active Hyperemia following Local Exposure to Cold. A. W. Hewlett, Ann Arbor.
5 *Modified Wassermann. L. O. Thompson, Little Rock, Ark.
6 *Study of Therapeutic Value of Theobromin Sodium Salicylate in Acute Experimental Nephritis. H. A. Christian and J. P. O'Hare, Boston.
7 Case of Infantilism Associated with Hypophysis Tumor. E. J. Mullally, Montreal.
8 Case of Myxedema, with Recovery, and Seven Years' After-Care Notes. E. N. Brush and W. B. Cornell, Baltimore.
9 *"Giant-Cell Pneumonia." H. T. Karsner and A. E. Meyers, Boston.
10 *Determination of Diastolic Pressure in Aortic Regurgitation. A. E. Taussig and J. E. Cook, St. Louis.
11 *Clinical Investigation of Carbonic Acid in Alveolar Air. E. G. Grey, Boston, and A. D. Hirschfelder, Baltimore.

1. **Gastric and Duodenal Ulcer and Vascular Lesions.**—The most common type of gastric (or duodenal) ulcer, in material obtained by Ophüls by necropsy was the arteriosclerotic ulcer in persons over 30 years of age. There is, he says, a second class of gastric (or duodenal) ulcer, in the young, which is probably due to local endarteritis (thrombo-arteritis?). In addition to these, one occasionally observes acute embolic (or thrombotic) ulcers.

2. **Effect of Change of Posture on Arterial and Venous Pressures.**—When the element of mucular effort has been eliminated, the authors found that change of bodily posture from the erect to the horizontal will cause an increase in the maximum pressure, a decrease in the minimum pressure and an increase in the pulse pressure. After five minutes in the horizontal posture when the subject is retilted to the erect posture, the maximum pressure will diminish, the minimum pressure increase and the pulse pressure diminish. It will be noted that in both instances the pulse pressure follows the same trend as the maximum pressure. Change of posture from the erect to horizontal caused a fall in the venous pressure. Change of posture from the horizontal to erect caused an increase of the venous pressure.

3. **Budding and Other Forms in Trophozoites of Entamoeba Tetragena.**—The descriptions of the life cycle of *E. histolytica* by Schaudinn and Craig, in Darlings' opinion, therefore, are in all likelihood those of a spurious species, having resulted from observations of pathologic changes in senile races of *E. tetragena.*

5. **Modified Wassermann.**—Thompson makes use of anti-human amboceptor and a 10 per cent. solution of fresh guinea-pig serum for complement. Alcoholic extract of liver from a syphilitic fetus is used for antigen.

6. **Therapeutic Value of Diuretin in Acute Experimental Nephritis.**—The authors found that diuretin given to rabbits with a severe, fatal exeprimental nephritis, shortens the duration of life of these animals. On the other hand, nine out of twelve rabbits which survived the experiment had received diuretin. This work supports the view that in a severe acute nephritis a diuretic drug, such as diuretin is contra-indicated inasmuch as in the experiments diuretin shortens the lives of the animals. On the other hand, of the survivors a large proportion (three-fourths) had received diuretin. This rather gives support to the view that in less severe cases diuretin may be beneficial and so justifies the cautious use of the drug in moderately severe cases of acute nephritis. In the survivors it is not certain that acute severe renal lesions were produced; consequently deductions from these relatively few survivors are of less value than from the larger number dying during the experiments. Of course, it is realized in making deductions such as the above that they may not be applicable directly to conditions in the human being, for due allowance must be made for the many differences between man and the lower animals. The authors experiments support the view that diuretin as a diuretic drug may be harmful in a case of acute nephritis.

9. **Giant-Cell Pneumonia.**—The case studied by Karsner and Meyers was one of bronchopneumonia of the desquamative type and was associated with an early stage of bronchiolitis obliterans. The authors see no good reason for assigning to the so-called "giant-cell pneumonia" the dignity of classification as a pathologic or clinical entity. The giant-cell formation may occur following a wide variety of causes and is not characteristic of the pneumonias following only measles and pertussis. The giant-cells are almost entirely the product of fusion of alveolar epithelium and present a wide variety of morphologic characters, depending on the line of section. There is no positive evidence for believing that these cells functionate as phagocytes.

10. **Diastolic Pressure in Aortic Regurgitation.**—Taussig and Cook state that with the auscultatory method the beginning of the fourth phase, that is, the dulling of the arterial sound, marks the diastolic pressure. Since this point can readily be made out in aortic regurgitation, the auscultatory method is as applicable to this condition as to any other. The persistent arterial sound is not pathognomonic of aortic regurgitation, being often absent in this disease and occasionally present in other conditions. In cases with very low pulse-pressure, in those with marked dyspnea and in Cheyne-Stokes breathing, the auscultatory method is especially valuable, being often distinctly superior to the graphic method.

11. **Carbonic Acid in Alveolar Air.**—The object of this study was first, to determine if possible whether the feeling of asthenia in convalescent patients and especially in patients who have gotten out of bed for the first time, is associated with the presence of acapnia. Second, whether the latter phenomenon is responsible for these symptoms in patients with enteroptosis. Third, the extent to which acapnia develops in cardiac dyspnea, and its relation to the mechanism of the latter. It appeared that in cardiac disease there are two distinct mechanisms for the production of dyspnea: (1) Stasis and congestion in the pulmonary area, associated with difficulty in aeration of the blood. This may act either by reflex stimulation of the vagus endings in the lung or by increasing the $CO_2$ in the blood bathing the respiratory center which will give rise to hyperpnea until the $CO_2$ falls to its normal level. (2) Slow arterial circulation through the medulla, as in arteriosclerosis, aortic insufficieney and general failure of the circulation, which gives rise to symptoms of lack of oxygen in the latter and the formation of acids there quite independent of the $CO_2$. This acid intoxication overstimulates the respiration and gives rise to over-ventilation of the lungs, acapnia, and probably sometimes Cheyne-Stokes breathing, for Pembrey and his collaborators have shown that the latter can be stopped by inhalations of $CO_2$. It is probable that such cases can be benefited by rebreathing, but we have not been able to answer this question as yet.

They had one patient with Adams-Stokes disease with complete heart-block, who was not having any attacks of dyspnea at the time of determinations, whose alveolar $CO_2$ was normal.

A number of observations were made on pregnant women near term who had slight dyspnea, most of whom were a little below the lower limits of normal, which might be easily accounted for on purely mechanical grounds, though the possibility of a mild acidosis such as has been assumed by Porges and his collaborators cannot be excluded.

### Boston Medical and Surgical Journal

*June 5, CLXVIII, No. 23, pp. 825-864*

12 *Studies in Bacterial Metabolism: Relation of Bacterial Metabolism to Internal Medicine. A. R. Kendall, Chicago.

13 *Common Colds and Vaccine Therapy. J. W. Fisher, Middletown, Conn.
14 *Etiologic Factor in Carcinoma and Its Possible Influence on Treatment. H. W. Nowell, Boston.
15 Neglect of Hydrotherapy in America. J. H. Pratt, Boston.
16 Appendix Excisor. J. E. Briggs, Boston.

12. **Bacterial Metabolism and Internal Medicine.**—Evidence both qualitative and quantitative, is presented by Kendall, illustrative of the nature and extent to which utilizable carbohydrate spares protein and protein derivitives from bacterial attack. The carbohydrate protects protein largely from bacterial break down.

The sparing action is not complete, but it results in the practical elimination of nitrogenous products, incidental to bacterial development, some of which may be toxic, and the substitution for them of substances which are non-nitrogenous, which may be irritative, but probably never truly toxic. This evidence has been introduced here chiefly to indicate how the principle involved may be made use of theoretically in the treatment of diseases of bacterial origin, where the anatomic features of the disease are such as to permit the utilization of carbohydrate by the invading micro-organisms. The object of the diet rich in carbohydrate is twofold: physiologically to provide the patient with a readily assimilable food requiring a minimal amount of digestive energy to prepare it for the tissue needs, and bacteriologically to shift bacterial metabolism from the destruction of body tissue for their food requirements to the utilization of carbohydrate for at least the major part of their dietary needs. This does not directly result in annihilation of the invading bacteria, but it certainly approaches their metabolic reformation. The shifting of metabolism to sugars appears to deprive these microbes of one of their most potent weapons of offense, and forces them to act on the defensive; forcing the parasite to act on the defensive theoretically at least permits the host to rally and to strengthen its defensive and even its offensive powers earlier in the battle. The initial damage, brought about when the host is temporarily overwhelmed by the initial onslaught of the invaders (which is accomplished largely during the incubation period of the disease) cannot be estimated at present, and perhaps cannot be undone. The final struggle between host and parasite can be influenced directly, and favorably.

13. **Common Colds and Vaccine Therapy.**—Fisher is convinced that colds, so-called, are unquestionably due to infection by micro-organisms and therefore are contagious. They can largely be prevented by reasonable isolation of every case, and preventive inoculation. They can be aborted or their course shortened by vaccine treatment; in fact, the treatment of acute and chronic inflammation of the respiratory tract by vaccines is specific.

14. **Etiologic Factor in Carcinoma.**—Nowell summarizes his paper as follows: A procedure has been developed whereby a substance or substances may be isolated from carcinomas, the method precluding the presence of organic life in the end product. This end product has been shown to be of a highly toxic character. The peritoneal exudate produced by a fatal intoxication is far more toxic than the original substance. The tumor substance has been shown to possess not only a general but also a specific toxicity, since on injection into rabbits in doses of less than lethal amount it will produce well-defined, well-characterized, carcinomas, the site of the primary lesion being different from and independent of that of the injection. The appearance of the primary lesion is followed by the development of numerous metastatic foci in different parts of the body, while the characteristic cachexia manifests itself. The poisonous tumor preparation has been shown to be characteristic of carcinomas. By the repeated injection of very small doses a large number of rabbits have been immunized. The serum from the animals thus immunized possesses the power of antagonizing the toxic action of the tumor substance. This has been demonstrated by injections of the serum either previous to or simultaneous with that of the tumor poison. In both events no effect is observed from quantities of the poison which, if injected alone, would produce a rapidly fatal intoxication. With the simultaneous injection of poison and antibody it has been shown that one part of the latter will effectually antagonize ninety-nine parts of the former.

## Bulletin of American Academy of Medicine, Easton, Pa.

*June, XIV, No. 3, pp. 186-244*

17 Immigration of Tuberculous into United States: Problem for Every Nation. S. A. Knopf, New York.
18 Immigration and Midwife Problem. I. S. Wile, New York.
19 Trachoma in Modern Immigrant, and Its Dangers to America. C. P. Franklin, Philadelphia.
20 Desirability of Teaching Preventive Medicine in Higher Institutions of Learning. H. B. Hemenway, Evanston, Ill.
21 Open-Air Schools. T. W. Grayson, Pittsburgh.
22 Medical Inspection of Schools. E. W. Goodenough, Waterbury, Conn.
23 The Well-Fed Child. A. L. Benedict, Buffalo.
24 Teaching of First Aid in Schools. C. A. Kinch, New York.

## Bulletin of Johns Hopkins Hospital, Baltimore

*June, XXIV, No. 268, pp. 167-198*

25 Specialism in General Hospital. W. Osler, Baltimore.
26 Some Modern Problems in Nutrition. F. Knoop, Freiburg, Germany.
27 Wassermann Reaction in Johns Hopkins Hospital. R. H. Major, Baltimore.
28 *Excessive Thickening of Thiersch Grafts Caused by Component of Scarlet Red (Amidoazotoluol). J. S. Davis, Baltimore.
29 Subsequent History of One Thousand Patients Who Received Tuberculin Tests. J. Gelien and L. Hamman, Baltimore.
30 *Influence of Contents of Pulmonary Artery on Experimental Pulmonary Tuberculosis. W. C. White, Pittsburgh.
31 Physician's Opportunity in Preventive Medicine. J. B. Hawes, Boston.

28. **Excessive Thickening of Thiersch Grafts.**—In a case of extensive ulcer of the arm following a burn the granulations of the wound were brought into healthy condition by irrigations, free use of nitrate of silver, balsam of Peru, curved scissors, etc. At the same time very marked progress was also made toward healing by stimulating the wound edges with 4 per cent. amidoazotoluol ointment, alternating every twenty-four to forty-eight hours with zinc oxid or boric ointment. A number of large thin Thiersch grafts were buttonholed and applied over a large part of the unhealed area. Rubber impregnated mesh was placed snugly over the grafts, and over this overlapping strips of protective, dry gauze and a bandage. Four per cent. amidoazotoluol ointment on old linen was laid over the rubber mesh. This dressing was alternated with boric ointment every twenty-four hours. After two weeks the greater portion of the grafts had taken. There had been a remarkable gradual thickening of all the grafts. The surface was smooth but rather uneven, and of a bluish grey color. The appearance was that of an edematous epithelial mass. The thickness varied between ⅛ and ⅜ of an inch. Davis felt convinced from his experience with occasional overgrowths of wound edges and other grafts caused by the organic coloring matters, that this thickening would begin to subside as soon as the stimulants should be removed. The thickened grafts were dressed with stearate of zinc powder and exposed to the air, in order to promote drying. The amidoazotoluol was discontinued. There was no excessive thickening of the wound edges. Six months later the arm was covered with a stable, movable skin, which was heavily pigmented. On careful examination one or two small thickened areas could be found on the inner side of the arm. There were also several comedo-like masses which filled minute pockets in the skin. The patient has been under observation for over two years and a half since his discharge from the hospital, and there is no sign of malignant degeneration anywhere.

30. **Influence of Contents of Pulmonary Artery on Experimental Pulmonary Tuberculosis.**—White is convinced that there is some close relation between the content of the fats and split fat substances in the pulmonary stream and the severity of experimental pulmonary tuberculous lesions. Increasing the percentage of carbohydrate content of the pulmonary stream by the influence of extracts of the suprarenal gland, has no influence on experimental pulmonay tubereulo-

sis. The inhalation of such fat solvents as ether, continued over long periods of time, has no direct influence on experimental pulmonary tuberculosis.

### Journal of Medical Research, Boston

*May, XXIII, No. 1, pp. 1-234*

32 *Endothelioma of Lymph Nodes. J. Ewing, New York.
33 Typhoid-Like Disease in Rabbits Caused by Bacillus Suipesticus, with Particular Reference to Clinical Course and Prophylactic Vaccination. T. Ordway, E. Kellert and F. P. Huested, Albany.
34 Persistence of B. Abortus, Bang, in Tissues of Inoculated Animals. M. Fabyan, Boston.
35 Presence of B. Abortus in Cow's Milk. M. Fabyan, Boston.
36 *Biology of Tubercle Bacillus. T. Smith, Boston.
37 *Infection in Pulmonary Tuberculosis. O. T. Avery and H W. Lyall, Brooklyn.
38 Experimental Agglutinative and Hemolytic Transfusions. R. Ottenberg, D. J. Kaliski and S. S. Friedman, New York.
39 *Leprosy Bacillus: Its Cultivation and Differentiation from Other Acid-Fast Species. C. W. Duval and W. H. Harris, New Orleans.
40 Experimental Production of Pernicious Anemia in Rabbits. H. M. Adler, Boston.
41 Glomerular Lesions in Acute Experimental (Uranium) Nephritis in Rabbit. H. A. Christian and J. P. O'Hare, Boston.

32. **Endothelioma of Lymph-Nodes.**—Extreme grades of endothelial hyperplasia, Ewing claims, are not infrequently associated with and dependent on granulomatous infection of lymph-nodes, and these cases demonstrate the capacity of endothelium to respond to inflammatory irritation with extensive proliferation. In some cases it is difficult or impossible to determine whether this overgrowth is simply inflammatory or independent of the irritant, autonomous and neoplastic. The long continued effects of a granulomatous infection may lead to neoplastic growth of lymphatic endothelium, and in the course of a granulomatous infection of lymph-nodes, after repeated operations, the granulomatous element may be eliminated and the disease progress as a form of neoplasm. Granulomatous infection of lymph-nodes may very early give rise to excessive overgrowth of endothelium of distinctly anaplastic type, and with local aggressive properties. Such malignant endotheliomas may arise without any evidences of an associated granuloma. It is possible to conceive that an original infectious focus may be overgrown and obscured by the neoplastic cells. No definite evidence of such an event has been secured, but it has been shown that one node of a chain may exhibit purely neoplastic overgrowth while others show chiefly granuloma. Certain endotheliomas of lymph-nodes designated as diffuse, plexiform, perivascular or alveolar, are probably derived from the endothelium of lymph sinuses and lymph cords. Certain primary tumors of lymph-nodes, with or without associated granuloma, are probably derived from the reticulum cells of the follicles. These tumors resemble lymphosareoma with large cells, and may be distinguished from tumors of small lymphocytes. Endothelioma or lymph-nodes differ from other neoplasms in several particulars and may be regarded as a disease sui generis, although, nevertheless, essentially neoplastic.

36. **Biology of Tubercle Bacillus.**—Smith states that tubercle bacilli of both human and bovine type, when kept in fully developed cultures at 40 to 50 F. may remain infectious to guinea-pigs for from seven to nineteen months. The number of bacilli surviving in such cultures is relatively small. Many tubercle bacilli from easily cultivated strains which fail to multiply on fresh culture media will multiply in guinea-pigs. In one of the experiments one-fifteen-hundredth of the mass which failed to grow on glycerin agar was still capable of producing generalized tuberculosis. Of the two strains tested side by side the bovine was more resistant than the human strain. This may be in part accounted for by the fact that the human type produces much more acid in 5 per cent. glycerin bouillon than the bovine type after two to four weeks of growth. It may also be due to a greater inherent resistance of the bovine type. In all experimental studies bearing on the behavior and fate of tubercle bacilli in the animal body, Smith says, the character of the culture must be taken into account and its history should be known before arriving at any definite conclusions.

37. **Secondary Infection in Pulmonary Tuberculosis.**—The sputum in five cases of bronchiectasis and fifteen cases of pulmonary tuberculosis, in Stages 1, 2 and 3, was washed by the Saranac Laboratory modification of the Kitasato method and the organisms present isolated and identified. The flora found differs little from that reported by Hastings and Niles in a series of cases of non-tuberculous diseases of the respiratory tract; and from the findings it is difficult to draw inferences concerning their clinical significance. Blood-cultures were made on five cases of bronchiectasis, seven incipient, sixty-five moderately advanced, and thirty-eight far advanced (including eight terminal) cases of pulmonary tuberculosis. In no case was the presence of a secondary bacteriemia demonstrated.

39. **Leprosy Bacillus.**—The acid-fast bacillus known in the human leprous lesion as the Hansen organism can be cultivated *in vitro* under special nutritive conditions. The initial multiplication away from the tissues of the host occurs in the presence of the split-products of animal protein. Although it is reasonable to expect that the sub-culture will in time adapt itself to grow on other food-stuffs, so far all attempts in this direction have been unsuccessful. Cultivation experiments indicate that the leprosy organism is unable to attack the whole protein, which would account for the failure of different investigators to propagate the bacillus on the ordinary laboratory media. The readiness with which the Hansen bacillus multiplies in excised pieces of leprous nodules that have been hydrolized or have undergone autolysis and its inability to grow in the unaltered tissue, or in any medium which does not contain the amino-acids, support this hypothesis.

In the experience of the authors, growth of *B. leprae* is extremely slow even under the most favorable artificial conditions, requiring from eight to ten weeks to attain its maximum, at which time it is only comparable in amount to the growth of *B. influenzae*. The accumulation of the leprosy growth from week to week, which is so characteristic of other acid-fast species, apparently does not occur with the Hansen bacillus. The most efficient method for obtaining the initial growth of *B. leprae* is to transfer bits of the leprous nodule to slanted 1 per cent. alkaline nutrient agar and seed with some one of the proteolytic non-spore-bearing bacteria, which in the course of ten days to two weeks at 37 C. digest the protein sufficiently to cause the contained Hansen rods to multiply. It is essential to have the medium alkaline in order to inhibit too profuse a growth of the hydrolizing organism. In the softened tissue the Hansen bacilli increase steadily and continue to do so in transplants to other media as long as the dissociate products of the host tissue lasts. The organism used to hydrolize the tissue is subsequently eliminated by heating the culture at 60 C. for thirty minutes (Clegg's method) which does not affect the viability of the Hansen rods. While multiplication takes place readily in the digested host tissue, growth ceases on other nutrients unless there is added the intermediate products of protein digestion such as the filtered autolized liver, blood-serum, placenta, etc..

Comparative biologic studies indicate that the Clegg type of leprosy organism is closely related to the moist growing pigment-producing group of acid-fast saprophytes, while the Levy and Kedrowski cultures, which are apparently the same, correspond in some respects to avian tubercle and in others to Moeller's smegma bacillus. The Rost and Williams' culture is identical with Grassburger's acid-fast saprophyte, while Karlinski's culture is not to be distinguished from Rabinowitch's butter bacillus. The serum of rabbits immunized against repeated doses of the Hansen bacilli obtained directly from the uncontaminated human leprous nodule reacts significantly with the "slow-growing" acid-fast culture (Duval), and gives no specific reaction with any of the other so-called lepra cultures.

The experimentally induced lesion affords no reliable means of differentiating acid-fast species other than the tubercle

family, since the lesion in all instanees has the same general gross appearanee. Furthermore, it is not possible to establish an etiologie part for any culture isolated from the human leper on the mieroseopie charaeter of the experimentally indueed lesion sinee the identieal picture may be produeed with eultures of timothy hay, butter, milk and smegma baeilli. The speeifie organism of human leprosy whether *in vitro* or *in vivo* is distinetly aeid-fast, whieh feature is as eonstant for this speeies as it is for *B. tuberculosis*. Differences in size and shape of individual baeilli are frequently noted in the same eulture; however, these morphologic variations, whieh are often striking in their resemblanee to certain forms of the diphtheria group, may be regarded simply as involution types. Non-aeid-fast streptothrical and filamentous forms, whieh have been described as "stages" of the Hansen organism by Kedrowski and others, have not been noted for any eulture isolated by the authors. The speeifie mieroorganism of human leprosy is undoubtedly a schizomyeete, *genus bacillus*, and not a triehomyeete, *genus streptothrix*, any more so than the tubercle bacillus.

### Medical Record, New York

*June 7, LVIII, No. 23, pp. 1013-1058*

42 *Prophylactic and Therapeutic Value of Fresh Air in Schools and Hospitals, Including Heliotherapy. J. W. Brannan, New York.
43 The "Rob." (Syphilis Specific.) J. B. Stein, New York.
44 Acid Test in Therapeutics. J. Aulde, Philadelphia.
45 Personal Experiences with Friedmann Treatment of Tuberculosis. G. Mannheimer, New York.
46 Relation of Syphilis to Progressive Muscular Dystrophy. W. B. Cadwalader and E. P. Corson-White, Philadelphia.
47 New Contagious Gangrene in White Rats. L. K. Hirshberg, Baltimore.

**42. Value of Fresh Air in Schools and Hospitals.**—Brannan urges that not only patients with pulmonary tubereulosis or with surgieal tuberculosis should live in the open air, but that all patients, whatever their disease may be, and all sehool ehildren, whether predisposed to tubereulosis or not, shall be placed in an atmosphere approximately the same as that out of doors. He reviews what has been done in this direetion by various institutions. At Bellevue Hospital, for instanee, every ward has at least one baleony attaehed to it, so that every patient, whatever his disease, may have the benefit of the outdoor air whieh in the past has been thought neeessary only for tubereulous patients. In addition to the baleonies there are large wide loggias and extensive lawns and roof gardens at all the hospitals but one. Gradually storm sashes and louvre windows are being added to the baleonies so that even in the winter the patients ean be moved out of doors, one or more sides of the baleonies being always open for the free entranee of the outer air.

The effeet of open air on the acute insane is very benefieial, especially in the exeited and restless. It has a quieting influenee and induces sleep. The same is true of the aleoholie patients. The fresh air and oxygen seem to furnish the stimulation whieh they greatly need, so that they eat and sleep well. The tremulousness and anorexia and mental depression disappear very quiekly. In funetional nervous diseases the value of the open air treatment is generally recognized. It induees sleep, improves the appetite, and supplies the general stimulation whieh patients of that elass require. Patients after severe operations gain rapidly when taken out of doors. In eritical eases the stimulus of the fresh air often seems to turn the tide.

### New York Medical Journal

*June 7, XCVII, No. 23, pp. 1165-1216*

48 Unconscious Factors in Neuroses. A. A. Brill, New York.
49 Two Cases of Gall-Stones Producing Pyloric and Jejunal Obstruction. W. W. Babcock, Philadelphia.
50 Changes in Treatment of Syphilis. W. S. Gottheil, New York.
51 Quantitative Chemical Reaction for Control of Positive Wassermann Results. D. M. Kaplan, New York.
52 Problem in Local Recurrent Breast Cancer. C. W. Stroebell, Rutland, Vt.
53 Case of Meningomyelocele; Anencephalus; Ablation of Placenta. F. M. Myers, Mt. Vernon, N. Y.
54 Treatment of Endometritis. G. G. Ward, New York.
55 Measles: Periodic Cycles of Virulence. H. A. Brown, Washington, D. C.
56 Deleterious Effects of Salvarsan from Otologic Standpoint. A. Kahn, New York.
57 Use of Metranoikter in Treatment of Dysmenorrhea and Sterility. P. F. Williams, Philadelphia.

### Old Dominion Journal of Medicine and Surgery, Richmond

*May, XVI, No. 5, pp. 213-258*

58 How Far Have We Got with Clinical Use of Internal Secretions? W. N. Berkeley, New York.
59 Diagnosis of Delirium Caused by Drugs. L. Casamajor, New York.
60 Allotment of Renal and Ureteral Stones in Shadow Diagram of Body. H. A. Kelly, Baltimore.
61 Etiologic Factor in Gall-Bladder Disease. S. S. Gale, Roanoke, Va.
62 Sliding Rectum in Cure of Various Defects. C. R. Robins, Richmond, Va.

### Pennsylvania Medical Journal, Athens

*May, XVI, No. 8, pp. 595-678*

63 Some Phases of Insanity Problem. J. H. W. Rhein, Philadelphia.
64 *Bacteriology of Catarrh and Common "Colds." A. P. Hitchens, Glenolden.
65 Hypopyon Ulcer of Cornea and Its Treatment. C. M. Harris, Johnstown.
66 Value of Pyelography in Diagnosis of Surgical Diseases of Kidney. F. E. Keene, Philadelphia.
67 Benign Pyloric Stenosis. L. J. Hammond, Philadelphia.
68 Diagnosis and Treatment of Gastric and Duodenal Ulcers. S. D. Molyneux, Sayre.
69 *Early Diagnosis of Cancer of Stomach. J. H. Musser, Philadelphia.
70 *Surgical Aspects of Epigastric Pain. J. H. Jopson, Philadelphia.
71 Few Points in Visceral Ptosis. W. S. Newcomet, Philadelphia.
72 Streptococcic Infection of Both Eyes. F. W. Frankhauser, Reading.

64. Abstracted in THE JOURNAL, Oct. 19, 1912, p. 1479.

69 and 70. Abstracted in THE JOURNAL, Nov. 16, 1912, pp. 1815 and 1816.

### South Carolina Medical Association Journal, Seneca

*May, IX, No. 5, pp. 107-137*

73 Maritime Quarantine. R. L. Wilson, Charleston.
74 Work of Laboratory of State Board of Health. F. A. Coward, Columbia.
75 School Sanitation. L. R. H. Gantt, Spartanburg.
76 Home Sanitation. W. Egleston, Hartsville.
77 Relation of Domestic Animals to Public Health. G. M. Mood, Charleston.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*May 17, I, No. 2733, pp. 1087-1092*

1 *Internal Secretions in Relation to Dermatology. N. Morris.
2 Some Points in Early Diagnosis of Cancer of Stomach. T. J. Horder.
3 Instance of Large Ureteral Calculus and Some Other Cases of Calculi. G. Wherry.
4 Treatment of Congenital Dislocation of Hip. A. S. B. Bankart.
5 Four Cases of Parotid Tumor. A. Street.
6 Chronic Arthritis: Therapeutic Evidence of Incidence of Streptococcal Infection. D. W. C. Jones.
7 Sequel of Case of Cardiolysis. R. Simon.
8 Analysis of Series of Cases of Hypertension and Hypotension Treated at Vittel. H. J. Johnston-Lavis.
9 Roentgenotherapy of Diseases of Palm. H. Davis.

*May 24, No. 2734, pp. 1093-1144*

10 Treatment of Pernicious Anemia. B. Bramwell.
11 Six Cases of Acute Perforation of Gall-Bladder. L. R. Braithwaite.
12 Incidence of Ophthalmia Neonatorum in London. N. B. Marman.
13 *Preliminary Note on Experimental Investigation of Concussion of Spinal Cord and Allied Conditions. A. Newton.
14 Pseudo-Fractures of Transverse Processes. O. L. Rhys.
15 Tetanus Treated with Intraspinal Injections of Magnesium Sulphate. H. L. Tidy.
16 Cesarean Section, with Special Reference to Rarer Indications for Operations. W. H. Maxwell.

1. **Internal Secretions in Relation to Dermatology.**—The influence which the thyroid, the pituitary, the thymus and other glands exert on metabolism and growth, and so on the nutrition of the integument and its appendages, suggests to Morris that further knowledge of their nature and functions will help to solve some of the many perplexing problems of dermatology. Bacteriology has accounted for not a few skin diseases, and vaccine therapy and serotherapy have now a recognized place in dermatologic therapeutics; but there is still a disconcertingly long list of skin affections of which the cause is unknown and the treatment purely empirical. May it not be, he asks, that of some of these the explanation will be found in overaction or underaction of glands that form secretions at once so potent and so difficult of analysis? The fact that animals from which the hypophysis has been partially removed betray diminished power of resistance to infections, and that pituitary hyperplasia has been found associated with bacterial intoxications, may possibly prove to be charged with significance. It is conceivable that irregularity of this or of other organs of internal secretion may be the direct cause of certain obscure skin diseases, and that in others it may induce the predisposing condition which is the opportunity of bacterial or other pathologic influences. Thus, too, may possibly be explained the tendency of so many skin affections to recur after the lesions have disappeared under empirical treatment. Morris thinks that the results yielded by organotherapy in a considerable number of skin affections are sufficient to warrant a more extensive use of this method of treatment in dermatology.

13. **Concussion of Spinal Cord.**—Experiments were performed by Newton on fifty animals—three monkeys, eight dogs and thirty-nine cats. The spinal cord was exposed by a laminectomy between the fourth and eighth dorsal vertebrae, but the dura was not opened except in two cases of slight compression, for two and five minutes respectively. The provisional conclusions drawn by Newton from his experiments are as follows: 1. The spinal cord is extremely sensitive to slight degrees of concussion and compression. 2. Despite the slight anatomic changes demonstrable after lesser degrees of injury, the resulting disturbance of function is considerable. 3. After concussion which has quite abolished motor efferent conduction, sensory conduction can still be demonstrated. 4. Arrest of the spinal cord circulation by aortic compression abolishes spinal cord function in from fifteen to thirty seconds. 5. These experiments support the view that there is an organic basis for the signs and symptoms of "railway spine" and allied conditions of traumatic neurasthenia.

## Lancet, London

*May 17, I, No. 4681, pp. 1363-1434*

17 *Some Points in Determining Signification of Albuminuria in Pregnancy. H. Williamson.
18 Alimentary Toxemia. J. F. Goodhart.
19 Influence of Chronic Sepsis on Eye Disease. W. Lang.
20 *Relationship of Thyroid to Alimentary Toxemia. F. Langmead.
21 Indications of Nerve Lesion in Certain Pathologic Conditions of Blood-Vessels. T. W. Todd.
22 Abnormal Intra-Abdominal Developmental Adhesions. H. M. W. Gray and W. Anderson.
23 Chloretone Overdosage. W. E. Wynter.
24 *Bacteriology of Cholera. J. A. Turner.
25 *Etiology of Rheumatoid Arthritis. H. W. Crowe.
26 Use of Vaccines in Treatment of Rheumatoid Arthritis. A. B. Soltau.
27 *Case of Volkmann's Ischemic Contracture of Hand. G. De Swietochowski.
28 Case of Gonorrheal Warts on Face Successfully Treated by Vaccine. W. E. M. Armstrong.

*May 24, No. 4682, pp. 1435-1506*

29 Electrical Action of Human Heart. A. D. Waller.
30 Alimentary Toxemia. W. H. White.
31 Growths in Gall-Bladder and in Bile Ducts. S. Phillips.
32 Dangers and Complications of Salvarsan Treatment. H. W. Bayly.
33 Case of Phthisis with Complete Cavitation of Left Lung. D. W. Carmalt-Jones and E. S. Worrall.
34 *Method of Counting Bacteria in Water. R. Donald.
35 Case of Facio-Hypoglossal Anastomosis. E. C. Bevers.

17. **Albuminuria in Pregnancy.**—In fifty cases of normal pregnancy, Williamson found neither acetone nor diacetic acid. The cases of chronic nephritis in pregnant women were examined; in ten both these bodies were absent, in five both were present. The urine from twenty patients with chronic nephritis in the non-gravid was examined; two of the patients had previously had uremic convulsions; in none of these twenty cases were either acetone or diacetic acid discovered. Williamson believes that a condition of acidosis is found constantly in cases of pregnancy toxemia when the lesions are of a certain grade of severity, and is not found in cases of chronic nephritis even when the symptoms are severe; and, further, that the onset of an acidosis in the course of a chronic nephritis in pregnancy may be interpreted to mean that toxemia has been added to the existing lesions. In a number of early cases Williamson could find no evidence of acidosis, and in several instances where the symptoms passed away under treatment the ammonia-urea coefficients remained normal, and acetone and diacetic acid were never demonstrated in the urine.

For the detection of acetone a modification of Rothera's test was employed: 5 c.c. of urine are shaken up in a test-tube with ammonium sulphate until saturated, 0.5 c.c. of strong ammonia added, and then three or four drops of a freshly prepared solution of sodium nitro-prusside; if acetone be present a beautiful purple color is produced. The presence of diacetic acid was demonstrated by the well-known ferric chlorid test.

Williamson does not believe that the symptoms are due to the acidosis; indeed, these results definitely disprove this theory, because the symptoms are often present in a mild form before one can find any evidence of acidosis, but the results of treatment have convinced Williamson that if the acidosis is diminished the severity of the symptoms is alleviated. In severe cases of eclampsia he has seen marked improvement follow intravenous infusion of solutions of sodium acetate and sodium bicarbonate.

Williamson draws attention to some important points in treatment. 1. In cases of pregnancy toxemia chloroform should never be administered, because the action of chloroform is to render more grave the lesions which already exist and to increase the acidosis. Ether administered by the open method is in every way preferable as an anesthetic. 2. Calomel should not be used as an aperient, for the lesions in the liver and kidney produced by mercurial poisoning are of the same nature as those of pregnancy toxemia, and it is probable that mercury even in small doses will increase the gravity of the lesions already existing. 3. For a similar reason douches of mercurial antiseptics should never be employed. 4. In all cases in which acidosis is present intravenous infusion with a solution of sodium bicarbonate or sodium acetate should be practiced. 5. The fat metabolism should be spared as far as possible by the administration of glucose. Williamson's practice has been to administer it by the rectum when vomiting is present and to give it by the mouth in the form of glucose lemonade where the digestive functions are not deranged. 6. When a pregnant woman suffering from chronic nephritis shows evidence of the existence of acidosis, the uterine contents should be evacuated without delay, for with a kidney previously damaged the prognosis of pregnancy toxemia is very grave.

20. **Thyroid and Alimentary Toxemia.**—The thyroid, Langmead says, is a gland a useful function of which is to counteract intoxication. One of the sources of this intoxication is probably the bowel. If the intoxication be proportionately great for the gland, it undergoes hyperplasia and visible enlargement. If the amount of intoxication can be lessened the extra burden is removed and the gland diminished. This has been done by the use of thymol and of vaccines, especially those prepared from cultures of the coliform organisms obtained from the patient's own intestinal flora.

24. **Bacteriology of Cholera.**—From his investigations during the recent outbreak of cholera in Bombay, Turner draws the following conclusions: 1. The comma vibrio is present in

the excreta of persons dying of or suffering from cholera. 2. The vibrio persists until some time after the patient is convalescent, but not indefinitely. 3. In times of cholera epidemic the vibrio is found in waters, wells, tanks, vessels, etc., but it does not retain its morphologic and cultural characteristic or its virulence for any length of time. 4. An outbreak of cholera depends on: (a) the strength and quality of the dose of the virus received; (b) the condition of the infected material which gains access to the intestine; (c) the physical condition of the patient and his power of resistance; (d) certain climatic conditions, and (e) sanitary surroundings of the people—water, food, drainage and refuse disposal, and the habits of the people. 5. When the vibrio leaves the infected person it loses its virulence in direct ratio to the time and conditions to which it is subjected.

25. **Etiology of Rheumatoid Arthritis.**—During more recent investigations the two groups of organisms described by Crowe as diploid streptococci and staphyloid cocci, respectively, in a previous paper have been subdivided, the former into three varieties of streptococci, the latter into some six distinctly different organisms. Staphyloid coccus A, staphyloid coccus B, staphyloid coccus C, staphyloid cocci D and E, staphyloid coccus F. Out of twenty-two cases of rheumatoid arthritis, nineteen were almost certainly infected by staphyloid coccus A. This coccus appears on Fleming's medium first as a rose-red colony, which gradually increases in size and deeply indents the medium. It then spreads out and assumes the appearance of a flattened plate. On subculture it maintains these characteristics and does not alter in color. Its other peculiarities are that blood is slightly hemolyzed; that litmus milk is turned acid, clotted and usually decolorized; and that gelatin is liquefied very slowly, or not at all. Maltose and lactose are reduced, but not mannite; glycerin may or may not be. The shape and color of the colony on neutral red egg medium are, however, the two points on which it is perfectly safe to found a diagnosis. This coccus occurs with remarkable frequency in rheumatoid arthritis. Is the connection between them causal, or is it merely casual? asks Crowe.

27. **Volkmann's Contracture of Hand.**—The treatment in this case was directed first toward overcoming the contraction of the antagonists by means of passive movements, massage and various splints, their shape and application being altered practically every week. De Swietochowski applied every day Bier's elastic bandage for about fifteen to twenty minutes before the massage and exercises started. This seemed to help in softening all tissues, filling their vessels more abundantly with blood. This procedure was, however, apparently a little painful, or rather felt "queer" as the patient declared. Therefore he substituted active hyperemia for the passive hyperemia, giving her every day a hot or warm bath before any manipulations were commenced. This proved to be pleasanter and equally beneficial. De Swietochowski has also found elastic extension of great service as applied to the fingers by means of rubber tubes.

34. **Counting Bacteria in Water.**—Donald's method of enumerating bacteria in water consists in taking a small definite-sized drop of the water, drying it in a circular patch on a slide, fixing effectively the circular film, staining clearly the bacteria present, and counting them under the microscope. The definite size of the drop is determined by the outer circumference of the vertically held clean glass pipet at the level where the drop-surface curving upward and inward joins the outer surface of the pipet point and clings round it. This particular size of pipet gives exactly that definite-sized drop of that liquid only at a particular rate of dropping and a particular temperature. The pipets are gauged to any particular size required in the proper hole of a steel gauge plate such as is used for wire. The gauge sizes most used in the work done by Donald are as follows, the drop-rate being one per second and the temperature 20 c.:

| | Size | Diam. mm. | Corresponding to Drops of Water Each |
|---|---|---|---|
| Morse drill and wire gauge..... | 77 | 0.457 | 1/101 c.c. |
| | 80 | 0.34 | 1/131 c.c. |
| French draw-plate ..... | 8 | 0.29 | 1/173 c.c. |

The bacteria may be stained before dropping by adding a small quantity of bacteria-free methyl-violet solution and heating for a few minutes in a bath at 60 C. But the drop when dried has so many stain-granules and sharp circular droplets of stain that even an approximate count demands much careful scrutiny and much time.

### Journal de Médecine de Bordeaux

*May 11, XLIII, No. 19, pp. 289-304*

36 *Antimeningococcus Serotherapy of Gonorrheal Arthritis. P. Lasserre.
37 Morbidity from Drafts, Especially in Barracks. M. Vennat.
38 Sudden Reflex Death on Commencing Attempt to Induce Abortion. (Mort subite au cours de manœuvres abortives.) P. Lande.

36. **Antimeningococcus Serotherapy in Gonorrheal Joint Disease.**—Lasserre states that this treatment has proved very successful in France. It seems to be peculiarly effectual in subacute gonorrheal arthritis with a tendency to septicemia, and in the acute forms with effusion or a tendency to ankylosis, while chronic gonorrheal arthritis rebellious to other measures has been often favorably modified by it. Only when the arthritis is accompanied by tuberculous lesions does it seem to be refractory to this form of serotherapy. Four or five injections in the buttocks every four or five days are generally sufficient, with 0.20 or 0.30 gm. at each dose. He reports an instructive case in a man of 25 who developed a joint process a few weeks after infection with gonorrhea. The primary urethral process was so mild that he did not consult a physician, but after a few weeks there was almost continuous fever and pain in both knees and wrists but finally the gonorrheal arthritis seemed to settle exclusively in the right wrist with much swelling and pain. By the fifteenth day after the first of the four injections of 0.2 gm. each, the patient was able to return to business apparently entirely cured of his joint trouble, and the urethra symptoms had also materially improved. Except for a slight rise of temperature after each injection, no by-effects were noted.

### Presse Médicale, Paris

*May 10, XXI, No. 38, pp. 377-388*

39 The Physico-Biologic Bases for Heliotherapy. A. Zimmern.

*May 14, No. 39, pp. 389-396*

40 *Chronic Amebic Dysentery. A. Chauffard.
41 Production of Heat in Relation to the Sugar Content of the Blood. (Thermogénèse et glycèmie.) H. Bierry.

40. **Efficacy of Emetin in Amebic Dysentery.**—Chauffard remarks that in 81 per cent. of 100 cases of amebic dysentery on record the rectum was involved; this differentiates the disease by the discovery of the characteristic lesions in the rectum, the "zinc intestine." He reports a case in which the true cause of the dysentery was long unrecognized as physicians seldom think of the possibility of amebic dysentery in a person who has never lived in the tropics; the patient was sent to health resorts and given treatment of all kinds for his diarrhea, but no medication gave more than merely transient if any improvement for nearly ten years. Then he was given a course of emetin, 0.32 gm. in eight injections in one week, and at once the dysentery was arrested and the patient seems to be completely cured. To make sure, he is to be given a second course later. Rogers of Calcutta, who inaugurated the emetin treatment, had an oportunity to examine the intestines of two patients who had been cured by the emetin and had been killed in accidents. He found the old amebic lesions entirely healed over. He insists that if no improvement is apparent under emetin in two or three days the dysentery is not the work of the ameba. (See also Paris Letter in The Journal, June 14, p. 1896.)

### Revue de Chirurgie, Paris

*May, XXXIII, No. 5, pp. 633-784*

42 *Inflammation of Synovial Tendon Sheaths with Concretions Resembling Rice. (Anatomie pathologique de la synovite tendineuse à grains riziformes et mode de formation de la limitante et des grains.) E. Forgue and E. Etienne.
43 *Jejunostomy. L. Bérard and H. Alamartine.

42. **Inflammation of Tendon Sheaths with Concretions Resembling Rice.**—Forgue and Etienne give six plates to accompany their study of the pathologic anatomy of this affection. The data presented confirm the assumption that the trouble is due to destructive processes and cicatrization in the tuberculous follicles under the action of the toxins of the tubercle bacilli.

43. **Jejunostomy.**—Bérard and Alamartine had a patient die from mechanical obstruction as the jejunum became kinked at the point of the jejunostomy done according to the Witzel-Eiselsberg technic. They have found on record five other cases of a fatality following this technic. These experiences convinced them of the necessity of improving on this method, and they report a case in which they applied with success a modification of the Greek letter omega technic. It requires the use of a button but it prevents all danger of kinking, and the operation is remarkably simple and easy and ensures perfect continence, they say.

### Semaine Médicale, Paris

*May 14, XXXIII, No. 5, pp. 229-240*

44 *Research on Anaphylaxis. (Les propriétés cryptotoxiques du sérum.) C. Achard.

*May 21, No. 21, pp. 241-252*

45 Curative Action of the Leukocytolysis Induced by Roentgen Exposures of the Spleen. (L'action curative de la leukocytolyse provoquée par l'irradiation de la rate.) I. I. Manoukhine.

44. **Cryptotoxic Properties of Blood-Serum.**—Achard has coined this term to express what may happen when the colloidal balance of the blood-plasma becomes upset. Under normal conditions and with the normal colloidal physical balance the substances or properties of the blood-plasma balance, and all is well, but let the colloidal balance become upset, then certain of the substances are liable to display active—even toxic—properties, hitherto held in abeyance. In consequence of this upset of the physical balance of the blood-plasma, these substances may thus acquire toxic properties, not from any chemical synthesis or artificial production, but simply by becoming unleashed, breaking loose from the more or less lax colloidal combination in which they have previously been held. To these preformed but hitherto latent cryptotoxic substances he ascribes some share in the production of the anaphylactic shock. Delezenne has recently reported research on cobra venom which seems to demonstrate that the venom does not act directly on the blood-corpuscles but on the serum, releasing from it a hemolytic substance which resists boiling. A similar hemolytic substance has been obtained from egg yolk under the contact action of the venom. Achard has demonstrated in dog serum a similar hemolytic substance by heating the serum to 56 C. This evidently gets rid of the antagonist of this substance and leaves the hemolytic substance free to act. In illustration of the possibilities thus opening up by recognition of this importance of the colloidal balance in the blood-plasma, he cites Bordet's discovery that fresh guinea-pig serum acquired intense toxic properties when mixed with an indifferent colloidal substance such as gelose. After two hours of this contact at 38 C. the mixture was centrifuged to get rid of the gelose and it induced symptoms like those of anaphylactic shock when injected into other animals. Heating to 56 C. did not annul the toxic action, but if the serum had been heated to this point before contact with the gelose no toxic action of any kind was observed.

### Berliner klinische Wochenschrift

*May 12, L, No. 19, pp. 861-904*

46 *Curability and Treatment of Ozena. (Gegenwärtige Behandlung der Coryza atrophique ozénateux.) E. J. Moure.
47 Corpus Luteum and Pregnancy. J. W. Miller.
48 Production and Elimination of Oxalic Acid. (Zur Frage der Oxalsäurebildung und -ausscheidung beim Menschen.) L. Lichtwitz and W. Thörner.
49 Chemistry of the Cell. II. (Kernkörperchen.) P. G. Unna.
50 Functional Tests of the Internal Ear. (Ueber die funktionelle Untersuchung des Ohrlabyrinthes.) Hinsberg.
51 Vascular Lesions in Diabetes. (Zur Aetiologie der Gefässerkrankungen beim Diabetes.) E. Aron.
52 Neosalvarsan More Toxic than Salvarsan. (Darf das Neosalvarsan ambulant angewendet werden?) A. Wolff and P. Mulzer.
53 Mortality from Cancer in Prussia. (Sterblichkeit an Krebs in Preussen während der Jahre 1903-1911 nach Altersklassen.) R. Behla.
54 Determination of Sugar in the Urine. (Ueber den qualitativen und quantitativen Nachweis von Traubenzucker im Harn.) W. Beckers

46. **Treatment of Ozena.**—Moure is convinced that if physician and patient have the necessary courage and patience they will frequently succeed in completely curing ozena; even when a complete cure is not realized, essential improvement is certain. He applies the nose douche with rhythmic jets, as the patient breathes; regularity and extreme care are the main elements for success. Vibration massage of the mucosa is also useful in helping to expel the crusts, spraying the nose with a 5 or 20 per cent. silver nitrate solution. Any irregularity in the passage promotes the accumulation of crusts, and to remedy this as well as to counteract the atrophy of certain portions of the mucosa over the turbinate bones he injects paraffin under the mucosa, when the latter is not so soft and degenerated that it is unable to hold the paraffin. Complicating sinusitis is treated by the usual measures; in some cases a radical operation on the maxillary sinus proved the only means to cure the ozena. General treatment is advisable at the same time. He states that he has now records of hundreds of patients definitely cured of their offensive atrophic disease of the nose after a course of treatment lasting from three to six years.

### Correspondenz-Blatt für Schweizer Aerzte, Basel

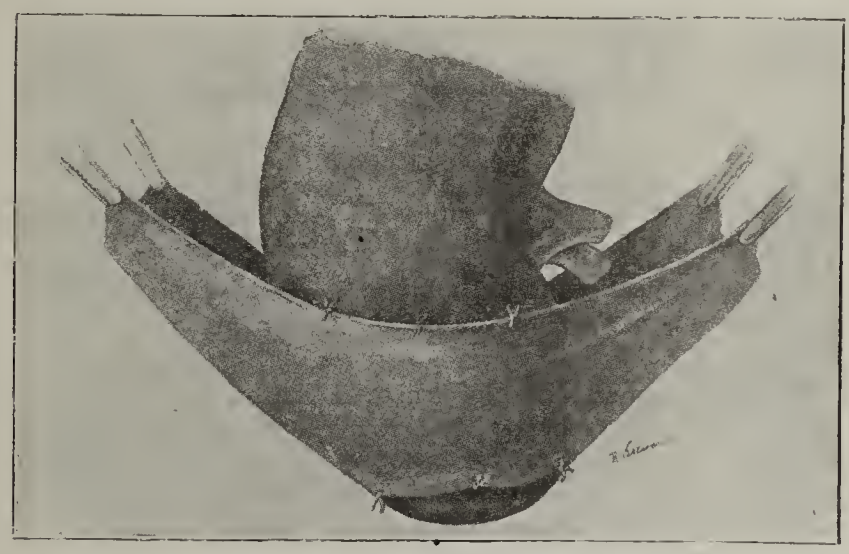
*May 3, XLIII, No. 18, pp. 545-576*

55 *Operative Correction of Wandering Kidney. (Zur operativen Behandlung der Wanderniere.) T. Kocher.
56 *Mammary Tumors in Men. F. Mieseher.

*May 10, No. 19, pp. 577-608*

57 *Traumatic Neurosis Dragging through Eighteen Years' Litigation for Indemnity. (Typischer Fall von ungeheilter traumatischer Neurose unter dem System der Rentenabfindung.) Naegeli.

55. **Operative Treatment of Wandering Kidney.**—Kocher regards the technic he describes as an improvement over all other methods he has tried. The hammock in which the kidney is raised is made from a strip of fascia taken from the patient's thigh. The stitches in the tough fascia do not pull out as in other tissues, and the kidney is gently lifted without force. The strip is about 18 by 20 cm. long by 10 cm. wide. An incision 4 cm. long is made in the center in which the lower pole of the kidney fits like a stone in a sling, and the fascia cannot slip up. It is not necessary to put the kidney back into its normal place; it can be lifted up enough in this hammock and the corners of the hammock sutured to the edges of the wound, etc. In doing so the lower pole can be drawn a little forward if the kidney has a tendency to droop. In the cases in which this technic was applied, various other operative measures had failed to relieve permanently. The great advantage of the technic is that the kidney is kept from moving about without depending on any sutures in the kidney



Fascia hammock for wandering kidney.

itself; the lower third or lower two-fifths are solidly held in this firm pocket, which can then be raised as desired. He does not think it necessary to draw the fascia over the kidney as Henschen advocates. This might interfere with the vessels or ureter in case the edges of the fascia grow together. He thinks his method is more reliable than the basket-handle method.

56. **Tumor in the Male Breast.**—Miescher has encountered only two cases of non-malignant tumor in the breast of men, and in one of these there was partial malignant degeneration. The tumor was in a man of 52 and the growth was removed a year after its appearance. There has been no tendency to recurrence or metastasis in the three years since. The other patient was a man of 67 with an ordinary mammary fibroadenoma.

57. **Traumatic Neuroses.**—The evils of the systems current abroad for settling the insurance indemnity after an accident are emphasized in the case reported by Naegeli, in which fourteen certificates had been given by various medical experts in the course of eighteen years. The woman's neurosis had thus been kept constantly fanned into flame. He remarks that a history of an accident in a case seems to have a most mysterious influence on the medical mind, rendering it liable to give credence to the most preposterous things.

### Deutsche medizinische Wochenschrift, Berlin

*May 8, XXXIX, No. 19, pp. 873-920*

58 *Vaccination against Diphtheria. (Ueber ein neues Diphtherieschutzmittel.) E. v. Behring.
59 *Trypanosomes and Spirochetes are Parasites of the Lymph rather than of the Blood. (Ueber den Weg der Infektion bei Trypanosomen- und Spirochätenerkrankungen.) A. Schuberg and W. Böling
60 *Infectiousness of Milk of Syphilitic Women. P. Uhlenhuth and P. Mulzer.
61 *Varicella in Adults. P. Krause.
62 Pernicious Anemia. Queckenstedt.
63 Characteristic Lymphocytosis in Chronic Articular Rheumatism. (Veränderung des Blutbildes beim chronischen Gelenkrheumatismus.) F. Gudzent.
64 Emphysema. J. Plesch.
65 *Postoperative Fatalities from Abnormally Narrow Aorta. (Zur Kenntnis der postoperativen Todesfälle bei abnormer Enge der Aorta.) V. Frühwald.
66 *Depressing Influence of Emotions on Gastric Secretions. M. Bönniger.
67 Correction of Lateral Curvature of the Spine. (Die Korrektur der seitlichen Rückgrats-Verkrümmungen.) E. G. Abbott (Portland, Maine).
68 The Nose as Source of Infection in Chorea, Acute Rheumatism, etc. (Aetiologische Beziehungen zwischen Rheumatosen und nasalen Erkrankungen.) M. Senator.
69 Sensitized Paper for Roentgenotherapy. (Röntgenaufnahmen mit lichtempfindlichem Papier.) v. Lorentz.

58. **Vaccination against Diphtheria.**—Behring's communication was summarized in the Berlin Letter in THE JOURNAL June 14, p. 1896.

59. **Trypanosome and Spirochete Infection Occurs in the Lymph.**—Schuberg thinks that the results of his research indicate that these parasites penetrate by preference into the lymph passages rather than into the blood. They must be regarded therefore as parasites of the lymph system. This applies especially to the trypanosomes.

60. **Infectiousness of the Milk of Syphilitic Women.**—Uhlenhuth and Mulzer know of no instance in which the spirochaeta pallida has been found in the milk of syphilitic women, but they have recently succeeded in inducing syphilitic lesions in rabbits by inoculations with milk from eight syphilitic parturients although microscopically the milk was sterile. in one of the positive cases the woman was free from symptoms of syphilis but her child had signs of the disease. This confirms the view that the symptomless mothers of syphilitic children have the disease in a latent form, harboring active virus in their bodies. It is still a question whether the infant could be infected by swallowing the virus in the milk. Research on gastric juice showed that it rendered the spirochetes non-motile in a few minutes. Uhlenhuth is now engaged on experimental research, feeding young rabbits with suspensions of living spirochetes, and will report on this research later. For the present all that he asserts is that the milk of syphilitic women may become infectious under certain circumstances.

61. **Varicella in Adults.**—Krause remarks that some of the German text-books deny the occurrence of varicella in adults but he has encountered four certain cases. The most characteristic symptom of varicella is that the exanthem develops in waves and the pustules are of various ages, coming out over several days, while in his sixty cases of small-pox the exanthem had always developed completely in the course of one or two days. The positive result of vaccination confirms the diagnosis of varicella. The number of leukocytes is always normal or below, while in small-pox there is leukocytosis and marked absolute lymphocytosis. In one of his varicella cases the patient was in a large institution and differentiation was extremely important. Inoculation of calves with small-pox seldom gives positive results but inoculation of the rabbit cornea with the content from a pustule of a variola patient is almost invariably successful but never with varicella.

65. **Postoperative Fatality with Abnormally Narrow Aorta.**—Frühwald's patient was a young man supposedly healthy but excitable who required removal of an angiofibroma from the nasopharynx. The operation was tedious but the pulse was relatively good. Half an hour after conclusion of the operation the respiration became irregular, the pulse imperceptible and the patient died half an hour later. There had not been much blood lost during the operation; at most, three-fourths to one liter, and 800 c.c. saline had been infused. There was no sign of the status lymphaticus but the aorta was remarkably small and narrow. The vascular system was evidently inferior, and the patient was unable to rally after the loss of a comparatively small amount of blood. This case teaches anew that even the most careful examination is unable to reveal this inferiority of the aorta and thus warn of impending danger in such cases. The operation was done under morphin, scopolamin and the Billroth mixture. The foramen ovale was patent which is a frequent accompaniment of hypoplasia of the aorta system.

66. **Psychic Factors and Stomach Functioning.**—Bönniger reports research on dogs which confirms the powerful influence of the mind and emotion on stomach functioning. When the dogs were much annoyed or distressed, not only the secretory functioning but the motor were arrested more or less completely. All powerful emotions, except those stimulating the appetite, check gastric functioning; pain, fright and great joy take away the appetite, and Bönniger is convinced that in certain cases of atony psychic factors are at work; and treatment should be by psychic means rather than by dieting. His research was undertaken to confirm Hemmeter's and Cloetta's statements in regard to the reduction of the gastric juice in hyperacidity by protracted feeding with milk. Cloetta fed a group of dogs exclusively on milk and another group on meat, and after three months found no hydrochlorie acid in the milk dogs. Bönniger's research gave conflicting conclusions—the milk dogs having normal gastric secretion or not, according to certain external conditions. This suggested that the gastric secretion was under the influence of psychic factors, and this assumption was abundantly confirmed by further experiments in this line.

### Jahrbuch für Kinderheilkunde, Berlin

*May, LXXVII, No. 5, pp. 505-628*

70 Metabolism of Fat, Calcium and Nitrogen in Infants. (Beitrag zum Fett-, Kalk- und Stickstoffwechsel beim Säugling.) E. Aschenheim.
71 *Insufficiency of the Liver in Scarlet Fever. (Leberinsuffizienz bei Scharlach.) P. Tachau.
72 Congenital Diaphragmic Hernia. (Hernia diaphragmatica congenita bei einem 3jährigen Kinde.) F. Reiss.
73 *Sick Children and Flies. J. Zentner.
74 Summer Diarrhea in Infants. (Zur Frage der Sommerdiarrhöen der Säuglinge.) S. Wolff.
75 Urine Test for Breast-Milk Feeding. (Die Engel-Turnausche Reaktion bei Brustkindern.) S. Ostrowski.

71. **Liver Function in Scarlet Fever.**—Tachau reports twenty cases of rather mild scarlet fever observed during 1912. That there was some disturbance of the liver function is shown by

the fact that there was urobilinuria, alimentary levulosuria and increased excretion of amino-acids. In the mildest cases where there was only urobilinuria it was probably due purely to passive insufficiency caused by increased blood disintegration. But when there was an abnormal excretion of nitrogen products there must have been some real injury to the liver parenchyma. He considers it an advantage not to have had very severe cases, for such injury as there was in his cases was undoubtedly due to a specific action of the toxin of the disease and not to the septic conditions which often arise in severe scarlet fever.

73. **Protection against Flies.**—Zentner reviews recent literature proving that pathogenic germs are carried by flies, and emphasizes anew the necessity of protecting sick children from them. Besides fly paper and other methods of catching the flies and screens for keeping them out of the building, he uses a frame hung quite high over the child's bed over which coarse netting is thrown so that the child is surely protected without interference with air or increased heat.

### Zentralblatt für Chirurgie, Leipsic

*May 10, XL, No. 19, pp. 713-760*

76 Improved Technic for Resection of Stomach and Intestines. (Zur Technik der Magen- und Diekdarmresektionen.) Gelinsky.

### Zentralblatt für Gynäkologie, Leipsic

*May 10, XXXVII, No. 19, pp. 681-712*

77 Source of Infection in Emphysematous Vaginitis. (Herkunft der Keime bei Colpitis emphysematosa.) O. Aichel.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*May 8, XXXIV, No. 55, pp. 575-582*

78 *Pollakiuria in Acute Infectious Diseases. (La pollachiuria in alcuni stati morbosi e la sua patogenesi.) P. Galli.

*May 13, No. 57, pp. 599-606*

79 Hemopoietic Serum Therapy. (Ricerche cliniche sull'azione terapeutica del siero di animali anemizzati.) C. Gibelli.

78. **Pollakiuria in Acute Infections.**—Galli noticed in a recent epidemic of scarlet fever that in about 10 per cent. of the cases there were such frequent desires to urinate that the children were unable to get their sleep at night and were disturbed during the day. This was most marked the second or third day of the disease. Pollakiuria was noted also in nearly 15 per cent. during a recent epidemic of whooping-cough, but only during convalescence. In both diseases the urine and bladder were apparently normal. He thinks that the trouble was probably, in the scarlet fever cases, the result of the action of the scarlatina toxin on the kidneys, the irritation of the kidneys causing an exaggeration of the influence on the bladder normally exerted by the kidneys. In the whooping-cough, on the other hand, the disease toxin had affected the spinal centers which control the bladder sphincter. Psychic factors must be eliminated as the patients were all quite young children.

### Policlinico, Rome

*May 11, XX, No. 19, pp. 661-696*

80 *Tetragenus Septicemia. (Caso di setticemia da micrococco tetrageno nell'uomo.) F. Marcora.

*May, Medical Section No. 5, pp. 193-240*

81 Recovery after Splenectomy in Case of Hemolytic Jaundice with Apparently Pernicious Anemia. (Intorno agli itteri emolitici.) G. Antonelli. Commenced in No. 3.

82 Noma. (Ricerche sul noma.) A. Gasbarrini.

80. **Tetragenus Infection.**—Marcora's patient was a woman of 40 who had had severe typhoid at 31 and gall-stone colics in recent years. The spleen was much enlarged and there was remittent fever with intervals of normal temperature. The temperature at times ran up to 41 C. (105.8 F.) with chills, but there were few of the general phenomena usually accompanying such high temperatures. The tetragenus was cultivated from the heart blood, from abscesses in the liver and from the spleen. The patient succumbed at the end of the second month to a sudden acute endocarditis.

### Medizinskoe Obozrienie, Moscow

*LXXIX, No. 4, pp. 297-382*

83 *The Primary Focus with Tuberculous Meningitis. A. Artamonoff.

84 Kala-Azar at Tiflis; Four Cases. A. Gourko.

85 Favorable Experiences with Bass and Johns' Method of Cultivating Malarial Plasmodia in Vitro. A. Gourko and J. Hamburger.

*No. 5, p. 383*

86 *Sexual Psychogenic Cardiac Neuroses: Two Cases. A. Voltke.

87 *Ankylosis of Vertebrae, Hip and Shoulder Joints. (Spondylose rhizomélique.) Melikianz.

88 *State Sanatoriums for the Tuberculous versus Free Specific Treatment. S. F. Volfring.

83. **Primary Focus with Tuberculous Meningitis.**—Artamonoff has been studying the necropsy records of the last twenty-nine years at a Moscow children's hospital, seeking to determine the primary focus and mode of spreading of tuberculosis to the brain membranes In 218 cases of tuberculous meningitis, the lungs, pleura and bronchial lymph-nodes were found involved in 210; these organs ought to be looked on as the main points of entrance for the tuberculous infection.

86. **Phrenocardia.**—This is a name given by Herz to a group of symptoms characterized by pain in the cardiac region, respiratory disorders and cardiac palpitation—the so-called triad of Herz, sometimes defined as a sexual cardiac neurosis. The pain is always to the left of the cardiac dulness, occasionally below the apex beat, but never to the right of the sternum. It usually corresponds to the place of the attachment of the diaphragm, the sixth and seventh ribs, and is due to the spasmodic contraction of the diaphragm. The respiratory disturbances consist in attacks of air-hunger, which the patient tries to overcome by attempts at deep breathing. They are the result of lowering of the diaphragm on the left side. The heart, therefore, also sinks, assumes a vertical position, and on *x*-ray pictures appears as a "falling drop," and is movable; the condition is an actual cardioptosis. Among the subjective complaints, the most prominent are cardiac palpitations, often in the form of embryocardia, that is, the heart sounds follow each other like the ticking of a watch. The patient is very restless during the attacks; hypodermic injections of morphin do not benefit, and occasionally during the attack there develop very painful infiltrations of the periosteum of the left ribs. This infiltration of the periosteum has been called by Herz pseudoperiostitis angioneurotica. This, with the patient's conduct during the attack, may help to differentiate phrenocardial attacks from those of angina pectoris. Auscultation and percussion of the heart do not reveal any changes, but the pulse is usually abnormally fast and becomes greatly accelerated from any physical exertion or emotional stress. The causes of phrenocardia are functional nervous disorders, as hysteria, neurasthenia; constitutional diseases, such as anemia, chlorosis, and intoxications (alcoholism, tobacco, etc.), but chief of all the causes rank sexual abnormalities for the purpose of avoiding pregnancy. This is the reason why phrenocardial attacks usually occur in women. Against the abnormal sexual life the treatment must be directed, usually with good results, as Voltke's two cases show. When the etiology cannot be ascertained, psychoanalysis according to Freud must be used. The respiratory disturbances are easily checked by inhalation of ether.

87. **Rhizomelic Spondylosis.**—This subject is exhaustively discussed by Melikianz from the clinical and pathologic points of view. He says that the form described by Bechterew as ankylosis of the vertebral column is practically the same disease that was described by Marie and Strümpell as rhizomelic spondylosis, and by other authorities as rheumatic spondylosis. He refers all these three forms of complete ankylosis of the vertebrae with more or less ankylosis of the hip and shoulder joints to chronic arthritis with ankylosis. This view is justified by the fact that all these three affections usually have one common etiology, such as some infection (rheumatism, gonorrhea, typhoid), and have the same clinical and pathologic signs and symptoms, and that it is impossible

to classify some cases, as his case proves, either as Bechterew's or the Marie-Strümpell form or as a rheumatic spondylitis, because cases frequently occur that show a combination of symptoms peculiar to one or more of these three types.

88. **The Sanatorium System versus Dispensaries in the Campaign against Tuberculosis.**—Fuchs-Volfring gives the results of his studies of different official reports of the German state compulsory insurance office in regard to measures against tuberculosis. In 1910 there were treated in Germany's sanatoriums 41,262 patients, of whom 13,905 were females, at the cost of about $4,100,000, with the average stay of seventy days. Of this number only 6 per cent., or 2,365, left the sanatoriums apparently cured, and only 12 per cent. improved, so that each so-called cured workingman cost 7,364 marks ($1,841) and each improved patient $581. Of 16,000 patients with tubercle bacilli in the sputum, 3,200 left free of the tubercle bacilli, at a total cost of 6,112 marks; each patient thus freed from bacilli cost 1,910 marks. Official data show that there are 800,000 tuberculous persons in Germany, so that it would cost at the above rate one and a half milliard marks to free all these patients from their tubercle bacilli. In other words, Germany spends annually, with the sanatorium system, 17,000,000 marks to combat the spreading of tuberculosis, and renders safe only 0.4 per cent. of those affected, namely, 3,200. All the remaining 796,800 remain with their bacilli, thus spreading the infection and proving that the popular sanatoriums, while highly expensive, yet accomplish very little in the way of complete cure or prevention of the spreading of the infection.

Equally unsatisfactory are the results in respect to the wage-earning capacity. He found that most of the incapacitated among workingmen are those that suffer from tuberculosis, that they constitute one-fifth or one-sixth of all that receive sick benefit from the insurance office, that the number of such invalids is steadily increasing, and in a greater proportion than from other diseases, notwithstanding the fact that the fight against tuberculosis costs twice as much as that of all other diseases put together. The expenses of the insurance companies in 1897 were 50 per cent. of the income; at the present they are 93 per cent. because of the increased amount of invalid pensions and expenses for treatment. Therefore, he comes to the conclusion that the state sanatorium treatment in Germany has proved a failure, being of comparatively little aid in the campaign against tuberculosis, as the expenses are too enormous in comparison with the few patients that get cured, and that the spreading of the disease is not prevented, and that the number of patients who have their wage-earning capacity restored is large only on paper. In his opinion the method of dispensaries, specific treatment and prophylactic measures to stop the spreading of the disease, is more practical and accomplishes more, as it can be applied to a far larger number of patients.

### Semana Medica, Buenos Aires

*April 17, XX, No. 16, pp. 909-964*

89 *Bone and Joint Tuberculosis. (Tratamiento de las tuberculosis osteo-articulares.) I. Ymaz.
90 Advantages of Lithotripsy for Bladder Stones. (Calculos vesicales. Su tratamiento.) R. Landivar.

89. **Bone and Joint Tuberculosis.**—Ymaz protests against calling these lesions "surgical tuberculosis" or "local tuberculous lesions" as experience has amply demonstrated that operative measures are rarely required while necropsy findings scarcely ever fail to reveal some focus elsewhere, in the lungs, pleura or mediastinal lymph-nodes. Treatment should therefore be by general measures as for pulmonary tuberculosis, resting and immobilizing the limb and exposing it to the direct sunlight. Intra-articular injections are not only useless but dangerous in many cases. He once witnessed the transformation of a favorably progressing knee lesion into a purulent arthritis under the influence of five injections into the joint done by an eminent specialist whose technic was above suspicion. He cites further nine cases from the literature in which the local injection of camphorated naphthol proved directly fatal.

### Hospitalstidende, Copenhagen

*May 7, LVI, No. 19, pp. 505-536*

91 Clinical Importance of Examination of the Venous Pulse. (Venepulsundersøgelser.) O. V. C. E. Petersen.

*May 14, No. 20, pp. 537-560*

92 *Tuberculin of Bovine Origin in the Diagnosis of Surgical Tuberculosis. (Kliniske Undersøgelser af Bovotuberkulin som Diagnostikum ved kirurgisk Tuberkulose.) A. Bueh.

92. **Reaction to Tuberculin from Bovine Tubercle Bacilli in Children with Surgical Tuberculosis.**—Buch applied the tests to 116 children at a sanatorium for children with surgical tuberculosis, using both human and bovine tuberculin and applying them both by the Pirquet skin technic and by the intradermal or intracutaneous method. It was found that in 10 per cent. with the intracutaneous and in 18 per cent. with the cutaneous (Pirquet) technic the reaction was stronger with the bovine than with the other tuberculin. In no instance was a positive reaction to the bovine tuberculin obtained without a reaction to the human, but in 6 and 5 per cent. the human was positive and the bovine negative. Both reactions were equally marked in 29 and 22 per cent.; the human more marked than the bovine in 55 per cent. with both technics. In previous research of this kind the subjects have been generally adults with pulmonary tuberculosis.

### Ugeskrift for Læger, Copenhagen

*May 1, LXXV, No. 18, pp. 705-748*

93 *Tubercle Bacilli in the Blood-Stream. P. Bogason.

*May 8, No. 19, pp. 749-808*

94 Study of the Blood. (Undersøgelser af normale Menneskers Blod.) V. Bie and P. Moller.
95 *To Abort a Boil. (En ny Metode til at kupere en begyndende Furunkel.) K. Herrild.

93. **Tubercle Bacilli in the Blood.**—Bogason found tubercle bacilli in the blood-stream in only two of forty-one patients examined, although he worked with 10 c.c. of blood. It is his practice to make the examination in the morning when the fat content of the blood seems to be at its lowest. In the afternoon there is so much fat in the blood that some of the figured elements behave in respect to stains like acid-fast bacilli and deceptively resemble them. Other bacilli besides the tubercle bacilli in the presence of fat acquire the property of being acid-fast. The acetic acid-formaldehyd technic enhances this acid-resisting tendency. It is possible further that the blood may contain tubercle bacilli derived from milk, without actual pathogenic properties owing to their scanty number and to the destructive action of the phagocytes. He thinks it might be interesting to record the bacilli content of the milk at the hospitals where tubercle bacilli have been found in the blood-stream in such surprisingly large proportions of cases. The guinea-pigs inoculated with the blood might have become contaminated from tubercle bacilli on the patient's skin at the point where the blood was drawn. The patient holds his hand before his month when he coughs, and from the hand to the forearm is not a long way. If the same cannula is used for puncture of the vein and for injection into the animal, accidental inoculation is likewise possible. He adds further that the lesions of coccidiasis in animals may deceptively simulate those of tuberculosis. He admits, of course, that tubercle bacilli may occur in human blood but he thinks there are so many possible sources of error in the manipulation of animals for experimental inoculation that positive findings in regard to the presence of tubercle bacilli in the blood-stream should be regarded with considerable skepticism.

95. **Hair-Pin to Abort Furuncle.**—Herrild squeezes out the contents of an incipient furuncle by pressure applied with a smooth "invisible" hair-pin encircling the lesion and forcing the contents out centrifugally. Other measures, incision, puncture, cauterization and the like generally drive the virus in, he remarks, while the pressure from the hair-pin works from below outward. In the fifty cases in which he has applied it the pustule healed at once and no further ones developed.

# MINUTES OF THE MINNEAPOLIS SESSION

(*Continued from page 1966*)

### ANNUAL MEETING OF SECRETARIES OF SECTIONS

Believing that closer cooperation among the sections is advisable, and that such cooperation is attainable only by bringing the principal officers of the sections together, the Board passed a resolution authorizing the calling of a meeting annually, on the day preceding the October meeting of the Board of Trustees, of the secretary or the chairman of each of the several sections of the Association, and the paying of the actual expenses of these officers. It is understood that the secretary will be the one to attend these meetings, but that in case he is unable to do so, the section shall be represented.

### PUBLIC HEALTH JOURNAL

The opinion of the Council on Health and Public Instruction was requested relative to the publication of a public health journal. The Council advised that it was not prepared to advise the publication of a popular health journal at the present time.

### SMALL MEDICAL JOURNAL

In its report last year, the committee appointed by you in 1911 to investigate the advisability of publishing a small medical journal advised against this, believing that the existing medical journals made this unnecessary. It recommended, however, that the Board of Trustees consider the advisability of appointing a committee to assist the state journals that "are conducted in accordance with reasonable rules, as to plain honesty in their advertising and reading pages, in securing honest advertisements on a reasonable percentage basis, etc." In line with this recommendation a plan is being worked out to establish a cooperative medical advertising bureau in the Association headquarters, with the object of furthering the interests of the various state journals that comply with the standard regarding advertising. This will mean the appropriation of some money, as the Board expects to be able to adopt a plan at the present meeting.

### CONFERENCE OF SECRETARIES OF STATE SOCIETIES

In accordance with the resolutions referred to the Trustees by you last year, the Board endorsed the recommendation and called a conference of state secretaries. This conference was held in Chicago, October 23-24, and its labors were reported in THE JOURNAL, November 2, and in complete detail in the *American Medical Association Bulletin*, November 15.

Relative to the action of the House of Delegates recommending that the Board of Trustees be directed to amend the charter so as to provide that the President, the Secretary and the Editor of THE JOURNAL shall be ex-officio members of the Board of Trustees without the right to vote, and that the Secretary of the Association shall be ex-officio Secretary of the Board of Trustees: we consulted the attorneys of the Association, Loesch, Scofield and Loesch, and they said,

> "It is our opinion that such amendment would be invalid under the corporation law of Illinois."

### DISTRIBUTION OF "PRINCIPLES OF MEDICAL ETHICS"

According to your instructions, a copy of the "Principles of Medical Ethics," in booklet form, was mailed to each member of the Association during the year.

### ARCHIVES OF INTERNAL MEDICINE

The circulation of the *Archives of Internal Medicine* is increasing as much, probably, as could be expected, since it appeals only to the more progressive of internists. The average circulation for the last three years has been as follows:

| | |
|---|---|
| 1910 | 2,133 |
| 1911 | 2,170 |
| 1912 | 2,027 |

Thus it will be noticed that there was a slight decrease last year. As a matter of fact, however, the outlook is encouraging, because an increasing number are added to the list who are becoming permanent subscribers, whereas at first a very large number discontinued after taking the journal for a year. There was a loss of about $500 last year on the *Archives*.

### AMERICAN JOURNAL OF DISEASES OF CHILDREN

As the *American Journal of Diseases of Children* appeals only to those especially interested in pediatrics, a large circulation cannot be expected, at least for the present. The circulation now is approximately 1,900 copies. There was a loss on this journal last year of $298.

### COUNCIL ON PHARMACY AND CHEMISTRY

The value of the work of the Council on Pharmacy and Chemistry and of the Chemical Laboratory is now so well known to you that it is not necessary to go into a detailed statement of what these two institutions are doing. We would emphasize, however, what was stated last year; namely, that the Council is now doing more practical and constructive work than ever. Especially of this character is the clinical and research work being done under the direction of the Committee on Therapeutic Research. The Board has thus far appropriated $3,500 for this work, believing that it should be encouraged.

As an illustration of the Council's broader aims toward the improvement of conditions, it should be mentioned that it has now issued, in preliminary form, a publication known as "Useful Remedies." This contains a limited list of drugs, and when issued in complete form, the book will include a description of the action, use and dosage of the drugs mentioned. The main object of the book is to furnish a list of important drugs that shall be used as a basis of teaching in medical schools, and also as a basis on which state boards of examiners shall examine applicants for license to practice. Although issued only in a tentative form, this book has already been adopted by several schools and also by various examining boards.

As a direct result of the work of our Council on Pharmacy and Chemistry, a similar body has been created in Germany. One of the principal men in this body, and the one really responsible for it, is Professor Heubner, of the University of Göttingen, and editor of the *Therapeutische Monatshefte*. The Council asked the Board of Trustees to elect Professor Heubner corresponding member of the Council on Pharmacy and Chemistry. This the Board gladly did, especially because of the great work he has done in bringing about better conditions in Germany.

The work of the Council on Pharmacy and Chemistry is not so cordially supported as it should be by the very class which should naturally be regarded as its chief supporter; namely, the leaders in our profession, surgeons as well as clinicians. The rank and file of the profession *do* appreciate the work and *are* cooperating.

Considerable routine work is necessary on the part of the Chemical Laboratory in the analysis of nostrums exposed in THE JOURNAL. At the same time, it is doing what may be regarded as constructive work. For instance: a large number of physicians dispense their own drugs, and it is charged that many of such physicians obtain their drugs from so-called "physicians'" supply houses. It is also charged that the official drugs furnished by these supply houses are not standard. Our chemists have about completed an investigation covering many of the products put out by these firms, and the report of this work will soon be published.

### EXHIBIT AT THE INTERNATIONAL CONGRESS ON HYGIENE AND DEMOGRAPHY

The Association had a very creditable exhibit at the International Congress on Hygiene and Demography in Washington last December. This exhibit appealed directly to the layman, and dealt especially with "patent medicines." It consisted of illustrations, specimens and large cards, and included many of the fakes and frauds which have been shown up through THE JOURNAL. The exhibit attracted wide attention and was awarded a certificate of superior merit.

### NOSTRUMS AND QUACKERY

The work of enlightening the public in regard to fraudulent "patent medicines" and quackery has not only been broadened in its scope, but is producing encouraging results. The number

of inquiries from laymen has increased enormously. Civic organizations and others interested in the public health have taken advantage of the exposés made by THE JOURNAL, by bringing to the attention of laymen the viciousness and cruelty connected with the disreputable business of quackery and nostrum exploitation. Lay societies carrying on antituberculosis campaigns have used the information published in THE JOURNAL on "consumption-cure" frauds and have distributed, through their visiting nurses and other channels, numbers of our pamphlets on these fraudulent "cures." Further, large commercial organizations are placing our pamphlets and books in their employees' libraries. Newspaper and magazine publishers are continually writing for information about this or that "patent medicine" and requesting an expression of opinion regarding the acceptability of advertising of products of this sort. An organization of national advertisers, through its various vigilance committees, is calling on THE JOURNAL for data regarding many fraudulent medical concerns and products.

In addition to the pamphlets published by the Association exposing medical frauds, a number of exhibit cards have been prepared dealing with the same subject. While these cards were originally designed for the American Medical Association's exhibit at the Fifteenth International Congress on Hygiene and Demography, there has been a demand for them on the part of various organizations. Some of these cards have been furnished for "health trains," as for instance those in North Dakota, Louisiana and Michigan. The demand for a wider dissemination of the information which this department has accumulated made it seem worth while to prepare a set of stereopticon slides that could be used in giving illustrated lectures on the subjects of nostrums and quackery. While these slides have not been advertised in any way, there has already been a demand for them, which indicates the need of such material. Some of the uses to which they have been put are referred to in the report of the Council on Health and Public Instruction.

The evil of the "patent-medicine" business and quackery has become so serious and wide-spread that there is apparently a world-wide effort to curtail it. The American Medical Association has been called on by representatives of the British government to furnish such data as it has on the nostrum evil, for use in connection with the investigation of the same subject by a British parliamentary committee. This was followed by a further request from the British Consulate for another set of the same matter for transmission by the British Embassy to the government of the Union of South Africa. Still more recently, there has been a request from the officials of the state of Western Australia for similar data.

The second edition of the book "Nostrums and Quackery" has been issued. The first edition of 10,000 copies was exhausted in less than a year. The new edition is a larger book, having over 700 pages with more than 300 illustrations. The number of newspapers and lay magazines that are either quoting direct or otherwise using the exposés that appear in THE JOURNAL is steadily increasing. One well-known lay journal, published in the interest of consumptives, is reprinting in full the various articles on "consumption-cure" frauds that originally appeared in THE JOURNAL.

### LIABILITY ACCIDENT INSURANCE

Last year Illinois adopted a workmen's compensation act, making the employer more responsible for injuries to workmen than was the case before. About the time that this law went into effect, one of our employees met an accident which resulted in his death. He was a married man, and while there was some doubt as to the responsibility, it was believed that his widow should be aided. On our attorneys advice she was paid $1,000, and released the Association from further liability. The insurance company, however, refused to recognize any liability in the matter and would not protect the Association in any way.

After some discussion the Trustees adopted a resolution to the effect that the Association discontinue the liability accident insurance, and in lieu thereof create a permanent insurance fund; that $1,000 a year be placed to the credit of this fund until such time as the fund shall reach $10,000 in amount; that this fund be placed in bank on a certificate of deposit drawing 3 per cent. interest; and that the fund be used in paying accident claims and the expenses necessarily incurred in taking care of such claims. There are $2,000 now in the fund.

### DAVIS MEMORIAL

In accordance with your authorization, we secured a bronze bust of Dr. N. S. Davis, and placed it in what was originally called the library, but which, by definite action on the part of the Board, is now designated as the Davis Memorial Room. The balance of the fund, $3,299.43, is made a permanent fund to be used in any appropriate way, other than the purchase of books, in furnishing and maintaining the Davis Memorial Room in the new building.

The Board suggests that the Davis Memorial Room will make an excellent repository for articles of historical interest to the medical profession and to medicine in this country, such as medallions, portraits of prominent men, Festschrifts, memorial volumes, etc. As an illustration, the Trustees report and acknowledge in behalf of the Association the contribution of a replica of a large portrait medallion of Dr. W. S. Thayer, presented to Johns Hopkins University by his friends as a testimonial of appreciation on his declination of a call to Harvard University. The Trustees will be pleased to receive other similar contributions, which will be placed on exhibition in the Davis Memorial Room and preserved for the future.

In the addenda to our report is a table which shows the number of members and subscribers for each year commencing with 1900. A study of that report will reveal the fact that during the past year membership increased, according to the count of the mailing list, 2,832; whereas, for the three years preceding, it will be noticed that there was practically no increase in membership—in fact, a decrease for the year 1911. It will also be noticed, however, that there was an apparent decrease last year of 1,757 in the number of subscribers. The explanation is as follows:

As will be remembered, there was some difficulty for about three years in regard to second-class mail rates and our right to send THE JOURNAL to members as such. During all this time little effort was made to get subscribers to transfer to the membership list. Last year, however, the matter was satisfactorily settled; we adopted the old plan, and persistent efforts were made to transfer eligible subscribers to the membership list. The actual increase in our mailing list for the year was 1,118.

In further explanation: The preceding figures are given as a comparative basis only, by count of our mailing list, exclusive of ex-officio members, members who are at present receiving another of the Association's publications in place of THE JOURNAL, and those whose copies of THE JOURNAL are being temporarily held. The actual membership in the American Medical Association on Jan. 1, 1913, was 37,493.

The treasurer's and auditor's reports are appended and give detailed and interesting information regarding the property and financial status of the Association. As the House of Delegates is the business body of the Association, we are sure that each member will give these reports careful study and consideration.

Respectfully submitted,

W. W. GRANT, Chairman.
FRANK J. LUTZ,
C. E. CANTRELL,
W. T. COUNCILMAN,
PHILIP MARVEL,
PHILIP MILLS JONES,
W. T. SARLES,
M. L. HARRIS, Secretary.

---

## Addenda to Trustees' Report

### SUBSCRIPTION DEPARTMENT

The regular weekly issue of THE JOURNAL of the American Medical Association, from Jan. 1, 1912, to Dec. 31, 1912, inclusive, 52 issues, was as follows:

| | | | |
|---|---|---|---|
| January 6 | 58,640 | July 6 | 57,831 |
| January 13 | 58,343 | July 13 | 57,601 |
| January 20 | 57,536 | July 20 | 57,633 |
| January 27 | 57,243 | July 27 | 56,443 |
| | 231,762 | | 229,508 |
| February 3 | 56,746 | August 3 | 56,521 |
| February 10 | 55,906 | August 10 | 55,515 |
| February 17 | 55,442 | August 17 | 56,492 |
| February 24 | 55,671 | August 24 | 58,054 |
| | 223,765 | August 31 | 56,540 |
| | | | 283,122 |
| March 2 | 55,488 | | |
| March 9 | 55,613 | September 7 | 56,459 |
| March 16 | 55,629 | September 14 | 57,494 |
| March 23 | 55,543 | September 21 | 57,190 |
| March 30 | 55,490 | September 28 | 58,260 |
| | 277,763 | | 229,403 |
| April 6 | 58,002 | October 5 | 56,247 |
| April 13 | 55,539 | October 12 | 56,381 |
| April 20 | 55,549 | October 19 | 56,406 |
| April 27 | 55,671 | October 26 | 56,859 |
| | 224,761 | | 225,893 |
| May 4 | 65,051 | November 2 | 57,022 |
| May 11 | 55,615 | November 9 | 57,213 |
| May 18 | 56,107 | November 16 | 57,293 |
| May 25 | 56,217 | November 23 | 57,372 |
| | 232,990 | November 30 | 57,589 |
| | | | 286,489 |
| June 1 | 56,543 | | |
| June 8 | 56,824 | December 7 | 60,388 |
| June 15 | 60,544 | December 14 | 60,206 |
| June 22 | 57,742 | December 21 | 58,749 |
| June 29 | 57,861 | December 28 | 60,289 |
| | 289,514 | | 239,632 |

Total issues for twelve months ..... 2,974,602

Weekly average ..... 57,204

### PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

The following table gives the number of physicians (based on the third edition of the American Medical Directory) in the United States, number receiving THE JOURNAL and the approximate percentage in each state. Copies to physicians in the United States Army, United States Navy, United States Public Health Service, etc., omitted.

| State. | Number Receiving JOURNAL. | Physicians in State 3d A. M. Dir. | Approx. per cent. 3d A. M. Dir. |
|---|---|---|---|
| Alabama | 614 | 2,409 | 26 |
| Arizona | 161 | 247 | 65 |
| Arkansas | 590 | 2,580 | 23 |
| California | 2,561 | 4,764 | 54 |
| Colorado | 798 | 1,738 | 46 |
| Connecticut | 697 | 1,562 | 44 |
| Delaware | 84 | 246 | 34 |
| District of Columbia | 518 | 1,350 | 38 |
| Florida | 371 | 973 | 38 |
| Georgia | 806 | 3,007 | 26 |
| Idaho | 195 | 420 | 46 |
| Illinois | 5,263 | 9,885 | 56 |
| Indiana | 1,654 | 4,979 | 33 |
| Iowa | 1,785 | 3,658 | 49 |
| Kansas | 997 | 2,635 | 38 |
| Kentucky | 954 | 3,599 | 26 |
| Louisiana | 735 | 1,924 | 38 |
| Maine | 400 | 1,176 | 35 |
| Maryland | 1,018 | 2,083 | 49 |
| Massachusetts | 2,674 | 5,631 | 47 |
| Michigan | 1,660 | 4,095 | 41 |
| Minnesota | 1,436 | 2,253 | 64 |
| Mississippi | 503 | 2,003 | 25 |
| Missouri | 2,131 | 6,025 | 36 |
| Montana | 268 | 512 | 52 |
| Nebraska | 839 | 1,777 | 47 |
| Nevada | 86 | 144 | 60 |
| New Hampshire | 285 | 704 | 41 |
| New Jersey | 1,162 | 2,870 | 41 |
| New Mexico | 189 | 430 | 44 |
| New York | 5,737 | 14,805 | 38 |
| North Carolina | 552 | 1,836 | 30 |
| North Dakota | 355 | 593 | 60 |
| Ohio | 2,769 | 7,552 | 37 |
| Oklahoma | 698 | 2,633 | 27 |
| Oregon | 532 | 1,041 | 51 |
| Pennsylvania | 4,462 | 11,299 | 39 |
| Rhode Island | 435 | 751 | 58 |
| South Carolina | 472 | 1,275 | 37 |
| South Dakota | 332 | 651 | 51 |
| Tennessee | 813 | 3,309 | 24 |
| Texas | 1,510 | 5,829 | 26 |
| Utah | 247 | 427 | 58 |
| Vermont | 240 | 679 | 35 |
| Virginia | 763 | 2,350 | 32 |
| Washington | 852 | 1,620 | 53 |
| West Virginia | 588 | 1,634 | 37 |
| Wisconsin | 1,491 | 2,637 | 57 |
| Wyoming | 107 | 235 | 46 |

This table shows the number of members and subscribers for each year commencing with 1900:

| Year. | Members. | Subscribers. |
|---|---|---|
| Jan. 1, 1900 | 8,445 | 4,633 |
| Jan. 1, 1901 | 9,841 | 8,339 |
| Jan. 1, 1902 | 11,107 | 10,795 |
| Jan. 1, 1903 | 12,553 | 12,378 |
| Jan 1, 1904 | 13,899 | 14,674 |
| Jan. 1, 1905 | 17,570 | 15,698 |
| Jan. 1, 1906 | 20,826 | 17,669 |
| Jan. 1, 1907 | 26,255 | 20,166 |
| Jan. 1, 1908 | 29,382 | 20,880 |
| Jan. 1, 1909 | 31,999 | 18,983 |
| Jan. 1, 1910 | 33,032 | 19,832 |
| Jan. 1, 1911 | 33,549 | 20,504 |
| Jan. 1, 1912 | 33,250 | 21,620 |
| Jan. 1, 1913 | 36,082 | 19,863 |

## Treasurer's Report

REPORT OF THE TREASURER OF THE AMERICAN MEDICAL ASSOCIATION FOR THE YEAR ENDING DEC. 31, 1912

### ASSOCIATION ACCOUNT

RECEIPTS

| | | |
|---|---|---|
| Dec. 30, 1911—Balance— | | |
| Bonds, per schedule | $ 40,000.00 | |
| Certificates of deposit | 60,000.00 | |
| Checking account | 1,536.57 | |
| | | $101,536.57 |
| 1912— | | |
| February 8—Surplus transferred from current account | | 30,000.00 |
| March 8—Interest on deposit certificate | | 902.50 |
| April 1—Bond interest | | 400.00 |
| July 1—Bond interest | | 400.00 |
| August 28—Interest on deposit certificate | | 935.00 |
| October 1—Bond interest | | 400.00 |
| December 31—Interest on bank balances | | 51.37 |
| December 31—Bond interest | | 400.00 |
| | | $135,025.44 |
| 1913— | | |
| January 2—Balance— | | |
| Bonds per schedule | $ 40,000.00 | |
| Certificates of deposit | 90,000.00 | |
| Checking account | 5,025.44 | |
| | | $135,025.44 |

### DAVIS MEMORIAL FUND

| | | |
|---|---|---|
| 1912— | | |
| November 1—Cash in Northern Trust Co. Saving Bank received from former Treasurer, Dr. Frank Billings | $ 3,475.68 | |
| December 31—Interest | 48.75 | 3,524.43 |
| November 8—To Cash—Art Bronze Foundry | | 225.00 |
| December 31—Balance | | $ 3,299.43 |

W. A. PUSEY, Treasurer.

## Auditor's Report

MARWICK, MITCHELL, PEAT & CO., CHARTERED ACCOUNTANTS
115 SOUTH LA SALLE STREET
CHICAGO, Jan. 29, 1913.

*To the Board of Trustees of the American Medical Association, Chicago, Ill.*

*Dear Sirs:*

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended Dec. 31, 1912, on which we now submit our report, together with the following statements:

Exhibits
- "A" Balance Sheet as at Dec. 31, 1912.
- "B" Income and Profit and Loss Account for the year ended Dec. 31, 1912.

Schedules
- "1" Bonds as at Dec. 31, 1912.

For the year ended Dec. 31, 1912:
- "2" Journal Publication Expenses.
- "3" General Expenses.
- "4" Provision for Depreciation.
- "5" Association Expenditure.

We examined the securities representing the investments of the Association and counted the cash on hand. The cash in banks was verified by certificates from the bankers.

The disbursements were vouched and found in order, and a satisfactory test of the revenue of the Association was made.

The balance sheet now submitted is, in our opinion, a full and fair statement of the financial position of the Association as at Dec. 31, 1912, and as shown by the books, subject to the qualification that no provision has been set aside for accrued taxes, and subscriptions and memberships paid in advance, which are partially offset by unpaid subscriptions and memberships earned but not included in the accounts.

The following is a comparative condensed balance sheet as at Dec. 31, 1912, and 1911:

| Assets | December 31 1912 | 1911 | Increase | Decrease |
|---|---|---|---|---|
| Property and Plant | $345,613.70 | $352,345.40 | $..... | $ 6,731.70 |
| Investments | 129,063.75 | 99,063.75 | 30,000.00 | ..... |
| Current and Working | 67,722.94 | 43,912.91 | 23,810.03 | ..... |
| Prepaid Accounts | 907.84 | 16,437.03 | ..... | 15,529.19 |
| Total Assets | $543,308.23 | $511,759.09 | $53,810.03 | $22,260.89 |
| Liabilities | 1,815.82 | 9,414.39 | ..... | 7,598.57 |
| Surplus | $541,492.41 | $502,344.70 | ..... | ..... |
| Increase | | | | $53,810.03 |
| Decrease | | | | 22,260.89 |
| | | | | $31,549.14 |
| Liability Decrease | | | | 7,598.57 |
| Increase in Surplus | | | | $39,147.71 |

The increase in surplus, $39,147.71, represents the net income for the year under review, particulars of which are recorded in Exhibit "B."

During the calendar year 1912 depreciation aggregating $16,024.55 has been written off the property accounts, as shown in Schedule "4." Of this $15,072.15 is applicable to the new building and machinery, plant, etc., while the balance, $952.40, is upon the old building, not now used in connection with the operations of the Association, but from which a rental revenue of $3,304.00 was realized. This is included in "Other Income," as shown in Exhibit "B."

## EXHIBIT "A"

### Balance Sheet as at Dec. 31, 1912.

#### ASSETS

| | | |
|---|---|---|
| **Property and Plant:** | | |
| Real Estate and Buildings | | $262,098.44 |
| Machinery | | 56,582.52 |
| Type and Metal | | 10,732.69 |
| Furniture and Fixtures | | 13,839.25 |
| Laboratory | | 1,160.80 |
| Library | | 1,200.00 |
| Total Property and Plant | | $345,613.70 |
| **Investments:** | | |
| Bonds at Cost (Schedule "1") | $39,063.75 | |
| Certificates of Deposit | 90,000.00 | |
| Total Investments | | $129,063.75 |
| **Current and Working Assets:** | | |
| Material and Supplies as per Inventory | $19,192.45 | |
| Accounts Receivable: | | |
| Advertising | $17,370.74 | |
| Reprints | 871.05 | |
| Directory—Third Edition | 5,448.38 | |
| Jobbing and Miscellaneous | 3,838.70 | |
| | 27,528.87 | |
| Notes Receivable | 68.40 | |
| **Cash in Bank and on Hand:** | | |
| First National Bank of Chicago | $ 5,025.44 | |
| Continental and Commercial National Bank of Chicago | 13,802.98 | |
| Cash on Hand | 2,054.80 | |
| Office Fund | 50.00 | |
| | 20,933.22 | |
| Total Current and Working Assets | | 67,722.94 |
| **Prepaid Accounts:** | | |
| Insurance | $ 844.04 | |
| Minneapolis 1913 Session | 63.80 | |
| Total Prepaid Accounts | | 907.84 |
| Total Assets | | $543,308.23 |

#### LIABILITIES

| | |
|---|---|
| Miscellaneous Accounts Payable | $ 203.01 |
| Advance Payments on Publications | 1,612.81 |
| **Surplus:** | |
| As at Dec. 31, 1911 | $502,344.70 |
| Net Income for Year ended Dec. 31, 1912 | 39,147.71 |
| Total Surplus | $541,492.41 |
| Total Liabilities | $543,308.23 |

## EXHIBIT "B"

### Income and Profit and Loss Account for the Year Ended Dec. 31, 1912

| | | |
|---|---|---|
| **Revenue:** | | |
| Membership Dues | | $ 37,530.12 |
| Journal Subscriptions | | 223,813.77 |
| Journal Advertising | | 184,441.87 |
| **Profits Derived from:** | | |
| Jobbing | | 4,794.89 |
| Books | | 4,663.48 |
| Reprints | | 2,308.04 |
| Buttons | | 471.02 |
| Miscellaneous Sales, etc. | | 3,420.93 |
| Gross Revenue | | $461,444.72 |
| **Expenses:** | | |
| Journal Publication Expenses (Schedule "2") | $200,079.22 | |
| General Expenses (Schedule "3") | 136,934.17 | |
| Provision for Depreciation (Schedule "4") | 16,024.55 | |
| | | 353,037.94 |
| Net Revenue | | $108,406.78 |
| **Other Income:** | | |
| Interest: | | |
| On Bonds | $ 1,600.00 | |
| On Treasurer's Account | 1,888.87 | |
| On Bank Balances | 629.18 | |
| Rentals—Building "A" | 3,304.00 | |
| | $ 7,422.05 | |
| Loss on Bad and Doubtful Accounts and Notes, less Recoveries | 1,024.90 | |
| | | 6,397.15 |
| Gross Income | | $114,803.93 |
| **Deductions from Income:** | | |
| Association Expenditures—Schedule "5" | $ 59,188.65 | |
| Biographical Index | 8,093.54 | |
| Third Edition of Directory—Loss on Publication | 8,374.03 | |
| | | 75,656.22 |
| Net Income | | $ 39,147.71 |

## SCHEDULE "1"

### Bonds as at Dec. 31, 1912

| No. | Description and Particulars | Par Value | Book Value |
|---|---|---|---|
| 5 | Atchison, Topeka & Santa Fe Railway Co. 4 per cent. 100-year gold bonds | $ 5,000.00 | $ 4,988.75 |
| 5 | Atchison, Topeka & Santa Fe Railway Co. 4 per cent. 100-year gold bonds | 5,000.00 | 4,532.50 |
| 5 | Baltimore & Ohio Railway Co. 4 per cent. first mortgage bonds | 5,000.00 | 5,032.50 |
| 5 | Baltimore & Ohio Railway Co. 4 per cent. first mortgage bonds | 5,000.00 | 4,767.50 |
| 5 | Erie Railroad Co. 4 per cent. 100-year gold bonds | 5,000.00 | 4,932.50 |
| 5 | Reading Co. 4 per cent. general mortgage bonds | 5,000.00 | 4,870.00 |
| 5 | Reading Co. 4 per cent. general mortgage bonds | 5,000.00 | 4,732.50 |
| 5 | Union Pacific Railroad Co. 4 per cent. first mortgage bonds | 5,000.00 | 5,207.50 |
| | Total | $40,000.00 | $39,063.75 |

## SCHEDULE "2"

### Journal Publication Expenses for the Year Ended Dec. 31, 1912

| | | |
|---|---|---|
| Wages | | $ 82,718.05 |
| Editorials, News and Reporting | | 9,782.93 |
| **Materials and Supplies:** | | |
| Paper | $ 94,603.79 | |
| Ink | 3,569.98 | |
| Electrotypes | 4,968.40 | |
| Binding | 176.76 | |
| Miscellaneous Supplies | 4,259.31 | |
| | 107,578.24 | |
| Total | | $200,079.22 |

## SCHEDULE "3"

### General Expenses for the Year Ended Dec. 31, 1912

| | | |
|---|---|---|
| Salaries | | $ 53,458.52 |
| **Postage:** | | |
| Journal—Second Class | $ 22,409.65 | |
| General | 15,911.84 | |
| | 38,321.49 | |
| **Commissions:** | | |
| Journal | $ 6,958.08 | |
| Buttons | 202.91 | |
| | 7,160.99 | |
| **Plant:** | | |
| Repairs and Renewals | $ 3,302.17 | |
| Power | 3,098.52 | |
| Light | 906.71 | |
| Fuel | 1,601.20 | |
| Building Maintenance | 2,060.57 | |
| Supplies | 3,739.84 | |
| | 14,709.01 | |

| | |
|---|---|
| Insurance and Taxes | 5,150.76 |
| Discount | 3,245.68 |
| Collection Commission | 3,093.62 |
| Express and Cartage | 1,755.64 |
| Agents' Salaries | 1,167.00 |
| Exchange | 1,489.35 |
| Legal | 1,709.08 |
| Office Supplies | 743.63 |
| Telephone and Telegraph | 741.21 |
| Reprints | 206.78 |
| Office Jobbing | 3,161.76 |
| Miscellaneous | 819.65 |
| Total | $136,934.17 |

SCHEDULE "4"

PROVISION FOR DEPRECIATION FOR THE YEAR ENDED DEC. 31, 1912

| *Classification* | *Rate* | *Amount* |
|---|---|---|
| Building "A"—Old | 5 per cent. | $ 952.40 |
| Building "B"—New | 2.5 per cent. | 4,774.23 |
| Machinery | 10 per cent. | 6,286.95 |
| Furniture and Fixtures | 10 per cent. | 1,123.81 |
| Type | 15 per cent. | 813.31 |
| Metal | 20 per cent. | 1,530.99 |
| Factory Fixtures | 10 per cent. | 413.89 |
| Laboratory Equipment | 10 per cent. | 128.97 |
| Total | | $ 16,024.55 |

SCHEDULE "5"

ASSOCIATION EXPENDITURE FOR THE YEAR ENDED DEC. 31, 1912

| | |
|---|---|
| Association | $ 18,302.75 |
| Health and Public Instruction | 18,360.02 |
| Pharmacy and Chemistry | 10,592.93 |
| Propaganda | 3,200.90 |
| Medical Education | 7,786.17 |
| Session, 1912 | 945.88 |
| Total | $ 59,188.65 |

We are pleased to report that the records of the Association are maintained in a careful and efficient manner, and we also desire to acknowledge the courtesies extended to us during the course of our examination. Yours truly,

MARWICK, MITCHELL, PEAT & Co.,
Chartered Accountants.

---

### Memory of Dr. C. A. Daugherty Honored

At the conclusion of the report of the Board of Trustees, Dr. Arthur T. McCormack, Kentucky, moved that when the House of Delegates does adjourn, it adjourn in honor of the memory of Dr. C. A. Daugherty, and that the Secretary be directed to convey condolences to Mrs. Daugherty.

Motion seconded and unanimously carried.

Dr. Alexander Lambert, New York, Chairman, read the Report of the Judicial Council, as follows:

### Report of the Judicial Council

*To the Members of the House of Delegates of the American Medical Association:*

At the meeting of the House of Delegates held at Atlantic City, June, 1912, four subjects were referred to the Judicial Council by the House of Delegates:

1. The report of the committee to formulate amendments to the Constitution and By-Laws to extend membership, including the pending amendments to the constitution introduced in the 1911 session.

2. The invitation of the Australian Medical Society to members of the American Medical Association to attend its meeting in Auckland, New Zealand, in 1914.

3. The amendment to the By-Laws, Chapter 4, Section 5, providing for a Speaker for the House of Delegates.

4. The request of the House of Delegates that the Judicial Council investigate the secret division of fees and the giving of commission and the matter of contract practice, and recommend such action by the House of Delegates and the constituent associations as will remedy existing evils.

Considering these subjects in the order named, the Judicial Council desires to report:

FIRST.—That it has carefully considered the matter of membership in the American Medical Association and the relation of this membership to membership in the constituent state and territorial bodies. Membership in any county society of any constituent body should legally, and does, constitute membership in the state body to which the county belongs and to the national body. Any physician, therefore, joining a county medical society of a constituent state or territorial body thus logically becomes a member of the American Medical Association. This has been specified in the proposed amendments by retaining the designation of member for all such members of the constituent bodies of the American Medical Association. The representation of each constituent body to the House of Delegates of the American Medical Association is calculated on this membership and on such membership is the organization of the American Medical Association founded. In this membership are some who are content to remain on this footing, but there are others who desire to go further and in this desire are willing to tax themselves by a definite annual fee by which they may maintain the scientific work and the scientific sessions of the American Medical Association, its JOURNAL, and its manifold activities for the benefit of themselves, the other members of the American Medical Association and the profession at large throughout the United States. These members supporting the scientific work of the American Medical Association it seems wise to designate by some special appellation, and this is best fulfilled by the term "Fellows of the American Medical Association." With this explanation of the meaning of the differences between membership and fellowship, the Judicial Council recommends to the House of Delegates for their adoption the following substitute for the amendment to Article 3 of the Constitution, formally submitted to the House in 1911, and the following modification of the By-Laws:

NOTE.—The present wording of the parts of the Constitution and By-Laws is quoted below. The changes proposed are indicated by enclosing in brackets [ ] the words to be omitted and printing in italics those to be added. It will be noted in addition that there is a rearrangement of certain sections of the By-Laws.

ARTICLE 3.—MEMBERSHIP

The membership of this Association shall consist of [such members of the Constituent Associations and of such medical officers of the Army, of the Navy and of the U. S. Public Health and Marine Hospital Service, as shall make application in accordance with the By-Laws hereinafter provided] *the members in good standing in its constituent state and territorial associations.*

*There shall be conducted by the American Medical Association a scientific session in which all members of the Association who qualify as hereinafter provided in the By-Laws as Fellows of the American Medical Association shall be privileged to participate.*

### BY-LAWS

CHAPTER 1.—MEMBERSHIP AND FELLOWSHIP

SECTION 1.—MEMBERS.—*The members in good standing of the constituent state and territorial medical associations of the American Medical Association shall be members.* (Note.—See Sec. 4.)

SEC. 2. TENURE OF MEMBERSHIP.—Membership in this Association shall continue only so long as the individual is a member in good standing of [the] *a* constituent association [of the state in which he resides.] When the Secretary shall be officially informed by the Secretary of the constituent association [of the state in which a member resides] *through which he holds membership in this Association* that the member is not in good standing, the Secretary shall remove the name of said member from the membership roll of the American Medical Association [and shall notify the member of the action taken, together with the reason therefor.] (Note.—See Sec. 5.)

SEC. 3.—EFFECT ON MEMBERSHIP OF REMOVAL TO ANOTHER STATE.—A member who changes the location at which he practices medicine from the state through whose constituent association he holds membership in the American Medical Association to another state in which there is a constituent association, is eligible to membership in the component society

of his new location upon the presentation of a transfer card and an official statement that his dues have been paid in full in the society in which he holds membership. He shall forfeit his membership in the American Medical Association one year after such change of location, unless he becomes a member of the constituent association of the state to which he has moved. Provided, however, that if the component society into whose territory such member has moved shall refuse him membership, the member shall be privileged to appeal to the Judicial Council of this Association to determine whether or not he be guilty of any act that warrants the enforcement of the provisions of this section. Pending the decision of such appeal he shall retain his membership in the American Medical Association through his original state association. And provided further, that the term "the practice of medicine" throughout these By-Laws shall be held to mean the offering of service or counsel for the relief of those suffering from abnormal physical or mental conditions.

SEC. 4.—[MEMBERS.]—*Fellows, Associate Fellows, Honorary Fellows.*—Any [physician reported as a member in good standing of a constituent association by the secretary of that association] *member of this Association,* who on the prescribed form shall apply for [membership] *fellowship* and subscribe for THE JOURNAL, paying the annual dues for the current year, shall be a [member] *fellow.*

Commissioned medical officers of the United States Army, United States Navy and the United States Public Health Service shall be [members] *fellows* of this Association so long as they are engaged actively in their respective service and thereafter if they have been retired on account of age or physical disability. These members shall not be required to [pay dues and shall not receive] *become personal subscribers to* THE JOURNAL of the American Medical Association [except by personal subscription.]

*There shall be associate and honorary fellows who shall be elected and shall qualify in accordance with the provisions hereinafter set forth in these By-Laws.*

Members, associate members and honorary members of this Association at the time of the adoption of this By-Law, shall be respectively fellows, associate fellows and honorary fellows; and in interpreting these By-Laws, "membership" in the Association at the time of the adoption of this By-Law shall be construed as fellowship.

SEC. 5.—*Tenure of Fellowship.—Fellowship in this Association shall continue only so long as the individual is a member. When the Secretary shall be officially informed that the fellow is not a member, the Secretary shall remove the name of such fellow from the fellowship roll of the American Medical Association and shall notify the fellow of the action taken, together with the reason therefor.*—(Note.—See Sec. 2.)

SEC. 6.—DELINQUENCY.—Any [member] *fellow* who, for one year, has failed to pay his [annual dues], *subscription to* THE JOURNAL, shall forfeit his [membership] *fellowship* thirty days after notice from the Secretary has been mailed to his last known address.

SEC. 7.—[MEMBERSHIP] *Fellowship* RESTORED.—Any former [member] *fellow* who complies with Section [2] 4, Chapter I, shall be reinstated upon payment of his [current] indebtedness, *including his subscription for the current calendar year.*

SEC. 7.—ASSOCIATE [MEMBERS] *Fellows.*—The following may be elected in accordance with Section 4, Chapter VI, to associate [membership] *fellowship:* physicians who are members of the chartered national medical societies of foreign countries adjacent to the United States; dentists holding the degree of D.D.S. who are members of state or local dental societies, and pharmacists who are active members of the American Pharmaceutical Association; and representative teachers, students of sciences allied to medicine, resident in the United States and not eligible to regular membership. Associate [members] *fellows* shall enjoy the same privileges as regular [members] *fellows,* and shall be subject to the same conditions.

SEC. 8.—HONORARY [MEMBERS] *Fellows.*—Physicians of foreign countries may be elected honorary [members] *fellows* by the House of Delegates in accordance with Section 4, Chapter VI.

SEC. 9.—INVITED GUESTS.—Scientists, who are not [eligible to membership in the component society of the locality in which they reside] *engaged in the practice of medicine* may be invited, *with the consent of the secretary of the component county society of the locality in which they reside,* by the general officers or by the officers of a section, to attend any annual session and to take part in the scientific work. They shall be designated as invited guests and be entitled to participate in the scientific and social functions.

### CHAPTER II.—REGISTRATION

*None but fellows, associate fellows, honorary fellows and invited guests shall be allowed to register or take part at the scientific meetings of the Association.*

No [member] *fellow* shall be eligible to register at an annual session until he has paid all of his current indebtedness.

No [member] *fellow* shall take part in the proceedings of the Association or of any of the sections until he has registered his name and address in the registration office.

A [member] *fellow* on registering shall designate the section in which he wishes to be enrolled, but no [member] *fellow* shall register in more than one section at any annual session.

## BUSINESS AND LEGISLATION

### CHAPTER III.—QUALIFICATIONS, TERM, APPORTIONMENT AND REGISTRATION OF DELEGATES

SECTION 1.—Delegates must have been [members] *Fellows* of the American Medical Association Two Years.—No one shall serve as a member of the House of Delegates who has not been a [member] *fellow* of the American Medical Association for at least the two years immediately preceding the meeting of the House of Delegates at which he is to serve.

Change the words "member" and "membership" to "fellow" and "fellowship" throughout the By-Laws wherever such change is required to carry out the plan proposed of acknowledging the membership in the American Medical Association of all members of component societies and the establishment of the proposed fellowship in the American Medical Association.

SECOND.—The Judicial Council has expressed to Dr. J. W. Barrett of Melbourne, Australia, its appreciation of the invitation he extended on behalf of the trustees of the Congress and the University of Melbourne to the members of the American Medical Association to attend the Australian Medical Congress to be held in Auckland, New Zealand, in 1914. Members who are able to accept this invitation must leave in January, 1914, the trip requiring three months. Members who desire to make this trip will be furnished with letters of introduction to the New Zealand Medical Association and the Australian Medical Society announcing their membership in the American Medical Association. Literature concerning New Zealand and the trip, sent from Auckland, is in the hands of the secretary of the Association.

THIRD.—In considering the resolution offered that the amendment to the By-Laws, Chapter 4, Section 5, be adopted: That the House of Delegates, at its last session, shall elect a speaker who shall preside during the following twelve months and until his successor shall be elected, the Judicial Council desires to point out that there is a principle involved which is broader than the question whether or not there should be a speaker elected for the House of Delegates. This question is the wisdom or power possessed by one House of Delegates, half of whose members must be reelected to be present in the succeeding House, to elect a presiding officer for the succeeding House of Delegates. The Judicial Council considers that the wisdom of such action is questionable. It would seem that each House of Delegates is best able to elect its own speaker to preside at its deliberations, and it would seem wiser, if a speaker were to be elected, that he should be elected at the first session of the House of Delegates to preside over the

succeeding meetings. Each House of Delegates thus would choose its own speaker, who, if desired, could hold over as an active officer until his successor was elected by the next succeeding House of Delegates. The House of Delegates has at present five presiding officers, i. e., the president and four vice-presidents. The House of Delegates now has it within its province to select at least one of the vice-presidents because of his ability and fitness to aid the president in presiding over the House. The Judicial Council, therefore, considers that this resolution brings up two questions, first, whether or not a speaker should be elected to preside over the House of Delegates, and second, whether this officer should be elected by each House of Delegates for itself to preside over its sessions or whether any given House of Delegates should elect a presiding officer for a succeeding House without this succeeding House having any say in the matter. The Judicial Council believes that it should not decide these questions. It, therefore, makes the following recommendation: that the House of Delegates shall choose a time and an hour at this meeting in which it shall sit as a committee of the whole to consider and decide these questions for itself.

FOURTH.—The Judicial Council desires to make the following report concerning its investigation on the matter of secret division of fees, the giving of commissions and the matter of contract practice.

The Judicial Council in endeavoring to obtain information on these subjects believed that it was acting as an impersonal body to obtain information for the members of the American Medical Association as to the prevalence of these practices throughout the United States and the relative prevalence in each state and section of the country, and while gathering this information it desired also to obtain the opinions of the different members scattered in various sections regarding the apparent cause of these practices and also an expression of opinion from those who justified the practice and from those who condemned it. It was necessary, therefore, to send out some standard circular in which uniform questions could be asked that answers could be obtained from which uniform standards of judgment could be made. It was further evident that an impersonal investigation should not ask specific names and instances. The detective point of view of seeking guilt should not be the motive which prompted this investigation, but that of an impersonal, fair-minded seeker after knowledge. To obtain these ends the following circular was sent:

*Dear Doctor:*—The House of Delegates of the American Medical Association at the Atlantic City meeting held June, 1912, instructed the Judicial Council to investigate and report next June on the secret division of fees, taking of commissions, and contract practice. In compliance with these instructions, the Judicial Council is asking certain prominent members of the profession in all the states of the Union to answer the accompanying questionary. Your name will not be used or referred to as the source of any information you may give. While the citing of specific instances may seem wise to you, the Council at this time does not desire to make use of definite individual cases but wishes rather to obtain a general knowledge of the existence of these practices in the various communities in the different states and to estimate as accurately as possible the economic and social cause for these practices. The number which appears on the form for reply indicates the locality from which the reply is obtained, so that it will not be necessary for you to sign this information blank. The Judicial Council will greatly appreciate your cooperation if you will fill out the blank and return it in the enclosed stamped envelope to the Secretary of the Council, 535 Dearborn Avenue, Chicago.

Very truly yours,

ALEXANDER LAMBERT, Chairman.
A. B. COOKE,
JAMES E. MOORE,
HUBERT WORK,
GEORGE W. GUTHRIE,
ALEXANDER R. CRAIG, Secretary.

1. How prevalent is the secret division of fees (i. e., without the full knowledge of the patient) in your community?

2. Are you practicing one of the specialties? If so, what?

How often have you been asked during the year 1912 by those referring patients to you to divide the fee, or grant a commission?

How often have you been offered part of the fee or a commission for referring cases?

In how many instances was the patient acquainted with the terms according to which the division was to be made?

Can a secret division of fees or the granting of commissions be justified? If so, on what grounds?

3. In your locality, do the hospitals or sanitariums offer commissions for the reference of patients?

Do pharmacists offer or give commissions. Do houses furnishing medical or surgical supplies or appliances offer or give commissions?

Do you know of instances of physicians demanding any of the above commissions?

How prevalent is this practice?

4. What form of contract practice, if any, exists in your community?

(Kindly use the following division in answering this question, and give the terms of the usual contract so far as known, stating both the service required and the return made.)

(a) Mines
(b) Factories
(c) Railroads
(d) Lodges
(e) Municipal

5. What is (a) the cause and what (b) the effect on the profession of the secret division of fees?

Of taking or demanding commissions?

What economic or social conditions account for the contract practice that exists:

(a) Mines
(b) Factories
(c) Railroads
(d) Lodges
(e) Municipal

6. Are your answers to these questions based on personal knowledge or rumor?

A circular was sent to each president and to each secretary of each county society in every state in the United States and the various sections of the country were further apportioned off to the members of the Judicial Council who sent throughout their sections personal letters containing these circulars to various members of the profession whom the members of the Judicial Council knew to be prominent in their sections and who would be conversant with the public opinion and the practices of the various members of the profession in their communities. Some six thousand circulars were thus sent out and the replies received amounted to just over 50 per cent. of the circulars sent. Thus, considering the membership of the American Medical Association as seventy thousand, about 8 per cent. have been circularized and the report made is based on the answers and the knowledge obtained from some 4 per cent. of the total membership. This is approximately the same proportion of the American Medical Association which is usually present at the annual meetings and is equivalent to a reply from half that number.

The report may be further said to be based on the opinion of those officially representing the ultimate constituent bodies of the American Medical Association in the various states together with the pick of the prominent and active members selected in each state.

It may be justly said, therefore, to be a report founded on the representative opinion of the members of the American Medical Association.

From the statistics thus gathered it is evident that in the matter of secret splitting of fees, while the existence of the practice cannot be denied in any state, the degree of its prevalence varies greatly in different sections of the United States and the opinion of the local profession for or against it also varies in different regions. In the New England states—Maine,

New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island—the practice is not prevalent though it exists to a slight degree in them all, being most prevalent in and towards the larger cities of Massachusetts and in that part of Connecticut that is near New York. In New York state the practice varies, some counties being nearly free of it, other counties and the large cities being filled with it. In New York City with its crowded population and with its large proportion of foreigners, in some sections of the city, among certain groups of men, it is without doubt the rule rather than the exception and this is true in spite of the increasingly strong opinion in the profession as a whole against the practice. In Pennsylvania it is a little less prevalent than in New York. New Jersey, Delaware, District of Columbia, Maryland, Virginia and West Virginia show a strong sentiment against it and not a great prevalence of the practice. Through the south generally the prevalence is not marked — Georgia, Arkansas, Texas and Tennessee showing a greater predominance of this practice than North and South Carolina, Kentucky, Mississippi, Louisiana, Florida and Alabama. Oklahoma on the other hand shows in strong contrast to other southern states in the great degree of its prevalence and in the stronger general opinion among the profession in its favor. Ohio, Indiana, Illinois, Iowa, Kansas, Missouri, Nebraska, North and South Dakota and Wisconsin show the greatest prevalence of this practice of anywhere in the United States and the profession is divided between a vigorous opposition to the practice and an equally cynical low standard justifying it. In Minnesota and Michigan the practice, though prevalent, is less widespread than in the other states just mentioned. Secret fee splitting is also fairly prevalent in Utah and Colorado. It is much less so in Arizona, New Mexico, Wyoming and Montana. It becomes prevalent again in Idaho, Washington, Oregon and is exceedingly prevalent in California.

It is interesting to note that in the replies given stating whether or not secret fee splitting was justifiable, there was 77.3 per cent. who answered in the negative, 13.4 per cent. who answered in the affirmative, and 9.3 per cent. who were doubtful.

By the term secret splitting of fees here used is meant the sharing by two or more men in a fee which has been given by the patient supposedly as the reimbursement for the service of one man alone. By secrecy is meant that the division of the fee is done without the knowledge of the patient or some representative of the family. It necessarily does not include any agreement between the patient or his representative made with one or more physicians or surgeons. It also does not include any payment to bona fide assistants with or without the knowledge of the patient or his representative. It does include, however, those cases in which the term assistant is used as a subterfuge to obtain a part of the fee which otherwise could not be rightfully claimed. The term commission here used refers to those rebates, "rake offs," or pro rata moneys sent for referring patients or favors received and not for medical and surgical services rendered to the donor by the receiver.

In the last twenty-five years surgery has developed to such an unprecedented degree compared with its former possibilities that it has entirely changed its relative position to other branches of medicine. Surgery *per se* compared with internal medicine to-day, as it appeals to the lay mind, is practically the difference between the abstract and the concrete. Surgery is a concrete service of a visible, definite kind easily appreciated by the same average intelligence which fails to appreciate any abstract service however valuable. There is no question that modern surgery has diminished the sum total of human suffering and has added to the average length of human life among the nations in which it is practiced to-day. The lay mind sees and appreciates it and is therefore willing to pay for its performance as the only practical return that can be made for the blessings that it gives. But surgery demands a knowledge of detail and a clearness of conception for its best performance, requiring both great manual dexterity and great brilliancy and acuteness of intellect to reach its highest perfection. As a logical sequence to this the pecuniary reward given to different surgeons for apparently the same service may vary greatly. All this is appreciated by the lay mind; it is unquestioned, its logic is recognized and the rewards that follow in this world's goods are naturally great.

On the other hand medicine has concerned itself and still concerns itself with the more abstract problems of inoperable disease and has cared for the nagging ailments of daily life and the intangible struggle against unseen infections, and it has shown its greatest triumphs in the prevention of disease. It has diminished and prevented an enormous amount of human suffering and it has far outstripped even surgery in its benefit to the race in the prolongation of the years of health and of human life. But great as the service has been, it is a negation compared to the positive action of surgery. The just appreciation of this service and these daily services that a physician gives requires a greater intelligence and a higher civilization than the average human being has reached or possesses. The fees therefore of the physician have lagged behind those of the surgeon and the worldly rewards in internal medicine are not as great as those of surgery. More than that, the rewards given to physicians are on the average given more grudgingly than to the surgeon. The surgical fees are enormously greater than they were twenty-five years ago; medical fees still remain practically the same, and except in a few large centers have hardly advanced at all. Oftentimes, especially in smaller communities, physicians giving their time, draining their personalities, giving of all that is in them, find that the sense of obligation to reward them for their service diminishes in direct ratio as a feeling of friendship from their patient increases, with the result that they cannot collect a fee for an honest, difficult, scientific diagnosis which results in the life-saving operation for their patient, while the surgeon who does the mechanical operation readily collects a relatively large fee.

The value of the services of the general physician are still misunderstood, are still estimated far below their worth. Added to this the economic pressure on the physician to live on a small income and care for his family is becoming increasingly difficult. It is easy to understand, therefore, that under the strain of the struggle for existence, the physician, seeing his more fortunate brother obtain relatively large fees for apparently easier work, should be filled with envy and his sense of moral obligation and his duty to his patients should suffer in consequence. On the other hand, taking into account the competition among the surgeons for opportunities to work, with a desire to increase their clientele and income, it is easy to understand how they have stifled their consciences and have yielded to the temptation to bid for the work of their wavering confrères. Excuses are easily thought of and easily made. The lower morals and lower standards of the average commercialism which they see around them are easily copied. The younger surgeon desiring to start will make his bids to split his fees and will gain a bigger clientele and become more quickly established. Physicians unable to collect their fees will endeavor to throw the responsibility on the surgeon and obtain through him, as a partial collector from their clients, the moneys which they should collect for themselves directly from their patients. The result is demoralizing to them both. The patient is brought to the surgeon who will split off to the physician the greatest percentage of his fee irrespective of whether or not that surgeon is the best one to perform that operation on that given patient. Furthermore, the temptation soon arises to operate unnecessarily that the surgeon may have his fee and that the physician may obtain his share. From what at first seems but a harmless endeavor to collect part of uncollectable moneys due him for his work, the physician may find himself in the unhappy position of having degenerated into one who dishonestly is exploiting his patient for an unnecessary operation that he may share the proceeds of a dishonorable act. The surgeon who aids and abets in these practices or who trusts to the size of his bid to increase his surgery, has demeaned himself and has equally degenerated from an honorable to a dishonest man.

It is interesting to note the reasons given for this secret fee splitting, as justification, in the statistics which form the basis of this report. One of the commonest reasons is that it is justifiable because of the disproportionate fee between the

amount paid the surgeon and the amount paid the physician who has made the diagnosis and referred the patient to the surgeon. This is on the basis that a wrong has been done the physician because his services are not as well paid as the surgeon's. But two wrongs never yet made a right, and the further wrong doing of taking a patient to a surgeon because he will split the most generously does not remedy or make up an injustice however great to the physician. The physician's remedy is along other lines, not one of dishonesty to his patient in which he betrays him according to the size of the fee obtained. Another reason given is that it is nobody's business what a surgeon does with his fee after he has earned it. But it is the patient's business to know for what he is paying, whether it is that he is paying for the best work obtainable from the best man to perform that work or whether he is paying an inferior man to consummate a dishonest bargain with his physician, and the patient has a legal and a moral right to know which he obtains. Many other reasons are given, all of them expressing in some change of thought and language that the splitting of a fee is justifiable because the patient will pay more readily for the work of a surgeon than for the work of the family practitioner, all of them containing the same fallacy that it is justifiable to exploit a patient for all the money that can be squeezed out of him and not on the basis of giving the best service possible. Other reasons are that fee bills charge too little for medical skill and too much for surgery. Here, too, the remedy lies in the hands of physicians themselves and gives no justification for the exploiting of patients. Other answers are more frankly truthful, such as "purely on the grounds of good business," and "because every one else is doing it," and "unless you do some other man will." These frankly but tacitly admit the low standard of commercialism on which these men have put their profession.

Commissions are of two kinds. First are those which are given pro rata by a consultant for every patient sent to him. This practice is more commoin in some localities than in others. In one large city it is not uncommon among a certain group of men. Some of them frankly admit that they earn their bare living with their practice, but their main income comes as a steady return from the consultants to whom they send patients, these consultants rendering a definite amount at the first of each month for each patient sent. This, of course, is just plain cynical, dishonest exploitation of the patient. A patient is sent to the man who is willing to be the most dishonest and give the biggest commission and charge the patient for his services according to the ratio of the split he must make and not according to service alone. There is again no consideration whether the patient will receive good or inferior treatment from such consultant.

The other kind of commission is that which is received by physicians from pharmacists or from instrument houses or those commercial houses furnishing medical or surgical supplies and appliances. This form of commission, unfortunately, is exceedingly wide-spread, especially in prescribing or supplying elastic stockings, trusses, belts, braces and similar articles. It is immaterial whether a certain definite commission is sent regularly as each patient is referred, or whether the patient is charged a high retail price for the apparatus and the difference between the retail and the wholesale price to the trade given to the referring surgeon. It is exploiting a patient and obtaining money for service not rendered. The surgeon does not give the appliance to the patient; the patient buys it from the commercial house and the surgeon has already charged his fee for his advice and his services to the patient. This is grafting on the commercial house for an added fee to be taken from the patient who is supposed to be buying an instrument at a fair price and who is not supposed to be further adding an underhand fee to the surgeon. It is dirty graft, pure and simple, to the disgrace of men who practice it.

There is another form of commission and that is the rebates offered by hospitals or sanatoriums to those sending patients. This has become so wide-spread that many hospitals in their circulars openly offer commissions to those who will send them patients. In some localities those commissions are taken for granted and physicians will call up before sending their patients to these hospitals and sanitariums and ask to be informed of how much rake off they are to obtain—15 or 20 per cent. or even more. In New York 15 per cent. is the usual amount demanded among those given to this practice. This is the same dishonest exploitation of a patient. The patient goes to this hospital supposedly paying for service he is to receive, and it is a dishonest betrayal of a patient to take from him in an underhanded way moneys which have not been earned. This cannot be justified; it is straight dishonesty.

All medical practice is contract practice either implied or expressed between the physician and the patient if the patient be of legal age, or between the physician and the parents or guardians of a minor. There is no reason in law or morals why a physician should not enter into a contract with an individual, firm or corporation, provided that the contract be an honorable one for the performance of an honorable act and not interfering with the rights of others. Contract practice here considered is not the contract usually implied but which at times may be definitely stipulated between the physician and the individual patient. The other forms of contracts into which physicians enter are those between the physician or surgeon and business corporations such as railroads, mining, manufacturing and life insurance companies. In another class are those between medical men and benevolent or fraternal associations, the so-called lodge practice. Another kind of contract is that between physicians and the industrial insurance companies. The lodge practice and the industrial insurance work stand out distinctly on a different basis from the other contracts with economic corporations. The contracts made between physicians and economic corporations are necessities in our present stage of economic development. Surgeons and physicians are employed by these corporations partly as a matter of self-protection that they may properly care for the accidents occurring in the transaction of their business and that they may be protected against unjust damage suits that are likely to occur, for should they not be so protected it is possible for these companies to be wiped out of existence in a few years by the enormous mass of damages brought against them. Besides this self-defence of the company, there is a growing appreciation by large corporations that the better the health of their employees is protected the better will be the results obtained in their work, and hence while it may tend toward benevolent and socialistic ideas, it is really a question of economic efficiency. Further, many lumber and mining camps are widely distant from towns and places where physicians would naturally settle and these camps need some medical man to care for the men employed. All such contracts as these are necessities and should be recognized as such, the only question arising being the details of the contracts and the fairness of the remuneration given. If medical men are poorly paid and paid below the possibility of a fair living wage, they give poor service in return and there is a law of diminishing returns even in the matter of medical services. Poor, underpaid medical service, is a foolish and expensive economy to corporations.

In the matter of lodge practice and fraternal and benevolent societies, another situation arises, namely, the question of health insurance. Medical attendance in the lodges and fraternal and benevolent associations is a part of the inducement for the joining of these associations. There is a point in wage earnings at which these lodge medical services are not economic necessities, but on the other hand there is a point in wage earnings at which the ratio of fixed charges to total income is such that these fraternal societies do become an economic necessity in the sense of health insurance. The late Dr. Bristow, in an address before the New York Academy of Medicine, strongly emphasized this point of view. He further showed that in the United States the annual income of adult males is in 90 per cent. less than $800, in 75 per cent. less than $600, and in fully 50 per cent. less than $500, with 20 per cent. earning as low as $200 per annum. It further is a noticeable fact that the smaller the income the larger the family. There is no question that the fixed charges for necessities against a small income are a large proportion of the total of that income. Moreover, with the poor earning their living by a daily wage, if sickness comes on them their income ceases and whatever savings they may have been able to scrape

together quickly vanish for the mere necessaries of existence. In cities these necessities for medical attention are met by the free dispensaries and free hospitals and the mass of population has become medically pauperized through the sheer necessities of their environment. On the other hand, the result on the medical profession of this economic situation is that hardly more than 10 per cent. of the physicians in the United States are able to earn a comfortable income. The medical profession finds that an adequate medical education requires of students a constantly increasing length of time and of money for its attainment. It is the most costly of all the learned professions, and with living expenses constantly increasing and with the physician's opportunities of earning a livelihood from the general population constantly diminishing, and further with the profession devoted to self-immolation by its constantly increasing development of preventive medicine and sanitation, we are forced to consider the situation as one produced by economic forces and that lodge practice under certain circumstances is one of health insurance that must be accepted and controlled, not condemned and shunned. No one questions the right of any man to take out a health policy in an ordinary health insurance company. No one questions the right of that man by this policy to pay from $60 to $300 a year as an insurance against his possibility of accident or disease and possible temporary or permanent invalidism occurring to him in the work peculiar to the medical profession. How then does this differ from the dollar a year that members of the lodges and societies pay for the privilege of obtaining medical services and care in accident and sickness if these misfortunes come to them? There is no difference in principle; there is no difference in the economic necessity of it. As such it should be recognized and treated. The question comes down then to the designation of the weekly or monthly income at which this should be treated as an economic necessity and above which it is an economic luxury. These economic conditions have been reached in the countries of Europe and have recently caused a vigorous struggle between the medical profession and the government in England. It is useless to struggle with "whereas's and resolutions" against these economic facts. It is time for the American Medical Association and its constituent bodies to look these facts squarely in the face, to accept them and by instituting fair control to see that justice is given to the members of their profession and that an equal social justice is given to the poor whose necessity demands this sort of service.

The necessity for action to remedy the evils of secret fee splitting and giving and receiving of commissions is self evident. Those who are indulging in these practices are bringing the whole profession into disrepute. Many beliefs and standards of society are on trial and the standards of the medical profession are being judged by the public and weighed in the balance. Heretofore the profession has always endeavored to render to all men its best services irrespective of the rewards received. If through secret fee splitting and commissions the standards of the medical profession are changed from giving to patients the best service possible to squeezing from them the biggest attainable fees, then will the medical profession be deemed to have been weighed in the balance and found wanting. The confidence and respect now given it by the public will be destroyed.

The remedies for the conditions here discussed lie partly in the hands of the American Medical Association, partly in the hands of the constituent state and county bodies and partly in the hands of the medical profession as individuals. The secret splitting of fees and the giving or receiving of commissions are best remedied by the profession announcing that it demands publicity in all transactions between patients and the members of the profession and refuses to sanction the retention on the roster of any of its organizations the names of those who are proved guilty of these practices.

The teaching of the ethics of the medical profession and of the high standards held by this profession should be given to each medical student before graduation. The young men should not be turned loose on the world ignorant of the high ideals and standards which the medical profession always has and always will stand for. Many young men have yielded to the temptation of commercialism because they were ignorant of higher professional standards and knew only the commercial standard of *caveat emptor* — "let the buyer beware." The rules of *caveat emptor* are out of place in the dealings of the medical profession. The physician has himself to blame who, through failure to put a just appraisal on his services and to demand a just reward for them, and who, through failure of endeavor to collect his just deserts, finds himself unappreciated and unrewarded. The foolish ancient idea that accounts must be sent out but once or twice a year, lax systems of accounts and collections, have much to do with the small incomes of many physicians. The human mind appreciates most those things obtained through struggle and for which a price has been given. It appreciates least those things which have come unsought and unpaid for. In a physician's service human sympathy, kindliness and sturdy friendship are thrown in for good measure to time spent and knowledge given, and though desirable, are imponderable and are to be left unmeasured. But time and knowledge can be measured and used for basis of recompense, and although it may seem an abstract service, it is one the public can appreciate and can be educated to realize that it has a value as high as things tangible and concrete. Surgeon's fees are based on a broader consideration of the value and amount of service rendered than are those of physicians. But the latter are expected to charge the same for a call to relieve a sniveling coryza as one to relieve the pains and dangers of angina pectoris. For this reason the fees of surgeons are likely to remain near their present level but the fees of physicians must gradually change and grow to be more in proportion to services rendered than at present. Lack of frankness between the profession and their patients and lack of friendly assistance between surgeon and physician in discussing with patients the business side of the services given, are fertile sources of misunderstandings and opportunities of sly practices, while the reverse is equally true that frankness and definite understandings between medical men and patients prevent these evil practices.

The replies received by the Judicial Council on the matter of contracts in mines and railroads and factories show that in some states the contracts are just and that the recompense to the physician is in ratio to services rendered and is adequate in amount for such services. On the other hand there are other replies which show the reverse. The Judicial Council believes the remedy for these evils resides in the county societies, that these societies should use their influence and power not to condemn the physician who must take the contract by ostracizing him, but to prevent underbidding for these contracts below what would give a fair reward for medical services rendered. So, too, in the matter of lodge practice, the Judicial Council believes it to be the duty of the local county societies to endeavor to reform and not alone to condemn the abuses of lodge practice. These abuses are many and are unfair alike to the medical man and to the lodge members. But because lodge practice is the expression of health insurance it must sooner or later be faced. The British Medical Association has faced these problems and the American Medical Association will do well to consider seriously similar action. Properly controlled, the lodge practice should bring an adequate service to its members and an equitable remuneration to the medical man. The details, however, are to be left to each locality and county society. From the experience of the British Medical Association it is evident that there should be an income limit (put at ten dollars a week in England), free choice of doctor by patient among the doctors under contract, and consent of doctor to act, the medical profession to be in control and to administer the medical and maternity benefits and the medical remuneration to be what the profession considers adequate ($2.12 in England) and the method of remuneration of the medical practitioner adopted by each local health committee to be according to the preference of the majority of the medical profession in that locality.

The Judicial Council recommends for adoption by the House of Delegates the following resolutions:

*Resolved*, That any member of the American Medical Association found guilty of secret fee splitting or of giving or receiving commissions shall cease to be a member of the American Medical Association.

*Resolved*, That the House of Delegates of the American Medical Association recommends to each constituent body that it endeavor through the action of its various county societies to reform the various abuses of lodge practice in their separate communities in order that the lodges may give an adequate service to its members and an honorable remuneration to the medical men.

Respectfully submitted,

ALEXANDER LAMBERT, Chairman.
A. B. COOKE.
JAMES E. MOORE.
HUBERT WORK.
GEORGE W. GUTHRIE.
ALEXANDER R. CRAIG, Secretary.

On motion, the various sections of this report were referred to the appropriate committees.

Dr. Henry B. Favill, Illinois, Chairman, presented the report of the Council on Health and Public Instruction, as follows:

## Report of the Council on Health and Public Instruction

*To the Members of the House of Delegates of the American Medical Association:*

The Council presents herewith its third annual report.

In accordance with the plans of the Council, as outlined in the report of last year, in which the Council declared that, in its judgment, its principal mission is the development of public confidence in the purposes and the work of the American Medical Association and of the profession, the Council has continued the work begun last year, at which time the following activities were outlined:

1. Continuation and extension of the Press Bureau.
2. Organization of a Speakers' Bureau.
3. Compilation of a handbook for speakers with other literature necessary for the Speakers' Bureau.
4. Organization and development of a Bureau of Literature.

### PRESS BUREAU

The Press Bulletin has been continued throughout the past year, a weekly bulletin being prepared and mailed to approximately five thousand newspapers and publications. During the year from June 1, 1912, to June 1, 1913, forty-four press bulletins have been issued, with an average circulation of 4,763. The effect of this bulletin on the newspapers of the country is apparent. Not only are the items contained in the bulletin more generally used than in previous years, but there has been a marked changed in the attitude of the press toward the medical profession and the Association. Editorials criticizing physicians as a class are by no means so common as they were in previous years, while an increasing number of newspapers use the press bulletin material regularly and as texts for editorials. One gratifying indication of this change of attitude is that during the past year a number of publications which were not receiving the bulletin have asked to have it sent to them, while out of nearly 5,000 publications to which it has been sent, only five have asked to have it discontinued. As the methods of handling the bulletin, as well as its contents, were exhaustively discussed in previous reports, it is not necessary to go into further details on this subject.

### SPEAKERS' BUREAU

In the report for 1912 appeared the plans for the organization of a Speakers' Bureau, as well as a report on the experimental operation of such a bureau, from January 1, 1912, to May 1, 1913. As was stated, the principal object sought at that time was to secure experience as to the best methods of handling such a bureau, also to devise methods by which the correspondence with speakers, local committees, etc., could best be handled.

Following the session of 1912, an enlarged list of speakers was compiled, containing carefully selected names distributed as widely as possible throughout the country. Each of these speakers was asked to fill six appointments from Oct. 1, 1912, to May 1, 1913. An announcement, in the form of an attractively gotten up pamphlet, was prepared, containing the names of the speakers, their subjects and the conditions under which they would speak, directions for securing a speaker, application blanks, etc. This pamphlet was mailed on Oct. 19, 1912, to the secretaries of all local medical societies, women's clubs, colleges, universities, normal schools, Chautauquas, state superintendents of education, and others, as follows:

| | |
|---|---|
| Secretaries of local medical societies | 1,986 |
| Secretaries of women's clubs | 6,136 |
| Secretaries of colleges, universities, etc | 636 |
| Principals of normal schools | 331 |
| Chautauquas | 301 |
| State superintendents of education | 49 |
| Miscellaneous, including secretaries of state societies, officers and members of permanent committees of the American Medical Association, etc | 1,955 |
| Total | 11,394 |

Owing to the late date at which the announcement was mailed, many of the organizations had completed their programs for the coming winter. In spite of this, however, a large number of requests were received. Speakers have been furnished under the following conditions: that the meeting should be held under the auspices of a local committee, representing all the organizations in the town interested in public health; that the meeting should be well advertised and should be open to the general public; and that the local committee should bear the expenses of a meeting place and of advertising. On these conditions speakers have been furnished for 213 meetings held in the seven months from November 1, 1912, to June 1, 1913. Many requests have been denied, either because the invitation came from a single organization or because the town was too small and the audience offered would not justify the expenditure. The revision of the list of speakers and the preparation of an announcement for the coming season is now being carried on.

### SPEAKERS' HANDBOOK

As soon as requests for speakers began to come in, the secretary began to receive requests from various speakers for information and statistics on different subjects. In order to supply speakers with the needed facts in convenient form, the Council authorized the preparation of a speakers' handbook. Chapters were compiled on the more important preventable diseases. Owing to the demand, the book was issued in the form of two pamphlets, which contained various chapters in the order of their compilation, as follows: Yellow Fever, Bubonic Plague, Typhoid Fever, Tuberculosis, Diphtheria, Acute Anterior Poliomyelitis, Meningitis, Infant Mortality, Small-pox and Vaccination, Asiatic Cholera, Scarlet Fever, Typhus Fever, Pellagra, Malaria, Hookworm, Vital Statistics, the Development of Scientific Medicine in the Nineteenth Century. Additional chapters on Venereal Disease, Medical Martyrs, School Hygiene and School Inspection have since been prepared and will be included in the next edition of the handbook, in which the chapters will be arranged in a more logical order. This book has been sent to all speakers, as well as to others interested in public health and public education.

### PAMPHLET FOR LOCAL COMMITTEES

Experience has shown that it is impossible to secure results from public health meetings no matter how able the speakers may be unless a carefully planned campaign of advertising and publicity is carried on before each meeting. Experience gained during eight years of management of Dr. J. N. McCormack's meetings has demonstrated the value of certain methods and the uselessness of others. In order that the best possible results may be secured, it is necessary that the local committee in charge of the meeting follow definite instructions. For the information of local committees a small pamphlet of fourteen pages has been prepared, entitled, "How to Hold a Successful Health Meeting, or Suggestions to Local Committees in Arranging for a Public Health Meeting." This pamphlet contains specific instructions on how to organize a local committee, how to secure united public support, how to secure

speakers, what kind of a meeting place to secure, how to advertise the meeting, what arrangements to make for the meeting itself, how to secure the best results after the meeting, etc. This pamphlet is sent to all members of local committees, as well as to all persons who make inquiry regarding the work of the bureau. It also contains facsimiles of window cards, posters, personal invitation cards, etc.

The devising of a duplicate card index system by which the appointments for each speaker are kept on one card and the appointments for each town on another, and the preparation of a system of form letters completed the machinery of the speakers' bureau. The plan now followed is generally about as follows: An inquiry is received from a secretary of a medical society, woman's club, or other organization, asking whether a speaker can be furnished for a certain date. In reply a copy of the announcement and the pamphlet of suggestions is sent, together with a statement of the conditions under which a speaker will be furnished. This is usually followed by the organization of a representative local committee of arrangements, the securing of a meeting place, the selection of a date and an application for a speaker. Local committees are asked to indicate a first, second and third choice, so as to avoid delay and correspondence. The invitation, giving the place and date, is then placed before the speaker asked for, and correspondence carried on until the satisfactory arrangements are made and the date is closed. At least three and, better, four weeks are necessary after all arrangements are made in which to advertise the meeting and arouse public interest. Hastily arranged meetings have, almost without exception, proved failures. Copies of the pamphlet of instructions are sent to all persons interested and efforts at publicity, proper advertising, etc., are stimulated by correspondence. Following the meeting the speaker is asked to report on the character of the audience, the nature of the arrangements and the evident impression made, while the chairman of the local committee of arrangements is asked to report on the character of the address, its appropriateness, the manner of its reception, together with newspaper facts and editorial comments following the meeting.

In the light of the experience of the past seven months the most promising fields for this work seem to be women's clubs, normal schools, colleges and other educational institutes and Chautauquas. Teachers' institutes and farmers' institutes, alliances and granges were not included in the plans for the past year owing to the difficulty experienced in securing a complete list of these organizations. They can probably be included in plans for the coming year.

In developing this work the Council needs the support of the members of the Association and especially needs more volunteer speakers. In the Western states, especially where distances are great and the population scattered, more speakers are needed for each state than in the more densely populated Eastern states. Many of the appointments during the past year have been filled by speakers at considerable self-sacrifice. If the work is distributed among a larger number of speakers it will be much easier to meet the calls made on the bureau.

### STATE COMMITTEES RECOMMENDED

As this work develops it will be manifestly impossible for speakers to be supplied from the headquarters' office of the Association to fill all the appointments. Many of the requests come from towns too small to justify the expense of sending a speaker from any considerable distance. In the smaller communities members of local county societies who desire to take up this work could meet the demands quite as well as the speakers from the bureau. The supplying of speakers for such places is clearly a function of the state society. No amount of expense is involved, as speakers could be secured from the same town as that in which the meeting is to be held, or one near by. To attempt to handle the details of such a large number of meetings through the central bureau would involve too much detail and correspondence. This work is of the utmost importance and should be taken up, however, by each state society.

The Council, therefore, recommend that each state, which has not already done so, be asked to establish a standing Committee on Public Education, either as a separate committee or in conjunction with other duties, and that this committee have oversight of the work of furnishing speakers for the state, calling on the Speakers' Bureau of the American Medical Association to furnish speakers from a distance for the larger and more important meetings. By such a division of work, the activities of the Association in this direction could be greatly extended. Each state committee could call on the Speakers' Bureau of the American Medical Association to furnish speakers for from five to ten meetings in each state during the year, leaving the remainder of the meetings to be addressed by local speakers furnished by the state committee direct. This plan would also put the management of these meetings under the jurisdiction of the state societies, and would make the work of public education a function of each state association. Literature, methods and suggestions can be furnished by the central bureau, which would then be able to keep in touch with the situation throughout the entire country by corresponding with the chairmen of the various state committees.

### BUREAU OF LITERATURE

The organization and conduct of the Speakers' Bureau, the preparation of the handbook and other activities of the Council have prevented the elaborate development of a bureau of literature. The following pamphlets, however, have been issued during the last ten months:

1. The Influence of Antivivisection on Character. By Dr. W. W. Keen, Philadelphia. Being Pamphlet No. 24 of the Defense of Research Series.

2. Antivivisection Legislation: Its History, Aims and Menace. By Dr. Walter B. Cannon, Boston. Being Pamphlet No. 25 of the Defense of Research Series.

3. A Program for Local and State Organizations for the Suppression of Tuberculosis. By Dr. J. W. Pettit, Ottawa, Ill.

4, 5, 6 and 7. A series of four pamphlets by Dr. Winfield S. Hall, Chicago, on Sex Hygiene for Boys and Girls.

8. The Pasteurization of Milk. By Prof. E. O. Jordan of the University of Chicago.

9. Why Should Births and Deaths Be Registered? A Revision of the Vital Statistics Pamphlet Containing the Model Law.

10. Death and Blindness from Wood-Alcohol Poisoning. By Dr. Casey A. Wood, Chicago.

11. Progress in Sterilization Legislation. Compiled by the Medicolegal Bureau.

12. Medical Inspection of Schools; A Summary of Existing Legislation. Compiled by the Medicolegal Bureau.

13. Laws Prohibiting Fraudulent Advertising. Compiled by the Medicolegal Bureau.

14. State Regulation of Marriage. Compiled by the Medicolegal Bureau.

The Council has in process of development a plan for the publication of a series of pamphlets on preventable diseases and other subjects in cooperation with the various state boards of health. This plan was submitted to the state boards by correspondence and has been endorsed by thirty-six of the forty-eight boards of health. Further details will be presented in a subsequent report.

### CARTOONS

During the past year the forty-eight cartoons which have appeared in THE JOURNAL have been reproduced either on large sheets of cardboard, 22x28, for exhibition purposes, or in the form of stereotype plates, suitable for use in newspapers, magazines, etc., and have been furnished to those desiring them either singly or in sets at a cost price of 35 cents each.

### LANTERN SLIDE BUREAU

The organization of a bureau for loaning lantern slides to speakers, local societies and others, has been begun but is not yet sufficiently advanced to render a definite report possible at this time.

### PLANS FOR 1913

At the meeting of the Council held October 19, 1912, the Secretary presented four propositions for consideration for 1913. These were:

1. The preparation of standard pamphlets for state boards of health referred to above and discussed in previous reports.

2. A survey of the work and equipment of the various state boards of health, with a view to securing information which will enable the Council to compile a report showing exactly what is being done for the advancement of public health through governmental agencies, and how much this work is costing.

3. A conference of executive officers of the leading organizations to discuss mutual cooperation and proper division of the field, with the elimination of unnecessary organizations and the coordination of existing activities.

4. The establishment of a legislative and medicolegal bureau at the headquarters of the Association.

### CONFERENCE OF PUBLIC HEALTH ORGANIZATIONS

The first two subjects are still under discussion. On the third proposition the Council authorized the Secretary to correspond with the executive officers of the various national organizations interested in public health, with a view to calling a conference of those interested. Three circular letters were sent out to all organizations interested in such work so far as could be ascertained. About fifty organizations were invited as follows:

### ORGANIZATIONS INTERESTED IN PUBLIC HEALTH TO WHICH AN INVITATION WAS SENT

American Red Cross Association. Ernest P. Bicknell, National Director, Washington, D. C.

Russell Sage Foundation. John M. Glenn, Director, New York City.

General Federation of Women's Clubs. Mrs. S. S. Crockett, Chairman, 710 Belmont Avenue South, Nashville, Tenn.

American Association for the Study and Prevention of Infant Mortality. Mrs. Gertrude B. Knipp, Executive Secretary, 1211 Cathedral Street, Baltimore, Md.

American Association for the Study of the Feeble-Minded. Dr. A. C. Rogers, Secretary, Faribault, Minn.

American Public Health Association. Selskar M. Gunn, Secretary, 755 Boylston Street, Boston, Mass.

American Society of Sanitary and Moral Prophylaxis. Dr. Prince A. Morrow, President, 66 West Fortieth Street, New York City.

National Association for the Study and Prevention of Tuberculosis. Dr. Livingston Farrand, Executive Secretary, 105 East Twenty-Second Street, New York City.

National Association for the Study of Epilepsy. Dr. J. F. Munson, Secretary, Sonyea, New York.

National Child Labor Committee. Owen R. Lovejoy, Secretary, 105 East Twenty-Second Street, New York City.

American Association for Labor Legislation. Dr. John B. Andrews, Secretary, 131 East Twenty-Third Street, New York City.

Metropolitan Life Insurance Company. Dr. Thomas H. Willard, Medical Director, New York City.

Prudential Insurance Company. Dr. Walter A. Jacquith, Medical Director, Newark, N. J.

National Committee for Mental Hygiene. Clifford W. Beers, Secretary, 50 Union Square, New York City.

Ætna Insurance Company. Mr. C. E. Gilbert, Secretary, Hartford, Conn.

Association of Life Insurance Presidents. Robert Lynn Cox, General Counsel and Manager, 1 Madison Avenue, New York City.

Conference of State Provincial Boards of Health. Dr. H. M. Bracken, Secretary, Capitol Building, St. Paul, Minn.

Equitable Life Assurance Company. Dr. F. O. Wells, Medical Director, 165 Broadway, New York City.

National Conservation Congress. Thomas R. Shipp, Executive Secretary, Indianapolis, Ind.

National Woman's Christian Temperance Union. Mrs. Frances P. Parks, Secretary, 1730 Chicago Avenue, Evanston, Ill.

The Survey. Dr. Edward T. Devine, Editor, 105 East Twenty-Second Street, New York City.

National Breeders' Association. Hon. W. M. Hays, Secretary, Washington, D. C.

National Grange of the Patrons of Husbandry. Oliver Wilson, Master, 214 Callender Avenue, Peoria, Ill.

American Institute of Criminal Law and Criminology. Eugene A. Gilmore, Secretary, University of Wisconsin, Madison, Wis.

Postal Life Insurance Company. Dr. Eugene L. Fisk, Medical Director, 35 Nassau Street, New York City.

American Academy of Medicine. Charles McIntire, Secretary, Easton, Pa.

American Medical Association. Council on Health and Public Instruction, Dr. Frederick R. Green, Secretary, 535 North Dearborn Street, Chicago.

American School Hygiene Association. Dr. Thomas A. Storey, Secretary, Convent Avenue and One Hundred and Thirty-Ninth Street, New York City.

Committee of One Hundred on National Health. Miss F. Robbins, Executive Secretary, 105 E. 22d St., New York City.

National Council of Education of the N. E. A. Dr. Thomas D. Wood, Chairman, Columbia University, New York City.

United States Public Health Service. Rupert Blue, Surgeon-General, Washington, D. C.

Health Committee, American Association for the Advancement of Science. Prof. L. O. Howard, Permanent Secretary, Smithsonian Institute, Washington, D. C.

The Penn Mutual Life Insurance Company. Dr. Harry Toulman, Philadelphia, Pa.

The Rockefeller Sanitary Commission. Dr. Wickcliffe Rose, 725 Southern Building, Washington, D. C.

Bureau of the Census. Dr. Cressy Wilbur, Chief Statistician, Washington, D. C.

The American Federation for Sex Hygiene. Dr. James H. Foster, Assistant Secretary, 105 West Fortieth Street, New York City.

The American Museum of Safety. Dr. W. H. Tolman, Director, 29 West Thirty-Ninth Street, New York City.

Efficiency Society. Mr. H. F. J. Porter, Secretary, 29 West Thirty-Ninth Street, New York City.

American Statistical Association. Mr. Carroll W. Doten, Secretary, Boston, Mass.

The Actuarial Society of America, New York City.

American Iron and Steel Institute. Dr. Thomas Darlington, Secretary, 30 Church Street, New York City.

Playground and Recreation Association of America. Mr. H. S. Braucher, Secretary, 1 Madison Avenue, New York City.

American Physical Education Association. Dr. J. H. McCurdy, Secretary, 93 Westford Avenue, Springfield, Mass.

American Association of Societies for Organizing Charity. Mr. Maurice Willows, Associate Secretary, 105 East Twenty-Second Street, New York City.

The Scientific Temperance Federation. Cora Frances Stoddard, Corresponding Secretary, 23 Trull Street, Boston, Mass.

The Association of Life Insurance Medical Directors. Dr. Faneuil S. Weisse, Secretary, 34 Nassau Street, New York City.

The American Breeders' Association. Mr. C. B. Davenport, Secretary, Cold Spring Harbor, Long Island, N. Y.

National Commission on Milk Standards. Dr. Charles E. North, Consulting Sanitarian, 30 Church Street, New York City.

American Civic Association. Mr. Richard B. Watrous, Secretary, 913 Union Trust Building, Washington, D. C.

Department of Labor, Children's Bureau. Miss Julia C. Lathrop, Chief of Bureau, Washington, D. C.

As a result of this correspondence the Council authorized the Secretary to issue an invitation for a conference in New York. This was held at the headquarters of the American Association for Labor Legislation on April 12, officers representing thirty-nine organizations being present. The conference was called to order by Dr. H. B. Favill, chairman of the Council. Mr. John M. Glenn of the Russell Sage Foundation, New York City, was elected chairman, and Dr. John B. Andrews of the American Association for Labor Legislation, secretary. After an exhaustive discussion of the situation in which the need of better organization and coordination was generally admitted, the conference adopted a resolution offered by Prof. Irving Fisher, authorizing the chairman to appoint a committee of fifteen, to consider the entire question of public health activities and the ways in which they could be improved, and to report its findings with definite recommendations to a subsequent meeting of the conference. The chairman has appointed the following committee which is planning a meeting in the near future.

COMMITTEE ON COOPERATION

Surgeon-General Rupert Blue, M.D., United States Public Health Service, Washington, D. C.

Dr. C. V. Chapin, Health Officer, City Hall, Providence, R. I.

Robert Lynn Cox, General Counsel, Association of Life Insurance Presidents, 1 Madison Avenue, New York City.

Dr. Livingston Farrand, Executive Secretary, National Association for Study and Prevention of Tuberculosis, 105 East Twenty-Second Street, New York City.

Prof. Irving Fisher, Yale University, New Haven, Conn. Committee of 100 on National Health.

John M. Glenn, General Director, Russell Sage Foundation, 105 East Twenty-Second Street, New York City.

Dr. Frederick R. Green, Secretary, Council on Health and Public Instruction, American Medical Association, 535 North Dearborn Street, Chicago.

Selskar M. Gunn, Managing Editor, American Journal of Public Health, 755 Boylston Street, Boston.

Frederick L. Hoffman, President, Prudential Life Insurance Company, Newark, N. J.

Dr. John H. Mason Knox, Jr., Executive Committee, National Association for the Study and Prevention of Infant Mortality, 804 Cathedral Street, Baltimore.

Wickcliffe Rose, Secretary, Rockefeller Sanitary Commission, Southern Building, Washington, D. C.

Prof. Henry R. Seager, American Association for Labor Legislation, 131 East Twenty-Third Street, New York City.

Thomas A. Storey, Secretary-General, International Congress on School Hygiene, College of the City of New York, New York City.

Lawrence Veiller, Director, Department for Improvement for Social Conditions of the New York Charity Organization Society, 105 East Twenty-Second Street, New York City.

Thomas D. Wood, Chairman, Committee on Social Hygiene, National Educational Association, Teachers' College, Columbia University, New York City.

The importance of this conference and the value of the work of the Council in taking the initiative in bringing this about was generally recognized by those present. It is hoped that this movement may result in better coordination of the organized efforts for the conservation of life and health.

MEDICOLEGAL BUREAU

The fourth recommendation of the Secretary at the October meeting was the establishment of a medicolegal bureau, in which could be collected, under a competent person, all material bearing on public health legislation and activities, and in which could be established model laws, compilations of authorities and references, suggestions, recommendations and criticisms for the benefit of the state legislative committees, in order that some definite and persistent policy might be worked out and followed by the Association and its constituent parts in building up a system of public health laws for the protection of the public. This plan meeting with the approval of the Council and the Board of Trustees, arrangements were made for securing the services of a competent person to take charge of such a bureau, with the result that on January 1, Mr. John Hubbard, a recent graduate of the Northwestern University Law School, became a part of the staff of the Council. The collection of laws on public health topics has been completed and we have now undertaken the preparation of a series of model laws. A mailing list of approximately 1,000 names has been prepared to which has been sent a return card asking for an expression of opinion as to the ten most important subjects for state legislation. This list includes 52 governors, 49 chief justices, 218 members of the American Bar Association, 304 physicians, 90 secretaries of state boards of health and examining boards, 125 representatives of women's clubs, 48 state superintendents of education, 30 executive officers of national organizations and 256 presidents of colleges and universities. To this list will be submitted preliminary drafts of model laws for criticism, and the completed drafts of the laws for approval. The model law for the registration of vital statistics has been revised. A model law providing for the reporting of ophthalmia neonatorum has been prepared in conjunction with the Committee on the Prevention of Blindness and a model law for the organization of state boards of health is in process of preparation.

SPECIAL COMMITTEES

COMMITTEE ON RESUSCITATION FROM MINE GASES

In the report of the Council for 1912 the appointment of a commission on Electrical Shock was announced. This commission completed its work in the fall, preparing a chart and a book of directions for resuscitation from electrical shock, both of which were printed by the *Electrical World* of New York, and distributed free in large quantities to electric-light plants, power houses, factories and other places where electrical currents are in constant use. As a result of the work of this commission, the Council was asked by the director of the Bureau of Mines of the United States Department of Labor to appoint a similar commission on resuscitation from mine gases. The following were appointed on such a commission:

Dr. W. B. Cannon, Chairman, Department of Physiology, Harvard Medical School, Boston.

Dr. S. J. Meltzer, Rockefeller Institute, New York City.

Dr. Yandell Henderson, Department of Physiology, Yale University, New Haven, Conn.

Dr. George W. Crile, Cleveland, Ohio.

Dr. Reid Hunt, Hygienic Laboratory, Washington, D. C.

Dr. Joseph Erlanger, St. Louis.

COMMITTEE ON RAILWAY SANITATION

At the meeting of the Council held October 19, 1912, the following Committee on Railway Sanitation was appointed:

Dr. H. M. Bracken, Chairman, Secretary State Board of Health, St. Paul, Minn.

Dr. A. M. Hume, Owosso, Mich.

Dr. J. N. Hurty, Secretary, State Board of Health, Indianapolis, Ind.

Dr. S. C. Plummer, Chief Surgeon, Rock Island Railway System, Chicago.

Prof. E. O. Jordan, University of Chicago, Chicago.

Dr. Thos. R. Crowder, Superintendent of Sanitation, Pullman Company, Chicago.

Mr. W. L. Park, First Vice-President, Illinois Central R. R., Chicago.

Mr. A. C. Ridgway, Second Vice-President, Rock Island Railroad, Chicago.

At the request of the Council, Surgeon-General Rupert Blue designated Dr. W. C. Rucker, Assistant Surgeon-General of the United States Public Health Service, as a member of the committee.

This committee reported at the Legislative Conference, and the report will appear in THE BULLETIN.

MEDICAL EXPERT TESTIMONY

During the interval between the Council meeting, the chairman, by the authority of the Council, appointed the following Committee on Medical Expert Testimony:

Dr. Harold N. Moyer, Chairman, Chicago.

Dr. Gilbert E. Seaman, Milwaukee, Wis.

Prof. E. R. Keedy, Northwestern University Law School, Chicago.

COMMITTEE ON REVISION OF THE MODEL VITAL STATISTICS LAW

With the authority of the Council the chairman appointed the following committee to revise the model vital statistics law:

Dr. J. N. McCormack, Chairman, Bowling Green, Ky.

Dr. Marshall L. Price, Baltimore, Md.

Dr. W. C. Woodward, Washington, D. C.

Dr. W. R. Batt, American Public Health Association, Harrisburg, Pa.

Mr. E. M. Abbott, American Bar Association.

Dr. Cressy L. Wilbur, Bureau of the Census, Washington, D. C.

The report of this committee will be found among the reports of subcommittees.

STATE LEGISLATION

During the fall and winter legislatures have met in forty-two states. The number of bills bearing on public health matters has probably been unprecedented. As nearly as can be estimated, between 700 and 800 bills on health or related

subjects have been introduced in the different legislatures. At the time of writing this report the legislatures are still in session in Connecticut, Illinois, Massachusetts, Pennsylvania and Wisconsin. Complete reports have not yet been received from all of the others. Without attempting to present any definite synopsis of legislation as in previous years, it will only be said that the Council has endeavored to keep informed regarding the legislative situation in the different states and to cooperate, to the best of its ability, with the state committees and to furnish them all the information and assistance possible. The legislative work of the organization would be greatly facilitated if each state association would establish a standing committee on legislation or on legislation and public health, and would provide for one member in the capital city of the state, who could be furnished with the equipment necessary to keep him informed constantly regarding the legislative situation in his state. It is at present extremely difficult to learn in many cases what bills have been introduced, or even what laws have been enacted.

### NATIONAL HEALTH LEGISLATION

A considerable portion of the time and efforts of the Council during the past year has been devoted to an effort to bring about harmonious cooperation between the Council itself, the special Committee on National Health Organization, established by the House of Delegates at the 1910 session at St. Louis, and the Committee of One Hundred, in order that a definite program might be adopted by which concerted action for national health legislation might be possible. Prof. Irving Fisher, Chairman of the Committee of One Hundred, arranged a conference of the executive committee of the Committee of One Hundred, and the special committee of the American Medical Association at Washington on December 9. On December 5, Dr. W. C. Woodward moved that a special meeting of the Council be called on December 9, to meet with the other two bodies. As the time was too short, the Council declined to meet at that time, but authorized the chairman to arrange for a conference at the earliest possible date. Accordingly, a special meeting of the Council was called at Philadelphia on January 4, to which were invited the members of the special committee, with the understanding that the expense of attending the meeting would be borne by the Council. This meeting was attended by four of the members of the Council and by Drs. S. G. Dixon, W. H. Welch, H. P. Walcott of the special committee. After spending the day in discussion and conference, the Council authorized the chairman to correspond with Professor Fisher and Dr. Murphy and to arrange for a joint conference in Washington of the three committees at the expense of the Council. After considerable correspondence a joint letter signed by Dr. Murphy and Dr. Favill, was sent to the members of the Council and of the special committee and to Professor Fisher, calling a joint meeting in Washington, D. C., on Monday, May 5, 1913. To this meeting were invited President Jacobi, President-Elect Witherspoon, General Manager and Editor Simmons, Secretary Craig of the American Medical Association, Surgeon-General Rupert Blue of the Public Health Service, Senators Owen and Ransdell, and Representative Foster. Two days' conference resulted in the appointment of a special committee to call on President Wilson and present the importance of a national Department of Health and of a White House conference on vital resources, and of a committee to confer with Senator Owen with a view to revising the present Senate Bill No. 1. The conference also endorsed the following program drafted by Prof. Irving Fisher and unanimously adopted after exhaustive discussion:

First: Appoint a committee to see President Wilson, to-morrow, May 6, at 10:45, and communicate to him the results of our conference and request him to decide upon an administration policy concerning public health legislation.

Second: Recommend to President Wilson that he definitely advocate the establishment of a Department of Health.

Third: That he cooperate with Representative Foster in attempting to secure a Committee on Public Health in the House of Representatives during the present special session.

Fourth: That he call a White House conference on Public Health next fall somewhat similar to the Governors' Conference on Conservation called by President Roosevelt. The object of this conference is to promote the success of the President's policies and if necessary to aid in framing these policies.

Fifth: That at the next regular session the President should send a special message favoring public health legislation or else emphasize it in his regular annual message.

Sixth: That the President should select for the first assistant Secretary of the Treasury someone interested in public health.

Seventh: That in the next regular session we should support the President in securing such public health legislation as he decides to recommend.

The present situation is most gratifying, in that all the officers and committees representing the association have agreed on a definite program of procedure and have also made provision for the revision of the present Senate Bill No. 1.

The second portion of the report of the Council which consists of the reports of its various subcommittees is deserving of careful consideration. The Council wishes to express its indebtedness to the members of the various committees which have worked earnestly and faithfully during the past year.

Respectfully submitted. HENRY B. FAVILL, Chairman.
W. C. WOODWARD,
J. N. MCCORMACK,
W. B. CANNON,
H. M. BRACKEN,
FREDERICK R. GREEN, Secretary.

## REPORTS OF SUBCOMMITTEES OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

### REPORT OF THE COMMITTEE ON PREVENTION OF BLINDNESS

*To the Council on Health and Public Instruction:*

Your committee begs leave to report that under its direction there has been prepared, during the past year, a sketch of a lecture on ophthalmia neonatorum, together with a grouping of established data that can be used as reference material. This is illustrated by a series of 162 lantern slides covering ophthalmia neonatorum and another series covering the entire subject, as far as developed, of the prevention of blindness. A number of sets of these will be prepared by the Council on Health and Public Instruction to be loaned for public lectures before Medical Societies, popular audiences or wherever they can accomplish the largest educative results. (Appendix A.*)

Your committee, after advising with ophthalmologists, obstetricians and others, has also prepared, as directed, a tentative model law for the control of ophthalmia neonatorum. This tentative law has been revised by the attorney of the Association in order that the phraseology may be such as would meet the requirements of the law. It will be submitted to the Section on Ophthalmology and to the Association for further action at this meeting, when, with such modifications as may be suggested, if approved, it will serve as a model wherever legislation on this subject may be enacted. It is of course impossible that any single law would meet the conditions and requirements of all states and it must therefore be submitted to local legal counsel before being enacted into a law of each state.

A summary of that law is also annexed herewith. (Appendix B.)

The necessity of a uniform law is evident from the fragmentary and imperfect legislation already existing in many other states.

The control of ophthalmia neonatorum is of course closely related to the question of midwives. The following summary of the existing condition in the various states, obtained through the courtesy of Miss Carolyn C. Van Blarcom, Secretary of the New York Association for the Blind, is of value. (Appendix C.) Prepared by Dr. J. Clifton Edgar.

#### ACCIDENTS

As an indication of the proportionate number of eye accidents the following record was obtained through the efforts of the Committee on the Prevention of Blindness of the New York Association for the Blind. (Appendix E.)

* Omitted here, but included in the reprint of the minutes.

The importance of this work will be more fully appreciated when it is learned from a statement made by Mr. C. W. Price, assistant to the Wisconsin Industrial Commission, that the average number of eye injuries in the McCormick Works was about fifty a month and these were reduced immediately after the use of spectacles to four in a month, and of these only one of the four caused any loss of time. It was also learned that the American Steel Foundries by using adequate protection for the eyes of its employees have reduced eye injuries about 85 per cent. The necessity is therefore very evident of some method by which an exact record can be maintained and references of all eye injuries be reported to public institutions. This can be readily done by means of a blank, and it might be used by physicians. (Appendix F.) If such records were filed at some central point so that they might be readily accessible they would be not only of great statistical value but they would so demonstrate the need of protective measures, where they were employed, that their use must of necessity become universal.

### TRACHOMA

Concerning trachoma, Dr. John Green, Jr., sent a brief but important report. (Appendix G.) The Federal Government is prepared to cooperate with all other medical or philanthropic bodies in controlling what has already grown to be a menace to sight in many parts of the United States.

### COOPERATION WITH NEW YORK COMMITTEE

The Committee for the Prevention of Blindness of the New York Association for the Blind has worked in cooperation with the Committee on the Prevention of Blindness of the American Medical Association and a brief report will indicate the amount of work which has already been accomplished in states outside of New York. It is an index of the development and growth of the entire movement. (Appendix D.)

### WOOD ALCOHOL

The importance of protecting the public from the dangers of wood alcohol has been emphasized through the pages of THE JOURNAL of the American Medical Association by a special article on the subject by Dr. Casey A. Wood which has been further emphasized by editorial comment. The Committee on the Prevention of Blindness of the New York Association for the Blind and the State Factory Employers' Commission have together formulated a bill which has been introduced into the legislature of New York and it is expected will be passed. (Appendix H.)

The resolutions adopted by that Committee are also important and valuable. (Appendix I.)

### TOXIC AMBLYOPIAS

Concerning toxic amblyopias it has been suggested by Dr. G. E. de Schweinitz that it would be well if attention were called to the blindness of arsenic compounds. The increasing use of these preparations makes it a timely one, and it is hoped that during the coming year a report may be obtained upon this subject.

The necessity of a more completely organized movement for the prevention of blindness has been suggested by the Chairman of the Executive Committee of the Section on Ophthalmology, who submits a very complete plan which forms part of this report. (Appendix J.)

Preventive work has grown with such rapidity and its necessity has became so evident that a further organization of the movement is greatly to be desired and a more complete system of cooperation with all existing bodies having like aims.

Respectfully submitted,

F. PARK LEWIS, Chairman,
J. CLIFTON EDGAR,
F. F. WESBROOK,
GEORGE E. DE SCHWEINITZ,
THOMAS S. HOLLOWAY,
CASEY A. WOOD,
JOHN GREEN, JR.,
CLARENCE LOEB,
WM. CAMPBELL POSEY,
MARK D. STEVENSON.

### APPENDIX B.—A BILL FOR AN ACT ENTITLED AN ACT FOR THE PREVENTION OF BLINDNESS FROM OPHTHALMIA NEONATORUM; DEFINING OPHTHALMIA NEONATORUM; DESIGNATING CERTAIN POWERS AND DUTIES AND OTHERWISE PROVIDING FOR THE ENFORCEMENT OF THIS ACT

Section 1.—Ophthalmia neonatorum defined. Any condition of the eye, or eyes, of any infant shall, independent of the nature of the infection, be known as ophthalmia neonatorum, in which there is any inflammation, swelling or redness in either one or both eyes of any such infant, either apart from or together with, any unnatural discharge from the eye, or eyes, of any such infant at any time within two weeks after the birth of such infant.

Sec. 2.—Duties of physicians, midwives, etc.—It shall be the duty of any physician, surgeon, obstetrician, midwife, nurse, maternity home or hospital of any nature, parent, relative, and any person or persons attendant upon, or assisting in any way whatsoever, any woman at childbirth, or attendant upon, or assisting in any way whatsoever any infant, or the mother of any infant, at any time within two weeks after childbirth, knowing the condition hereinabove defined, to exist, and within six hours thereafter, to report such fact, as the State Board of Health shall direct, to the local health officer of the city, town, village, or whatever other political division there may be, within which the mother of any such infant may reside.

Sec. 3.—Duties of the local health officer.—

It shall be the duty of the local health officer,

1. To investigate each case as filed with him in pursuance with this law, and any other such case as may come to his attention.

2. To report all cases of ophthalmia neonatorum and the result of all such investigations as he shall make, as the State Board of Health shall direct.

3. To conform to such other rules and regulations as the State Board of Health shall promulgate for his further guidance.

Sec. 4.—Duties of the State Board of Health.—

It shall be the duty of the State Board of Health

1. To enforce the provisions of this act.

2. To promulgate such rules and regulations as shall, under this act, be necessary for the purpose of this act, and such as the State Board of Health may deem necessary for the further and proper guidance of local health officers, etc.

3. To provide for the gratuitous distribution of a scientific prophylactic for ophthalmia neonatorum, together with proper directions for the use and administration thereof, to all physicians, midwives and the like, as may be engaged in the practice of obstetrics or assisting at childbirth.

4. To print and publish such further advice and information concerning the dangers of ophthalmia neonatorum and the necessity for prompt and effective treatment thereof, as may be deemed fit.

5. To furnish copies of this law to all physicians, midwives and the like, as may be engaged in the practice of obstetrics or assisting at childbirth.

6. To keep a proper record of any and all cases of ophthalmia neonatorum as shall be filed in their office in pursuance with this law, and as may come to their attention in any way, and to constitute such records a part of the annual report to the governor and the legislature.

7. To report any and all violations of this act as may come to their attention to the prosecuting attorney of the district wherein said misdemeanor may have been committed, and to assist said official in any way possible, such as by securing necessary evidence, etc.

Sec. 5.—Duties of maternity homes, physicians, etc.

It shall be the duty of all maternity homes and any and all hospitals, etc., to maintain such records of cases of ophthalmia neonatorum as the State Board of Health shall direct. It shall be the duty of any and all physicians, midwives and the like, in addition to reporting as hereinbefore enacted, to advise, prescribe and employ, in the treatment of all cases of

ophthalmia neonatorum, such prophylactic as the State Board of Health shall direct.

Sec. 6.—Violation of act a misdemeanor; knowledge—

The failure of any and all physicians, midwives, etc., as hereinabove set forth, to report as herein prescribed, or the failure of any hospital to record, as hereinbefore enacted, or the failure of any physician, midwife and the like, to treat as the State Board of Health shall have directed, any and all cases of ophthalmia neonatorum, as herein prescribed, and, under such circumstances as are herewith set forth, or any or all of such violations, as the case may be, shall constitute a misdemeanor under this act. Any person accused of a misdemeanor under this act shall, upon conviction thereof, be fined, for the first offense, not to exceed $50.00; for a second offense, not to exceed $100.00, and for a third offense, and thereafter, not to exceed $200.00 for each violation; and, if the accused be a physician, midwife or the like, such person shall, in the discretion of the court, suffer a revocation of license or both fine and revocation, as the court may see fit; and if the accused be a maternity home or the like, duly incorporated under the laws of the state, the court may, in its discretion, order a revocation of its charter; and any collusion between any official and any person, or between any others herein named, to misstate or conceal any facts which, under this act, are essential to report correctly, shall likewise constitute a misdemeanor, and the accused shall, upon a conviction, suffer a penalty such as is hereinabove enacted. The act of the agent in the scope of his employment shall be deemed the act of the principal. Any and all cases of ophthalmia neonatorum, or the resultant blindness therefrom, on which the accused may have been in attendance, as hereinbefore set forth, shall be taken as prima facie evidence of knowledge on the part of the accused. It shall be the duty of the state's attorney, for the proper district, to prosecute for all misdemeanors as herein prescribed.

Sec. 7.—Appropriation.

The sum of $..... shall be annually appropriated for the use of the State Board of Health in enforcing and carrying out the provisions of this act. Any and all necessary and legitimate expenses that may be incurred in prosecuting a case under this act, shall, upon a proper showing, be met by the State Board of Health out of this appropriation. In addition thereto, all fines and penalties recovered hereunder, shall be paid into the state treasury and shall constitute a special fund for the uses and purposes of the State Board of Health as herein enacted.

Sec. 8.—Emergency.

An emergency existing, this act shall take effect upon its passage, as by law prescribed.

Sec. 9.—Repealing.

All acts and parts of acts in conflict herewith are hereby repealed.

APPENDIX C.

Information relating to work for prevention of blindness from ophthalmia neonatorum since June 1, 1912:

Midwives are allowed by law to practice unrestricted in the twelve states of Alabama, Arizona, Arkansas, Florida, Georgia, Idaho, Kentucky, Maine, South Carolina, Tennessee, Virginia and West Virginia.

There are no laws relating in any way to the training, registration or practice of midwives in the fifteen states of California, Delaware, Massachusetts, Michigan, Mississippi, Nebraska, New Hampshire, New Mexico, New York, North Dakota, Oklahoma, Oregon, Rhode Island, South Dakota and Vermont.

In the twenty-two states where there are laws relating to midwives, fifteen require that they shall be licensed and that they shall pass an examination before being licensed to practice, while nine restrict the practice of midwives to attendance on normal cases. In no state is there provision for supervision of midwives in their practice, and although this is carried on by two or three local boards of health, it is evidently not wholly satisfactory.

In six states it is required that midwives shall be trained, this training in two states amounting to attendance at five cases of birth, and in the other four training in a recognized school. But in no one of the latter states do there exist any such standardized schools. So far as we are able to learn, the only real training schools for midwives in this country are the one connected with Bellevue Hospital, established in 1911 as a result of the efforts of the Committee on Prevention of Blindness, and the Philadelphia City Hospital, where women are received for midwifery training on the recommendation of the Board of Medical Examiners. (This material has just been tabulated and is up to date.)

According to figures very recently received from state and city health officials throughout the country, approximately 34 per cent. of all births are reported by midwives. This figure, although made up from the official reports, is only approximate, for many of the replies received from both state and city health officers stated frankly that they had no idea of the proportion of births attended by midwives. Although some of them believed it to be very large, they could give no figure. Others volunteered the information that midwives generally reported births much more satisfactorily than physicians.

Figures collected by the committee from schools for the blind throughout the country show that in 1912, out of a total of 2,327 pupils in twenty-one schools, 684, or 29.2 per cent., of the pupils were needlessly blind from ophthalmia neonatorum; eighty-eight of the 386 children admitted for the first time during the present school year are blind from ophthalmia neonatorum, thus showing that the percentage of needless blindness from this cause in schools for the blind continues about the same this year as for preceding years:

1912—88 out of 386 new admissions = 22.7% blind from O. N.
1911—88 out of 415 new admissions = 21.2% blind from O. N.
1910—84 out of 351 new admissions = 23.9% blind from O. N.

In this connection it should be noted that the figures showing the annual admissions of cases of ophthalmia neonatorum to schools for the blind are of little value as indicating the results of work which is being done for the suppression of ophthalmia neonatorum. Children are not usually admitted to schools for the blind until they are 7 or 8 years of age, whereas active work for the prevention of blindness has only been carried on during the past four or five years. While we could scarcely look for results in the admissions to these schools before 1916, it is believed that owing to the educational work which is being done by this committee and other organizations, ophthalmia neonatorum is already diminishing throughout the country.

Of 108 cases of ophthalmia neonatorum reported to this committee by doctors in the various eye clinics in New York City, it was found on investigation that sixty-two were attended by physicians, forty-three by midwives and three were emergency cases attended by neighbors. In fourteen of the sixty-two cases attended by physicians a prophylactic against ophthalmia neonatorum was used at birth and by eleven of the forty-three midwives. Out of eleven cases in which injury resulted, six lost one eye, two eyes were scarred, while three infants became totally blind. The cases of total blindness all occurred in the practice of physicians, while of the remaining eight, six were physicians' cases and two midwives'. In two cases where physicians undertook to treat the patients in their homes, the only care given being left to the mother, one eye was lost in one case and both eyes in the other.

Wisconsin in this year's meeting of the legislature is working for an appropriation of $3,000 for the free distribution of O. N. prophylactic outfits. This will make the seventh state which is carrying on such work.

Model bill for prevention of blindness from ophthalmia neonatorum, prepared by American Medical Association Committee on Prevention of Blindness.

Institutions and organizations interested for the first time in obtaining legislation relating to prevention of blindness from ophthalmia neonatorum. This interest was awakened by correspondence with this committee:

State University of Iowa, Iowa City.

State School for the Deaf and the Blind, Gooding, Idaho.
School for the Blind, Kansas City, Kan.
School for the Blind, Fort Gibson, Okla.
Oregon Library Commission, Salem, Ore.

It is much to be regretted that the reporting law in operation in Boston and some other cities is not enforced in New York City, where in 1912 only 173 cases of "babies' sore eyes" were reported to the City Department of Health.

APPENDIX D.

Report of work done by New York committee.

Appended are the names of the states and the kind of information asked for. The summary shows that the total number of applications from states outside of New York was sixty-six, these coming from twenty-seven different states and from Canada, South America and Australia.

These figures cannot be taken as an index of the amount of time expended by this committee for the promotion of preventive work outside of New York State. For example, it is sometimes necessary to entirely suspend the regular work of the committee for an entire day or for several days to collect material from the committee's files to be used in responding to a single request.

The information sought by workers in other states is mainly for statistics; suggestions in regard to legislation; for information to be used in preparing magazine articles or addresses; assistance in regard to exhibits and lantern-slides; and suggestions and information in connection with all the various subjects bearing on preventive work, either educational or to give practical effect to desired reforms.

In addition to the correspondence involved, there are also many visits received at the office from persons seeking information in behalf of prevention of blindness work in their respective states, or those desiring to inspect for selection the large number of photographs and lantern-slides which have been collected by this committee. You will readily understand that such visits consume much time which would otherwise be devoted to New York State work, for some member of the office staff must be placed at the disposal of the visitor during his or her stay in order that the greatest possible assistance be given.

Much of this interest has been evoked by the publications and statistical reports of this committee, which have been asked for and have been sent during the past five years into every state in the Union.

Because of our sincere desire to forward any work which tends to save from unnecessary blindness any human being, whether in this or some other state, we always comply with such requests as I have mentioned with the greatest care and willingness. We find, however, that our own work in this state, for which the committee was organized, is greatly retarded by so doing, because of the fact that our office staff is insufficient to do both state and national work satisfactorily. We are obliged again and again to postpone our own investigations, and the preparation of our own publications, etc., to meet these urgent demands. At the same time we are conscious that we are not doing the national work effectively. Time and again it would have been desirable to send some one to a near or a distant state to help the workers there, but this, of course, has been impossible. For those cases where legislative help has been asked for this would have been especially desirable.

In conclusion, I would respectfully ask that some relief be afforded this committee in connection with the work it is now doing for prevention of blindness outside of New York State.

REQUESTS FOR ASSISTANCE OR INFORMATION FROM STATES OUTSIDE OF NEW YORK AND FOREIGN COUNTRIES TO COMMITTEE ON PREVENTION OF BLINDNESS, DURING THE THREE YEARS ENDING APRIL 28, 1913

Alabama, California, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Missouri, New Jersey, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Wisconsin, Australia, Canada, South America.

APPENDIX E.

The records of patients suffering from eye accidents were copied from the admission books of the Manhattan Eye, Ear and Throat Hospital and the New York Ophthalmic and Aural Institute, covering the period from January, 1910, through February, 1911. From the former seventy-six records were taken and from the latter 359. The following statistics from the last reports of these institutions and from two other reports will give some idea of the extent of eye accidents:

| Hospital | Total number of new patients in Eye Department, excepting refractive cases. | Eye Accident cases. | Per-cent. |
|---|---|---|---|
| Manhattan Eye, Ear and Throat Hospital, Oct. 1, 1908, to Oct. 1, 1909 | 15,002 | 2,704 | 17 |
| New York Ophthalmic and Aural Institute Oct. 1, 1909, to Oct. 1, 1910 | 6,026 | 446 | 7 |
| New York Eye and Ear Infirmary Sept. 30, 1909, to Sept. 30, 1910 | 15,844 | 2,633 | 16 |
| Harlem Eye, Ear and Throat Hospital Oct. 1, 1909, to Oct. 1, 1910 | 3,505 | 577 | 16 |

In addition to these records, at your request, I copied the causes of blindness in 1,000 cases from the census of the New York Association for the Blind. The result was as follows:

| Cause | Number of cases | Per cent. |
|---|---|---|
| Congenital | 52 | 5.2 |
| Accidents | 159 | 15.9 |
| Diseases | 789 | 78.9 |
| | 1000 | 100.0 |

APPENDIX F.

Record of cases with special notes on accidents and injuries, trachoma, ophthalmia neonatorum and the causes of blindness, together with the usual data.

Case No. Place of Examination. Date. Name or initials of patient Sex. Age. Residence of patient. Diagnosis. R.V. L.V.

ACCIDENT OR INJURY

Has report of this case been made elsewhere? Where?
Previous treatment? How did accident occur?
Could it have been avoided? How?
Present condition. Prognosis.

TRACHOMA

Present condition. How long present?
Where probably origiuated? Others in family infected?
Cornea involved. Prognosis as to time and vision.

OPHTHALMIA NEONATORUM

How soon after birth infection appeared?
Mother attended by doctor or midwife?
Name of attendant. What, if any, prophylactic was used?
Clear cornea? Corneal ulcer? Scar?
Condition of eyes when first seen. { R. L.
Condition of eyes when discharged. { R. L.
Duration of treatment. Micro-organism determined?
Prognosis.

BLINDNESS

Absolute.—No light perception.
Practical.—Cannot count fingers further than 1 meter.
Relative.—Vision greater than 1 meter but because of narrow field or other reasons cannot guide oneself.
Cause of blindness. Present condition.
Could blindness have been prevented? How?

CONDITIONS OF ILLUMINATION

Daylight.—Number and amount of window space in relation to patient. Position.

Gas Flame.—Number and amount of window space in relation to patient. Position.

Electricity.—Candle power and current cycles and position in relation to patient.

Mercury vapor light.—Candle power and position in relation to patient.

OPERATIONS

| | | | |
|---|---|---|---|
| Cataract ..... | R. | | Result R. |
| | L. | | Result L. |
| Glaucoma ..... | R. | T. | Result R. |
| | L. | T. | Result L. |
| Strabismus ..... | R. | Degree | Result R. |
| | L. | Degree | Result L. |
| Other operations ..... | R. | | Result R. |
| | L. | | Result L. |

Remarks

Signed

———————M.D.

———————Street,

———————State.

APPENDIX G

PREVALENCE OF TRACHOMA IN THE UNITED STATES

It is impossible at the present time to arrive at a complete knowledge of the prevalence of trachoma in the United States, for the reason that as yet no general survey of the incidence of this disease has been undertaken in this country. Even if such general investigation were to be undertaken, it is extremely unlikely that it would yield accurate results. And the prime obstacle in the path of the investigation would be the fact that, with rare exceptions, boards of health, whether town, city or state, have failed to appreciate that trachoma is a dangerous contagious disease, and hence have not included it in the list of reportable maladies.

It is the opinion of J. W. Schereschewsky[1] that "in the United States trachoma has not as yet become general in its distribution. Owing to the great tide of immigration to this country, we find it rather frequent along the Atlantic Seaboard. Owing to the westward migratory movements, we also find trachoma prevalent to a certain degree among the inhabitants of the West. It has also been endemic for a number of years in certain restricted areas of Southern Illinois and in the mountains of Kentucky and West Virginia."

S. H. Brown[2] states that in New York City, prior to 1897, trachoma constituted 4 per cent. in over half a million subjects with contagious diseases; three years later (trachoma having in the meantime been classified as a "dangerous contagious" disease by the immigration authorities, thus compelling the deportation of aliens so afflicted) only a little over 2 per cent. were seen in 100,000 cases of contagious diseases. Although New York City probably has the greatest number of cases of any one focus, the disease is on the decline when the increase in population is taken into account. The New York Municipal Bureau of Health recorded something like 10,435 cases of trachoma in 1908, while in 1909 the number reported was 7,090. Additional evidence of the decline of trachoma in New York City is found from the results of school inspection; in 1902 20 per cent. of schoolchildren had trachoma; in 1908 70 per cent., and in 1910 only 3 per cent. were so affected.

Information from Baltimore, Cleveland and Philadelphia indicates that the disease in these cities is on the decline. In Toledo and Akron, Ohio, it is on the increase. In Dayton, Ohio, it is said to be assuming alarming proportions. In Chicago the disease is stationary.

It should be noted that the increase is especially noticeable in smaller towns and cities which do not seem to be able to put in force the procedures that would insure prompt eradication. Figures from the Wills Eye Hospital clearly indicate the decrease of the disease. In 1872 the percentage was 5.9; in 1908, 0.7 per cent. Not only has the incidence of the disease diminished, but it has, to a great extent, lost its virulence.

1. Schereschewsky, J. W.: Trachoma, Clark and Schereschewsky, Pub. Health. Serv., 1907.
2. Brown, S. H.: Trachoma, New York Med. Jour., April 1, 1911, p. 608.

The disease is very prevalent in Southern Illinois and to some extent throughout the rest of the state.[3]

Northern Arkansas is seriously infected. The following excerpt from the Twenty-First Biennial Report of the Arkansas School for the Blind indicates how serious is the menace to sight from trachoma in the state:

"The condition in Arkansas shows a larger proportion of pupils in school with trachoma than from all other causes, and a larger percentage than is shown to exist in other states. The northeastern and northwestern portions of the state constitute the principal areas of infection. The eastern and southern portions are almost entirely free as far as shown by our records. In the Arkansas school the number of pupils enrolled in 1908-10 was 199 white and twenty-eight colored. The number of cases of trachoma and blindness caused from trachoma was 115."

The Committee on Trachoma Investigation of the Missouri State Medical Association (1912) concludes that there are not less than 10,000 sufferers from trachoma in Missouri.[4]

Dr. J. A. Stucky of Lexington, Ky., who recently made a journey into the heart of the mountain regions of Eastern Kentucky, makes the following report:

"I found that in families where there were children it was an exception to find only one case of diseased eyes. In one instance, seven out of the nine children were unable to attend school on account of trachoma. Such cases as these are not allowed to attend our schools, and yet in the mountains they are not considered infectious or dangerous, but just 'sore eyes.' A solution to the problem in the mountains is the same as in the state—the question of education. Many of those who need surgical treatment and hospital care have not the financial means to obtain these. The county in which they live contains no institution where they can be cared for without personal expense, and the county treasury contains no funds to provide for even hospital care elsewhere."

Conditions in these mountain regions prompted the United States Public Health Service to send a special investigator (McMullen) in the summer of 1912 to endeavor to secure exact data. His survey, which included seven counties in the mountain regions of Eastern Kentucky, revealed an appalling prevalence of the disease. Of 3,974 individuals selected at random, 500, or 12.5 per cent., were affected; 338 out of 2,796 schoolchildren examined had trachoma (12 per cent.). In Knott, Perry, Leslie and Breathitt counties, out of a total population of 50,000, McMullen estimated that there were 3,400 victims of trachoma. These people are very poor, live crowded in wretched hovels without proper light or ventilation, and have no conception of ordinary rules of sanitation conditions which conspire to disseminate the disease.

White and Treibley[5] estimate that, in Oklahoma, out of a total Indian population of 100,000, about 65,000 are sufferers from trachoma. These authors state that the disease is "very prevalent in Illinois, Missouri, Oklahoma, Arkansas and Texas." Dr. White found that 48 per cent. of the white children in the Pawnee public schools were affected, and his examination in other white schools throughout the state justifies the assertion that from 20 per cent. to 40 per cent. of all the white schoolchildren of Oklahoma are trachomatous.

The following remedial measures are suggested:

1. Trachoma should be made a reportable disease to every local board of health.

2. Local boards of health and health commissioners should regard trachoma with the same concern that they regard scarlet fever, diphtheria and typhoid fever. Trachoma may not be dangerous to life, but it is dangerous to that which is almost as precious as life itself—eyesight. The failure to recognize trachoma as a serious contagious disease is reprehensible.

3. State boards of health should require a tabulation of all fresh cases of trachoma.

4. The federal government should provide measures for the investigation of trachoma throughout the United States, and where it is found to exist measures should be taken in conjunction with the local authorities for its control.

3. Wilder: Ophthal. Rec., November, 1901.
4. Jour. Missouri Med. Assn., July, 1912.
5. White and Treibley: Ophthal. Rec., May 1, 1912.

5. Boards of education must be roused to a more intelligent attitude toward this disease. The opposition to medical inspection in the public schools must be abandoned if the eyes and eyesight of the coming generation are to be safeguarded.

6. Education of the people in the true meaning and possible danger of this disease by talks with the family physician, public lectures by oculists, the distribution of pamphlets and books issued by local public libraries should be insisted on.

7. Special stress should be laid on the danger of contagion and the familiar character of the disease. Epidemics in institutions should be guarded against by periodic ocular inspection of all the inmates.

8. In localities where trachoma is endemic, the hospitals should supply a few beds in a small ward for trachoma patients who require intensive treatment or operation.

9. Practitioners in the country should equip themselves to recognize incipient trachoma and to apply the simpler medical and surgical measures for its relief. Whenever possible, the patient, even in the incipient stage, should be referred to an oculist.

10. Trachoma with complications, e. g., pannus, ulcer, entropion, iritis, etc., should be treated by an oculist.

### APPENDIX H. AN ACT TO AMEND THE PUBLIC HEALTH LAW IN RELATION TO THE SALE OF WOOD ALCOHOL

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1, Chapter 49, of the laws of 1909, entitled, "An act in relation to the public health, constituting Chapter 45 of the Consolidated Laws, is hereby amended by inserting therein, after Section 318B, to read as follows:

"Sale of wood alcohol. No person shall sell any wood alcohol, nor any fluid containing wood alcohol, unless bottle, vessel or other container in which the same is sold or transported shall bear a label containing the following words conspicuously printed in red ink:

*"POISON*
*"WOOD ALCOHOL*

"Do not use except where there is sufficient ventilation.

"Sec. 2. This act shall take effect Oct. 1, 1913."

### APPENDIX I. RESOLUTIONS ADOPTED

WHEREAS, There occur annually a number of cases of death and blindness in the State of New York as the result of drinking and inhaling the fumes of wood alcohol; and

WHEREAS, Although wood alcohol is required by the New York state pharmacy law to be labeled poison, in its refined form and under the name of Columbian spirits, it is generally sold by druggists without such label, and wood alcohol is sold by painters and grocers in containers bearing either no label at all or a misleading label; and

WHEREAS, No measures have been taken to require adequate ventilation for the protection of the workmen against the danger of inhaling the fumes of wood alcohol; therefore, be it

*Resolved*, That this committee endeavor to secure measures which shall provide that every container of wood alcohol, under any name, shall be labeled poison, and that adequate ventilation shall be required in all industries in which the fumes of wood alcohol constitute a menace to the sight and life of workmen; and be it also

*Resolved*, That educational work be undertaken among tradesmen and public generally; and that cooperation be sought with other organizations having the same purpose in view, to the end that definite measures of reform may be secured to correct the evils connected with the manufacture, sale and use of wood alcohol.

### APPENDIX J. PLAN FOR THE FORMATION OF STATE SOCIETIES FOR THE CONSERVATION OF VISION

(Submitted by Dr. William C. Posey.)

The scheme comprises the formation of *state societies.*

*An Ophthalmological Section in connection with the State Medical Society in every state of the Union.*

The appointment by the president of each state society of ten ophthalmologists from the society, who shall constitute a *State Commission for the Conservation of Vision.*

These ten ophthalmologists shall add to their number *ten lay members,* who shall be chosen with a view to the representation of interests allied to the work of conserving vision, i. e., state and municipal institutions for the blind, manufacturing concerns, architects, educators, philanthropists, artificial lighting corporations, etc.

When feasible, this commission shall make the chief officer of the health department of the state its honorary chairman, thereby working in touch and in harmony with that department of the commonwealth.

This commission shall have oversight over all matters pertaining to vision in each state; shall suggest laws for the prevention and treatment of all forms of ocular diseases; shall inquire into the proper lighting of public buildings, etc.; into the character of the printing, etc., of all text-books used in public schools; shall suggest proper standards for the examination of the eyes of all public servants in whom sharp vision is a requisite; in fine, shall actively engage in all phases of the vast problem of the conservation of vision in its broadest sense.

To give publicity to its work and to gain the cooperation and support of all the ophthalmologists within the state, it shall create a State Society for the Conservation of Vision, with annual dues of $1, payable to a member of the commission, its treasurer, chosen by the commission from their number. Other financial support shall be received from the state, from the state medical society and from private contribution. The membership of this society shall be unlimited, and it shall be the aim of the commission to extend its numbers as far as possible among the laity.

The proceedings of the commission and its aims should be given publicity in the state medical journal, while the State Department of Health should issue whatever bulletins may be necessary to call attention of the profession at large and of the public to the work in hand. Supplemental tracts, brochures, etc., should be issued from time to time at the expense of the society.

The commission shall provide for the proper presentation of the work by lectures and demonstrations, both before medical societies, other scientific bodies and the public at large, and shall endeavor to demonstrate by suitable illustrations and charts the dangers of various ocular diseases and the best means to prevent them.

#### *The National Governing Body*

In order that the work in the various states may be brought into some kind of relationship and to secure some form of cooperation between the various societies, some kind of a general governing board seems desirable, and as the commissions in the various states are part of their respective state societies, it is suggested that this board should be appointed by and be an integral part of the Ophthalmic Section of the American Medical Association, the representative and national body of eye surgeons.

It is suggested, therefore, that this governing body shall consist primarily of ten ophthalmic surgeons, who shall be appointed annually by the executive committee of the Section on Ophthalmology. In addition to these ten members appointed at large, the national governing board shall comprise the chairmen and secretaries of all the state commissions, and these ophthalmic members shall have the power to add to their number as many laymen as may seem desirable, their lay members consisting of representatives from scientific societies with allied interests, such, for example, as the National Illuminating Society; from philanthopic bodies, such as the Sage Foundation, and of individuals throughout the country who are particularly interested in the conservation of vision movement.

This national governing board shall direct in a general way the work of the various states and shall cooperate with the national government in all visual activities, as, for example, with the Public Health Service in its trachoma work, both at the portals of the country, as well as among the Indians and elsewhere; with the Department of Commerce and Labor, in fixing standards for the merchant marine and for federal pilots, and with the Interstate Commerce Commission in

determining standpoint to govern the visual tests of railroad employees, etc. This body shall be provided with a paid secretary, and its bulletins shall be issued at the expense of the American Medical Association. Its presiding officer shall be chosen from the ten ophthalmologists appointed from the Section on Ophthalmology of the American Medical Association, at an election in which all the members of the board participate. It shall be the duty of the board to avoid duplication of effort in the various states, to collect statistics regarding the causes and prevention of blindness, etc.

---

## Report of the Committee on Visual Standards for Pilots

*To the Council on Health and Public Instruction:*

The Committee on Visual Standard for Pilots has nothing to report for this year. We have made some effort to insist on proper visual standards for pilots in Pennsylvania, but owing to the political situation, have thought it unwise to proceed further in the matter. As stated in our last report, the visual standards for federal pilots are now fairly satisfactory.

William C. Posey, Chairman.

## Report of Committee on Resuscitation from Electric Shock

*To the Council on Health and Public Instruction:*

The Commission on Resuscitation from Electric Shock has formulated a chart and booklet for the use of workers in power houses and on electric circuits, giving concise directions regarding the treatment of victims of electric shock, both as to methods of artificial respiration and as to care of burns.

The establishment of the Commission on Resuscitation from Electric Shock led to the request by Dr. J. A. Holmes, director of the Bureau of Mines, that the American Medical Association cooperate with that bureau in appointing a Committee on Resuscitation from Mine Gases. The members of the American Medical Association who were on the Commission for Electric Shock—Drs. S. J. Meltzer, G. W. Crile, Y. Henderson and W. B. Cannon—together with Drs. Reid Hunt and J. Erlanger, were appointed to the new committee. In cooperation with members of the Bureau of Mines, the committee has visited mines in the soft and hard coal districts of Pennsylvania, and observed the methods and devices used in mine accidents.

A subcommittee of both appointed bodies has been studying mechanical methods of maintaining respiration artificially, and is about ready to report its findings. The chairman of the subcommittee, Dr. S. J. Meltzer, has prepared a much simplified method of mechanical respiration, which will doubtless be of much service. The final reports of the two appointed bodies will probably be ready shortly.

W. B. Cannon, Chairman.

---

## Report of the Committee for the Protection of Medical Research

*To the Council on Health and Public Instruction:*

During the past year a new pamphlet written by Dr. W. W. Keen and entitled "The Influence of Antivisection on Character," has been published. The chairman of the bureau has prepared a brief history of attempts, both in this country and abroad, to secure antivivisection legislation, and has described the methods which have been used here to avoid such restriction of animal experimentation as has hindered medical research in England. This paper, which was read at the February Conference, will be published in The Journal and reprinted as No. 25 of the series of pamphlets issued by the bureau. Two more pamphlets, one on the relation of animal experimentation to pharmacology, and the other on its relation to surgical operations, will probably complete the series.

The bureau has not been called on to take active part in stating the position of laboratory workers before legislative committees. There has been no general demand for legislation, and the attempts at securing legislation in New York and Pennsylvania seem to have been less effective than before. The public press appears to be readier than before to defend the experimental use of animals and to make known the results of medical research.

W. B. Cannon, Chairman.

## Report of Committee on Cooperation with the National Education Association

*To the Council on Health and Public Instruction:*

Your committee, appointed by the Council on Health and Public Instruction, to confer with the committee selected by the National Education Association, to improve instruction in sanitation, hygiene, physiology and kindred sciences in the public schools, begs to submit the following report:

It was decided at the St. Louis meeting of the committees, in February, 1912, that a year be devoted to the study of the rural school: the building and its environment.

It was also agreed that an effort should be made to devote one evening to medical subjects at the Fiftieth Annual Convention of the National Education Association, to be held in Chicago, July 6-12, 1912.

On Thursday evening, July 11, 1912, the following speakers selected by your committee of the American Medical Association addressed the National Education Association at the Chicago Auditorium (President Jordan, presiding).

Topic: The Public Schools and the Public Health.

1. The Duty of the State in the Medical Inspection of Schools; Results which the Public May Rightfully Expect. Fletcher B. Dresslar, Specialist in School Hygiene, Bureau of Education, Washington, D. C.

2. The Teaching of Hygiene in the Schools: Public, Personal. David Starr Jordan, President of Leland Stanford, Jr., University, California.

3. Sanitation in the Rural Community. Chas. E. North, M.D., New York.

4. Medical Inspection and Medical Freedom. Charles A. L. Reed, M.D., Cincinnati, Ohio.

The Auditorium was packed; every chair was occupied and several hundred seats placed on the platform to accommodate the overflow. The addresses were appreciated, the speakers enthusiastically applauded, and the good accomplished cannot be over-estimated.

On the morning of July 12, in the rooms of President Jordan, Auditorium Hotel, a meeting of the committees convened.

Those present were: David Starr Jordan, P. P. Claxton, A. E. Winship, J. A. Shawan, Frederick R. Green, John M. Dodson and R. W. Corwin.

It was decided at this meeting that we continue the investigation and study of the rural school.

Commissioner Claxton offered the assistance of his office and the government in every way possible to further the interests of this important work.

On Dec. 14, 1912, your committee met in Chicago and discussed the work of the committees, showing satisfactory progress.

On Feb. 3, 1913, Chairman Wood of the Committee of the National Education Association, and Drs. Dodson, Green and Corwin of your committee had an all day's session at the University Club, Chicago, for the purpose of discussing a report to be submitted to the National Council of Education of the National Education Association at Philadelphia on Feb. 25, 1913.

It was decided at this meeting that Dr. John Dodson, and, if possible, Dr. M. J. Rosenau, with the Secretary Dr. Frederick R. Green, represent your committee at the Philadelphia meeting, and with the National Association committee submit a joint report to the National Council of Education of the National Education Association.

At the Philadelphia meeting it was voted by the committees to make an effort to have a medical and sanitary evening at the Fifty-First Annual Convention of the National Education Association to be held in Salt Lake, in July, 1913.

The Educational Council at St. Louis voted to recommend to the Fiftieth Annual Convention of the National Education Association that $1,600 be appropriated for this educational work.

In July, 1912, the American Medical Association voted to equal the sum appropriated by the National Education Association to the amount of $1,600 or less, for the purpose of studying the rural school and its environment.

Dr. Dresslar, who has devoted much time and attention to the subject of rural schools, and collected for the United States Government material for publication, has kindly offered to give the committees the benefit of his experience.

The committees now have workers in the field collecting data which will be of great value in making our final report.

Mr. Miller has been appointed working secretary and has spent a week carefully investigating a school district in Connecticut, and another week in Vermont, going around with a professor who is making a study of rural schools as a part of a careful educational survey of Vermont, authorized by a recent act of legislature. This provided an extraordinarily favorable opportunity for our working secretary to get some valuable material.

It is planned to have Mr. Miller go to districts in Northern New York and make a third study of rural schools there.

This added to material collected by Dr. Dresslar and by members of the committees, along with work planned, will make a valuable final report.

Your committee feels that the past year's work, although far from being complete, has made a most excellent beginning in the task undertaken, and when the report is issued it will be an exeellentguide to students of school hygiene and sanitation, and of special interest to those interested in the welfare of schools and of practical worth to school children.

R. W. CORWIN, Chairman.
JOHN M. DODSON,
M. J. ROSENAU.

---

## REPORT OF THE COMMITTEE FOR PUBLIC HEALTH EDUCATION AMONG WOMEN

*To the Council on Health and Public Instruction:*

Since it is impossible in the space due this report to give details of work done in all places by all members of the Committee for Public Health Education Among Women a more comprehensive understanding of the present status can be gained by a review of the development of the educational idea through the past four years.

This committee was organized in accordance with the following resolution passed unanimously by the House of Delegates June 10, 1909:

*Resolved*, That the women physician members of the American Medical Association be and they are hereby requested to take the initiative individually in their respective associations in the organization of educational committees to act through women's clubs, mothers' associations and other similar bodies, for the dissemination of accurate information touching these subjects among the people, and that they be requested to submit to the House of Delegates a yearly report of such work, and elect from among their number a committee to take charge of the same.

It was the belief of the committee that the problem of education is one, that both men and women were ready for education and that the work must be done by men and women. At the end of two years results had proved the truth of the first proposition: that both men and women were seeking information in regard to health.

The committee desired a form of organization which would continue to be of service under conditions of growth on the part of both the American Medical Association and the work which it had undertaken; an organization which would at the same time present to the public the medical profession working as a whole for the education of the people.

With this end in view, in June, 1911, Dr. Rosalie Slaughter Morton, at that time the chairman of the central committee, brought to the attention of the Council on Health and Public Instruction the importance of developing the committee work through state medical societies. The following resolutions were passed by the Council.

WHEREAS, The work of the Public Health Education Committee is of great service to the community in lessening disease and stands for the work in which the American Medical Association is interested; it is

*Resolved*, That this committee be made a standing committee of the Council on Health and Public Instruction to be known as the Committee for Public Health Education Among Women, and that either men or women may be members thereof, and that this committee shall have charge of the dissemination of information concerning the nature and prevention of diseases, among women's clubs, mothers' and teachers' organizations, church and settlement groups, Young Women's Christian Association, etc.

"The Council on Health and Public Instruction recommends that the state and county medical societies cooperate with the Committee for Public Health Education Among Women and make the state chairman of the committee a member of the State Public Health Committee and the county chairman a member of the County Public Health Committee in those counties or states which have standing committees on public health, and in those counties and states in which no such committees exist, the Council on Health and Public Instruction request that committees be formed especially to cooperate with the members of the Committee for Public Health Education Among Women. That this resolution be sent by Dr. Frederick R. Green, Secretary of the Council, to the secretary of each state medical society."

The committee has continuously worked toward this end seeking through its representatives in county and state the appointment of committees for public health education in those societies. Early in November, 1912, letters were sent by the central committee to the president and the secretary of each state medical society enclosing copies of these resolutions and asking their cooperation. Throughout the year in letters to many presidents and secretaries of state societies to members of the judicial council in each state as well as to workers under this committee, the plan of organization outlined has been urged as one which will enable the county society to coordinate the work of individuals, the state society to coordinate the work of counties and the central committee to coordinate the work of the states. Each committee will be able to stimulate interest when needed and to reach even the remotest corner of the state. The committee under the state society through its representative on the American Medical Association Committee will receive the benefit of the experience of similar committees in other states and through the same channel will share its own successes.

In response many states have replied that they would work with the state chairman under this committee and have done so cordially.

In its efforts toward organization this committee has never forgotten that it was organized "for the dissemination of accurate information in regard to the nature and prevention of disease." The small town and the rural district as well as the larger cities must be reached.

During the four years of the work of this committee growth from the centers of population toward the villages and farms has been encouraging.

In Minnesota this year through cooperation with the State Library Commission, Dr. L. Arlene Lane, state chairman, placed books on hygiene and sanitation within the reach of all by means of rest-rooms and a traveling library. The chairman for Beltrami County is planning a series of talks to reach each village in his county, the series to be given about midsummer. The chairman of Cottonwood County reports that in Windom, a town having a population of 1,750, a visiting nurse is employed by the churches and people whose duty it is to visit each house in which there is illness for the purpose of giving instruction in hygiene and sanitation.

In other states, also, village and traveling libraries have been used as a means of reaching the people. In one state abbreviated lists were sent to village libraries with suggestions for their use.

In Crawford County, Ohio, Dr. Katherine J. Rayl arranged a county health week which was carried out by the county committee of which she is a member. Speakers were secured from a distance and meetings were held on successive evenings in the largest three towns in the county. These towns have populations of 8,000, 7,000 and 3,000, respectively.

In Brooklyn, N. Y., Dr. Eliza Mosher has had a health play, which was written by a school teacher, presented to settlement house audiences of foreign-born people. Following the play the practical teachings are emphasized in a talk by one of the physicians.

In Connecticut last year talks were given in foreign languages. This year Michigan and Vermont are also reaching people who cannot understand English.

In Iowa this committee under the leadership of the chairman, Dr. Lenna L. Meanes, has perfected the organization of the baby health contest movement. In addition to the examination of children, attention of the parents is called to special points good or bad and personal as well as daily public instruction is given. The opportunity to examine hundreds of children fairly near the normal offers an enviable field for scientific investigation while at the same time interest is aroused in better care of the baby and in the betterment of the race. Following a series of similar contests in Oregon conducted on the Iowa plan a state eugenics society was formed.

As a result of the Iowa contests the central committee is receiving requests for information in regard to feeding and care of infants in a form which can be distributed to farmers' wives. It is the hope of the committee that this work will be guarded by physicians.

In recognition of the educational value of the baby health contest the Iowa State Legislature has appropriated $75,000 for a woman's building for the Iowa state fair, so that there may be a place for the work. Dr. Meanes is to plan that part of the building to be devoted to the babies.

During the past years there has been a growing tendency toward instruction with a definite end in view. This year an improved milk-supply has been secured in many places, and medical inspection of public schools and removal of the public drinking-cup. For details of a notable campaign the report of Dr. Julia G. McNutt for Albany County, N. Y., is interesting.

California, where the League for Medical Freedom formerly held sway, has been given over to constructive legislation for personal and community hygiene. Dr. Eleanor Seymour, state chairman, reached 10,000 women voters in her appeal for active interest in a bill requiring a health certificate before marriage framed by Dr. William F. Snow.

Dr. Charlotte J. Baker, chairman for San Diego County, gave her entire time during the winter in behalf of the more important bills affecting social conditions. Her success is marked by passage, among other bills, of the "Iowa Red Light and Abatement Act."

In Colorado and Nebraska members of this committee worked in support of legislation increasing the efficiency of the State Board of Health. Nebraska secured an appropriation for the establishment of a state board of health laboratory.

In Connecticut this was a year of legislation; many excellent bills were presented in which our chairman had an active interest. Among the number one requiring medical inspection in all schools in the state and nurses even in rural schools.

At the request of the Pennsylvania State Society the state chairman, Dr. Elizabeth Leiper Martin, prepared an open meeting for the women guests at the annual meeting of the state association. The meeting was of such value that she has been asked to prepare another for this year. Open meetings of county societies have been more frequent.

This year has seen a large increase in the number of talks in schools, high schools, normal schools and colleges.

As the work increases in magnitude and the workers in numbers there is increased difficulty in obtaining statistics and workers have less time in which to prepare reports. Last year twenty-five states which gave approximate audiences aggregated 119,637. This year twenty states which gave audiences aggregated 219,121. Both years over forty states reported lectures given so that such figures are manifestly far below the number of persons reached by this form of education.

Special mention is due the splendid work of the subcommittee on medical literature, under the able leadership of Dr. Jane L. Berry of New York City.

The list of books prepared last year was sent by the central committee to each library in the United States not technical and having 5,000 or more volumes, and to the library commissions in each state. At the request of the commissions in two states, and our state chairman in one, the list was sent to all smaller libraries also. Many letters have been received expressing appreciation of the value of this bibliography and stating that libraries are purchasing books endorsed by the committee.

Dr. Berry's committee has this year reviewed articles in current magazines; through some of its members it has reviewed books in foreign languages and has revised and enlarged the list of books published in English. Dr. Berry comments on improvement in the character of books on health subjects written for the laity.

The central committee has carried on the routine office work which included the distribution of 1,950 reports, 4,800 lists of books, 8,135 leaflets explaining to physicians the origin and object of the committee, 8,625 leaflets containing suggestions for health talks, 1,855 maps showing location of county chairmen, 5,903 letters and 2,260 pieces of miscellaneous mail, making a total of 33,528 pieces sent out during the year.

In addition to the routine of the office the central committee prepared an exhibit, showing the extent of the work for the International Congress on Hygiene and Demography in Washington. This exhibit was supervised by members of the committee in Washington and by one member of the central committee who went to Washington for that purpose. During the congress addresses were given by eleven women and seventeen men members of this committee on subjects of general educational interest.

By invitation from the New York State Medical Society a paper was presented by the chairman of the central committee at their annual meeting in April, on "Cooperation of State Medical Association in Public Health Education."

The development of work through the newspapers which was begun by this committee last year was abandoned at the request of the secretary of the Council. The press, however, has been used to advantage by many state chairmen under their own initiative.

In many communities there are organizations of small groups. Some of these are little interested in health subjects, some wish informal talks for their own members, some are too inexperienced to secure speakers for themselves. Many of these clubs do not know the resources of their own communities even. To meet this need this Committee last year planned to compile a list of those speakers both physicians and laymen who are in the employ of state boards of health, societies for the prevention of blindness, tuberculosis, and similar organizations and who are glad to respond to any invitation to speak.

This year at the request of the Chairman of the Public Health Department of the General Federation of Women's Clubs we consented to add a carefully selected list of names of those persons who were in the habit of speaking on health subjects, and had gained a reputation in their own states.

A list as complete as could be made by this committee in a first compilation was prepared and sent in, but was not printed.

The committee has in preparation a series of short papers for girls and women which will be written by Drs. Eliza Mosher, Kate Campbell Mead, Mary Sutton Macy and others. This series is designed to be both readable and accurate, and to give information which is beneficial without being sensational.

This committee has received many requests from both laymen and physicians for papers on various phases of hygiene and sanitation. There are many avenues through which these papers could be distributed widely to advantage. Many of them would be read before audiences of laymen where no physician is available for talks. They would also furnish suggestions to physicians who are willing to talk to their own people, but who are separated from libraries and other sources of information. We have manuscripts of many lectures given by speakers for this committee in New York, Washington and other cities.

We recommend that the Council on Health and Public Instruction print for the use of this committee those papers,

not to exceed twenty in number, which the committee shall select as best suited to meet the general demand.

There are at present over one hundred men and two hundred women, officers and committee workers. Two hundred and seventy-five talks are reported as given to organizations of men exclusively. In two places total numbers of men have exceeded the number of women. In the minds of the public there is no reason why the medical profession should discriminate against men in the matter of education. Practically it has not been found possible to do so.

Since the name represents neither the personnel nor the work of the committee, we recommend also that the words "Among Women" be dropped, and that the name be The Committee for Public Health Education.

We regret the resignation of Dr. Rosalie Slaughter Morton, honorary chairman, whose untiring assistance has been invaluable to the work of the committee.

Those on whom this committee is dependent are so many that it is impossible to call them by name.

We wish to express our appreciation of hearty cooperation on the part of individuals and organizations among the laymen. We wish to thank the large number of physicians, both men and women, who have cordially assisted by giving freely of their time, enthusiasm and money: who by so doing have carried forward the education of the public and made possible this report.

Respectfully submitted,

ELENORA S. EVERHARD, Chairman.
GERTRUDE FELKER, Secretary.

---

### REPORT OF THE COMMITTEE ON THE REVISION OF THE MODEL LAW ON VITAL STATISTICS

*To the Council on Health and Public Instruction:*

At the outset I must beg to disclaim the honor of being chairman of this committee. The chairman is Dr. J. N. McCormack of Kentucky, a gentleman well and favorably known to the members of the American Medical Association and whom some of the sanitary officials of Kentucky are wont to describe as "the best health officer in the world." Doctor McCormack authorized and directed me to conduct the work of the committee as acting chairman, and as such, therefore, I present this report.

The joint committee was composed of representatives of the American Medical Association (Drs. J. N. McCormack, Chairman, Marshall L. Price and William C. Woodward), American Public Health Association (Dr. Wilmer R. Batt), American Bar Association (Mr. Edwin M. Abbott of Philadelphia), and the Bureau of the Census (Dr. Cressy L. Wilbur). The Conference of Commissioners on Uniform State Laws was not formally represented in the membership of the committee, but its Special Committee on Vital and Penal Statistics, composed of Messrs. Frederick L. Siddons, Chairman, Aldis B. Browne and Walter C. Clephane, all of Washington, took an active interest in a consultative capacity and many valuable suggestions from it have been included in the revised bill. I append a circular relative to the model bill prepared by this committee. Miss Julia C. Lathrop, chief of the Children's Bureau, which is particularly interested in the effective registration of births, also attended the meeting of the committee, and valuable help was received from Mr. E. R. Magie, of the solicitor's office, for the Department of Commerce and Labor, of the Department of Justice. Thanks are due to many state and city registration officials who, in response to a circular letter stating the purpose of the committee and asking for suggestions, either sent valuable recommendations or appeared in person at the meeting of the committee held in Washington on Sept. 21, 1912. Acknowledgment should be made also to the American Public Health Association for including the meeting of this committee in its program. As the meeting came between the session of this association (Sept. 18-20) and the International Congress of Hygiene and Demography in the following week, many sanitary and registration officials were able to attend.

This meeting was a meeting of organization in which the suggestions presented by letter or *viva voce* were considered and a subcommittee of three, Mr. Abbott, chairman, Drs. Woodward and Wilbur, was appointed to make the draft of the revised model bill. The subcommittee held many meetings and labored faithfully to make the revised model bill as much better than the old one as possible. You have the result of their efforts, which has been approved by the full committee, as published by Dr. Green in the pamphlet entitled "Why Should Births and Deaths Be Registered?" and also in the first publication of the United States Children's Bureau. "Birth Registration—An Aid in Protecting the Lives and Rights of Children; Necessity for Extending the Registration Area."

The revised model bill does not differ materially in form, and not at all in principle, from the original. Either would furnish an adequate basis for drafting a bill for an individual state. It was hoped that the revised bill might be made shorter, but the consensus of opinion among registration officials, especially those of states in which the model laws are in practical operation, was that such a law should be very explicit and provide for all the necessary details of registration. For a state in which the length of the bill is objectionable and in which the state board of health may be authorized to make rules and regulations having the force of law, a short bill may be passed, providing for the establishment of a bureau of vital statistics and for the necessary compensation to local registrars, and the details of the model bill can then be adopted as such rules and regulations. This was done in Mississippi, and sections for this purpose are incorporated in the Arkansas bill now pending.

The circulation of this bill and the active interest taken in the extension of adequate registration methods by the council have been of great service in promoting the more efficient registration of vital statistics in the United States. Experience has proved that it may be relied upon to give good results, if proper provision be made for its support, and that the effectiveness of state laws now in existence may be measured by their degree of compliance with its principles. The bill has been introduced in the present sessions of the legislatures of Illinois, Iowa, North Carolina and Tennessee. Copies have been sent to all physicians in West Virginia, although it may not be feasible to pass such a law in that state until after the general reorganization of the Public Health Service. Indeed, this caution should be given, that while vital statistics are fundamental to public health work, their collection cannot be prosecuted successfully until the general sanitary administration of the state is provided for. A weak, half-starved state board of health will fail in the administration of any law, but once fairly equipped for work, a board can strengthen itself and promote the extension of its activities in all directions by no other means more effectively than by enforcing—and utilizing the results of—a good law for the registration of vital statistics.

Respectfully submitted,

CRESSY L. WILBUR, M.D.
Acting Chairman.

---

At the request of the Chairman of the Council, Dr. Thomas McDavitt, Minnesota, Chairman of the Subcommittee on Uniform Regulation of Membership of the Council on Health and Public Instruction, presented the report of that subcommittee.

### REPORT OF THE COMMITTEE ON UNIFORM REGULATION OF MEMBERSHIP

*To the Council on Health and Public Instruction:*

In the report of the committee made at the annual session for 1912 it was recommended that the entire question "of membership, its method of regulation, and its bearing on the work of the organization" should be referred to a meeting of the secretaries of the constituent state associations, to be called in Chicago some time in the fall of 1912, and that the recommendations contained in the report of the Committee for 1912 be presented to such a meeting for consideration. These

recommendations having been endorsed by the House of Delegates and an appropriation for the expenses of a conference having been made by the Board of Trustees, the conference was called at the headquarters of the American Medical Association on Wednesday, Oct. 23, 1912. The conference was called to order by the Chairman of this Committee, who acted as Chairman of the conference. Thirty-eight constituent state associations were represented, thirty-five state secretaries being present and three states being represented by other officers or members of the state council, delegated to represent their associations. As a preliminary to discussion three papers were presented, one on "The History of Membership in the Americal Medical Association and the State Associations, by Dr. Frederick R. Green," one on "The Difficulties of the Present Situation," and one on "Remedies Proposed by the Committee," by Dr. Thos. McDavitt. Two days were spent in discussion of eight questions presented for consideration. These questions were as follows:

1. Fiscal Year. Should the fiscal year coincide with the calendar year? Should the fiscal year be the same in all county and state societies?

2. Should membership expire automatically at the end of the calendar year, and a new roster for each county and state society be made up with the beginning of each year?

3. When should membership reports from county secretaries to state secretaries be due?

4. Should the dues of new members, joining after the first of the year, be pro rated for the remainder of the year?

5. Should an admission fee be required in addition to the annual dues?

6. Should uniform application blanks, receipt blanks, membership and transfer cards be adopted?

7. Should constituent state associations hold charters from the American Medical Association?

8. Should a uniform plan for the transfer of members be adopted?

At the conclusion of the discussion a committee was appointed to formulate recommendations for the adoption of the conference. The Committee reported as follows:

The Committee on Recommendations herewith submits the following report:

1. We recommend that this conference endorse the plan of having the fiscal year coincide with the calendar year in all parts of the organization. We further recommend that secretaries of all state associations which have not already adopted this provision bring this matter to the attention of their associations and recommend its adoption.

2. We recommend that constituent state associations adopt provisions making dues in county societies payable on January 1 of each year, and requiring county secretaries to report to state secretaries all members in good standing, together with their per capita assessment for the current year not later than March 31. State societies desiring to do so may provide a shorter period.

3. The recommendation regarding the third question under discussion is covered by our recommendation of the second.

4. Regarding the pro-rating of dues, we recommend that this be made optional with each local society.

5. Regarding an admission fee for membership we recommend that this be made optional with local societies.

6. While the committee recognizes, as a general principle, that a uniform system of blanks for county and state societies is desirable as soon as practicable, we recommend further consideration of this question at a later conference.

7. We recommend that the House of Delegates of the American Medical Association be asked to consider the advisability of issuing charters to constituent state associations.

8. We recognize the desirability and advantage of a uniform method of transfer, but this system cannot be established until there has been developed a greater uniformity in other details of organization. We therefore recommend that this question be made the subject of discussion at a future conference.

9. The committee recognizes the value of this conference to the state association secretaries, and to the purposes of organization. It therefore recommends that future conferences of this character be held.

E. J. GOODWIN, Chairman,
WILFRID HAUGHEY,
PERRY BROMBERG,
WILLIAM S. GARDNER,
FREDERICK R. GREEN.

The recommendations adopted by the conference cover the two most important of the eight questions under discussion. It was felt that it was wise to proceed slowly, acting on the most essential points first, and giving the state associations time to modify their methods to conform to the recommendations of the conference. The question of uniform blanks and methods of keeping records, as well as that of a uniform transfer system, was deferred to a future conference. The advisability of issuing charters to constituent state associations was referred to the House of Delegates for consideration.

In view of the marked benefit which has resulted from bringing together the secretaries of the state associations at such a conference, the Committee recommends that the House of Delegates request the Board of Trustees to authorize a second conference of state secretaries as soon as such action may seem to them advisable, in order that the executive officers of the constituent state associations may have an opportunity for further conference on the strengthening and upbuilding of the organization.

Respectfully submitted,

DR. THOMAS MCDAVITT, Chairman.
DR. E. J. GOODWIN,
DR. E. W. WEIS,
DR. CLAUDE A. THOMPSON,
DR. JOSEPH H. MARTIN,
DR. F. R. GREEN, Secretary.

On motion, the report was referred to the Reference Committee on Legislation and Political Action.

---

Dr. Arthur Dean Bevan, Illinois, Chairman, presented the Report of the Council on Medical Education, as follows:

## Report of the Council on Medical Education

*To the Members of the House of Delegates of the American Medical Association:*

For the ninth consecutive year the Council on Medical Education submits its annual report and is pleased to state that the progress reported in previous years is still being continued. The chief incidents in the work of the past year are as follows:

### *THE NINTH EDUCATIONAL CONFERENCE*

The Ninth Annual Conference on Medical Education was held in Chicago, Monday, February 24. It was followed on Tuesday by the Conference of the Council on Health and Public Instruction and the Annual Meeting of the Association of American Medical Colleges was held. Thus at the same time and place each year the three chief agencies interested in medical education now hold their annual meetings. The annual conference started by the Council in 1905, therefore, has grown to be what may be termed an annual "congress" on medical education and licensure.

Probably the most effective work carried on by the Council has been through these annual conferences which have been regularly attended by delegates from medical colleges, state licensing boards, state medical societies, college associations, federations of state boards, university presidents and other educators. These conferences have constituted an open forum where the various problems in medical education have been taken up and given thorough and frank discussion. It was undoubtedly through these conferences that unanimity of effort by the various agencies working for an improved medical education has been secured, as a result of which such decided progress has been made.

In this connection a recent bulletin issued by the United States Bureau of Education,[1] after reproducing several pages from the Council's reports, in regard to medical education says: "No more marvelous chapter in the history of educational standards can be found than in a review of the work of these conferences."

### *HIGHER PRELIMINARY REQUIREMENTS ASSURED*

During the last year action has been taken by various agencies by which the general adoption of higher preliminary

1. Bulletin, 1913, No. 4: "Present Standards of Higher Education in the United States."

requirements by medical colleges is made certain. In the Council's first report to the House of Delegates in 1905 an "ideal standard" was outlined which included as a minimum requirement of preliminary education in addition to a standard four-year high school education at least one year of collegiate work including courses in physics, chemistry, biology and a modern language. It was recommended that the work of this college year might be taken either in a college of liberal arts or in a preliminary year given by the medical college itself. This standard is no longer looked on as an "ideal" by medical colleges, but as the essential minimum. Previous to 1912 approximately fifty medical colleges and ten state licensing boards had voluntarily adopted that or a higher requirement. Last June this body aided materially in the movement by adopting a report which instructed the Council not to include in Class A, after Jan. 1, 1914, any medical college which did not require for admission at least this one additional year of preliminary work. On February 26 of the present year the Association of American Medical Colleges also adopted the same standard for all colleges in membership, to become effective after Jan. 1, 1914. Finally, on March 22, 1913, a joint committee made up of representatives of the College Association and the Council, with the advice of several experts in preliminary education, but especially that of Dr. Kendric C. Babcock, Specialist in Higher Education of the United States Bureau of Education, who was present at the meeting, adopted the following as the minimum requirement for the proposed year of college work in physics, chemistry, biology and a modern language:

### ADMISSION TO THE PRELIMINARY COLLEGE YEAR

*(a)* For admission to the preliminary college year, students must have completed a four-year course of at least fourteen units in a standard accredited high school, or have its equivalent as demonstrated by an examination, and a transcript of the student's work should be secured direct from the principal of the high school by the college authorities and kept on file.

TABLE 1.—STANDARD HIGH SCHOOL COURSE

| SUBJECTS. | UNITS. | REQUIRED. | ELECTIVE. |
|---|---|---|---|
| **ENGLISH** | | | |
| READING AND PRACTICE | 2 | 2 | ... |
| Study and Practice | 1 | ... | 1 |
| **MATHEMATICS** | | | |
| ALGEBRA TO QUADRATICS | 1 | 1 | ... |
| Algebra (Quadratic Equations, Binomial Theorem and Progressions) | ½ | ... | ½ |
| PLANE GEOMETRY | 1 | 1 | ... |
| Solid Geometry | ½ | ... | ½ |
| Trigonometry | ½ | ... | ½ |
| **LATIN** | | | |
| GRAMMAR AND COMPOSITION | 1 | 1 | ... |
| CAESAR | 1 | 1 | ... |
| Cicero | 1 | ... | 1 |
| Virgil | 1 | ... | 1 |
| Cornelius Nepos | 1 | ... | 1 |
| **Greek** | | | |
| Grammar and Composition | 1 | * | 1 |
| Xenophon | 1 | ... | 1 |
| Homer | 1 | ... | 1 |
| **GERMAN (OR FRENCH)** | | | |
| ELEMENTARY | 2 | 2 | ... |
| Intermediate | 1 | ... | 1 |
| **French (or German)** | | | |
| Elementary | 2 | ** | 2 |
| Intermediate | 1 | ... | 2 |
| **Spanish** | | | |
| Elementary | 2 | ... | 2 |
| **Scandinavian** | | | |
| Elementary | 2 | ... | 2 |
| **HISTORY** | | | |
| AMERICAN HISTORY AND CIVIL GOVERNMENT | 1 | 1 | ... |
| Greek and Roman History | 1 | ... | 1 |
| Medieval and Modern History | 1 | ... | 1 |
| English History | 1 | ... | 1 |
| **Science †** | | | |
| Botany and Zoology, each | 1 | ... | 1 |
| or Biology | 1 | ... | 1 |
| Chemistry | 1 | ... | 1 |
| Physics | 1 | ... | 1 |
| Physiography | ½ | ... | ½ |
| Physiology | ½ | ... | ½ |
| **Agriculture** | 1 | ... | 1 |
| **Drawing** | 1 | ... | 1 |
| **Manual Training** | 1 | ... | 1 |
| **Domestic Science** | 1 | ... | 1 |
| **Music** | | | |
| Appreciation or Harmony | 1 | ... | 1 |
| Total | 38½ | 9 | 29½ |

A *unit* is the credit value of at least 36 weeks' work of 4 or 5 recitation periods per week, each recitation period to be of not less than 40 minutes. In other words, a unit represents a year's study in any subject in a secondary school constituting approximately a quarter of a full year's work. A satisfactory year's work in any subject cannot be accomplished under ordinary circumstances in less than 120 sixty-minute hours, or their equivalent.

*Required Branches:* Of the 14 units of high-school work the subjects in capitals aggregating 9 units are required. Other work to the amount of at least 5 units may be made up from any of the other subjects of the above schedule.

* Two units of Greek may be substituted for the two required units of Latin.

** Two units of French may be substituted for the two required units of German.

† Credentials of each science course must include evidence of laboratory work.

*(b)* The required and elective subjects for which credits for admission to the preliminary college year may be accepted are shown in Table 1.

### THE PRELIMINARY COLLEGE YEAR

At a joint meeting of the committees representing the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association held March 22, 1913, and with the advice of Dr. Kendric C. Babcock, Specialist in Higher Education of the United States Bureau of Education, the following requirements were adopted for the preliminary college year:

(*a*) The preliminary college year shall extend through one college session of at least thirty-two weeks of actual instruction, including final examinations.

(*b*) In excellence of teaching and in content, the work of this preliminary college year shall be equal to the work done in the freshman year in standard colleges and universities.

(*c*) This preliminary college year shall include courses in physics, chemistry, biology and German or French, each course to embrace at least eight semester hours of didactic and laboratory work in each subject as shown in Table 2, provided that a student may satisfy the requirement of physics in presenting one unit of high-school physics and completing a half year of college physics which continues and does not duplicate the work done in the high school.

(*d*) In medical colleges planning to give the work of the preliminary year, provision should be made for full-time expert teachers in the various subjects. Sufficient equipment should be provided to enable the students to do the work intelligently—in amount such as will compare favorably with the equipment for these courses in standard colleges and universities.

(*e*) It should be remembered that the chief object of the work of the preliminary college year is to provide the student with a training that will enable him to enter more readily and intelligently on the study of the fundamental medical sciences in the medical school.

TABLE 2.—SCHEDULE OF WORK OF COLLEGE YEAR

| Subject. | Lectures or Recitations Per Week | Laboratory Periods * Per Week | Total Hours Per Semester | Total Semester Hrs. Per Year. |
|---|---|---|---|---|
| Physics, 1... | 2 | 2 | 4 | 8 |
| Chemistry, 1. | 2 | 2 | 4 | 8 |
| Biology, 1... | 2 or 3 | 2 or 1 | 4 | 8 |
| German or French, 2.. | 4 or 3 | ..... | 4 or 3 | 8 or 6 |
| Totals.... | 10 | 6 or 5 | 16 or 15 | 32 or 30 |

* Each laboratory period must extend over at least two hours.

OR, EXPRESSED IN CLASS HOURS:

| Subject | Total Hours Lectures, or Recitations | Total Hours Laboratory Work | Total Minimum Hours Didactic and Laboratory |
|---|---|---|---|
| Physics, 1.... | 64 | 128 | 192 |
| Chemistry, 1.. | 64 | 128 | 192 |
| Biology, 1.... | 64 or 96 | 128 or 64 | 192 or 160 |
| German or French, 2... | 128 or 96 | ..... | 128 or 96 |
| Totals ..... | 320 | 384 or 320 | 704 or 640 |

### COLLEGES AND STATES HAVING HIGHER ENTRANCE REQUIREMENTS

The thirty-two medical schools which are now requiring as a minimum for entrance two or more years of work in a college of liberal arts in addition to a four-year high-school education are as follows:

| College | Began |
|---|---|
| Johns Hopkins University, Medical Department | 1893 |
| Harvard Medical School | 1900 |
| Western Reserve University Medical Department | 1901 |
| University of Chicago, Rush Medical College | 1904 |
| University of California, Medical Department | 1905 |
| University of Minnesota, College of Medicine and Surgery | 1907 |
| University of North Dakota, College of Medicine | 1907 |
| University of Wisconsin, College of Medicine | 1907 |
| Cornell University Medical College | 1908 |
| Wake Forest College, School of Medicine | 1908 |
| Leland Stanford Junior University, Department of Medicine | 1909 |
| Yale Medical School | 1909 |
| University of Kansas, School of Medicine | 1909 |
| University of Michigan, College of Medicine | 1909 |
| University of Nebraska, College of Medicine | 1909 |
| University of South Dakota, College of Medicine | 1909 |
| University of Colorado, School of Medicine | 1910 |
| Indiana University School of Medicine | 1910 |
| State University of Iowa, College of Medicine | 1910 |
| State University of Iowa, College of Homeopathic Medicine | 1910 |
| Drake University, College of Medicine | 1910 |
| University of Missouri, Department of Medicine | 1910 |
| Dartmouth Medical School | 1910 |
| Columbia University College of Physicians and Surgeons | 1910 |
| Syracuse University College of Medicine | 1910 |
| University of Pennsylvania, Medical Department | 1910 |
| University of Utah, Medical Department | 1910 |
| Northwestern University Medical School | 1911 |
| Georgetown University School of Medicine | 1912 |
| Washington University, Medical Department | 1912 |
| Ohio-Miami Medical College, Univ. of Cincinnati | 1913 |
| University of Pittsburgh, School of Medicine | 1913 |

The following six medical schools have announced the adoption of the two-year collegiate requirement to take effect in the year given:

| | |
|---|---|
| University of Georgia, Medical Department | 1914 |
| University of Illinois, College of Medicine | 1914 |
| University of Louisville Medical Department | 1914 |
| Fordham University School of Medicine | 1914 |
| University of Alabama, School of Medicine | 1915 |
| College of Medical Evangelists, Loma Linda, Cal | 1915 |

The twenty-four following colleges require, in addition to a four-year high-school course, one year of college work in physics, chemistry, biology and a modern language, the requirement beginning in the year given:

| College | In Force |
|---|---|
| Howard University, School of Medicine | 1910 |
| Tulane University, Medical Department | 1910 |
| St. Louis University, School of Medicine | 1910 |
| University of North Carolina, School of Medicine | 1910 |
| University of Oregon, Medical Department | 1910 |
| University of Texas, Medical Department | 1910 |
| University of Virginia, Department of Medicine | 1910 |
| Fordham University, School of Medicine | 1911 |
| West Virginia University, School of Medicine | 1911 |
| Medical School of Maine | 1912 |
| University of Michigan, Homeopathic College | 1912 |
| University and Bellevue Hospital Medical College | 1912 |
| Leonard Medical School | 1912 |
| University of Vermont, College of Medicine | 1912 |
| University of Illinois, College of Medicine | 1913 |
| Tufts College Medical School | 1914 |
| Cleveland-Pulte Medical College | 1913 |
| Hahnemann Medical College, Philadelphia | 1913 |
| Jefferson Medical College | 1913 |
| Medico-Chirurgical College of Philadelphia | 1913 |
| Temple University, Department of Medicine | 1913 |
| Woman's Medical College of Pennsylvania | 1913 |
| Baylor University, College of Medicine | 1913 |
| Marquette University, School of Medicine | 1913 |

The seventeen following medical colleges have intimated that, beginning in 1914, they will require for admission, in addition to a standard four-year high-school education, the premedical college year devoted to courses in physics, chemistry, biology and a modern language:

| College | In Force |
|---|---|
| College of Physicians and Surgeons, Los Angeles | 1914 |
| Oakland College of Medicine and Surgery | 1914 |
| George Washington University, Medical Department | 1914 |
| Bennett Medical College | 1914 |
| University of Louisville, Medical Department | 1914 |
| College of Physicians and Surgeons, Baltimore | 1914 |
| University of Maryland, School of Medicine | 1914 |
| Boston University, School of Medicine | 1914 |
| Detroit College of Medicine | 1914 |
| John A. Creighton Medical College | 1914 |
| Albany Medical College | 1914 |
| University of Buffalo, Medical Department | 1914 |
| Starling-Ohio Medical College | 1914 |
| State University of Oklahoma, School of Medicine | 1914 |
| Vanderbilt University Medical Department | 1914 |
| Medical College of Virginia | 1914 |

After Jan. 1, 1914, therefore, there will be at least seventy-five medical colleges which will have put into effect entrance requirements of at least one year of college work including courses in physics, chemistry, biology and a modern language.

### HIGHER PRELIMINARY REQUIREMENTS BY STATE BOARDS

There are now twelve state medical licensing boards which have adopted preliminary requirements in advance of a four-year high-school education. These are as follows:

| State Examining Board of | No. of Years Required. | Affects Students Matriculating. | Affects all Applicants. |
|---|---|---|---|
| North Dakota | 2 | 1907-08 | 1911 |
| Iowa | 2 | 1907-08 | 1911 |
| Minnesota | 2 | 1908-09 | 1912 |
| Colorado | 2 | 1910-11 | 1914 |
| Connecticut | 1 | 1910-11 | 1914 |
| Kansas | 1 | 1910-11 | 1914 |
| Indiana | 2 | 1910-11 | 1914 |
| Utah | 1 | 1910-11 | 1914 |
| South Dakota | 2 | 1911-12 | 1915 |
| Vermont | 1 | 1912-13 | 1917 |
| Pennsylvania | 1 | 1913-14 | 1918 |
| Kentucky | 2 | 1914-15 | 1918 |

### THIRD CLASSIFICATION OF MEDICAL COLLEGES

Following the completion of the Council's third complete inspection of the medical colleges in the United States another classification was prepared. It was presented to this body in the Council's report last year and was ordered published. After a careful review of all the data the classification was published Jan. 18, 1913. This classification made reference to 118 medical colleges as shown in Table 3.

TABLE 3.—THIRD CLASSIFICATION OF MEDICAL COLLEGES

| | Class A+ | A | B | C | Total |
|---|---|---|---|---|---|
| Giving complete course | 22 | 35 | 23 | 29 | 109 |
| Giving two years only | 2 | 6 | 1 | .. | 9 |
| Totals | 24 | 41 | 24 | 29 | 118 |

In the three inspection tours which have now been completed, data along the same identical lines was collected from all colleges in order to secure information on which standards could be based. These standards are now fairly well fixed so that hereafter all inspections made can be of a more constructive nature, and the Council will be in a better position to point out to the officers of each college inspected such changes as may be made to the best advantage. Such statements heretofore have been sent only to such colleges as have requested them.

Since our last report the rating of the University of Georgia Medical Department, at Augusta, has been raised from Class B to Class A and the rating of the Medical College of the State of South Carolina has been raised from Class C to Class B because of very decided improvements. Both of these institutions have been granted full control of the attending staffs of the city hospitals and have carried on very successful campaigns for funds. The former raised $45,000 in subscriptions from the citizens of Augusta, and the city officials have agreed to give the medical school in perpetuity $10,000 per year. The latter has just secured legislation making it a state institution securing also a state appropriation of $10,000. In a more recent ten-day campaign $76,000 was obtained in subscriptions from the citizens of Charleston for the immediate development of the school.

### MEDICAL EDUCATION IN THE SOUTH

A word should be said regarding medical education in the South. Time and again in the Council's annual conferences and elsewhere, the South has been referred to as a section of the country in which the medical schools needed to be given a special dispensation or needed special nursing in order to bring them to the same plane as the northern colleges, and in

former years there was perhaps some basis for such references. But, gentlemen, these references no longer apply to the South and the Southern delegates are themselves beginning to vigorously protest against them. The fact is that in no section of the country has the Council on Medical Education had a more hearty cooperation, than on the part of the medical college men of the South, and in no section of the country have improvements in medical education been greater than in those of the southern states. Tennessee, which formerly had twelve medical schools, now has only five and three of these, including one negro school, have undergone a remarkable development. In Alabama, Arkansas, Mississippi, Oklahoma and South Carolina there are now single medical schools supported and controlled by the state. We have just referred to the improvements of the University of Georgia and the Medical College of South Carolina. The same development has been going on in the medical schools in practically every Southern state.

Misgivings have been expressed regarding the adoption of higher entrance requirements in the South. The chief argument advanced against the requirement of higher preliminary standards in the South is that there is such a diversity of secondary schools, but this is really the strongest argument in favor of the higher requirement since in the preliminary college year the student's preliminary qualifications can be more positively ascertained and the student clearly needs the additional training. The colleges themselves have vigorously grappled with the problem, however, and have practically settled it. Already eight medical colleges in the South have established the higher requirements. These are the Universities of Texas, Tulane, Alabama, North Carolina and Virginia and also Baylor University, Wake Forest College and the Leonard Medical School. The University of Georgia has announced the adoption of the higher requirement to take effect in 1914 and the Medical College of Virginia and Vanderbilt University have intimated similar action. With all these colleges taking the definite stand for the increased requirement it will not be difficult for the Universities of Arkansas, Oklahoma, Mississippi and Tennessee and the Medical College of South Carolina, each of which has a clear field in its state, to adopt a similar requirement. It is quite evident, therefore, that the South needs no special dispensation on this score.

The South has not only demonstrated that it can hold its own in regard to medical education but in some respects it has furnished splendid examples which are aiding in the solution of educational problems elsewhere. The generosity with which the people of several Southern cities have come to the support of their local medical schools has shown what may be done in the cities of other sections of the country. The officials of southern cities also have been quick to see the importance of placing the care of the patients in the city hospitals and the sick poor of those cities in the charge of the faculties of good medical schools. Taken as a whole, progress in medical education in the south is very encouraging and is fully on a par with that throughout the country.

### *FURTHER DECREASE IN THE NUMBER OF MEDICAL SCHOOLS*

As has been stated in a previous report, there were, in 1904, 166 medical schools in the United States, which was nearly one-half of the world's supply. Since that time, very largely since 1907 when the first classification of colleges was prepared, the decrease in the number of schools has been quite rapid. This has been brought about partly by the disappearance of the commercial medical schools which have gone out of existence, but more largely through the merger of several small schools in each of numerous localities leaving in each instance one larger and stronger school such as was done in Louisville, Kentucky, where five colleges merged into one. The same thing occurred in Indiana, Minnesota, Iowa, Tennessee, and elsewhere. The number of medical schools will be about 110 at the end of the present college session.

The figures showing the colleges which have been closed by merger and otherwise since 1907 are given in Table 4.

TABLE 4.—COLLEGES CLOSED SINCE 1907

| Year | Class A | | Class B | | Class C | | Totals | | Total Closed |
|---|---|---|---|---|---|---|---|---|---|
| | Merged | Extinct | Mg. | Ext. | Mg. | Ext. | Mg. | Ext. | |
| 1907..... | 3 | ..... | 3 | 1 | ..... | 3 | 6 | 4 | 10 |
| 1908. .... | 2 | ..... | 2 | ..... | 1 | 4 | 5 | 4 | 9 |
| 1909. .... | 3 | 1 | 2 | ..... | ..... | 7 | 5 | 8 | 13 |
| 1910. .... | 1 | ..... | 3 | ..... | 3 | 6 | 7 | 6 | 13 |
| 1911. .... | ..... | ..... | 3 | ..... | 1 | 3 | 4 | 3 | 7 |
| 1912 ..... | 2 | ..... | ..... | ..... | ..... | 3 | 2 | 3 | 5 |
| 1913..... | 3 | ..... | 1 | ..... | 4 | ..... | 8 | ..... | 8 |
| | 14 | 1 | 14 | 1 | 9 | 26 | 37 | 28 | 65 |

This decrease in the number of medical colleges has not been to the detriment of medical education but to its advantage. It has not removed or lessened the opportunities for students to study medicine, but has resulted in giving them better opportunities. It has resulted in reducing the abnormal over supply to a smaller number but a better grade of medical schools.

### *COST OF TEACHING MEDICINE*

Definite reports from sixty-five medical colleges show that the expense of teaching each student ranges from one and one-half to several times the amount that the student pays in fees. The average amount paid out per student by the sixty-five colleges was $410 while the average amount received in fees was $122. The excesses of cost over income per student in several schools were respectively: $2,774, $1,863, $897, $747, $730, $673, $518 and $500. The excess of expense over income from fees per student was over $200 in twenty-eight of the medical colleges which reported. It is safe to say that with the same equipment and at practically no additional expense these schools could easily accommodate two, three, or in some instances several times the number of students at present enrolled which would greatly reduce the disproportion of expense over income from fees. A further reduction in the vast oversupply of medical schools in this country will, therefore, be clearly in the interests of economy and will be of marked advantage to medical education.

While the cost of teaching medicine has been greatly increased the cost to the individual student has been only moderately increased. The cost to the student in some of the Class C medical schools is much greater than in some of the best university schools. Some of the state university medical schools charge fees as low as $50 to $80 per year, where, on the other hand, some Class C colleges demand that the student pay fees as high as $100 to $175 per year. Any plea for the continued existence of low grade colleges in the interest of the "poor boy" therefore, is apparently more for the boy who is poor in scholarship rather than for the boy who is poor in purse. There is no reason why any student should spend his time and money in a low grade college, the diplomas of which are now not recognized in many states when in the same time and for even less money he can get a thorough medical training in one of several of the best equipped colleges in the country.

The facts just given emphasize the sheer folly of starting new medical colleges unless those colleges are sufficiently well endowed or are otherwise adequately financed and equipped as thoroughly as the best of the colleges now existing.

### *FULL-TIME, EXPERT TEACHERS*

Reliable information from all medical schools obtained during the third tour of inspection shows that in the 117 medical schools existing during 1912 there were altogether 876 full-time, salaried teachers and of this number 490 had professorial rank. This is an average, therefore, of eight full-time teachers to each school including between four and five which had professorial rank. Excluding about thirty colleges which had not a single full-time teacher, the average number for each of the remaining schools was ten of which six had professorial rank. Since a marked increase in the number of such teachers has been made since the third tour of inspection was made, the average number for each school is now undoubtedly higher.

### STATE UNIVERSITY MEDICAL SCHOOLS

Twenty-seven states now have medical schools as integral parts of the state universities or—in one instance—under state control as separate institutions. These states and other interesting data regarding the medical schools are shown in Table 5.

TABLE 5.—STATE UNIVERSITY MEDICAL SCHOOLS

| Medical School of State University of | Only School in State | Length of Med. Course in Years | Years of College Work for Admission | Medical School of State University of | Only School in State | Length of Med. Course in Years | Years of College Work for Admission |
|---|---|---|---|---|---|---|---|
| Alabama | 1915 | 4 | ..[2] | North Carolina | ..... | 2 | 1 |
| Arkansas | Yes | 4 | ..... | North Dakota | Yes | 2 | 2[3] |
| California | ..... | 4 | 2 | Oklahoma | Yes | 4 | ..... |
| Colorado | Yes | 4 | 2[3] | Oregon | Yes | 4 | 1 |
| Georgia | ..... | 4 | ..[1] | South Carolina | Yes | 4 | ..... |
| Illinois | ..... | 4 | ..[1] | South Dakota | Yes | 2 | 2[3] |
| Indiana | Yes | 4 | 2[3] | Tennessee | ..... | 4 | ..... |
| Iowa* | Yes | 4 | 2[3] | Texas | ..... | 4 | 1 |
| Kansas | Yes | 4 | 2 | Utah | Yes | 2 | 2 |
| Michigan* | ..... | 4 | 2 | Vermont | Yes | 4 | 1 |
| Minnesota | Yes | 5 | 2[3] | Virginia | ..... | 4 | 1 |
| Mississippi | Yes | 2 | ..... | West Virginia | Yes | 2 | 1 |
| Missouri | ..... | 2 | ..... | Wisconsin | ..... | 2 | 2 |
| Nebraska | ..... | 4 | 2 | | | | |

*Have Homeopathic Departments.
1. To require 2 years in 1914.
2. To require 2 years in 1915.
3. Similar requirement by Licensing Board.

In fifteen states no other medical schools exist, medical education in the state being entirely in charge of the state university. This will be true in Alabama also in 1915, when an independent medical school now existing will have been converted into a postgraduate institution.

Of the twenty-seven state medical schools, twenty give the complete medical course and grant M.D. degrees while seven give only the first two years of the medical course. Minnesota now requires a five-year course, the fifth year to be spent by the student in a hospital as an intern, or in other recognized clinical work.

As may be noted in Table 3, thirteen of these state university medical schools are now requiring for admission two years of collegiate work. The medical schools of the Universities of Georgia and Illinois have adopted the two-year requirement to become effective in 1914. The medical school of the University of Alabama has announced the two-year requirement to take effect in 1915. As already shown the state schools are supported in this requirement by the state licensing boards in Colorado, Indiana, Iowa, Minnesota, North Dakota and South Dakota. Of the fourteen other state university medical schools eight are still requiring for admission a standard four-year high-school course and six are requiring in addition one year of collegiate work.

### THE HOSPITAL INTERN YEAR

A beginning has been made toward a classification of hospitals according to their having sufficient patients, equipment, methods, and a willingness to furnish a satisfactory training for interns. Extensive reports have been secured from a large majority of the hospitals and from these a provisional classification will be prepared. Meanwhile some very interesting information has been secured bearing on the hospital internship.

To the 924 hospitals having 100 or more beds a letter was sent asking the number of interns at present in service. Of the 822 from which replies have been received, 279 report they have no interns and 543 report a total of 2,423 interns now in active service. Letters were sent also to about 1,500 hospitals having from twenty-five to 100 beds. Of the 1,363 which have replied, 1,054 report no interns while 309 report 583 interns in active service. Altogether, therefore, 852 hospitals report 3,006 interns in active service. Since there are only about 4,500 medical graduates each year there are still about 1,500 graduates for whom to provide internships, and there are about 1,400 hospitals having altogether approximately 135,000 beds which at present have no interns. There is every reason to believe that a special campaign carried on among these hospitals will result in providing an opportunity of an internship for every medical graduate.

From another standpoint some figures have been obtained that are interesting. Reports from over half of the medical schools indicate that of their graduates of 1912, about 70 per. cent. obtained internships. Many of the colleges reported that all their graduates might have had internships had they so desired and that they could not supply the demand from hospitals for interns. In reply to the question why all graduates did not get internships the general reply was because the graduates concerned "did not want them," because they were going "directly into practice" or "they were married." Only six colleges reported that there were not enough hospital places offered, but it is quite apparent that if these colleges carry on a campaign among the hospitals in their states or sections that internships for all can be secured.

From these figures it will be seen that a definite requirement by state medical boards of a hospital internship as a prerequisite for license can be made possible within the next few years, without working a special hardship on any of the parties concerned. On the contrary, such a requirement would aid the hospitals seeking interns, it would greatly aid the recent graduates by furnishing them a practical hospital experience, and it would undoubtedly be of great value to the public since they would be supplied with better trained doctors.

### STATE MEDICAL LICENSING BOARDS

As is now generally well understood, and as has been frequently stated in the Council's reports and publications, the only legal control over medical colleges and medical licensure in each state is that which may be given by the medical practice act to the state medical examining board. In the forty-nine states and four or five territories of this country, therefore, the national constitution provides for as many sources of control. The medical practice acts in these different states vary widely, from those which leave a wide open door to the ignorant, the incompetent, the quack and the impostor, to those which provide for the registration only of competent, well trained practitioners of medicine. Some state legislatures passed very excellent practice acts but later nullified these by enacting other measures providing short-cuts and lower educational standards for such as shrewdly called their medical practice by some other name. The greatest difficulty, therefore, which hinders the proper control of medical licensure in the United States is due to the multiplicity of legal bodies which have the licensure in control. Because of this multiplicity both of boards and of standards incompetents and impostors have but little difficulty of securing the privilege of carrying on their practices, no matter how iniquitous they may be, even in some of our most enlightened commonwealths. If a physician has his license in one state revoked for cause, he promptly moves into an adjoining state and secures a license to continue his crooked practice until caught again. With so many different boards and such a wide division of authority it is exceedingly difficult either to get proper legislation or to enforce it after it has been secured. The great problem in medical licensure, therefore, is: How to secure a close cooperation between the various state licensing boards by which unanimity of action, uniformity of standards and equally thorough methods and examinations may be obtained.

### A SINGLE FEDERATION OF STATE MEDICAL BOARDS

Recognizing this need of cooperation there has recently been organized the Federation of State Medical Boards resulting from the effort to merge the two Confederations which have been in existence for several years. Under the new constitution this Federation gives promise of doing effective work and it certainly has a great opportunity. It is hoped that all state medical boards will unite with this organization, not only for the added protection it will furnish for the individual state but also for the great good that can and needs to be accomplished for the country as a whole.

### NON-RECOGNITION OF LOW GRADE COLLEGES

Prior to the general inspection of all medical colleges by the Council on Medical Education, it was difficult or impossible for each state licensing board to know the character of the work done by even the colleges in its own state let alone what was being done by medical schools in distant parts of the country. Many boards were without authority either to make such investigations, or the funds necessary were not available. No accurate data on which standards could be based had been collected and therefore all medical colleges were "recognized" by practically all state boards unless perchance some college was caught redhanded in the selling of diplomas.

Since standards based on reliable data have been fixed, however, and since classifications of colleges have been published such state boards as have authority to discriminate between colleges have been exercising more or less their discretion in withdrawing recognition from medical colleges of low grade. Some boards, particularly during the past year, have adopted resolutions refusing to longer recognize the diplomas of any medical school rated in Class C. Other boards have prepared lists of their own, an examination of which, however, shows that few, if any, Class C colleges are included. In several states the Class C colleges located in those states are still retained on the recognized list, but not those located in other states. Some of these boards, however, are laboring with the local schools in an effort to secure improvements. From correspondence conducted during the year in the interests of prospective medical students who have the right to know whether the diplomas they receive are to be generally recognized or not, it is apparent that a large majority of colleges of the Class C type are now not fully recognized by the following state boards:

| | | |
|---|---|---|
| Alabama | Louisiana (Reg.) | Ohio |
| Arkansas (Reg.) | Maryland (Reg.) | Pennsylvania |
| Colorado | Michigan | Rhode Island |
| Connecticut (Reg.) | Minnesota | Texas |
| Delaware | New Hampshire | Vermont |
| Indiana | New Jersey | Virginia |
| Iowa | New York | West Virginia |
| Kentucky | North Dakota | Wisconsin |

### PROGRESS IN NINE YEARS

That great progress in medical education has been made in the last nine years shows more than anything else that improvements were greatly needed. Had this country, like other nations, had a national control over educational matters, there would probably have been no need for a Council on Medical Education. The serious conditions previously existing were doubtless due to the fact that the control of education was left to the fifty different states and territories, and that in many of the states no effective means of control had been provided. There was, therefore, great need of a national influence over matters pertaining to medical education and that influence was provided by the American Medical Association, the organization naturally best fitted to furnish it, even as the American Bar Association exerts a powerful influence in legal matters throughout the country.

The work of the American Medical Association through its Council on Medical Education is, of course, purely voluntary, and the results have come essentially from the formation of public opinion through publicity regarding existing conditions and needs as shown by standards and conditions elsewhere. After all, no force can bring improvements of such permanent nature as that of public opinion. In a republic such as the United States even laws are not very effective unless there is a strong public opinion in favor of them.

There are numerous other reasons, however, which in part account for the gratifying progress which has been made in medical education and which are worthy of mention:

(a) Many of the medical colleges had long realized the great need of improvement and quickly responded as soon as the Council's investigations had indicated what improvements were most needed.

(b) Through the annual conferences of the Council there has been a hearty cooperation between the several agencies working for an improved medical education.

(c) The Council in its work has had effective cooperation from medical colleges both individually and through the Association of American Medical Colleges. This is true also regarding state licensing boards both individually and through their national organization, now the Federation of State Medical Boards.

(d) Much credit for the progress made should go to the physicians of many of the medical college faculties who, with an enthusiasm most admirable, have responded to the standards held out by the Council, have readily set aside personal interests and ambitions, and have voted to merge their colleges with others, or even to close them outright in order that better conditions in medical colleges might prevail.

(e) The campaign carried on by the Council has been entirely in the open. By public conferences, the consensus of opinion regarding the various problems has been obtained. Its inspections have been generally welcomed, often have been invited and have always been made with the knowledge of the college officials. Its work has been constructive and not destructive and its standards are suggestions, not demands. No force has been exerted aside from that of publicity and even this has been used to set forth in general ideals and needs, and not to expose the defects of individual colleges. To the honor of the medical profession and of the medical colleges in particular, it can be said that the greatest proportion of the progress made has been by the voluntary action of the colleges themselves and not by compulsion.

(f) The general clearing house of information regarding medical education and licensure which has been established by the Council has rendered inestimable service. Through the information secured by the inspection of colleges and by the collection of statistics from medical schools, state licensing boards, foreign countries and other reliable sources much reliable information was made available which was formerly not to be obtained anywhere. Much of this information has been published in THE JOURNAL of the American Medical Association and in reports and pamphlets. Information thus obtained furnished a reliable basis on which reasonable standards could be constructed, and following these standards, marked improvements were made possible. This information has been of service not only to the colleges but also to state licensing boards, and as a result rapid progress has been made toward higher requirements in the various states, uniform with the higher requirements adopted by medical colleges.

(g) The most important factor back of the progress made in recent years, however, is the perfect sympathy in an improved medical education, held by the great majority of the rank and file of the medical profession of this country who constitute the American Medical Association. It was in response to this demand in 1846 that the American Medical Association was organized and again in 1904 when the permanent Council on Medical Education was created.

The work of the Council has not been without opposition. On the contrary one of the best evidences that progress has been made is in the opposition that has been stirred up. No reform movement can ever amount to much if it fails to stir up active opposition. There are always those whose practices cannot stand the light of publicity and who, therefore, oppose those who are turning on the light. It was not to be expected that those in control of certain colleges which were accepting students' fees and giving in return as little as possible, would quietly acquiesce in a movement which was seriously interfering with their profits. The motives of those back of the opposition, however, have been so apparent as to scarcely require comment in this report.

### IMPROVEMENTS STILL NEEDED

The work in connection with medical colleges has now reached a stage where an American standard of medical education is well fixed and the chief efforts should be not so much toward higher standards as in securing internal improvements, better teachers, better hospital and dispensary facilities, more research and above all greater endowments.

The marked improvements made in medical colleges in recent years reveals in marked contrast the improvements needed in medical licensure. Many states need better medical

practice acts. In each state there should be a single board in control and a single educational standard by which all practitioners of the healing art should be measured regardless as to the particular methods of treatment to be followed. The very best men available should be selected as members of the licensing boards and if possible these boards should be taken out of politics. Examinations should be made more practical and thorough whereby a student would have to show evidences of actual training rather than of cramming in quizzes or from compends.

Meanwhile Canada has just established a Canadian Licensing Board which will provide an examination, the passing of which will secure a license recognized throughout Canada. It is worthy of consideration whether something similar cannot be done in this country. Some voluntary arrangement might be considered. The examinations given by the College Entrance Examination Board are now given general recognition by colleges and universities. Is it too Utopian to believe that a Medical Examining Board could be established in this country whose examinations might prove acceptable to a large number if not all of the state licensing boards? The methods by which such a board might be established are suggested in the address made by Mr. Frederick G. Hallet at the Council's Conference two years ago, as well as the character of the examination which should be given. Possibly the new Federation of State Medical Boards may be able to take this up.

### *IN CONCLUSION*

Although great progress has been made, there still remains much to be done. The work should be continued until this country shall rank second to no other in the excellence of its medical schools and in the quality of the physicians who are to have the responsibility of caring for the sick.

Respectfully submitted,

ARTHUR DEAN BEVAN, Chairman.
JAMES W. HOLLAND,
VICTOR C. VAUGHAN,
GEORGE DOCK,
WILLIAM D. HAGGARD,
N. P. COLWELL, Secretary.

At the conclusion of the report, Dr. Bevan said: In spite of the weaknesses I have pointed out under these five statements, here and there in the United States there is a splendid development in the whole situation of medical education, and the members of the House of Delegates can look forward confidently within the next few years to such a condition of affairs as this: A reasonable number of medical schools on a scientific basis, with good medical courses, with compulsory intern years as an American standard.

The report was then referred to the Reference Committee on Medical Education.

Dr. Arthur T. McCormack, Kentucky, moved that the amendments to the Constitution be referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Motion seconded and carried.

The proposed amendments are as follows:

#### Amendments to Constitution

At the 1911 session, the Reference Committee on Amendments to the Constitution and By-Laws recommended the following amendments to the Constitution:

Amend Article 11 of the Constitution by striking out in the first, second and third lines the words "by an equal assessment of not more than ten dollars annually on each of the members."

Amend Article 3 of the Constitution by striking out the entire paragraph and inserting after the title of the article the following:

All members in good standing of the component societies or their constituent branches shall be members of the American Medical Association.

Any member may become a fellow of the American Medical Association by making application on a prescribed form and fulfilling such conditions as may be required by the provisions of the By-Laws.

At the 1912 session these proposed amendments were referred to the Judicial Council with instruction to report thereon to the House of Delegates in 1913.

At the 1912 session, the Reference Committee on Amendments to the Constitution and By-Laws recommended the following amendments to the Constitution:

Amend Article 10, Section 2, of the Constitution by adding the following:

"and the President, Secretary and Editor of THE JOURNAL shall be members of the Board of Trustees without the right to vote."

Dr. G. Wythe Cook, District of Columbia, stated that at the meeting of the House of Delegates, held in Atlantic City last year, he offered a resolution asking that the Medical Association of the District of Columbia be changed to the Medical Society of the District of Columbia, and that this resolution was referred to the Reference Committee on Miscellaneous Business; but in looking over the minutes, he had found that no report was made with regard to it. He would like to have it appear in the record that this change in the name of the society was authorized.

Dr. Arthur T. McCormack, Kentucky, moved that the resolution referred to by Dr. Cook be considered as reintroduced and be referred to the Reference Committee on Miscellaneous Business.

Motion seconded and carried.

The President called for the Report of the Committee on Red Cross Medical Work, Dr. George M. Kober, District of Columbia, Chairman.

The Secretary moved that the House do now adjourn in memory of Dr. Daugherty, and that the Report of the Committee on Red Cross Medical Work be made the first order of business at the afternoon session.

Motion seconded and carried.

Accordingly, the House then adjourned until 2 p. m.

*(To be continued)*

---

# *Society Proceedings*

## COMING MEETINGS

Maine Medical Association, Portland, July 2-3.
Washington State Medical Association, Everett, July 14.

---

## AMERICAN ASSOCIATION FOR CANCER RESEARCH

*Sixth Annual Meeting, held in Washington, D. C., May 5, 1913*

### Can the Number of Cures of Cancer Be Increased by Early Excision?

DR. J. C. BLOODGOOD, Baltimore: The statistics for the last five years show that the relative number of benign tumors of the breast is increasing. I can show that if a lump in the breast is removed within a few weeks, certain types of malignant breast tumors will disappear. Pain is more common in the benign than in the malignant tumors. Therefore one should not wait until pain is present. I think that in the next five years, owing to the education which we are instituting along this line, we shall notice tremendous changes in the results of operations for malignant disease.

#### DISCUSSION

DR. WILLIAM B. COLEY, New York: Dr. Bloodgood's figures are a striking demonstration of what may be hoped for from improved resources in surgery. They also show that we must educate the medical profession. The reason we have not received cancer cases earlier is not so much that the patients do not go to the doctor as that the doctor has felt that the tumor was possibly not malignant, and that it would be better to wait for later symptoms, particularly pain, to develop. Pain is quite unimportant as a diagnostic point. Most lesions cause little or no pain until they are too far

advanced to be cured. I believe that when cases of melanotic tumors prove fatal after surgery, this is because the surgeons have waited until there was ulceration.

DR. ROBERT B. GREENOUGH, Boston: I approve of restricting the efforts of this society to the instruction of the medical profession regarding the early cases of cancer; but I do not feel that the whole responsibility rests with them, particularly for tumor of the breast. Individual patients are more at fault than is the physician; this is partly due to the absence of pain, partly to the despair that the patient feels of securing a radical cure, and partly, also, to the desire to avoid mutilation. If we attempt to carry the non-mutilating operation too far, we shall run a serious risk of having the disease followed by carcinoma.

DR. J. C. BLOODGOOD, Baltimore: I have endeavored to demonstrate the great increase in the number of cures from the radical excision of the beginning lesion. The surgeon also needs education regarding the proper treatment of the beginning lesion; an incomplete cutting operation in the very early stage of cancer is worse than delay. In the past women have come to the surgeon months or years after the lump was first noticed. If women were educated to have the tumor explored the day after it is seen or felt, their chances of cure would be 80 per cent. or more. To excise a piece for diagnosis without burning the area in the skin is a dangerous procedure. There is really no necessity for taking out a piece for diagnosis. The nodule is so small that it can all be removed readily. This excision or the use of the Paquelin cautery is sufficient for a cure. The result depends not only on making the diagnosis early, but also on the surgeon's knowing when to remove the growth.

### Education of the People as to What Can Be Done in Early Cases of Cancer.

DR. THOMAS S. CULLEN, Baltimore: It is absolutely necessary that people be enlightened as to how to diagnose cancer early, and as to what can be done for them in the early stages. If the women are educated to this, they will get after the men. Information on this point should be and is being published in magazines read exclusively by women. They are being told what constitutes cancer symptoms, and this will mean that a large percentage of the cases will be cured.

### The Incidence and Inheritability of Cancer in Mice

DR. MAUD SLYE, Chicago: During my work on heredity I accumulated a stock of 5,000 mice of known ancestry and pedigree. At the end of three years tumors began to appear spontaneously among the mice then in stock. With this stock of mice in which tumors had appeared spontaneously, I began my work on cancer. I have now 9,000 mice. All the mice were allowed to die a natural death and the necropsy was made as soon as possible afterward. I have eliminated contact and contagion in cancer by dividing my mice into four sections, which were never interchanged. We are compelled to use the mice in breeding before cancer has developed, so that it is hard to tell whether those which have been selected for breeding would have had cancer or not. If you wait till the cancer develops you run the risk of having no offspring or of having the mother too feeble to bring them up, or of having the offspring too feeble to produce other generations. I am using methods of breeding before and afterward. I have done 4,500 necropsies and have found 271 cases of unquestioned tumor.

DISCUSSION

DR. LEO LOEB, St. Louis: In our work we have noticed that some strains of mice have 100 per cent. incidence of cancer, and others considerably less, so that it is likely that heredity plays a great rôle.

DR. HARVEY R. GAYLORD, Buffalo: We have had a great deal of trouble with vermin in our work, and I wonder to what extent Dr. Slye was able to control this in hers. Her charts showed that the most constant factor in producing the disease is the affection of the mother. I wonder if her work showed differences of susceptibility in the offspring when only the other was affected and when both the father and mother had the disease.

DR. H. GIDEON WELLS, Chicago: I will assume responsibility for the histologic diagnoses in Dr. Slye's cases. When there has been any question as to malignancy, the doubt has been given in favor of the non-malignancy of the tumor. When it is diagnosed as sarcoma or carcinoma, the criteria have been applied in such a way that, if the specimen had been from a human being, we should have recommended a radical operation.

DR. WILLIAM B. COLEY, New York: There is a strong hereditary influence in the causation of cancer. A man had a round-cell sarcoma of the parotid, and his two daughters had sarcoma of the breast. This tendency to different types I have observed in a number of different instances.

DR. RICHARD WEIL, New York: If this result presents an analogy with the mendelian law, it would appear that it has a marked dominant characteristic—the tendency, I mean, to degeneration of the tissues. Aside from the ordinary routes of infection, there is the possibility of infection through the placenta. The fact that the females develop tumors in the breast, while the males develop them in the lung, would seem to rule out infection and show that it is a tendency toward cancerous degeneration of the tissues.

DR. LEO LOEB, St. Louis: In my work the age of the offspring does not vary; it has the tumor at approximately the same age as the mother.

DR. JAMES EWING, New York: If all the strains showed this heredity, then it is stronger in mice than in man. Nevertheless, I should feel a great hesitation in applying these observations in mice to cancer in man.

DR. MAUD SLYE, Chicago: I should hesitate to apply the rules of Mendel's work on dominance and recessiveness to a subject so difficult to investigate from the point of view of inheritability as cancer. If you throw gray mice, house-mice and albino mice, of pure-bred strains, into a cage together, in reasonably even numbers, you will find inside of three weeks that the house-mouse is no longer the dominant. In three years you will have almost entirely albino mice, and no house-mice. The house-mice can produce both the albino mice and the house-mice; but the albinos can produce nothing but the albinos, if they breed with house-mice. I have made no test concerning immunity. The problem of ruling out the carrying of infection by means of vermin, I found positively appalling. The mice are subject to vermin no matter what you do; but all are equally at their mercy—vermin do not pick out the cancer strains particularly. After all the work that has been done the great dominance of cancer has been found to be among the females alone, whereas the lung tumors divide quite evenly between the males and familes. The mice that I have carried through twenty-three generations are the Japanese dancing mice, which in my work have shown no tendency to cancer.

### Passive Immunization against Rat Sarcoma; Immune Substances in the Blood of Rats Recovered from Tumor

DR. RICHARD WEIL, New York: Rats which recover from their tumors are immune to subsequent implantation in more than 90 per cent. of the cases; but our experiments along the line of injecting immune plasma into normal rats, to protect them against subsequent implantation and growth of tumor, do not justify the view that the blood of recovered rats carries the factor of immunity. The conclusion is drawn that it is impossible by means of passive sensitization of guinea-pigs to demonstrate the presence of immune substances in the blood of rats recovered from implanted sarcoma.

DISCUSSION

DR. S. P. BEEBE, New York: Dr. Crile and myself have made the same kind of experiments as Dr. Weil, except that a considerably larger quantity of blood was transfused directly into the vein of the tumor-bearing animal, from the animal that had recovered. This was followed by recovery in the tumor-bearing animal. In dogs we used considerably larger quantities of material in the transfusion. We added a

great deal more blood proportionately than the rat weighed—15 or 16 gm. received when 100 c.c. were injected. It is possible that this made some difference.

DR. HARVEY R. GAYLORD, Buffalo: After years of trying to find under what conditions we obtain original results, we finally came to the conclusion that there was some factor which we could not repeat. We did not separate the plasma, but used the entire blood. I tried the experiment with dogs, using plasma and serum, and obtained no results. In one instance I obtained results from injecting fluid blood into a tumor of the vagina.

DR. PEYTON ROUS, New York: I think that too much emphasis cannot be laid on the question of balance. We may be able to tip the scales in some cases of non-malignant growths, when with malignant tumors, it would be impossible.

DR. J. W. VAUGHAN, Detroit: When the tumor is progressing with rapidity, the serum will be of no value. The reason that we do not secure results in the beginning is that it is a transitory and not a permanent sensitization with which we are dealing.

DR. RICHARD WEIL, New York: Balance is a very indefinite feature, so far as I can judge, and one which should be avoided. The whole blood does not carry protection. It immunizes just as embryo tissue immunizes—actively.

### Factors in the Production and Growth of Tumor Metastases

DR. E. E. TYZZER, Boston: If massage is performed early, the secondary nodules develop much earlier than is ever observed in the natural development of the tumor. The pre-metastatic period probably depends on other factors at least as important as active resistants to the tumor's growth. The period may be greatly shortened artificially by the massage of the primary tumors. The influence of active resistance in preventing the growth of tumor emboli is largely hypothetic, and does not account for the premetastatic period; for the presence of it has not been shown early in this period. The production of metastasis depends on the biologic character of the tumor, the duration of its growth, the size of the primary mass, possible peculiar conditions furnished by the tissue's host, and, under artificial conditions, forcible manipulation.

DISCUSSION

DR. HARVEY R. GAYLORD, Buffalo: We found that depletion in the blood-supply of the tumor seemed to hasten the growth, and we had the impression that anesthesia did the same.

DR. PEYTON ROUS, New York: My attention was called to a case of carcinoma in an animal which had been massaged, and I also tried some experiments by massage on adenocarcinoma rats, with the result that the animals all died. In ours, the massage did not cause the tumor material to go into the blood-stream any more than ordinarily.

### Cancer Statistics

DR. W. F. WILCOX, Ithaca, N. Y.: Statistics have become much confused between cancers and tumors. Cancer is primarily a disease of elderly persons, and the proportion of elderly persons who have this disease is steadily rising. The death-rate from cancer among males, while lower, is shown to be steadily increasing. The increase in cancer among insured persons is less rapid than that of the general population. In view of all the statistical evidence I am inclined to hold that the increase of the mortality from cancer is apparent rather than real. I believe further that those who doubt this conclusion and think that most of the increase is real may interpret the evidence as showing that the real increase is slackening, and that, perhaps, in certain limited areas it is already approaching its maximum.

DISCUSSION

DR. JAMES EWING, New York: The real question that interests pathologists is not so much the incidence as the relation to the particular forms of cancer. Therefore it seems to me that the statistics will have to be confined to particular types of the disease, in order to get away from the tendency to class all cancer as one kind.

DR. W. F. WILCOX, Ithaca, N. Y.: Regarding the point just raised, rather strenuous efforts are being made by the registration officials to secure a specification of the part of the body primarily affected by cancer, when a certificate of death from cancer is turned in. In 1900 about 18 per cent. of the death certificates read simply "cancer" and nothing else.

### The Effect of Fulguration and Non-Carbohydrate Diet on Transplantable Rat Sarcoma

DR. S. P. BEEBE and MISS ELEANOR VAN ALSTINE, New York: The animals were divided into two classes, those in which we started the dieting immediately on the planting of the tumor and those in which the diet was begun at a period prior to the transplantation of the tumor. The results in the first class showed that there is no difference in the behavior of the tumor on the ordinary diet and on the non-carbohydrate diet, when the diet is begun immediately. The results of the second type were important. Twenty-six rats were given this special non-carbohydrate diet, and twenty-six were given a control diet, which was the ordinary diet of the laboratory. The nitrogen remained the same in each case. In the non-carbohydrate diet we replaced lard by lactose. There were 100 per cent. of "takes" of the tumor in transplantation. In the second and third weeks the control animals showed two and a half times the tumor over the animals on the special diet. Between the third and fourth week so many of the animals died that it was not advisable to go on with the investigation.

DISCUSSION

DR. FREDRICK PARKER GAY, Berkeley, Cal.: I should like to ask what the relation of the broth was in the second class of diet.

MISS VAN ALSTINE: The broth was about the same up to the time of the first week, when the tumors began to drift apart; and the animals on the lactose diet, in which the tumor grew very fast, began to lose weight.

DR. S. P. BEEBE, New York: The rats, twenty-five or thirty, were planted with the same tumor on the same day. They had been fed with the special diet, and kept under the same conditions; yet if they did not have the carbohydrate food, they did not take the tumor—or if they did, the tumors did not grow so large as in the animals which did have a carbohydrate diet. If you plant the tumor and start the diet on the same day, it has no opportunity to manifest itself, the tumor having killed most of the rats. This short period would, when estimated in proportion to the lifetime of a human being, mean years on this diet, in order to prepare him to resist the tumor.

### The Purins and Purin Metabolism of Some Tumors in Domestic Animals

DR. ESMOND R. LONG, Chicago: The purins of tumors in domestic animals are generally the same as those of the normal tissue. The purin enzymes are also generally the same in tumors as in the normal tissue from which the tumors are derived. The absence of xanthin oxidase in a malignant tumor, containing otherwise the same purin enzymes as the tissue from which it comes, is evidence, on chemical grounds, confirming the histologic evidence of the embryonic character of tumor tissue.

DISCUSSION

DR. RICHARD WEIL, New York: The tumors of sheep have long been a subject of dispute. It has been shown that these tumors are not derived from renal or adrenal rests, but are tumors of liver-cell origin.

### The Influence of Ultraviolet Light on a Tumor Caused by a Filterable Agent

DR. PEYTON ROUS, New York: Three or four years ago we isolated from the tumor of a chicken a filterable agent which, when used under aseptic precautions produced a tumor in other animals. We tried the Roentgen ray and the ultraviolet rays on these tumors. The results with the Roentgen ray were not satisfactory; but with the ultraviolet rays we

were able to secure better results. Ordinarily the fresh tumor tissues when transplanted into susceptible fowls caused a decided growth within a week. This was with malignant growths. When we used less malignant growths the tissues died at once and we did not obtain the round-cell reaction. We think that there is a definite and quite distinct resistance to this process directed against the new growth, which prevents the tumor from being infectious. We found some fowls susceptible to the agent and not to the transplanted cells; others susceptible to the transplanted cells, but not to the agent, and still others susceptible to both.

DISCUSSION

DR. JAMES EWING, New York: I should like to ask if drying destroys the life of all the cells? I found that active drying of living epithelial cells did not destroy their viability.

DR. PEYTON ROUS, New York: I had not been aware of the fact that epithelial tissue would survive drying. From my own findings, and those of others, I judged that they would not.

### The Action of Intravenous Injections of Various Substances in Animal and Human Cancer

DR. LEO LOEB, St. Louis: Of forty-six tumor-mice injected with colloidal copper, thirty-five did not grow and eleven grew. The colloidal condition in which the metal is introduced is of great influence on the results which are obtained. Various caseins inhibited the growth of tumors during the period of injection in the large majority of cases. All cases which are rapidly growing cannot be markedly influenced by the treatment. Possibly a slight retardation of growth can be obtained for some time at least. We may conclude from our observations that mouse carcinoma and human cancer can be affected in a similar manner, and that comparing the dose given per kilogram of animal and man, the copper is not less effective in the case of man than in the case of mice. I am not inclined to think that these various substances act directly on the cancer cells after having been taken into the cell bodies. How far this mode of treatment in combination with others, such as radium and Roentgen rays, may become of practical value, we cannot predict at present.

DISCUSSION

DR. THOMAS ORDWAY, Boston: We selected four cases: a slowly growing carcinoma of the tongue, a case of rodent ulcer, a case of carcinoma of the tonsil and a case of carcinoma of the neck. In only one of these cases did there seem to be even a temporary improvement. While all the patients are living, yet there has been no definite improvement manifested. Cancers are subject to great fluctuations, and it is very difficult to draw conclusions as to the results of any form of treatment.

DR. H. GIDEON WELLS, Chicago: The unique position occupied by casein in these experiments is interesting. Goat and cow casein will counteract one another. In the great incidence of carcinoma in the mammary gland one may see a connection between that and the effect of casein on these carcinomas.

DR. RICHARD WEIL, New York: We gave copper in amounts from 100 to 700 c.c. In some cases we noted chill and rise of temperature, but in general the copper was well borne. We had a necropsy in one case, and the tumor from operation in another. This gave us two tumors to examine. No trace of copper could be found in either tumor on analysis. In the liver, however, marked amounts were found.

### Nematodes in Hyperplastic Thyroids of Dogs

DR. HARVEY R. GAYLORD, Buffalo: We found little tubercles in some of the slides made of the thyroids from dogs which had acquired hyperplasia of the thyroid from drinking water from an infected pond. Three puppies which had drunk the pond water directly, without boiling, had tubercles in the capsule of the thyroid, and in some cases in the structure of the thyroid, in the center of which was a small nematode. A control dog that also showed a slight amount of hyperplasia, which might have been acquired before the experiments began, also showed this tubercle containing a nematode.

DISCUSSION

DR. S. P. BEEBE, New York: We have had some ideas in regard to nematodes having a possible relation to the action taking place in the thyroid.

DR. PEYTON ROUS, New York: I have found nematodes in normal mice, in sections made of the skin for other purposes, and in chickens they are common in the young.

DR. ERWIN F. SMITH, Washington, D. C.: It is well known that there are many free nematodes and many parasitic ones on plants.

DR. JAMES EWING, New York: If the nematodes are found frequently without relation to tumors, the histologic evidence is strong that they are connected with histologic reactions.

DR. H. R. GAYLORD: So far as I can tell, there is no relation between the nematodes and the hyperplasia.

### Carcinoma of the Skin

DR. J. A. FORDYCE, New York: I have some photographs of Paget's disease showing identical changes and proving that this disease is not limited to the nipple. You can find it in other parts of the skin. I have seen it in the buttocks, thighs and serotum. The changes in the epidermis were identical in all the cases; but in the nipple skin there was proliferation of the epidermis.

DISCUSSION

DR. JAMES EWING, New York: Does Paget's disease in regions not connected with the breast throw any light on the main question at issue, namely, the relation of the skin lesion to primary carcinoma of the breast duct?

DR. J. A. FORDYCE, New York: Paget's disease is a primary disease of the epidermis. The primary changes are seen in the epidermis before there is much involvement of the underlying tissue.

---

## AMERICAN SURGICAL ASSOCIATION

*Annual Meeting held in Washington, D. C., May 6-8, 1913*

The President, DR. CHARLES A. POWERS, Denver, in the Chair

### Fibromatosis of Stomach and Its Relationship to Ulcer and to Cancer

DRS. ALEXIS THOMSON and JAMES M. GRAHAM, Edinburgh, Scotland: There exists an innocent form of gastric fibromatosis (cirrhosis or linitis). We have observed nine cases in which, neither in the stomach nor in the lymph-nodes, was there a trace of cancer to be found. In the mucosa appearances resembling cancer are met with in these cases, and might be mistaken for it, but we are confident they do not represent cancer, for the suspicious appearances are confined to the mucosa. We have operated in cases of fibromatosis, and, having done no more than an exploration, or at most a palliative gastro-enterostomy, the tumor has disappeared and the patient his survived ten or more years. There is an essential difference between fibromatosis and the callousing scar tissue of a gastric ulcer. Scar tissue resembles the scar tissue that forms in other organs and tissues in its structure in that it is limited in extent and is proportionate in amount to the lesion with which it is associated. Fibromatosis not only differs from scar tissue in its structure and arrangement, but, above all, is characterized by its capacity for spreading in the wall of the stomach, it may be, far beyond the area of its original formation. It may, for example, spread round the whole circumference of the stomach and into the adjacent transverse colon. The scar tissue which attends on ulcer takes the place of the coats of the stomach that have been destroyed by the ulcer; fibromatosis is an addition to the tissues of the stomach, and by its selection of the submucosa, it renders the different coats of the organ more easily recognized than in the normal state.

We do not know what is the cause of gastric fibromatosis; but from its invariable association with a punched-out ulcer or with chronic superficial ulceration of the mucosa, it is suggested that through the breach of surface there enters an

irritant or toxin which exeites the diffuse formation of fibrous tissue. The clinical evidence supports the inference that if the breaeh in the mucosa heals, the fibromatosis may disappear. We are unable to support the view that fibromatosis is of syphilitic or tubereulous origin. Fibromatosis does not exelude the presence of cancer. The uleer or ulceration which is responsible for the occurrence of fibromatosis is also liable to become the starting-point of eaneer. We have had five cases in which there is the combination of uleer, fibromatosis and cancer. Because of the impossibility of excluding eancer at the period of operation, the treatment must necessarily be on the same lines as cancer. The subsequent detailed examination of the specimen, if it exelude cancer, will permit of a favorable prognosis.

DISCUSSION

DR. JOSEPH C. BLOODGOOD, Baltimore: I have seen at operation four cases of this disease. The thing which impressed me most was the fact that in other lesions there is a similar production of eonneetive tissue out of proportion to any known etiologic factor, such as osteitis fibrosa, acne and desmoid tumors. In the four eases which I have observed I was surprised by the absenee of adhesions between the peritoneum covering the stomaeh and the surrounding viscera, and also by the faet that in spite of the enormous inerease in conneetive tissue throughout the wall of the stomach the peritoneal surface remained free.

DR. JOSEPH A. BLAKE, New York: The condition of fibromatosis might be due to a very slight infeetion giving rise to a rather diffuse round-celled infiltration with marked reaction on the part of the tissue to the irritation. The same condition is apt to obtain in places in which there are broad tissue-planes, as in the neck and abdominal wall.

DR. T. A. MCGRAW, Detroit: I wish to eite a case of pylorie obstruetion eaused by a tumor the size of a hen's egg, the condition being relieved by a gastro-enterostomy with the elastic ligature, the patient living in perfect health for three years. At the end of that time he again developed intestinal obstruction. Operation revealed no adhesions around the stomaeh, no traee of the original tumor at the pylorus and no palpable lymph-nodes, but a eancer of the large intestine immediately under the stomach though not in any way eonnected with this viscus. The patient sueeumbed to the operation, and examination of the sections showed typieal scirrhus earcinoma, with eheesy degeneration of the lymph-nodes.

DR. J. M. T. FINNEY, Baltimore: I have operated in cases of fibromatosis doing simply an exploration or a palliative gastro-enterostomy, with the reeovery of the patient and the disappearance of the tumor. I have seen a case of spontaneous cure without operation.

DR. RUDOLPH MATAS, New Orleans: Simple diffuse fibromatosis is a very rare eondition. In the pathology of elephantiasis, whieh is a fibromatosis of the subdermal tissues, there are a great many analogies to this diffuse progressive form of fibromatosis eneountered in the stomaeh.

DR. ARPAD G. GERSTER, New York: A case of excision of a pyloric tumor was diagnosed as carcinoma. In the removal I found that I had cut through a substance very much resembling malignant tissue, and therefore feared that I had not made a wide enough excision; but on microseopic examination, although the body of the tumor was proved careinoma, the surrounding material was a simple fibromatosis.

DR. WILLIAM B. COLEY, New York: In my opinion the elinical signs with regard to these tumors of the pylorus are of more value than the microscopic report if the latter prove negative for malignancy. In a case in point, in whieh Dr. Mayo operated, the elinical diagnosis was careinoma, the pathologist failed to find any trace of this eondition, and yet the patient died two years later with general careinomatosis.

## Diagnosis and Treatment of Fractures Involving the Knee-Joint (Including Epiphyseal Separation)

DR. JOHN BAPST BLAKE, Boston: Sinee May 24, 1864, 871 closed and 11 open fraetures have been treated at the Boston City Hospital, about 2 per cent of all fractures. The etiology is usually indirect violenee, and this is probably an explanation of the scarcity of open patella fractures. Obliteration of normal joint dimple is a eonstant symptom. Of the last 418 eases, sinee 1895, 245 have been subjeeted to operation, and 173 treated expectantly: at present practically all cases due to indirect violenee are subjected to operation: usually a eapsule suture with absorbable material, without drilling the bone. There were 7 cases of refracture, patients operated on being apparently more liable to refracture. There were 8 deaths in 418 cases, most of them due to pneumonia or delirium tremens or both. Open fractures are cleaned with particular care and prolonged irrigation, and closed in a manner similar to the others. There were 20 cases of separation of lower epiphysis of the femur, and but 2 of the upper epiphysis of the tibia since 1864: also 2 cases of Osgood-Schlatter disease. Fractures of the femur or tibia into the joint are often unsuspected even by a good practitioner. They should be considered in every ease of trauma near the knee. They seldom require open operation. The former almost invariably have backward displaeement of the lower fragment, and will be operated on more frequently in the future; both need longer fixation than shaft fractures. On the whole, the involvment of the largest joint surface of the body, except for the danger of sepsis, makes less difference than might be expected if early diagnosis, Roentgen-ray eontrol and sufficient immobilization be practiced.

DISCUSSION

DR. HARRY M. SHERMAN, San Francisco: I do not agree with those who hurry the removal of the splint in fraetures of joints. Immobilization kept up for time sufficient to get solid union is imperative. Immobilization is not the cause of ankylosis, but trauma of the joint itself does result in this eondition because of adhesions. Passive motion whieh produces pain produces trauma and should be guarded against.

DR. CHARLES L. SCUDDER, Boston: One should be guided as to the time of relieving immobilization and beginning passive motion by the condition of the fragments, whether or not they have been reduced and the artieular surface restored to the normal. A longer time is required when there is a large amount of callus, as in ineomplete reductions. Immobilization does not eause ankylosis but lack of reduetion does.

DR. GEORGE E. ARMSTRONG, Montreal: The funetional result in fractures is largely dependent on the anatomie result. There is but a slight tendeney on the part of fractures to displacement after being onee properly replaced, and while in many eases the use of a foreign body is objeetionable, the method of notching the ends of the bones even in spiral or oblique fraetures will hold them in aeeurate position. In two cases I made a dowel from a small portion of the crest of the tibia, inserting this into the medullary canal of the upper and lower fragments of the broken bone. This pieee of living bone has done mueh to stimulate and increase repair.

DR. WILLY MEYER, New York: Fifty years ago William Busch insisted that stiffness would not result if the elbow were plaeed in three positions: first, in the obtuse position in whieh the patient usually holds the arm when he presents himself for treatment, for ten days; then with a whiff of anesthetic, condueting the arm slowly to the sharp right-angle position, keeping it there for ten days; finally, with another whiff of anesthetic very slowly bringing it into the straight position with a splint on either side eneased in a flannel bandage. I have had most satisfaetory results with this treatment.

DR. HENRY B. DELATOUR, Brooklyn: In the last nine years I have had seventy-eight fractures of the patella, with operation in all, with a mortality of one; this was due to delirium tremens. Two were eases of simultaneous fracture of both patellae. The method of operation employed was suture with ehromieized eatgut, partieular attention being paid to the tear in the ligament. No drainage was used. A plaster splint was applied from the toes to the middle of the thigh for ten days, then the splint was divided to leave a posterior splint, the patella was moved laterally at this dressing when the sutures were removed, and the posterior splint was retained for three weeks; after this time it was removed at night,

but kept on in the daytime, thus allowing the patient some passive motion in bed without any strain directly on the patella. No movements of the joint were made by the surgeon until after the fourth week. In only two of the seventy-eight cases did I encounter trouble in securing motion; these two patients gave a previous history of rheumatism, and eventually good motion was obtained. There was subsequent fracture of the opposite patella in four cases, and refracture of the same patella in two cases.

DR. JAMES E. MOORE, Minneapolis: By keeping the injured member quiet long enough to allow Nature to bring about a natural healing in the bone, and by letting the patient exercise it himself afterward, the greatest number of good results will be obtained. It is more important to treat most carefully joints in adults than in children with regard to the after treatment. Great difficulty is sometimes encountered about the knee-joint after fracture of the neck of the femur in old persons and in such cases I employ passive motion to the knee-joint.

DR. CHARLES N. DOWD, New York: The results in bone injuries in children are much better than in adults, and these results in children are much the same whether treated by the most improved or by the old-fashioned methods. Interference in children is not so necessary as in similar injuries occurring in adults.

### Congenital Dislocation of the Hip—A Rational Method of Treatment

DR. HARRY M. SHERMAN, San Francisco: All the components of the joint, femora, head and neck, acetabulum and capsular ligament, are variants in greater or less degree from the normal, and of these the capsular ligament, elongated and narrowed, is the chief obstacle to easy or complete entrance of the femoral head into the acetabulum, while the twisted femoral shaft, which gives the neck and head a forward direction instead of one inward and but a little forward, is the chief cause of reluxation and the assumption of the position called the anterior transposition. Therefore I practice reposition through an incision. This, placed between the tensor vaginae femoris and the long head of the rectus femoris, cuts only connective tissue in exposing and entering the capsular ligament. Through this incision the narrow part of the capsule is reached and freely cut, and then, in the great majority of cases, in children of proper age, the head can easily be lifted into the acetabulum. Later, to prevent a reluxation, an osteotomy of the femoral shaft is done below the trochanters, and the lower fragment is rotated outward while the upper fragment is held in such a position that the head and neck are properly correlated to the acetabulum as well as to the outward rotated shaft. The method of holding the upper fragment, consisting of head, neck aand trochanters, is by driving into the shaft between the trochanters, a suitable steel nail the end of which projects and can be incorporated in the plaster-of-Paris dressing. The osteotomy is accorded a place of considerable value, for the cases of satisfactory joints, that is, joints that are practically normal functionally, even though they vary from the conventional norm anatomically, was but 41.3 per cent. before the osteotomy became a part of the technic, while 70.3 per cent. of satisfactory joints are secured since the osteotomy is practiced in all cases that need it.

DISCUSSION

DR. WILLIAM S. HALSTED, Baltimore: A patient operated on at the age of 5 years had a very small head and a twist of the neck of the femur which made extreme rotation necessary to hold the joint in position, the slightest deviation from this permitting popping out of the head. This child was kept in this position with extreme rotation, the splint being changed every week, for about six months, and now, about twenty years later, there is a perfect development of the hip.

### Five Cases of Suture of the Heart

DR. FRANCIS T. STEWART, Philadelphia: Case 1.—Symptoms of acute anemia and hemopneumothorax. Stab wound of left ventricle, ¾ inch long, continuous silk suture. Ligation of descending branch of left coronary artery near its origin. Drainage of pericardial and pleural cavities. Pyopericardium and pyothorax. Recovery. Death five years later from pulmonary tuberculosis. At necropsy the wall of the left ventricle was the seat of interstitial myocarditis, and in one place near the apex greatly thinned. Case 2.—Symptoms of acute anemia and hemopneumothorax. Stab wound of left ventricle, ½ inch long. Continuous silk suture. Suture of pericardium, drainage of pleural cavity. Pyothorax. Recovery. Patient still well four years and three months after injury. Case 3.—Symptoms of compression of heart. Pleura not injured. Stab wound of right auricle, ¼ inch long. Continuous catgut suture. Closure of pericardium. Pleura not opened during operation. Recovery without pyopericardium or pyothorax. Patient well after two years. Case 4. Symptoms of acute anemia and hemopneumothorax. Stab wound of left ventricle, 1 inch long. Continuous catgut suture, closure of pericardium, drainage of pleural cavity. Death in forty-one hours. Necropsy, pyothorax, purulent pericarditis, acute infective myocarditis, acute vegetative endocarditis. Case 5.—Symptoms of acute anemia and hemopneumothorax. Stab wound of right ventricle, 1 1/5 inches long. Continuous catgut suture. Closure of pericardium, drainage of pleural cavity. Death in one hour. Autopsy, wound passed into right ventricle, then through the septum into the left ventricle. Both ventricles were hypertrophied and the mitral valves were badly diseased.

### Surgery of the Pulmonary Artery

DR. WILLY MEYER, New York: The main trunk of the pulmonary artery is easily accessible within the pericardium after incision of the latter and pulling the pulmonary artery plus ascending aorta forward by means of an elastic tube, which is conducted through the transverse sinus of the pericardium. The elastic tube compressing both vessels is held by an assistant, the pulmonary artery is incised, and the emboli are removed with forceps. The vessel wound is then closed by sutures. Trendelenburg and his assistants have done the operation twelve times. No permanent recovery has been seen so far, but the results are encouraging. One patient of Krueger lived four days after the operation and then died of pleuropneumonia. The two arteries cannot be compressed longer than forty-five seconds. Laewen and Sievers of the Leipsic clinic have found that the compression of the two venae cavae is better borne, evidently on account of avoiding the distention of the right heart. In doing this, six or eight minutes are at the operator's disposal. The ligation of branches of the pulmonary arteries for bronchiectasis was recommended by Sauerbruch and Bruns two years ago. Three patients operated on by me are greatly improved so far. The interruption of the physiologic function of the lobe of the lung poduces shrinkage, connective tissue formation, and adhesion between pulmonary and costal pleurae. Multiple resection of ribs done at a second stage produces collapse of the lung later on. The main trunk of the left and right pulmonary arteries can be ligated without harm in the animal. The left branch is nicely accessible within the pericardium by reflecting a part of the latter or right outside of the pericardium, according to anatomic conditions. Ligation of the right branch is more difficult. The best procedure is the exposure and ligation of the right pulmonary artery within the pericardium between the ascending aorta and the superior vena cava. Another approach is to the division of the right pulmonary artery through an incision outside of the vena cava superior. The experimental work on the latter approach has not yet been completed. If it should be shown that pulmonary shrinkage and collapse therapy of the lung do not cure or at least greatly improve the trouble, pneumectomy will become the operation of choice, since we have learned to close the bronchus air-tight.

### Arteriovenous Anastomosis for Threatened Gangrene of the Foot

DR. LEONARD FREEMAN, Denver: From the theoretical considerations and from the results so far obtained in arterio-

venous anastomosis for threatened gangrene of the extremities, the following conclusions may be drawn: Although the procedure is justifiable in a few well-selected cases, it seldom has been followed by success, and even then its real value may be questioned owing to the fact that spontaneous recoveries occasionally occur—with as much frequency, perhaps, as do operative successes. Owing to the uncertainty of the value of the operation, one should at least endeavor to do as little harm as possible. Hence, from this point of view, it is better to do a side-to-side anastomosis, or to implant the distal end of the vein into the side of the artery, rather than to unite the two vessels end to end, thus preserving to the limb its remaining arterial circulation, however little that may be. According to our present knowledge, operations on the upper extremities should be considered with reservation, owing to the comparative frequency of spontaneous recoveries.

### Discussion on Suture of the Heart, Surgery of Pulmonary Artery and Arteriovenous Anastomosis

DR. F. B. LUND, Boston: I wish to call attention to the value of the Meltzer-Auer intratracheal insufflation apparatus in surgery of the cardiovascular system or when the pleura is to be opened widely and when there are no adhesions of the lung to the chest wall.

DR. HOWARD LILIENTHAL, New York: In arteriovenous anastomoses the technic is of prime importance, and it is most important to use the very finest needles than can be handled, No. 13 or No. 14, together with 6 O silk well coated with petrolatum. The end-to-end suture is the best as it affords the minimum chance of thrombosis.

MR. ALEXIS THOMSON, Edinburgh, Scotland: I had a case in which an arteriovenous anastomosis was done first on one side, and at a subsequent time on the opposite side for threatened gangrene, the anastomoses being of the femoral artery and vein at the apices of Scarpa's triangle. This patient still later developed a hemiplegia and at her own request the common carotid was anastomosed with the internal jugular vein.

### Periosteal Round-Cell Sarcoma of Femur with Extensive Multiple Metastasis: Cured with the Mixed Toxins; Epithelial Tumor Developing at Site of Roentgen-Ray Dermatitis Ten and One-Half Years Later; Amputation; Metastasis; Death in Four Months

DR. WILLIAM B. COLEY, New York: I had a case of periosteal round-cell sarcoma of the femur, involving two-thirds of the shaft, with extensive multiple metastases, apparently cured by the mixed toxins of erysipelas and *Bacillus prodigiosus*, in which ten years later a malignant tumor—sarcoma and epithelioma—developed in the thigh at the site of an old Roentgen-ray dermatitis. The case is unique in being the only one on record of periosteal round-cell sarcoma of the femur with metastases cured by any method of treatment. In February, 1902, the involvement of the femur was so great (two-thirds of the shaft) that hip-joint amputation was strongly advised, but refused. An exploratory operation was done and the diagnosis of round-cell sarcoma confirmed by microscopic examination. The Roentgen rays were used for a number of months to the point of causing a severe dermatitis. While the Roentgen-ray treatment was being given, a large metastatic tumor developed in the left pectoral region, and a larger tumor, the size of a child's head in the iliolumbar region. The growth in the pectoral region was partially removed and a number of Roentgen-ray treatments applied to the locality. No rays were used for the large iliolumbar tumor. The mixed toxins were begun Feb. 12, 1913, and continued until July 25, eighty-six injections in all, ranging in doses from 1 to 20 minims. At the end of two months the hard tumor began fluctuating. An incision was made posteriorly through the ilium, and upward of a pint of broken-down necrotic tumor material was evacuated. The patient made a complete recovery, except for the dermatitis of the thigh, which persisted during the following ten years.

In May, 1912, a small epithelioma developed at the site of the slight dermatitis in the pectoral region. In October the dermatitis of the thigh, caused by the Roentgen ray, underwent extensive malignant degeneration; the tumor grew with great rapidity. An exploratory operation was done Nov. 27, 1912, and the tissue removed was examined by William H. Welch, James Ewing and William C. Clark. The specimen examined by Welch proved to be round-cell sarcoma; the edge of the specimen showed a structure which resembled a true epitheliomatous growth superimposed on the sarcoma. Ewing's specimen showed spindle-cell sarcoma, Clark's showed epithelioma of the basal-cell type. The patient grew worse rapidly, and on Jan. 2, 1913, finally consented to amputation, which had been advised as soon as the diagnosis was made. At this time he was extremely emaciated; the blood-count showed 35 per cent. hemoglobin, but despite his weakened condition he stood the amputation well. Death ensued two weeks later, apparently from general metastases. A careful study of the entire specimen showed two distinct types of tumor side by side, one a typical epithelioma, the other a sarcoma. Section of the bone showed in the medullary cavity of the femur, a short distance above the condyle, a circumscribed tumor measuring 5 by 3 cm. Microscopic examination showed this tumor to be a squamous-cell epithelioma, interpreted by both Welch and Ewing as a metastasis from the lesion in the skin or muscle. Inasmuch as the former periosteal tumor did not involve the muscle and the later tumor did not involve the bone or periosteum, I believed that the later tumor development was entirely independent of the primary growth of ten years previously. This was also the opinion of Welch and Ewing, who thought that the sarcomatous tumor might possibly be regarded as a relighting of the old bone sarcoma of ten years ago, some of the cells of the former tumor having remained latent during this long period.

#### DISCUSSION

DR. A. J. OCHSNER, Chicago: I had a case of inoperable round-cell sarcoma of the ilium which was opened, the diagnosis made and confirmed, and the patient treated by the Coley toxins with apparent recovery. Two years later a new tumor appeared in the same region and increased rapidly in size. Toxins again were administered, but without effect, the patient succumbing to the condition. Necropsy revealed the fact that the secondary tumor was not a sarcoma but a cyst, at the bottom of which was a carcinomatous degeneration.

DR. JOSEPH C. BLOODGOOD, Baltimore: In reference to the supposition that the secondary growth might have resulted from the Roentgen-ray treatment, I had a patient seven year after a primary and two secondary growths operated on and treated by the Roentgen ray. I am of the opinion, however, that the result obtained by Dr. Coley of disappearance of the tumor and an interval of ten years before reappearance, justifies in inoperable cases the trial of the mixed toxins.

### Hygroma Cysticum Colli

DR. CHARLES N. DOWD, New York: Large cystic tumors in children's necks have been described for years under the name of "hygroma." The term should be restricted to cysts lined with endothelium and having a marked power of growth. Such cystic growths are uncommon. A careful search of the literature has so far revealed records of only ninety-one cases located distinctly in the neck, and thirty-five cases located principally in the axilla, but in part, at least, extending there from the neck. In the great majority of these cases there is no definite report of the cyst lining; hence this detail of their structure is unknown. I have seen three cases of undoubted hygroma, and a fourth case which was believed to be a hygroma but in which inflammation had destroyed the finer structure of the cyst walls. Two of these cysts showed a very strong form of growth—one extended into the mediastinum and another under the clavicle and onto the anterior chest wall beneath the pectoralis major muscle which it pushed forward. One recurred rapidly. Protargol staining of the fresh cyst walls in two of the cases showed delicate endo-

thelial linings. Microscopic section of the third showed what was believed to be endothelial lining. The lining of the fourth case was obliterated by inflammation. All cases were treated by excision. One patient died in the hospital, another died of intercurrent disease a few weeks after leaving the hospital. I believe that these cysts are due to embryonic sequestrations of lymphatic tissue which at a later time shows the power of very vigorous but irregular growth.

DISCUSSION

DR. JOHN B. MURPHY, Chicago: If only a portion of the tumor is removed there is a rapid return with enormous increase in size and secretion, and these tumors frequently undergo malignant degeneration.

DR. JOSEPH C. BLOODGOOD, Baltimore: I have encountered a number of cysts in the neck lined with endothelium, having no apparent connection with the blood-system, and I have also seen them in the axilla and groin, occurring without trauma. Three of these cases, which in all number less than twenty, have been malignant, evidenced by the presence of blood and papillomatous growths of the cyst wall, these papillomas making excision extremely difficult if not impossible. I advise early removal of hygromas to avoid malignancy, which seems to be a late development.

*(To be continued)*

## Miscellany

**Hyperthyroidism.**—Bing protests against the use of the name exophthalmic goiter, saying that the goiter and the exophthalmos are the least essentially characteristic symptoms. The cardiovascular anomalies and the tremor are the obligatory diagnostic criteria and not the protruding eyes or the goiter. The syndrome may be typical even without the latter. The tachycardia is permanent, the heart beat is regular as a rule. The tremor is rapid, eight or ten times a second, and increasing in intensity during movements and subsiding in complete repose. Other secondary symptoms are transient weakness of muscles, generally those of the legs, amounting at times to paroxysmal paraparesis, so that the patient sinks down as he is standing or walking. This muscular weakness fluctuates and it may occasionally be experienced elsewhere than in the legs, in the back of the neck or external ocular muscles, while the accommodation musculature and the iris are spared. Some of his patients were unable to draw a deep breath; the French call this the "signe de Louise Bryson." Other secondary symptoms are menstrual disturbances, especially dysmenorrhea and less frequently amenorrhea. Diarrhea is also characteristic; it comes on suddenly and may persist for days or weeks, rebellious to all treatment, and then stop suddenly as it began. The passages are very thin; there is seldom pain with them and they may run up to ten or more a day. General or localized hyperidrosis is also common, continuous or paroxysmal. This dampness of the skin is probably responsible for its changed conductibility. If in health the conductibility corresponded to 4,000 ohms, in the thyroid patient it drops to 1,000 ohms. Neuralgic disturbances and signs of excessive excitability of the neuromuscular apparatus are more common. A slight tap on the muscles starts them to twitching. Trophic disturbances are likewise common in exophthalmic goiter, especially dryness and brittleness of the hair and a lack of luster; this was noted in 60 per cent. of Bing's patients. Pigmentation, edema, softening of the bones and atrophy of the breasts are also common. In his study, published in the *Schweizerische Rundschau für Medizin*, 1913, xiii, 409, he reviews the anomalies in the metabolism, the lymphocytosis, and then comments on the extreme restlessness of the patients, their constant activity and the lack of perseverance in their efforts. It is hard for them to stay long in one place, they are subject to frequent change of moods, and they take offense readily. In two-thirds of all his cases, symptoms on the part of the heart were the first to attract attention, before a goiter or tremor was noticed. The course is generally subchronic or intermittent chronic, but Trousseau and Müller have reported a rapidly fatal course with death in two months in a few cases, and Mackenzie a death the third day after the first symptoms. A hereditary and familial connection with psychoses or psychoneuroses can be traced in most cases, and preceding or coexisting mental disease is not very rare. The hyperthyroid syndrome sometimes develops as a complication of organic disease of the nervous system or following a fright or emotional stress. In treatment Bing advises a few weeks in bed to reduce the restlessness and tachycardia, avoidance of meat and much seasoning, and also of tea, coffee, alcohol and tobacco, restricting the diet to eggs, milk and vegetables. If milk increases the diarrhea, he orders it in the form of a jelly (10 gm. of pulverized gum arabic are stirred into a little cold milk and then 0.25 liter of whole milk is poured over it and the whole boiled, with or without a little peeled and ground sweet and bitter almonds). Resting in a steamer chair out-of-doors, especially at a moderate altitude, from 3,600 to 5,400 feet, is useful, but sports and dancing must be forbidden. Of drugs, sodium phosphate in daily doses of 6, 8 or 10 gm., dissolved in water, milk or soup, seems to have almost a specific action, Bing says, on most of the hyperthyroid symptoms. If it induces diarrhea, he gives calcium glycerophosphate instead (0.25 gm. four times a day). Valerian preparations do little good unless they are given continuously and in large doses, almost to actual saturation of the system with valerian. Belladonna and atropin have occasionally had a favorable action, as also arsenic. Organotherapy has not obtained a permanent place yet in treatment of hyperthyroidism, although theoretically it is well founded; in its very nature, however, its action is but temporary. He says that operative treatment also is liable to have but transient success, requiring further resections. The mortality also is about 5 per cent. on account of the unstable condition of the heart and vasomotors. Bircher advises against operations in exophthalmic goiter, but Bing advocates them when the social or financial condition renders impossible proper medical supervision over months and years.

**Fatalities after Salvarsan.**—The April number of the *Berliner Klinik* is devoted to a survey of the fatalities following administration of salvarsan. The list includes a personal case reported by the author, J. Schestopal of Odessa. His patient was a girl of 11 with parenchymatous keratitis from inherited syphilis. After a vigorous course of mercurial treatment vision improved and the general health was good, but the Wassermann reaction was still strongly positive. Fifty-four inunctions had been made in sixty-nine days, but the persisting Wassermann reaction showed that the causal germs were resistant to mercury and he changed to neosalvarsan, giving an intravenous injection of 0.4 gm. neosalvarsan (corresponding to a dose of 0.266 of salvarsan). Fifteen minutes later the child developed slight and transient nausea, chilliness and headache, but she felt so well by evening that she went to a moving-picture show. Three days later a second injection was given of 0.75 gm. neosalvarsan (equal to 0.5 gm. salvarsan) likewise in the median cephalic vein. The bowels failed to move for three days; nausea and headache developed, followed by a sudden onset of symptoms of an acute affection of the brain, and the child died within twenty-four hours. The necropsy findings were negative, nothing pathologic being found except a slight tendency to fatty degeneration of the liver. The features of the case also exclude anaphylaxis, and they did not correspond to the picture of arsenic poisoning. Schestopal groups the case with the fatalities reported by Kannengiesser, Rissom, Westphal, Almquist and others in which the internal organs were comparatively sound and there were no hemorrhages in the brain cortex, and the severe brain and spinal-cord symptoms can be explained most plausibly by Ravaut's "cerebrospinal reaction," evidenced by the appearance of albumin and lymphocytosis in the cerebrospinal fluid. Ravaut found this cerebral reaction in the secondary stage of syphilis; but in Schestopal's case the disease was of the hereditary type. (Ravaut's article was summarized in THE JOURNAL April 13, 1912, p. 1156.)

610.5
AM
C1-65
-60 pt 2
Nat Hist

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. LX, No. 26 Chicago, Illinois June 28, 1913

# THE AUSCULTATORY DETERMINATION OF EARLY PATHOLOGIC CHANGES IN THE LUNGS *

HENRY SEWALL, M.D.
Professor of Medicine in the University of Colorado
DENVER

It is with the conscious risk of a charge of unwarranted temerity that I venture to invite you to reenter a field of physical diagnosis in which each one has long delved as a master. My only excuse is that after twenty-odd years of special personal study of the subject the procedure of auscultatory examination became, of a sudden, fraught with a coveted wealth of information concerning early recognition of intrathoracic disorders wholly due to a new point of view for the application of an old method.

The clinical results thus obtained suggest the experience of the farmer whose twenty bushels to the acre under the tillage of his ancestors has increased a hundred per cent. with the application of a new line of thought to his labor. I am the more encouraged to believe that my personal sense of enlightenment, derived through the procedure to be described, is founded on objective facts because of experience with several patients who presented themselves shortly after having secured from real medical experts a report of perfect physical condition. That these patients were actually afflicted with pulmonary tuberculosis at the time mentioned was proved by recent positive sputa findings. The study of the thoracic acoustics in these cases clearly bespoke pathologic organic changes in the lungs, conditions which were amply verified on the skiagraphic plate.

Physical diagnosis demands different faculties and technics according as the organic changes, whose existence it is its object to establish, are well advanced or only in their incipiency. The adept who is able to announce the presence of a lobar pneumonia hours or even days before the development of the classic signs of the disease has cultivated art and imagination as they are not expounded in the text-books.

The natural history of pulmonary tuberculosis, involving as it does gradual alteration by insensible steps of the normal structure, size and elasticity of the thoracic viscera, would seem to imply that we can never hope to determine by physical means the very advent of the disorder. If our physical examination reveals lesions which can be definitely ascribed to tuberculosis, the patient is already far advanced on a course which, if not interrupted, will lead to a fatal termination. But there is a prologue to this pathologic history in which the plot of the story is foreshadowed by allusion and innuendo. By fortunate chance the alert critic of the prologue can, as at a rehearsal, completely change the finale of the contemplated play.

The earlier the stage at which we seek to determine morbid changes in the lungs the more important becomes the conscious appreciation of the physical signs which characterize the normal organs. This truism may be archaic; I venture to assert, nevertheless, that much of value lies still undetermined in the specific topographic distribution of the physiologic and pathologic physical signs of the chest. There is, for example, an assumed predilection of tuberculosis for the apices of the lungs. The lower half of the left lung has long been to me a wonder area. Why, for example, do we so often find in tuberculosis a soggy, airless left base which one is tempted to aspirate for a suspected effusion? Why, in tuberculosis, is the pulmonary tissue at the base and on the left border of the heart so apt suddenly to develop signs of consolidation which in the course of a few days abruptly clear up with a tympanitic note and evidence of cavity formation? It may be suspected that the topographic relations of the left auricle and of the pulmonary artery have much to do with the mechanics of the lower lobe of the left lung. Roentgen-ray studies of the chest show extraordinary variations in the prominence of those structures.

The work of Krœnig, Goldscheider and others has of late years taught us that a peculiarly light percussion of the apices of the lungs is capable of disclosing the presence of a morbid pulmonary condition which could not be recognized by ordinary means.

It should be pointed out, perhaps, that a percussion dulness elicited in this way does not imply a deposit of such magnitude as to give the impression of a dull mass itself, but rather that the disease has altered the resonance of the lung, irrespective of the amount of deposit, so that its vibration response to percussion shall be characteristically altered. The advocates of this light percussion method specifically limit its usefulness to the apices of the lungs. Although of undeniable value, the method seems to me to involve unduly the personal equation of the examiner, and it demands for its employment mechanical skill of unusual degree. The results of such percussion, moreover, must depend in large measure on the amount and distribution of solid tissue outside the thorax on the two shoulders; bilateral differences in muscular rigidity may also, possibly, play a part.

My own study has led me to the belief that through auscultation of the voice and whisper we have an unrivaled means for the detection of minute tissue changes throughout the pulmonary region.

There is a close analogy between the conditions determining the acoustic properties of the chest and those

* Read before the American Climatological Association May, 1913.

on which the acoustie features of a music hall depend. The details of structure in such a chamber vitally affeeting its relations to sound have a minuteness that eludes calculation. We are safe in assuming that every change in the elasticity of the lungs and bronehial tubes, every deposit in contact with the vibrating air-eolumns, every abnormal eongestion of the pulmonary parenchyma, must alter the natural resonance of the lungs and be capable of detection by the ear.

These are the conditions which signalize pathologie changes in the lungs apart from and preliminary to those adventitious signs known as râles. It is understood that adequate auseultation of the lungs involves a consideration of the findings from other methods of physical examination, especially the vocal fremitus and pereussion resonance. Although the gradations in intensity, quality and distribution of the signs vary considerably among healthy subjects, there is, nevertheless, a fairly definite standard of the normal, departure from which is pretty sure to have a physical basis in disease.

In brief, it may be stated that, as pointed out by Fetterolf[1] and others, the more marked taetile fremitus and voeal resonanee distinguishing the right from the left apex of the normal lungs depends on the immediate contiguity of the former structure with the resounding trachea, whose vibrations are thus transmitted transversely through the pulmonary tissue. Any infiltration of this tissue which improves its conducting or resonating properties must amplify and extend the sounds heard in auscultation.

Since it is very common, as shown on the Roentgen-ray plate, for the trachea to incline to the right of the middle line in its course through the chest, normal bronchophony at the right apex is variable in extent and intensity. It should, however, fade gradually from the vertebral column outward, posteriorly, and diminish rapidly below the spine of the scapula. The voice should not linger with an amphoric echo of heightened pitch, especially under pressure of the stethoscopc. The whisper is, perhaps, normally confined to the inner third of the right apex laterally, and is limited by the inner lower border of the spine of the scapula bclow. At the left apex these acoustic characters are more limited in extent and tend to be confined to the upper inner segment of the lung. In the front of thc ehest the same general statements as to sound distribution hold good; normal bronchophony and whisper are most distinet at about the inner halves of the first interspaces, fading thence outward and downward, morc rapidly on the left. The normal distribution of vocal fremitus as determined by touch shows the vibrations to be more or less strong at the inner right apex—fading gradually in a lateral direction, and but little marked or absent at the left apex. At the pulmonary bases the fremitus when present is nearly equal on the two sides, possibly slightly more intense on the left: Fremitus is significant of vibration of the chest wall itself, and it gives rise to a powerful resonant note under auscultation. This voieing of the ehest wall proper is due to sympathetic vibrations whieh reinforce espeeially the lower or "chest tones" of the larynx.

In 1890, assisted by Miss Pollard, I demonstrated that the fundamental tone of the ehest wall eould be altered to a eertain extent by ehanging the respiratory phase and tension of the thorax.[2] In fact, the voeal artist actually alters the vibration rate of the great thoraeic resonator in a way to best reinforee the various notes of the musical scale. But as a whole, and under ordinary eonditions, the fundamental tone of the chest wall is low in pitch and the structure is thrown into sympathetic vibration most readily by the lower or "ehest" tones of the register. The importanee of distinguishing these intrinsically mural from the purely visceral vibrations appealed to me many years ago, and I was able to show that the sympathetic vibrations of the chest wall itself could be essentially dampcd by the simple procedure of applying firm pressure to the bell of the stethoscope in eontact with the skin.[3] For suceessful observations of this sort it is indispensable to use a purely air-eonducting binaural stethoscope the chest-piece of which shall be thiek and heavy and not provided with a vibratile disk.

To appreeiate fully the influence of this stethoscopic pressure and the part played by mural vibrations in vocalization one should, at the outset, auscultate both with and without pressure the base of a lung during the voicing of a "chest note." The voice heard under stethoscopic pressure loses much of its "resonanee" and intensity and rises in piteh. As pointed out in another place,[4] the high "head notes" do not especially invoke mural vibrations and hence are little altered by stethoscopic pressure. The mural vibrations being dampened, the ear pereeives the laryngeal sounds only as transmitted and reenforced by the thoracic viseera. Any modification of the acoustic properties of the internal tissues may be detected by alteration of the normal sound.

Two kinds of sound are made use of in auscultation, namely, the voice and the whisper. The former is essentially a musical note due to periodie vibrations of the vocal cords and is prone to set up sympathetic vibrations in all elastie bodies impressed by it. The latter is "noise" or sound produced by non-periodic vibrations of several struetures ineluding, probably, the false eords and the soft palate. Non-periodic vibrations are ill caleulated to induce sympathetic resonanee. Accordingly, we should not expeet to find whispered sound reinforced by sympathetic tissue vibration; it is heard only as eonducted from the site of its produetion. Thus, a superficial exeavation in the lung may be aeeurately outlined through the whispered sound, but the "cavernous voice" tends to spread beyond the limits of the cavity. On auscultating over the manubrium sterni whispered sound is heard with greater or less intensity. When such sound persists under firm pressure with the stethoscope, I am eonvineed that we have demonstrated an abnormal mass of conducting tissue, vaseular or lymphatic, eonveying the vibrations of the underlying traehea directly to the surface.

It was an important observation of Manges that a distinguishing mark of whispered sound is its lack of transmission.[5] This is a way of expressing the fact that whisper is ineapable of exciting vibrations in the chest wall when the normal lung is interposed between the internal site of vibration and the surface. Normal lung tissue is an excellent "silencer" of sound. Air channels, penetrating stiff, sclerosed tissue are admirably adapted to transmit the vibrations of whisper. The morbid changes whieh are prone to involve the roots of the lungs even in early pulmonary tuberculosis—the fibrous infiltration and enlargement of the lymph-nodes in immediate eontiguity with the back wall of the chest

1. Fetterolf, George: The Anatomic Explanation of the Greater Amount of Vocal Fremitus and Vocal Resonance Normally Found at the Apex of the Right Lung, Arch. Int. Med., February, 1909, p. 23.
2. Sewall, H., and Pollard, M. E.: Jour. Physiol., 1890, xi, 159.
3. Sewall, H.: New York Med. Jour., 1897, lxvi, 758.
4. Sewall, H.: Am. Jour. Med. Sc., 1913, cxlv, 234.
5. Manges: Arch. Diagnosis, 1912, v, 209.

at about the level of the scapular spines—offer a rational explanation of the characteristic transmission of the whisper to this area.

A. d'Espine has long contended that bronchial adenopathy in the child can be readily detected through auscultation.

> The special sign which permits us to diagnose the condition at an early period is based on the auscultation of the changes in the voice sounds at the level of the seventh cervical or first dorsal vertebrae. . . . The sign is most obvious when one makes the child speak or count in a low voice. The voice is then accompanied by an added whispering sound localized to one or two vertebrae, or possibly extending to the fourth or fifth.[6]

B. Zabel indorses this method as superior to all others for the early recognition of bronchial adenopathy and points out, as did d'Espine, that when the diagnosis is uncertain by means of the voice it may be established through use of the whisper.[7]

It is common in acute pulmonary affections, as of lobar pneumonia or influenza, to find sharply circumscribed areas of transmitted whisper in the lower parts of the chest. Such an auscultatory condition may occur with none of the percussion dulness denoting consolidation. I can think of no reasonable explanation of the fact except it signifies intense hyperemia of the lung tissue through which its acoustic properties have been modified. The Roentgen-ray plates of such chests made for me by Dr. S. B. Childs have all presented in the area in question a uniform haze such as might be produced by a thin sheet of effusion, though there could be no suspicion of such an occurrence. Hyperemia of the pulmonary capillaries seems to be the most reasonable explanation of the finding.

A careful study of certain labile cases of chronic pulmonary tuberculosis will disclose now and then, especially after undue physical exertion or at the outset of a "cold," new areas of whisper transmission over one or the other lower lobe of the lungs. If the patient is kept at rest the whisper transmission in these areas gradually fails, and coincidently there occurs a clinical improvement in the patient's condition. Indeed, I have been led to combine all these facts in a working generalization, namely, that the earliest morbid signs of pulmonary infection are due to more or less localized hyperemias, which if sufficiently intense and near the surface may be recognized by transmission of whispered sound; but in any case, as will be noted below, may be manifested by an alteration in the normal vocal resonance. The prognostic importance of such hyperemia itself is probably wholly good for it is presumably a salutary reaction against toxic invasion; and the therapeutic indication is mandatory; it is absolute physical and mental rest.

The relatively acute pathologic condition referred to above is, of course, not to be confused with that more chronic state, having nearly identical auscultatory signs, in which there is evidence of pneumonic consolidation or fibroid infiltration.

Turning now to the auscultation of the voice we find, as should be expected on theoretical grounds, that it is marvelously capable of registering modifications in the acoustic properties of the thoracic viscera. When mural vibrations are damped by stethoscopic pressure we are in a position to apprehend the changes in the internal organs. In general, it may be said that with intense congestion of the lungs or such tissue changes as occur in early pulmonary tuberculosis, the voice takes on a more or less amphoric or tracheal character and it tends to become more distinct, prolonged, raised in pitch and nearer the ear with pressure on the stethoscope. When the patient counts "one, two, three," there is a tendency for the voice to linger with a bleating echo which is exaggerated by stethoscopic pressure.

Judgment and practice on the part of the examiner are essential to enable him to discriminate between the widely diffused ringing bronchophony transmitted by air-tubes traversing a somewhat hyperemic but normal lung, as shown by the skiagram, and those similar but differently distributed signs of incipient pulmonary pathologic change. Deductions from the results of so delicate a method as that under discussion must needs be guided by careful reasoning for the right interpretation of the facts it discloses. Nevertheless, as pointed out before, any one fit to carry on a physical examination can with a little application familiarize himself with the normal voice sounds and their distribution with and without pressure of an appropriate form of stethoscope and thus be in a position to detect changes in the pulmonary and bronchial apparatus which elude all other methods of examination.

Roentgen-ray pictures of the lungs may prove of the highest value either in reassuring one as to the absence of suspected trouble or in giving warning of a low ratio of vital resistance to infection virulence. For example, a patient who was thought to have probably recovered from a bilateral pulmonary tuberculosis came for examination after an absence of some months. There was now so marked an exaggeration, with amphoric tone, of voice and so plainly a whisper in the upper chest that the possibility of rapid excavation had to be considered. A Roentgen-ray plate, however, gave complete reassurance for it showed the lungs in good condition but plentifully marked with evidences of sclerotic healing — a tissue change which tends to exaggerate visceral vibrations and render the sound amphoric.

I should like once more to voice specifically the opinion that skiagraphic examination of the chest, through the photographic negative, has already become an indispensable adjunct to the more familiar procedures of physical diagnosis. Prognosis and therapy in early stages of tuberculosis find, in my experience, extraordinary illumination under the Roentgen ray. In "good" cases the skiagraphic evidences of scar tissue, opaque scattered flakes and strands, and calcification of lymph-nodes, are apt to be profuse even in the absence of ordinary morbid physical and clinical signs. In "bad" cases there may be softly mottled or "mossy" areas indicating infiltration without sharp shadows of fibroid tissue or calcification of lymph-nodes. Clinical experience with such subjects has shown me that they are exceedingly liable to retrograde with the slightest hygienic dereliction—the rest cure seems specifically necessary for them.

Briefly summing up the evidences that have been presented we may conclude: (1) that auscultation is capable of giving the earliest objective information of physical changes in the lungs; (2) that such study demands analysis of the sound into those vibrations due to resonance of the viscera and those of the chest wall, and that the latter vibrations can be damped by pressure of an appropriate form of stethoscope; (3) that vibrations transmitting the whisper are confined almost wholly to the viscera; (4) that the modification

6. d'Espine, A.: The Early Diagnosis of Bronchial Adenopathy in the Child, Brit. Med. Journ., 1910, ii, 1136.
7. Zabel, B.: Bronchialdrüsendiagnostik. München. med. Wchnschr., 1912, lix, 2664.

of the voice sounds by which their quality becomes more amphoric and their duration prolonged into an echo are the striking characters which when accentuated by stethoscopic pressure indicate pathologic changes in the viscera; (5) that the character and distribution of vocal signs over the normal chest are sufficiently constant so that a topographic study of the chest by auscultation may definitely suggest, through recognition of departures from the normal, the intensity and distribution of morbid changes within the lungs, even when these changes are too slight to appeal to the senses through any other method.

1360 Vine Street.

---

# OSTEOMYELITIS WITH BONE TRANSPLANTATION *

FRANK A. HAMILTON, M.D.
BOSTON

C. R., a French boy, 12 years old, living in Cambridge, was seen in consultation with Dr. H. C. Hache, Somerville, Mass.



Fig. 1.—Lower part of tibia, 4 inches necrotic with involvement of lower epiphysis. This and the following roentgenograms were taken by Dr. George.

Fig. 2.—Attempt at regeneration of bone, 3 inches having formed at lower end of upper fragment of tibia.

The patient had been sick for eleven days and had been seen by other physicians. Two months before he had received a cut in the right foot while skating, which had healed. Some days previous to our visit he had been skating and came home with wet feet; then was suddenly seized with intense pain about the right ankle. Swelling rapidly followed and extended to the knee. Pain was excessive, requiring morphin. Vomiting with repeated chills followed.

*Examination.*—Patient showed signs of septic absorption on Feb. 1, 1911, and appeared listless until leg was handled, then would cry out with pain. Right leg, which was swollen from ankle to knee, was held in a semiflexed position; was edematous and painful. Skin was red and had glazed appearance, especially over the greatest swelling, which was about the ankle. There was marked fluctuation in the vicinity of internal malleolus. A few lymph-nodes in right groin were swollen. Slight tapping on heel caused great pain. Diagnosis of acute osteomyclitis was made. Advised ether operation but it was not permitted until the next day, February 2.

*First Operation.*—An incision 4 inches long was made over the lower fourth of the tibia down to the bone. About a cupful of green pus was immediately set free. Another incision was made internal to the external malleolus two inches long just through the skin. Multiple small incisions were made through the skin for free drainage. The first incision revealed an area of tibia not covered with periosteum just above the epiphyseal line. In the center of this space was a minute opening in the cortex of the bone the size of a pinhead, through which pus was exuding. Periosteum was peeled back and the cortex chiseled for an area 2 inches long and ½ inch in width. Cortex was thickened, dense and very hard. Pus seemed to well up into wound from ankle-joint. Immediate improvement in general condition followed operation, and all pain, which before operation was described by patient as agonizing, had vanished. Bone-marrow was not disturbed. Wounds were packed with iodoform gauze, dressed every day and drained freely for eight weeks.

Six weeks after operation, March 14, 1911, the first roentgenogram (Fig. 1) showed fully 4 inches of lower part of tibia necrotic with slight involvement of lower epiphysis. Periosteum was shown separated from surface of shaft. Proliferation of periosteum was very nicely shown to the extent of ¼ inch in thickness.

*Second Operation.*—The second operation was performed in the Fenway Hospital, March 30, 1911, eight weeks after the primary operation. Linear incision 5 to 6 inches long was made from the middle down to the lower end of the tibia. Tibia was exposed and periosteum carefully stripped from cortex of the bone from the lower epiphyseal line to 4 inches above it. At this point the tibia was sawed across with chain saw and removed down to, but not including, the lower epiphysis. As the Roentgen ray showed some involvement of the epiphysis, the latter was curetted very lightly. The periosteum was preserved and sutured with catgut. Plain gut was used for the skin, a drain at the lower end being left. Plaster bandage was applied with a window for drain-

* Read at the Clinical Meeting of the Mount Sinai Hospital, Boston, Feb. 6, 1912.



Fig. 3.—Represents foot turned in in talipes-varus position due to lack of support on inner side of leg.

Fig. 4.—Six months after last operation—shows callus formation at junction of tibia and fibula.

age. Patient was allowed to walk with a crutch in three weeks. Wound was drained until June 23, when all sinuses were healed.

July 23, 1911: Roentgenogram (Fig. 2) was taken showing some attempt at regeneration of bone, 3 inches having formed at the lower end of the upper fragment of tibia. There was marked hypertrophy of the fibula. The periosteum of the tibia which had been preserved with the hope that it would regenerate a new tibia was not a complete success, probably because there was considerable sloughing of the periosteum after the removal of the shaft, and also because some necrotic tissue had been left in the lower epiphysis, which it did not seem good judgment during the operation to curet very thoroughly.

September, 1911: A third operation was suggested but was refused by the parents of the boy. Later all casts were removed and the patient was allowed to go without any splints or bandage on leg, although it did not seem wise to allow him to bear any weight on the leg. The only splint was that of the fibula. A photograph (Fig. 3) was taken at this time showing how the foot turned in, assuming a talipes-varus position on account of the lack of support on the inner side of the leg. Transplantation of the fibula seemed to be the only means left and consent was obtained to the operation, which was performed Jan. 3, 1912.

*Third Operation.*—At Fenway Hospital, Boston, tourniquet was applied and an incision was made in the scar of last operation. Periosteum of tibia was dissected up for an inch or more and a small piece of tibia removed. Fibula was then isolated and cut across fully 1¼ inches above the cut in tibia. Fibula upper end was inserted into tibia and the cuff of periosteum of tibia was sewed to periosteum of fibula. With considerable difficulty the lower end of fibula was next exposed and cut longitudinally for a distance of 3 inches. Great care was necessary to split fibula without fracturing the inner piece. This was accomplished and the inner half was sprung over to the lower epiphysis of tibia, a grooved hole having been cut in the epiphysis to receive it.

Roentgenogram (Fig. 4) taken six months after last operation, shows considerable callus formation at junction of tibia and fibula.

Bone transplantation at present is used not only to fill in defects in bones in the same limb, but also to replace bones in other parts of the body. The various substances used as substitutes for bone are (1) bones from animals; (2) bone chips decalcified (used by Senn); (3) absorbable material, as catgut, and (4) non-absorbable material, such as rubber and Mosetig-Moorhof's mixture of spermaceti. One hundred and twenty cases were reported by the last named method and all successful.

Thomas W. Huntington of San Francisco reported a case in 1905 of a boy who had a defect of several inches in the tibia following partial regeneration of the periosteum. He suggested the use of the fibula to take the place of the tibial defect by transplanting the upper fragment, and six months later the lower end was transplanted to improve the weight-bearing function. The result was good.

The cases of Stone, Codman, MacAusland and Wood, all of Boston, and the one here reported are different from any others on



Fig. 5.—Photograph of both legs. Barring limitations of ankle movement, boy has good leg only ½ inch shorter than its fellow.

record in that one end of the fibula is attached to the tibial fragment while the other end is left in its normal attachment. Stone's operation was done in two separate stages, six months apart. His first step consisted in transplanting the upper fragment. The second step or operation consisted in splitting fibula and transplanting the lower fragment.

In the case reported by MacAusland and Wood, the lower fragment of the fibula was transplanted six weeks after transplanting the upper fragment, while in the case here reported both steps were done in one operation. As far as my knowledge goes it is the only case reported in which both upper and lower fragments have been transplanted at one operation.

A photograph of both legs (Fig. 5) was taken, December, 1912, almost a year after this paper was read. Boy is not wearing any support and has about one-half inch shortening. There is a slight limitation of motion at the ankle, but otherwise he has a good leg with good function.

50 Chambers Street.

BIBLIOGRAPHY

1. Huntington, T. W.: Case of Bone Transference: Use of a Segment of Fibula to Supply a Defect in Tibia, Ann. Surg. Phila., 1905, xli, 249.

2. Nichols, E. H.: Boston, Pathological Outline of Osteomyelitis, Communications, Mass. Med. Soc., 1898, xvii, 875.

3. Cushing, H. W.: A Method of Treatment for the Restoration of Entire Tibia, Necrotic from Acute Osteomyelitis, Ann. Surg., 1899, xxx, 468.

4. Senn, N.: Healing of Aseptic Bone Cavities, Am. Jour. Med. Sc., 1899, xcviii, 219.

5. Nichols, E. H.: Infectious Osteomyelitis, THE JOURNAL A. M. A., Feb. 13, 1904, p. 439.

6. Stone, J. S.: Ann. Surg., October, 1909.

7. Codman, E. A.: Bone Transference, Report of a Case of Operation after the Method of Huntington, Ann. Surg., 1909, xlix, 820.

8. MacAusland, W. R., and Wood, B. E.: Transplantation of the Fibula, Surg., Gynec. and Obst., Boston, April, 1912, p. 380.

9. Huntington, T. W.: Final Report of a Case of Bone Transference, California State Jour. Med., San Francisco, 1909, vii, 364.

## NEW OPERATION FOR THE CURE OF INDIRECT INGUINAL HERNIA

U. C. BATES, M.D.

SEATTLE, WASH.

This operation consists in making an incision, about 2 inches long, parallel with Poupart's ligament. The end of the incision should be about one inch above the usual location of the internal ring. The fascia of the external oblique muscle is divided in line of its fibers. The arching fibers of the internal oblique are separated and retracted. The fascia of the transversalis, together with the peritoneum, is opened. If adhesions are encountered they can be broken up by traction and blunt dissection with the finger within the sac.

The internal ring, including the neck of the sac, is caught up with an Allison tissue forceps or a hemostat and pulled up to the incision, where a purse-string suture of No. 3 plain catgut, on a needle, is passed around the circumference of the ring, engaging the fascia of the transversalis except at the junction of the inner and lower quadrant, where the vas deferens or round ligament is encountered; this is excluded externally from the ligature. Pulling up the internal ring and transversalis fascia restores them to the original position held before a hernia was produced (Fig. 1).

The purse-string is drawn taut, tied and the same suture is passed from within outward through the parietal peritoneum and through some of the fibers of the internal oblique muscle. It is then passed from without inward through the muscle and peritoneum of the opposite side of the incision, where it is tied to the free end of the purse-string. The next stitch is then passed through the peritoneum, then through what is now the superior portion of the ring. When this is drawn tight it faces and holds the ring firmly against the parietal peritoneum (Fig. 2). The remainder of the peritoneal incision

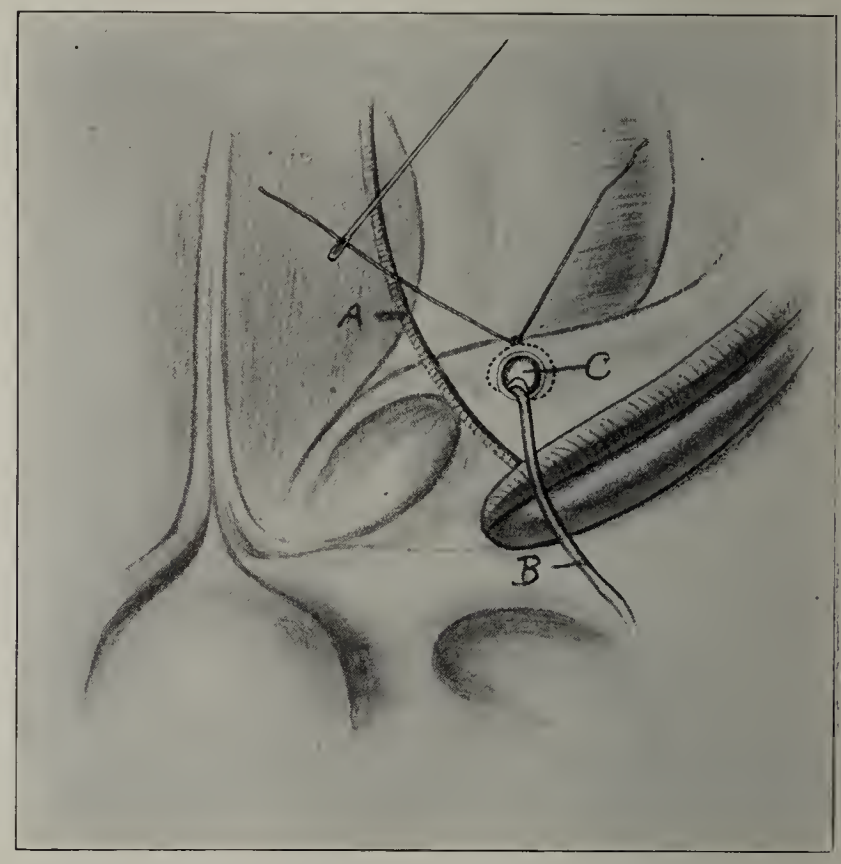



Fig. 1.—Operation for the cure of indirect inguinal hernia. *A*, deep epigastric artery; *B*, vas deferens; *C*, internal ring surrounded by purse-string suture, ready to be tied.

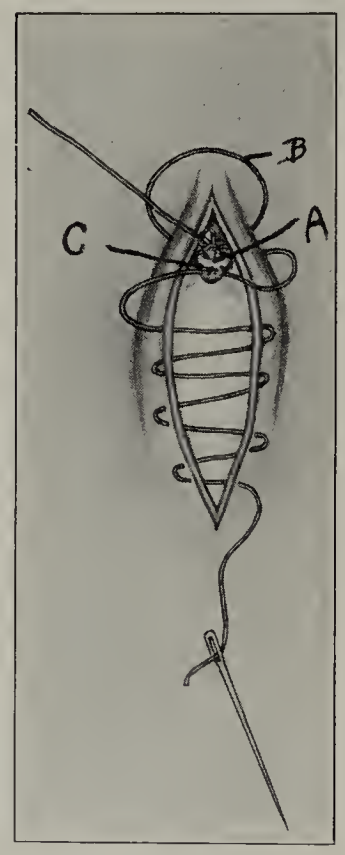



Fig. 2.—Further stage in hernia operation. *A*, internal ring, with purse-string suture tied, brought up to the lower end of peritoneal incision; *B*, this loop drawn tight before being tied to free end of suture; *C*, continuous suture passing through peritoneum from within outward; on return it catches up edge of ring at *C*, and on being drawn tight faces it against peritoneum.

is closed by a continuous stitch with the same suture. The remainder of the wound is then closed in the usual manner.

This operation has been performed in six cases of oblique inguinal hernia since October, 1912. Thus far there has not been a single recurrence of the hernia.

SUMMARY

1. This operation is more easily performed and requires far less time to complete than the older operations.

2. It requires a smaller incision, without the usual traumatism and strangulation of tissue, and with a small amount of catgut there is less chance of suppuration.

3. Restoring the inguinal canal to an oblique direction by drawing the internal ring to its normal position, causing the intra-abdominal pressure to be directed at right angles to the canal (thus preventing a shuttle-valve action) and closing and suturing the ring, renders a recurrence of the rupture practically impossible.

4. In a strangulated hernia if a resection is necessary, it is more easily and safely accomplished.

5. I find the internal so often opposite the external ring that I am led to believe that direct inguinal hernia is less frequent than reported.

6. There is little or no shock or pain following the operation, and the patient can be safely allowed out of bed in from three to five days.

301 Marion Block.

## AN ANAEROBIC ORGANISM ASSOCIATED WITH ACUTE RHINITIS*

RUTH TUNNICLIFF, M.D.
CHICAGO

Many efforts have been made to determine the cause of acute rhinitis, but so far as I am able to learn all the investigations have been made with aerobic methods.

The organism now described has been found during the early stages of acute coryza, while the discharge is mucoid in character. At this time few, often no other, bacteria are present in the smears. The organism is often found in large numbers. As the mucus disappears or the discharge becomes purulent, it decreases in number and finally disappears. It has been observed in all of the cases of acute rhinitis studied. Eighteen different persons have been examined during the acute attack, one during each of four attacks and another during each of five, so that altogether I have made observations during twenty-five distinct attacks. Many examinations were made during the course of the infection in nine of these cases. In the case of an accompanying pharyngitis, tonsillitis or bronchitis, the organism is also found, sometimes in very large numbers in the sputum and mucus of the throat. It was present in small numbers in the nose in five cases examined when the rhinitis was disappearing. It was not found in thirteen normal persons, in one case of suspected syphilis and one case of diphtheria. In only one normal person were a few observed. The same organism has been seen in two cases of chronic rhinitis and was once isolated in pure culture by Dr. George F. Dick.

In order to find the organisms a fair amount of mucus should be spread on a slide and often a large number of fields must be examined. They generally appear in clumps, but may be found separate.

Carbol-gentian-violet and carbol fuchsin are the best stains, but the organism stains rather faintly even with these; it does not stain by Gram's method, methylene blue, thionin or the Giemsa stain. It may be seen by dark-field illumination. Some of the organisms seem to be flexible and possibly move a little, but most of them appear immobile, which may be due to the large amount of mucus present. They vary from 5 to 8 microns in length and from ⅓ to ½ a micron in width; the ends are pointed or slightly rounded; generally the bodies are slightly curved but may be straight, waved or bent over at one end. Sometimes an enlargement in the form of a ball is seen at one end. An arrangement in bunches also occurs, several organisms radiating from a central mass. A ring is sometimes attached to one extremity.

This organism is a strict anaerobe and grows slowly, at least at first. I have isolated it in pure culture on alkaline goat-blood agar four times; twice from the nose, twice from the throat. The colonies appear in from five days to a month as small, round, dull growths; after several transfers growth becomes more active, and in old cultures the growth becomes thick and greenish yellow in color. Growth occurs also on dextrose agar, ascites agar, and ascites agar with rabbit-kidney tissue along the stab canal, where it can be seen distinctly, and not merely as a haziness. In plain agar there is but little growth. In dextrose broth there is a flocculent growth.

Examined by dark-field illumination, the organism from cultures is slightly motile but loses motion quickly. Attached to the ends and sides, and also free, are light refractile bodies, the free bodies being very motile.

In cultures the organism measures from 3 to 8 microns in length and from ⅓ to 1 micron in width. It here stains a little more deeply than in the smears from mucus, but remains Gram-negative and does not stain with methylene blue. Organisms grown on dextrose agar show deeply staining bands.

Morphologically the organisms from cultures look like the organisms found in the smears from the mucus. After long cultivation, however, there is a tendency to become larger, straighter and less bunched; while in the early cultures they are delicate and slightly curved, some very wavy, and some showing a radiating arrangement. Darkly staining bodies are seen both attached to the ends and sides, and also free; an organism with a ring at one end is occasionally seen. The organism looks like a spirochete, but culturally it seems more like a bacillus, and whether it is a spirochete or a bacillus must be decided later.

During the acute stage of the rhinitis the opsonic index to this organism is low, rising as the infection subsides.

A slight rhinitis has been produced in a human subject (self). A pharyngitis also occurred, the infection beginning six hours after the inoculation and lasting about forty-eight hours. The organisms were present in fairly large numbers in the nose and pharynx eighteen hours after the inoculation and a few were still present until the third day. During this infection the opsonic index fell to .05, rising to 2.6 as the infection disappeared. A slight rhinitis has been produced in a dog also, but no organisms were found in the nose of the dog twenty-four hours after the inoculation.

Whether this anaerobe is the cause of acute rhinitis must be determined by further investigation. My observations show that in the cases of acute rhinitis examined it was present constantly during the early stage of the coryza.

1743 West Harrison Street.

* A Preliminary Report from the Memorial Institute for Infectious Diseases.

## AN ANALYSIS OF 700 CASES OF LABOR*

H. R. COSTON, M.D.
Obstetrician to Hillman Hospital, Physician to Mercy Home
BIRMINGHAM, ALA.

For a number of years I have kept a record of obstetric cases occurring in my practice. I have thought a careful study of these might be of general interest. It certainly has been of service to me.

### TIME OF DELIVERY

The births have been distributed by months in the following manner:

| | | | |
|---|---|---|---|
| January | 61 births | August | 68 births |
| February | 49 births | September | 68 births |
| March | 55 births | October | 57 births |
| April | 58 births | November | 48 births |
| May | 68 births | December | 47 births |
| June | 60 births | | |
| July | 61 births | Total | 700 |

* Read before Jefferson County Medical Society, April 14, 1913.

These results would seem to controvert the popular idea that most babies are born in very cold weather, as by far the larger number of my cases (383) occurred in the months from April 1 to September 30.

Delivery occurred at the following times of day, in three-hour periods:

| | | | |
|---|---|---|---|
| 12 p. m.-3 a. m... | 72 cases | 12 m.-3 p. m..... | 83 cases |
| 3 a. m.-6 a. m... | 87 cases | 3 p. m.-6 p. m... | 88 cases |
| 6 a. m.-9 a. m... | 102 cases | 6 p. m.-9 p. m... | 81 cases |
| 9 a. m.-12 m.... | 90 cases | 9 p. m.-12 p. m.. | 97 cases |
| Total a. m.....351 cases | | Total p. m.....349 cases | |

Thus there were 337 cases of delivery in the night hours (6 p. m. to 6 a. m.) as against 363 cases in the daylight hours, again controverting public opinion. As a matter of fact, the single hour in which I delivered the greatest number of patients was 11 p. m. to midnight—forty-five cases. The fewest were delivered in the hour noon to 1 p. m.—twenty cases; but the smallest number in any three-hour period was from midnight to 3 a. m., as shown above.

### AGES OF THE MOTHERS

With reference to the ages of the mothers, the births are classified according to the following grouping:

| | |
|---|---|
| Mothers' ages from 13 to 14 | 2 cases |
| Mothers' ages from 14 to 15 | 2 cases |
| Mothers' ages from 15 to 17 | 40 cases |
| Mothers' ages from 17 to 20 | 116 cases |
| Mothers' ages from 20 to 25 | 223 cases |
| Mothers' ages from 25 to 30 | 174 cases |
| Mothers' ages from 30 to 35 | 82 cases |
| Mothers' ages from 35 to 40 | 41 cases |
| Mothers' ages from 40 to 45 | 20 cases |
| Over 45 | None |
| Total | 700 cases |

By far the most prolific period of a woman's life is from 20 to 30, practically four-sevenths of the children being born to mothers between those ages. Nearly one-third are born to mothers between 20 and 25 years of age.

### PARITY OF THE MOTHERS

Nearly half of the cases were in primiparae. Of these twenty patients were in the class termed "old," that is, more than 30 years old. Fifteen of them were between 30 and 35 years old. The others were from 35 to 43 years old. The use of forceps is required in a large percentage of these cases, more, I believe, from the large size of the child than from causes connected with the mother.

The next greatest number of cases were secundiparae. I have tabulated them in accordance with the parity of the mothers.

| Labors | Mothers | Labors | Mothers |
|---|---|---|---|
| 1 | 330 | 6 | 20 |
| 2 | 125 | 7 | 17 |
| 3 | 91 | 8 | 16 |
| 4 | 52 | 9 | 3 |
| 5 | 31 | 10 | 7 |
| | | 11 | 3 |
| | | 12 | 2 |
| | | 13 | 3 |

The preceding table refers to the number of labors, not the number of children born, as in some instances there had been a twin pregnancy. This leads us naturally to the percentage of twin cases. In my seven hundred deliveries there were only eight twin cases, just a fraction over 1 per cent. of the total.

### PRESENTATION

Of the 700 cases, 673 were head presentations; 22 were breech presentations; 5 cases were cross or face presentations. Practically speaking, in 96 per cent. of all cases of labor, one will have a head presentation to deal with; in 3 per cent. a breech and a little less than 1 per cent. will be cross or face presentation. I have encountered only two of the latter, one in a twin sac.

The 673 cases of head presentations may be arranged in the following classification according to position:

461 infants (68.5%) presented and were delivered in L. O. A.
58 infants ( 8.6%) presented and were delivered in R. O. A.
25 infants ( 3.7%) presented and were delivered in R. O. P.
4 infants ( .6%) presented and were delivered in L. O. P.
97 infants (14.4%) presented R. O. P. but rotated to L. O. A.
18 infants ( 2.6%) presented R. O. P. but rotated to L. O. A.
20 infants ( 2.9%) presented L. O. P. but rotated to L. O. A.
1 child rotated from L. O. P. to R. O. A.
2 brow cases were converted to vertex.

In the two face cases encountered, the infant in the twin sac presented mento-anteriorly; this was quite a small child and gave no trouble. The other case was a mentoposterior in a multipara and the child was rotated instrumentally to a mento-anterior position and easily delivered. Both children lived. The latter case was seen in consultation.

Podalic version was done in all cross cases, with one exception in which the patient was a multipara; this was easily changed to a head case. Version was done in one head presentation.

In the 22 cases of breech presentations, single labors, the presentation was L. S. A. in 9 cases, R. S. A. in 10 cases, L. S. P. in 1 case and R. S. P. in 2 cases.

In twin cases, both presented head first in 5 cases; both presented breech first in 1 case, and one head and one breech in one case. In one case the occiput presented in one and the face mento-anterior in the other.

### COMPLICATIONS OBSERVED

Placenta praevia was met only twice in this series. I have seen several others but they were in consultation cases not recorded here. I have lost none of the patients and have treated by packing until dilatation allowed the use of forceps or a pulling down of a foot. The children are usually still-born.

Hemorrhage of sufficient gravity to cause it to be noted was met in 17 cases. I have found hot intra-uterine douches the best agent to control it. Carcinoma uteri was found in only one case—that of an octipara. 42 years old. There was serious hemorrhage during the period of dilatation, which was rapid and nearly complete when I arrived. Convalescence was normal, but as operative measures were absolutely declined, the patient died a few weeks later. Carcinoma gastrica was a complication in a 35-year-old primipara. She died of this a few months later.

Chorea was present in one case, a sextipara, aged 35. Severe heart disease was noted in six cases. I always use an anesthetic in these cases, believing that there is less danger in the chloroform than there is in the shock to the system without it. A vaginal polyp of sufficient size to interfere somewhat with delivery was found in one case. The pedicle was tied *en masse* and the polyp cut away.

Accidental hemorrhage was met only once; the child was still-born. Complete vaginal septum, obstructing labor, was found in one case. It was longitudinal, forming a double vagina. After complete dilatation of the

os uteri, it was cut and gave no further trouble. This case has been fully reported elsewhere.[1]

Acute yellow atrophy of the liver was met only once. Death resulted one week after delivery of a seven months' child, in a quartipara, aged 32. Severe varicose veins of the vulva were encountered in three cases. Procidentia uteri, the cervix being completely outside of the vulva, was found in one case.[2] Pin-hole os uteri in one patient, a primipara, aged 35, was immediately relieved by incision.

Three mothers were idiots; one was blind and two were deaf mutes; two were habitual morphin fiends; three were epileptics; two had Bell's palsy. Laparotomy was done for appendicitis during pregnancy—third month—in one case, with no bad results except to necessitate the use of forceps in delivery. The uterus had been previously suspended in one case and this fixation so interfered with uterine action as to render it necessary to use forceps to complete delivery.

Narrow pubic arch was noted in three cases. Protuberant sacrum was present in one case. Flat pelvis was noted six times. Fist or hand displaced delayed labor in three cases.

Eclampsia was encountered in twelve cases; practically all of these were in consultation work. I have seen a number of other cases of eclampsia, eighteen in all, but for various causes only twelve of these are recorded here; only one case has proved fatal and that woman was comatose fourteen hours before any physician was called. I use veratrum viride with a bold hand and dilate manually and apply forceps.

Very precipitate labor was noted in six cases. Hemorrhage is to be feared in these cases. Menstruation during pregnancy was noted in several cases, in one of which it was so regular and normal in every respect that the woman did not suspect that she was pregnant until she felt the child move.

Dry labor, or the early rupture of the membranes, is often a cause of slow labor. I have noted sixteen cases in which this occurred from twelve to forty-eight hours before labor set in; eight cases in which it was more than forty-eight hours before labor began after their rupture. In one case it was forty-six days. This case was reported.[3] Hydrops Amnii was noted in three cases. Relaxed symphysis pubis was very marked in two cases. In sixty-eight cases with the occiput anterior in fourteen with the occiput posterior, and in one mentoposterior it was found necessary to use forceps. In eleven of the occipitoposterior cases instrumental rotation was done, to anterior position; in the mentoposterior case the child was easily rotated to the anterior position and delivered. The forceps was applied to the after-coming head four times and to breech and after head in one case and to breech alone in one case.

A very short cord sometimes delays labor. In two cases I found it only 7 inches long. It was so short and about the neck in nine cases that it was broken at delivery as the head was expelled. The cord was around the neck one time in 130 cases, two times in twenty-four cases, two times around the neck and once around the arm, leg and body in one case each. It was around the neck three times in two cases; around the neck four times and the body one time, in one case; around the neck, arm and body in one case and around the body and arm in one case. A distinct knot was in the cord in three cases. Prolapse of the cord was noted three times. I have succeeded in replacing and delivering these cases by pushing up the cord and pressing the head well down. In one set of twins the cord came off from the same placenta by a common stem and divided about two inches from the abdomen. In the other seven cases, cords and placentae were distinct. In the one case there was only one sac.

Placenta succenturiata was noted three times; adherent placenta, requiring forcible detachment in five cases. Severe infection occurred in one case but the woman recovered after a long siege. Hour-glass contraction on the detached placenta caused some trouble in two cases. Hematoma vulvae, a very rare condition, occurred once. This case has been reported fully.[4]

Broadly speaking, perineal lacerations occur in all primiparae; exceptions are few. Likewise, cervical lacerations occur in all cases, regardless of how many children have been borne. All perineal lacerations, regardless of their depth, should be carefully, but not too tightly, sutured. Likewise, all cervical lacerations should be let alone, unless they penetrate so deeply as to involve the circular artery. This latter event has only occurred once in my experience, and in that case hemorrhage was furious but was quickly controlled by suture.

In these seven hundred cases, two mothers died, one of acute atrophy of the liver and the other of eclampsia. The latter patient, a negro, had been in coma for fourteen hours before any physician was called.

THE BABIES

*Sex.*—There were 344 boys and 348 girls in the 692 single labors. In the 16 children born twins—eight labors—there were 11 boys and 5 girls, making in all 353 girls and 355 boys in the 700 labors.

In 480 cases there were 21 still-births, a little more than 4 per cent. All infants were considered still-born that died within forty-eight hours of delivery, unless some distinct cause, aside from congenital conditions, could be shown.

Among deformities noted were two of hydrocephalus, in one of which there were also a spina bifida, club-feet and penis adherent to scrotum; two infants had cleft palate, one had a thumb absent, one had twelve toes, two had hypospadias.

1329 North 26th Street.

1. Am. Jour. Obst., 1907, lv, No. 2.
2. Virginia Med. Monthly, 1897.
3. New York Med. Jour., May 25, 1889, p. 572.

## AN INSTANCE OF UNUSUAL SENSITIVENESS TO RESORCIN

DOUGLASS W. MONTGOMERY, M.D.
SAN FRANCISCO

In May, 1907, a patient consulted me on account of a severe dermatitis of the scalp and forehead, following the use of a dandruff cure. I ordered soothing applications under which the symptoms rapidly subsided. At the next visit, however, nine days afterward, I noticed that he had acne of the back of the neck, for which I prescribed a resorcin paste. I ordered this of moderate strength, 3.25 per cent., because the dermatitis had not yet entirely subsided. This application caused a violent reaction, and kept the patient awake all night. I then explained to him that the good effects of many medicines, among them resorcin, lay in their stimulating nature, and that with this preparation reduced one-half we would get its benefits without its

4. Am. Jour. Obst., May, 1905.

overaction. This was accordingly done. The paste diluted one-half, and therefore about 1.625 per cent., still caused a violent reaction. Not only was this ointment weak, but also care was taken to have the resorcin evenly distributed in the ointment mass by first mixing it with warm glycerin, and the irritant action of the resorcin was further modified by association with oxid of zinc. The paste was prepared as follows:

℞ Resorcin ..... 4 parts
Glycerin ..... 2 parts
Zinc oxid ..... 15 parts
White wax ..... 3 parts
Benzoinated lard ..... 100 parts

First mix the resorcin in the hot glycerin. Melt together the wax and the lard, and then add the oxid of zinc and the resorcin-glycerin while constantly stirring.

The patient now recognized from the similarity of the symptoms that the dermatitis caused by the barber's lotion and the two attacks that I had succeeded in giving him were all really from the same substance, resorcin. Not wishing any further treatment along that line he stopped his visits.

The patient telephoned to me September 25, 1912, saying that he had had another attack from his old enemy, resorcin. He had been up country for a few days, and on arriving home told his sister he had a little irritation of the face and neck from sunburn. This sister, whom I was treating for rosacea, told him she had the loveliest and most healing of ointments, and she straightway applied it. During the night he awoke and instantly recognized the same drawing, burning sensation accompanied by intense itching that he had experienced both with the dandruff cure and with the paste I had prescribed for his acne five years before. His sister's ointment, among other ingredients, contained about 7.5 per cent. of resorcin, and was therefore much stronger than the previously mentioned paste. The dermatitis was very severe, and the pruritus was atrocious, an interesting circumstance in view of the fact that resorcin, like the phenols, is, supposedly, antipruritic. The skin was thickened, brawny, and bright red, and there were many vesicles, some of which were nearly bullae.

The patient's sufferings were not alleviated by reflecting on the manner in which his latest trouble had arisen. Ever since his first experience he had been careful to avoid all possibility of a recurrence of the accident, and had been particularly watchful of barbers and their lotions. To have his sister become the means of getting another attack he therefore considered an especially shabby bit of bad fortune.

On inquiry if he knew of any hereditary sensitiveness to drugs in the family he said he did not, and added that if any such idiosyncrasy existed he should know of it, because his sister was a full sister, and they were both children of parents who were first cousins. With this close relationship it is particularly interesting that the patient should exhibit this strong idiosyncrasy and his sister be quite normal.

Resorcin is a phenol isomeric with pyrocatechin and hydrochinon; the two latter are, however, not employed in medicine. It is soluble in alcohol, in glycerin and in water, and is colorless and odorless, and may be associated without incompatibility with a great number of other medicaments. These good qualities, together with its intrinsic therapeutic merits, make it a favorite with men practicing in diseases of the skin.

Török[1] recommends a weak watery solution (from 1: 1,000 to 2: 1,000) of resorcin in inflammations of the skin complicating pyogenic infection. I have never used it in this way. It might act as a weak antiseptic, and also soothingly and beneficially on the epithelium, being analogous in this respect to phenol (carbolic acid) and the coal-tars. Employed on the skin as a 6 or 7 per cent. ointment or a 5 per cent. lotion, it acts as a beneficial stimulant, antipruritic and antiseptic.

Sabouraud, in his recently published work on diseases of the skin, includes resorcin in a number of formulas for the treatment of psoriasis, pityriasis and pustular dermatitis of the scalp, the non-leeting or non-oozing intertrigos, seborrheic eczema of the forehead and of the naso-genial fold, and in that form of alopecia areata in which a great many bald patches appear at one time. For painful fissuring of the hands or lips due to exposure to cold he advises the use of a weak (0.1 per cent.) resorcinated glycerole of starch, and in chronic acne of the back of the neck he combines resorcin with sodium chlorid and sulphur. His reason for making this last combination is that, according to the researches of Brisson, free sulphuric acid is formed which causes the sulphur to act more deeply in the tissues. The notes of Sabouraud's work[2] are given here to show in what esteem he holds this drug, although he does not specially mention it or review its action.

Resorcin is frequently prescribed in acne of the face, in which it is an excellent remedy. In a paste of from 7 to 8 per cent. strength it exerts the beneficent action of the coal-tars on epithelial cells, an action that could be designated as eu-epithelial, and it is also a stimulant and an antiseptic. To get a beneficial, soothing effect it may be necessary, especially in erethic cases, in which flushing of the face is a prominent symptom, to reduce the strength of the ointment to 3 or 4 per cent., always taking care to combine it with zinc oxid, in order still further to reduce its stimulating action on the blood-vessels. If an active desquamation of the epithelial cells is desired, as in the treatment of acne called "shelling," then a much stronger ointment may be used, even up to 15 or 20 per cent. I never employ it in this way.

When the eruption of lupus erythematosus is acute and very stimulating treatment such as that with solid carbon dioxid is out of the question, then a milder course is judicious. At night equal parts of ichthyol and water may be painted on, and wiped off the following morning with olive oil, and then the following mild resorcin paste applied, to be left on during the day:

℞ Resorcin ..... 2 parts
Glycerin ..... 1.5 parts
Zinc oxid ..... 5 parts
White wax ..... 1 part
Benzoinated lard ..... 33 parts

Mix. Apply during the day.

Resorcin when applied to the skin may poison by absorption. Nothen[3] has reported two such instances. One of the patients, a boy of 19, was ordered a 15 per cent. resorcin-sulphur salve as a treatment for seborrheic eczema. A deep coma developed, from which he finally recovered. The other patient was an infant, 11 days old, for whom a 7 per cent. resorcin-petrolatum ointment was ordered as a dressing for pemphigus neonatorum. This patient died. Nothen advises care in the employment of

1. Török: Die lokale Behandlung d. Entzündung oberfl. Hautkrankheiten, Arch. f. Dermat. u. Syph., cxi, 127.
2. Sabouraud, R.: Entretiens dermatologiques, Paris, 1913.
3. Nothen, H.: Ueber Resorcinvergiftung bei äusserer Anwendung, Med. Klin., 1908, iv, 901; abstr., Dermat. Jahresb., iv, 38

resorcin in children and in delicate people, or when there are large raw surfaces permitting free absorption. Sigismund Kaiser[4] also has reported a nearly fatal intoxication following the employment of a 50 per cent. resorcin zinc oxid paste.

### CONCLUSIONS

In summing up we may say that resorcin when applied in full strength on the skin acts as a highly irritant caustic. It is a powerful antiseptic, and when applied as a strong lotion or ointment, causes an active desquamation of the upper epithelial layers. It therefore is an efficient cutaneous antiseptic, both because it kills the bacteria, and because it produces an exfoliation of the bed in which they lie. Besides being a caustic, an irritant and an antiseptic it has a eu-epithelial action common to it and the tars and coal-tars, so that when properly diluted it lessens cutaneous irritation, and favors the return of epithelial cells to normal physiologic function. When applied in strong dosage over large surfaces, especially if these surfaces are denuded, it may be absorbed and cause dangerous symptoms of internal poisoning, or even coma and death.

323 Geary Street.

---

# DIABETIC FOODS OFFERED FOR SALE IN THE UNITED STATES

## A PRELIMINARY REPORT

JOHN PHILLIPS STREET, M.S.
Chemist, Connecticut Agricultural Experiment Station
NEW HAVEN, CONN.

Recent references in THE JOURNAL to gluten flours and certain other foods offered for the use of diebetics suggest that a preliminary report of an investigation just about completed in my laboratory by Prof. L. B. Mendel and myself might be useful to many diabetics and to physicians who are called on to arrange their dietaries.

In 1906 this laboratory, then under the direction of Dr. A. L. Winton, who is now with the Department of Agriculture, made its first examination of commercial diabetic foods. In nearly every year since it has analyzed various other brands as they appeared on the market. The demand for the reports on these foods and the many inquiries directed to us have led us to make a more extensive review of the situation, and to collect as far as possible all information as to the quality of the so-called "diabetic" foods offered to the American public. That the present state of the market is unsatisfactory is well known, and the inferiority (from the diabetic's point of view) of many of the products at present offered is unfortunately familiar to all careful dietitians. The most dangerous feature of the present situation is that the unsuspecting patient is led to purchase foods, generally at an exorbitant price, which are not only misrepresented but which may be positively harmful to him. In this day of self-medication this condition is all the greater menace to the diabetic.

Without any attempt to suggest methods of treatment for diabetes, which is the province of the physician, I may say that it is well recognized that diabetes is primarily a disturbance of nutrition, in which the normal ability of the body to make use of carbohydrates is more or less completely impaired. All recent authorities agree in placing the chief emphasis on the rôle of diet in the management of this disease. Janeway, Benedict, Joslin, Futcher, Falta, Strauss, von Noorden and other writers on diabetes could be quoted at length in support of this view. The importance of a restriction of the carbohydrates in certain cases and certain aspects of diabetes is admitted by practically all competent authorities. In order to prescribe a starch-free and sugar-free dietary, which at times is necessary, and to know accurately the actual amount of these carbohydrates contained in the various available foods, the physician must rely on the co-operation of the chemist to furnish this requisite information. This is our excuse, if any be needed, for our present investigation.

There seems to be some uncertainty as to what sort of preparation is entitled to be sold as a "diabetic" food. Granting the desirability of feeding the patient all the carbohydrate he can tolerate, and recognizing the possible value of the oatmeal, potato, rice and other treatments, in which a relative abundance of carbohydrate is fed for a limited period, it would seem that a low percentage of carbohydrates should be a requisite for a "diabetic" food. Certainly no special food containing nearly as much carbohydrate as a normal food of the same class should be entitled to this appellation. Flours, breads,, biscuits, chocolates, breakfast-foods, macaroni, etc., containing only a slightly lowered percentage of carbohydrates, are no more entitled to be called "diabetic" foods than the normal foods themselves. It is true that, when a patient's carbohydrate tolerance is well established, the use of foods containing 20, 25 and even 35 per cent. of carbohydrates might be permissible, when used under the direction of a competent physician; but when a strict diet is necessary, such as is required to determine this tolerance, even these relatively low percentages are objectionable, if not dangerous.

It has been our purpose to include in this investigation, as nearly as possible, all available data on the composition of all diabetic foods sold in America. Our report, therefore, will be in part compiled, but in greater part will consist of our original analyses. It will show 539 analyses of about 400 brands, 200 of which are our own new analyses and 110 those made in this laboratory in previous years.

While the purpose of this preliminary note is to call attention to the better preparations rather than to emphasize those which are obviously objectionable and fraudulent, it may not be out of place to summarize briefly our findings in general. The full details of the investigation are now being prepared for publication and will shortly be issued as a report from the Connecticut Agricultural Experiment Station.

One hundred and eight samples of sixty-eight brands of flours and meals are included in the report. Sixty-seven of these were sold as "gluten" flours, twenty of which did not even satisfy the low government standard of 35 per cent. protein. Twelve samples contained less than 13 per cent. carbohydrates, while the remaining gluten flours ranged from 28 to 76 per cent.

The soy bean flours contained from 23 to 26 per cent. of carbohydrates, the almond meals 17 per cent., and a cotton-seed flour 21 per cent. Other "diabetic" flours, not specifically sold as "gluten" flours, contained from 67 to 80 per cent.

The purchaser of gluten flours at the present time may obtain preparations containing from 87 to 11 per cent. of protein and from 4 to 76 per cent. of carbohydrates, at a cost of from 9 cents to $1.56 per pound.

In view of the government's low standard for gluten flour, and because of the wide variations in composition

4. Kaiser, Sigismund: Berl. klin. Wchnschr.; abstr., Dermat. Jahresb., i, 37, 33, 1039.

found in the brands at present on the market, proper protection of the diabetic demands that the manufacturers of these flours should be required to state on the label the guaranteed percentages of both protein and carbohydrates.

Three samples of American soft gluten breads contained from 35 to 37 per cent. of carbohydrates; two other brands contained 49 and 54 per cent., little, if any, lower than found in ordinary wheat bread.

One hundred and forty-eight analyses of 112 brands of hard breads, biscuits, rusks, cakes and other bakery products are included. Eight brands of *Luftbrot,* or aerated bread, are reported; two of these contained from 9 to 12 per cent. of carbohydrates, one 20 per cent., two from 31 to 33, and the other three from 44 to 54 per cent.

A number of the brands of rolls, biscuits, breads, etc., showed satisfactorily low percentages of carbohydrates, thirty-five samples containing from 1 to 25 per cent., forty-four samples containing from 35 to 55 per cent., and forty-one over 55 per cent., seven of the latter exceeding 72 per cent.

The cost of the *Luft* breads ranged from 71 cents to $2.33 per pound. Biscuits, containing 11 per cent. or less of carbohydrates, cost from 72 cents to $3 per pound. A number of brands, containing from 43 to 77 per cent., cost from $3 to $3.60 per pound. Even the cheaper preparations, containing from 50 to 77 per cent., no better, and in some cases even worse, for the diabetic's use than ordinary bread, cost from 30 to 41 cents per pound.

Fourteen samples of breakfast-foods were analyzed, five of which contained from 44 to 54 per cent. of carbohydrates, somewhat lower percentages than normal. Seven of the ten brands of recommended macaroni, noodles, etc., contained over 70 per cent. of carbohydrates, the other three from 42 to 51 per cent.

The analyses are given of fourteen samples of peanut butter, five of almond paste and butter, two of pine-nuts, one of almonds and ten of miscellaneous nut foods. As was to be expected, most of these preparations proved to be suitable diabetic foods. The peanut butters contained from 12 to 20 per cent. of carbohydrates, with an average of 15 per cent. The three almond pastes contained from 30 to 40 per cent., one showing an addition of 11 per cent. cornstarch. The two almond butters contained only 7 and 8 per cent., the pine-nuts from 3 to 8 per cent., and the almonds 16 per cent. The other nut preparations contained from 6 to 44 per cent. carbohydrates.

Seven brands of diabetic chocolates contained from 10 to 50 per cent. carbohydrates, while four cocoas contained from 21 to 51 per cent. The chocolates cost from $1.63 to $2.06 per pound, and the cocoas were similarly expensive.

Two sugar-free milks were examined which were true to name, containing only the merest traces of carbohydrates. One "diabetic" baking-powder examined contained no starch, another brand from 14 to 16 per cent. Various jams, preserves and other fruit products were examined which contained from 1.24 to 7 per cent. of invert sugar, percentages far below the normal. A currant-juice contained only 0.85 per cent. of invert sugar. Four of the fruit preparations were artificially colored with a coal-tar dye—a permitted color to be sure, but seemingly quite out of place in foods intended primarily for the use of invalids.

As already stated, the main purpose of this investigation was not so much to detect fraud as to secure information which would be of benefit to the diabetic and to the physician who seeks foods suitable for a low carbohydrate diet. In the accompanying tabulations a summary is given of the brands, *sold as diabetic foods,* which showed less than 35 per cent. of carbohydrates, arranged in the order of their carbohydrate[1] content. A date in parentheses following a brand name signifies that the brand named showed variations in different years; in other cases, in which the agreement was close, the results have been averaged.

BRANDS SHOWING UNDER 5 PER CENT. OF CARBOHYDRATES

| | Per Cent. |
|---|---|
| Casoid Baking Powder | .0 |
| Dr. Bouma Sugar-Free Fat-Milk | .0 |
| Whiting's Sugar-Free Milk | .0 |
| Rademann's Currant Juice "ohne Zucker" | 0.9 |
| Kalari Batons (1909) | 0.9 |
| Glidine | 1.0 |
| Casoid Sugarless Marmalade | 1.2 |
| Casoid Sugarless Jam | 1.5 |
| Kalari Biscuit | 1.7 |
| Casoid Dinner Rolls | 2.1 |
| Casoid Flour | 2.2 |
| Jireh Diatetic Pine Nuts | 3.4 |
| Rademann's Preserved Fruits, "entzuckert" | 3.5 |
| Kellogg's Protose | 3.6 |
| Barker's Gluten Food "A" | 4.1 |
| Kellogg's Pine Nuts | 4.2 |
| Kellogg's 80 Per Cent. Gluten Biscuit | 4.4 |
| Bischof's Gluten Flour | 5.0 |

BRANDS SHOWING FROM 5 TO 10 PER CENT. OF CARBOHYDRATES

| | Per Cent. |
|---|---|
| Casoid Biscuits No. 2 | 5.6 |
| Rademann's Preserved Fruits "in eigenen saft" | 5.7 |
| Barker's Gluten Food "B" | 5.9 |
| Kellogg's Nuttolene | 6.3 |
| Nashville Sanitarium Nuteysa | 6.3 |
| Huntley and Palmer's Akoll Biscuit | 6.5 |
| Nashville Sanitarium Nutfoda | 6.8 |
| Rademann's Preserved Fruits "ohne Zucker" | 7.0 |
| Muller's Tomatoes für Diabetiker | 7.3 |
| Barker's Gluten Food "C" | 7.7 |
| Kalari Batons (1913) | 7.7 |
| Casoid Biscuits No. 3 | 7.8 |
| Kellogg's 80 Per Cent. Gluten (1912) | 7.9 |
| Casoid Biscuits No. 1 | 8.0 |
| Kellogg's Almond Butter | 8.2 |
| Fromm's Uni Bread | 9.0 |
| Metcalf's Vegetable Gluten (1913) | 9.8 |

BRANDS SHOWING FROM 10 TO 15 PER CENT. OF CARBOHYDRATES

| | Per Cent. |
|---|---|
| Kellogg's Pure Gluten Biscuit (1906) | 10.2 |
| Health Food Pure Washed Gluten Flour (1913) | 11.1 |
| Health Food Alpha Diabetic Wafers | 11.3 |
| Loeb's Imported Gluten Flour | 11.8 |
| Health Food No. 1 Proto Puffs | 11.9 |
| Kellogg's Potato Gluten Biscuit (1906, 1909) | 11.9 |
| Kellogg's Nut Meal | 12.1 |
| Kellogg's 80 Per Cent. Gluten (1909) | 12.5 |
| Nashville Sanitarium Nut Butter | 13.0 |
| Kellogg's Nut Butter | 13.9 |
| Bischof's Diabetic Gluten Bread | 14.3 |
| Jireh Diabetic Baking Powder | 15.0 |
| Peanut Butter (range from 12 to 20) | 15.0 |

BRANDS SHOWING FROM 15 TO 20 PER CENT. OF CARBOHYDRATES

| | Per Cent. |
|---|---|
| Casoid Chocolate Almonds | 16.1 |
| California Paper Shell Almonds | 16.3 |
| Callard's Cocoanut Biscuit | 16.4 |
| Rademann's Diabetiker-Chokolade | 16.9 |
| Health Food Almond Meal | 16.9 |
| Callard's Ginger Biscuit | 18.1 |
| Callard's Prolactic Biscuit | 19.3 |

1. In the tables "carbohydrates" is used as synonymous with "nitrogen-free extract."

BRANDS SHOWING FROM 20 TO 25 PER CENT. OF CARBOHYDRATES

| | Per Cent. |
|---|---|
| Callard's Almond Shortbreads | 20.7 |
| Callard's Casoid Rusks | 20.8 |
| Rademann's Diabetiker-Makronen | 20.8 |
| Health Food Protosoy Diabetic Wafers | 21.2 |
| Jireh Patent Cotton-Seed Flour | 21.3 |
| Casoid Lunch Biscuit | 21.6 |
| Rademann's Diabetiker-Chokolade Biscuit | 21.9 |
| Cereo Soy Bean Gruel Flour | 23.7 |
| Health Food Salvia Sticks | 24.0 |
| Health Food Protosoy Soy Flour | 24.5 |
| Metcalf's Soja-Bean Meal | 25.0 |

BRANDS SHOWING FROM 25 TO 35 PER CENT. OF CARBOHYDRATES

| | Per Cent. |
|---|---|
| Jireh Soja Bean Meal | 25.8 |
| Brusson Chocolat with Added Gluten | 26.4 |
| Rademann's Diabetiker-Stangen | 27.0 |
| Rademann's Diabetiker-Dessert-Gebäck | 27 5 |
| Nashville Sanitarium Malted Nut Food | 27.5 |
| Metcalf's Vegetable Gluten (1906) | 28.1 |
| Health Food Pure Washed Gluten Flour (1906) | 29.5 |
| Fromm's Luft Bread | 30.7 |
| Spencer's Almond Paste | 31.6 |
| Fromm's Conglutin-Diabetiker-Schokolade | 32.7 |
| Health Food No. 2 Proto Puffs | 33.3 |
| Ferbuson Gluten Bread | 33.6 |
| Gum Gluten Breakfast Food | 34.2 |

---

# THE ABSURDITIES AND THE COMMERCIALISM OF THE PROPOSED NINTH DECENNIAL REVISION OF THE UNITED STATES PHARMACOPEIA *

OLIVER T. OSBORNE, M.D.
Professor of Therapeutics at Yale University
NEW HAVEN, CONN.

As a list of drugs approved for the next Pharmacopeia has already been published, and as the United States Pharmacopeia is a book of public interest and a legal standard, made so by the federal Food and Drugs Act, what follows is no breach of confidence but rather a necessary presentation for public approval, or disapproval, of a subject that is vital to each and every person who may become a patient, and especially vital to each and every physician, namely, what drugs and preparations shall be officialized in the next Pharmacopeia, a book of standards of purity of the drugs and preparations that are of therapeutic value. A thing that has no therapeutic value should not be termed a drug, and useless things should not appear in this book of drug values.

The primary question is, then, who shall decide what drugs are of sufficient positive therapeutic value, in this year 1913, to be given a legal official standard for the next ten years? Shall things like lemon-peel and orange-peel be dignified by official description ("Limonis cortex, the recently separated outer rind of the ripe fruit of *Citrus limonum* risso; Aurantii dulcis cortex, the recently separated outer rind of the ripe fruit of *Citrus aurantium* Linné") in this book to the distinct belittling and actual insult of such drugs as quinin, digitalis and strychnin? Placing lemon-peel in a legal position coequal to that held by digitalis is like inviting the boy who takes your hat to a seat at the guest table with the president of a country, or like giving the laborer who digs the grave a seat in the chancel with the minister who reads the burial service; it is absurd.

Shall drugs which are therapeutically valueless and whose activities are mythical and historical (such as marigold, saffron, condurango, etc.) appear in this supposedly scientific book of drugs found valuable in the year 1913?

Now, who selected these drugs and preparations that have been approved for the ninth revision of the United States Pharmacopeia, at least approved up to the date of March, 1913? Let us pray that the revision committee, the servants of the public, appointed for the public good, will reconsider this list and cut out the absurdities and commercialism from this ninth revision. No layman desires to take any drug but the best, if he must take any at all, and the best preparation of it. No physician would desire any less.

1. At the Pharmacopeial Convention, in 1910, it was stated on the floor of the house that it was the duty of physicians to select the drugs, and the duty of the pharmacists to decide how the preparations of the drugs should be made.

2. Fifty members of the Pharmacopeial Convention were elected a committee on revision. Of these fifty, six only are practicing physicians; that is, only six members of this revision committee are qualified to judge at the bedside of the value of the action of a drug.

3. A subcommittee on scope was appointed, consisting of seven men, four of whom are practicing physicians, Doctors S. Solis-Cohen (chairman), Philip Marvel, H. C. Wood, Jr., and O. T. Osborne; two are skilled medical laboratory pharmacologists, Drs. Reid Hunt and Torald Sollmann; and one, a skilled pharmacologist from the standpoint of pharmacy, Dr. Rusby. This committee, after my urgent insistence, adopted the following guide for the selection of drugs for the Pharmacopeia, namely: that the drugs shall be of "therapeutic usefulness" or of "pharmaceutic necessity." This of course became a joke, as it was not at all lived up to, any more than was the decision that physicians should be the ones to select the drugs.

4. The executive committee, composed of the chairmen of the various subcommittees, consists of one practicing physician (Dr. Cohen), two scientific medical laboratory men (Drs. Sollmann and Anderson), Dr. Wiley, ex-chief of the Bureau of Chemistry, and the other eleven are representatives of some branch of pharmacy. This executive committee is the "court of last resort," and has the final vote on the recommendations of the Subcommittee on Scope. They can approve or disapprove of such recommendations by a simple plurality of the votes cast.

One hundred and fifty-eight drugs and preparations were deleted by the subcommittee on scope. Seventy-nine of these deletions, just half, were voted in by the executive committee in spite of this adverse recommendation, and it will be remembered that the only member of the executive committee practicing at the bedside had already voted once in the subcommittee on scope, and had himself dissolved, favorably to admission, in the subcommittee sixty-five tied votes. The executive committee also exercised its prerogative rather discourteously to the subcommittee on scope by approving a number of drugs and preparations that had not even come before the subcommittee. Among such drugs are fluidextract of phytolacca, tincture of quillaja, oleoresin of parsley seed, purified animal charcoal, etc. It should be remembered in urging deletions that any physician can obtain a drug or preparation omitted from the new Pharmacopeia by the standard placed in an older Phar-

* Read at the Fourteenth Annual Meeting of the American Therapeutic Society held in Washington, D. C., May 5 and 6, 1913.

macopeia. Therefore, the deletion of useless drugs and preparations does not mean privation.

One hundred and seventeen thousand prescriptions were collected from different parts of the United States and printed and circularized by the chairman of the revision committee, and this list was used as a basis to estimate the number of times a drug was ordered as to whether it had therapeutic value or not. In other words, considering the large number of useless, worthless drugs and preparations approved for this next Pharmacopeia, the book will be founded more or less on commercialism and not on medicinal or therapeutic values. Officialization of a worthless drug allows the pharmaceutical houses to make these useless preparations and compels the druggist to buy them and to carry on his shelves a mass of articles which are absolutely useless from every scientific and clinical point of view. This is commercialism.

### STANDARDS

This word is much overworked, and is used as a cloak or covering for all sorts of arguments and all kinds of defense of all kinds of drugs and preparations by those who desire a large Pharmacopeia. How can you standardize such a thing as lemon-peel or saffron? Many so-called drugs cannot be standardized by any known method. The pharmacal members of the revision committee, and especially the chairman of the revision committee, believe that it is necessary to officialize every ingredient of every fool preparation, placing it in its alphabetical order in the Pharmacopeia. Carrying out this rule causes the most ridiculous absurdities. The officialized lemon or orange is obtained from the nearest fruit store, the flaxseed from the nearest feed store, the olive oil in purity depends on from whom it is bought, etc., etc., *ad nauseam*. Why do we not officialize raisins, cranberry sauce, currants, wine jelly, fig syrup, unfermented grape juice, rum, gin? Why not champagne? Extract of malt has been officialized; why not beer?

Another great bugaboo of the members of the revision committee who think the Pharmacopeia should cover everything is the fact that, if we want a certain substance officialized, its antecedent must be official. This causes more absurdities and also many gross inconsistencies. The fact that we need an aromatic oil up to standard is no reason for officializing that particular aromatic. Inconsistencies are shown by the fact that dilute hydrocyanic acid has been recognized without an antecedent, and dilute hydrobromic acid also. We do not state how the whisky of the Pharmacopeia should be made. We did not state from what grapes the red and white wine of the last Pharmacopeia should be made, etc. In other words, it is absolutely impossible to be consistent, and why should we load the Pharmacopeia with substances that have no value whatsoever as drugs?

The following drugs, preparations and things approved by the executive committee for the next Pharmacopeia are substances that I criticize. Please remember "that medical men were to select the drugs that should enter the Pharmacopeia"; also please remember that the subcommittee on scope adopted as its guide "therapeutic usefulness" and "pharmaceutic necessity." Unless anything which can be sold at a profit be considered a pharmaceutic necessity the lack of necessity of standardizing some of the following substances will be readily noted, and the lack of consistency that is inevitable is obvious; hence, once more, why litter up an official, supposedly scientific book like the United States Pharmacopeia by listing and describing the majority, at least, of the following substances?

Adeps (lard).
Althaea (marshmallow).
Amygdala dulcis (sweet almond).
Amylum (starch).
Aqua.
Aurantii amari cortex (bitter orange-peel).
Aurantii dulcis cortex (sweet orange-peel).
Cantharidis (Spanish flies).
Cera alba (white wax).
Cera flava (yellow wax).
Cetaceum (spermaceti).
Charta sinapis (mustard paper).
Coccus (cochineal).
Coriandrum (coriander).
Emplastrum adhesivum (adhesive plaster).
Extractum malti (extract of malt).
Foeniculum (fennel).
Gelatinum (gelatin).
Gossypium purificatum (absorbent cotton).
Humulus (hops).
Limonis cortex (lemon-peel).
Limonis succus (lemon-juice).
Linum (flaxseed).
Lycopodium.
Maltum (malt).
Manna.
Mel (honey).
Mel depuratum (clarified honey).
Mel rosae (honey of roses)
Mentha piperita (peppermint).
Mentha viridis (spearmint).
Oleum gossypii sêminis (cottonseed oil).
Oleum lini (linseed oil).
Oleum olivae (olive oil).
Paraffinum (paraffin).
Pepo (pumpkin seed).
Pix liquida (tar).
Pyroxylinum (soluble guncotton).
Resina (rosin).
Rosa gallica.
Saccharum (cane-sugar).
Saccharum lactis (milk-sugar).
Sapo (white Castile soap).
Sassafras.
Sassafras medulla.
Sevum praeparatum (prepared suet).
Sodii chloridum (salt).
Terebinthina (turpentine).
Terebinthina Canadensis (Canada turpentine).
Ulmus (slippery elm).
Vanilla.

The following spices are not needed in the Pharmacopeia. Their oils are officialized.

Anisum (anise).
Capsicum (red pepper).
Cardamomum (cardamom).
Carum (caraway).
Caryophyllus (clove).
Cinnamomum Saigonicum (Saigon cinnamon).
Cinnamomum Zeylanicum (Ceylon cinnamon).
Myristica (nutmeg).
Pimenta (allspice).
Piper (black pepper).
Salvia (sage).
Sinapis alba (white mustard).
Sinapis nigra (black mustard).
Zingiberis (ginger).

Many of the above preparations, such as spices, sugar, lard, olive oil, linseed oil, salt, etc., are required by the pure food laws to come up to a certain standard. For such articles as orange-peel, lemon-peel, etc., there can be no standard. If it is the object of the Pharmacopeia to prove what lemon-peel is, the description should go back to the lemon tree, as it might not be a lemon unless proved such from the beginning.

As the Pharmacopeia is not a book of sanitary science, it does not seem advisable to describe or standardize water. If plain (not distilled) water is used in making preparations, it will be the ordinary drinking-water of the city, town or village in which the drug store is located.

The following approved synthetics should not be officialized in the Pharmacopeia, as their purity and labeling should be controlled by the Pure Food and Drug Laws:

Benzaldehydum (synthetic oil of bitter almond).
Eugenol (synthetic oil of cloves).
Safrolum (synthetic oil of sassafras).
Vanillinum (vanillin, a synthetic vanilla).

A considerable number of metals and chemicals that are of no drug value have been approved for this Pharmacopeia. It is hardly the object of this book to give a standard for the purity of a pure chemical. If this is its object, why stop at the limited number that are described? Among a number of such may be mentioned aluminum hydroxid, benzin, potassium dichromate, potassium ferrocyanid, monohydrated sodium carbonate, sodium cyanid, uranium nitrate, etc.

### USELESS DRUGS

The commercialism of the Pharmacopeia is shown by officializing a large number of useless drugs and preparations. Some have no medicinal value whatever; others are markedly inferior to other drugs of the same class. The list of drugs follows, and although many physicians will disagree with the entire lack of value of most of them, I think no one will assert that any one of them is needed to cure a patient of an ailment or to treat a condition that may not be better treated by more active drugs.

Anthemis (chamomile).
Arnica.
  Tinctura arnicae.
Berberis.
  (Oregon grape-root).
  Fluidextractum berberidis.
Calendula (marigold).
  Tinctura calendulae.
Calumba (calumbo).
  Fluidextractum calumbae.
  Tinctura calumbae.
Chondrus (Irish moss).
Cimicifuga
  (black snakeroot).
  Extractum cimicifugae.
  Fluidextractum cimicifugae.
  Tinctura cimicifugae.
Condurango.
Convallaria
  (lily of the valley).
  Fluidextractum convallariae
Crocus (saffron).
Eriodictyon (yerba santa).
  Fluidextractum eriodictyi.
  Fluidextractum eriodictyi aromaticum.
Frangula
  (alder buckthorn).
  Fluidextractum frangulae.
Gambir (pale catechu).
  Tinctura gambir composita.
Gossypii cortex
  (cotton root bark.)
  Fluidextractum gossypii corticis.
Grindelia.
  Fluidextractum grindeliae.
Guaiacum (guaiac).
  Tinctura guaiaci.
  Tinctura guaiaci ammoniata.
Haematoxylon.
  Extractum haematoxyli.
Kino.
  Tinctura kino.
Krameria (rhatany).
  Fluidextractum krameriae.
  Tinctura krameriae.
Lactucarium.
  Syrupus lactucarii.
  Tinctura lactucarii.
Leptandra (Culver's root).
  Extractum leptandrae.
  Fluidextractum leptandrae.
Lupulinum.
  Fluidextractum lupulini.
  Oleoresina lupulini.
Matricaria
  (German chamomile).
Mezereum.
  Fluidextractum mezerei.
Moschus (musk).
  Tinctura moschi.
Oleoresina petroselini
  (parsley apiol).
Oleum hedeoma
  (oil of pennyroyal).
Pareira.
  Fluidextractum pareirae.
Phytolacca (poke).
  Fluidextractum phytolaccae.
Pyrethrum (pellitory).
  Tinctura pyrethri.
Quassia (bitter wood).
  Tinctura quassiae.
Quillaja (soapbark).
  Tinctura quillajae.
Rhus glabra (sumach).
  Fluidextractum rhois glabrae.
Sabal (saw palmetto).
  Fluidextractum sabal.
Sanguinaria (bloodroot).
  Tinctura sanguinariae.
Sarsaparilla.
  Fluidextractum sarsaparillae.
  Fluidextractum sarsaparillae compositum
Senega (senega snakeroot).
  Fluidextractum senegae.
  Syrupus senegae.
Serpentaria
  (Virginia snakeroot).
  Fluidextractum serpentariae.
  Tinctura serpentariae
Staphisagria (stavesacre).
  Fluidextractum staphisagriae.
Stillingia (queen's root).
  Fluidextractum stillingiae.
Sumbul.
  Extractum sumbul.
  Fluidextractum sumbul
Taraxacum (dandelion).
  Extractum taraxaci.
  Fluidextractum taraxaci
Triticum (couch grass).
  Fluidextractum tritici.
Uva ursi (bearberry).
  Fluidextractum uvae ursi.
Xanthoxylum
  (prickly ash).
  Fluidextractum xanthoxyli.
Zea (corn-silk).
  Fluidextractum zeae.

### INFERIOR PREPARATIONS

The following drugs are very much inferior to similar and better-acting drugs. Why should we have them officialized in this Pharmacopeia? Many of them are simple preparations that are inferior to better preparations. I realize, of course, that many physicians will disagree with me in regard to the individual drugs and preparations, but as a class each physician will certainly decide against them if he is familiar with the pharmacology of these and better drugs.

Acetum scillae
  (vinegar of squill).
Ammonii bromidum.
Ammonii iodidum.
Ammonii salicylas.
Bismuthi et ammonii citras.
Calcii bromidum.
Cambogia (gamboge).
Camphora monobromata.
Carbo animalis purificatus
  (purified animal charcoal).
Ceratum plumbi subacetatis
  (Goulard's cerate).
Cerii oxalas
  (cerium oxalate).
Cinchoninae sulphas.
Euonymus (wahoo).
  Extractum euonymi.
Extractum quassia.
Fluidextractum cinchonae.
Fluidextractum digitalis.
Fluidextractum gentianae.
Fluidextractum rosae.
Glyceritum amyli
  (glycerite of starch).
Glycyrrhizinum ammoniatum
  (ammoniated glycyrrhizin).
Guarana.
  Fluidextractum guaranae.
Infusum pruni virginianae.
Liquor acidi arsenosi.
Liquor arseni et hydrargyri iodidi.
Liquor hydrargyri nitratis.
Liquor subsulphatis
  (Monsel's solution).
Liquor zinci chloridi
  (solution of zinc chlorid).
Magnesii oxidum ponderosum
  (heavy magnesium oxid).
Oleatum quininae
  (oleate of quinin).
Oleum picis liquidae
  (oil of tar).
Pilocarpinae nitras.
Quininia.
Sodii acetas.
Sodii chloras.
Sodii phosphas exsiccatus.
Styrax.
Sulphonmethanum.
Syrupus rosae
Zinci acetas.

### MIXTURES

It is beneath the dignity of the Pharmacopeia to include a lot of mixtures which contain fool ingredients or have multiple ingredients. We should not officialize such absurdities. The following are the preparations referred to:

| Name. | Number of Ingredients. |
|---|---|
| Elixir adjuvans | 11 |
| Elixir ferri, quininae et strychninae phosphatum | 15 |
| Extractum colocynthidis compositum | 5 |
| Infusum sennae compositum (black draught) | 5 |
| Liquor ferri et ammonii acetatis (Basham's mixture) | 12 |
| Mistura glycyrrhizae composita (brown mixture) | 19 |
| Mistura rhei et sodae | 5 |
| Pilulae catharticae compositae | 8 |
| Syrupus hypophosphitum compositus | 10 |
| Syrupus sarsaparillae compositus | 7 |
| Syrupus scillae compositus | 5 |
| Tinctura benzoini composita | 5 |

The following drugs were refused admission to the Pharmacopeia by the executive committee after they had

been approved by the subcommittee on scope on the ground of literal interpretation of the general principles of the Pharmacopeial Convention. It would certainly seem better to interpret these rules and regulations in the spirit in which they were intended; a useful drug should, if possible, receive a standard in the Pharmacopeia. The executive committee has approved of such preparations as erythrol tetranitrate, morphin diacetyl hydrochlorid (heroin hydrochlorid), morphin ethyl-hydrochlorid (dionin), theobromin sodiosalicylate (diuretin), etc. The valuable drugs thus refused after recommendation by the subcommittee on scope are:

Acetylsalicylic acid (aspirin).
Ammonium sulpho-ichthyolate (ichthyol).
Diethyl-barbiturie acid (veronal).
Sodium diethyl-barbituric acid (veronal-sodium).
Epinephrin.
Eucain.
Holocain hydrochlorid.
Novocain.
Methyl ester of para-aminometaoxybenzoic acid (orthoform).
Protargol.
Stovain.

### PERSONNEL OF COMMITTEES

The subcommittee on scope consists of:

S. Solis-Cohen, M.D., (chairman), Professor of Clinical Medicine, Jefferson Medical College, Philadelphia.
Reid Hunt, M.D., in Hygienic Laboratory, Washington.
Philip Marvel, M.D., Practicing Physician; Trustee American Medical Association.
O. T. Osborne, M.D., Professor of Therapeutics, Yale University.
H. H. Rusby, M.D., Pharmacognosist; Professor New York College of Pharmacy.
Torald Sollmann, M.D., Professor of Pharmacy, Western Reserve University.
H. C. Wood, Jr., M.D., Pharmacologist; Professor Pharmacy and Therapeutics, Medico-Chirurgical College, Philadelphia.

The executive committee consists of:

S. Solis-Cohen, M.D., Professor of Clinical Medicine, Jefferson Medical College, Philadelphia.
Torald Sollmann, M.D., Professor of Pharmacy, Western Reserve University.
J. F. Anderson, M.D., Hygienic Laboratory, Washington.
Henry Kraemer, Ph.D., Professor of Botany, Philadelphia College of Pharmacy.
Charles H. LaWall, Ph.D., Pharmacist and consulting chemist; Professor Philadelphia College of Pharmacy.
George D. Rosengarten, Ph.D., Chemist, a member of the firm of Powers-Weightman-Rosengarten Co., Manufacturing Chemists.
A. B. Stevens, Ph.D., Pharmacist; Professor School of Pharmacy, University of Michigan.
H. W. Wiley, M.D., Ph.D., Chemist; ex-Chief Bureau of Chemistry, Washington.
G. M. Beringer, Ph.M., Pharmacist in retail business.
C. L. Diehl, Ph.M., Pharmacist (retired); Emeritus Professor Louisville College of Pharmacy.
W. C. Alpers, Sc.D., Pharmacist in retail business.
Otto Raubenheimer, Ph.G., Pharmacist in retail business; Editor Practical Druggist.
Wilhelm Bodemann, Ph.G., Pharmacist in retail business.
A. B. Lyons, A.B., M.D., Pharmacist; Chemist with Nelson, Baker & Co., Manufacturing Chemists.
Chas. Caspari, Jr., Phar. D., Pharmacist; Professor University of Maryland; Commissioner Maryland State Board of Health.

252 York Street.

## BUBONIC PLAGUE IN MANILA

A. P. GOFF, M.D.
Chief, San Lazaro Hospitals Division, Bureau of Health; President Board of Medical Examiners for the Philippine Islands; Visiting Physician, Philippine General Hospital
MANILA, P. I.

After an absence of six years plague again appeared in Manila in June, 1912. Between that date and the present—March, 1913—there have been fifty-five cases, twenty-two of them having occurred in October.

The way in which the disease entered Manila is not known certainly, but as there had been a good deal of plague in China for some time before June, 1912, it is presumed that an infected rat came ashore from some boat from the mainland. It is impossible to guard against this danger absolutely.

In the rat-poisoning and rat-catching operations which have been carried on, remarkably few infected animals have been found, which of course accounts for the comparatively few human cases reported, and leads to the belief that no serious epidemic will occur in Manila.

All of the cases, except two in the Walled City (Intramuros), have been on the north side of the Pasig River, which divides the city; and nearly all of the twenty-two, mentioned as occurring in October, originated in an infected store-house near the station of the Manila and Dagupan Railroad. This was, of course, at once thoroughly disinfected and cleared of rats, and since then no more cases have occurred in that neighborhood. It might be mentioned, in this connection, that arsenic mixed with rice in such proportion that a few grains of rice constitute a poisonous dose, is considered here to be the best rat-poison.

According to nationality the fifty-five cases were divided as follows: in Filipinos forty-six, Chinese eight and Caucasians one. Only ten females were attacked, and the ages of all patients varied from 16 months to 50 years; about one-half being 25 years of age or under.

According to the population the number of cases was somewhat greater among the Chinese than among the Filipinos, and among the Caucasians somewhat less than the due proportion; we all were struck by the number of comparatively young people attacked. It is not known why this should be so, unless it is, perhaps, that the younger persons are rather more liable to go barefooted, thus giving the fleas a better chance.

All cases of plague are handled at this hospital—San Lazaro—and every diagnosis is confirmed by laboratory methods, or by post-mortem, or both. When a case is admitted, the bubo, if there be one, is aspirated, and a smear examined at once, by which means the diagnosis in typical cases is usually confirmed. Of course a culture is also made, and guinea-pigs inoculated. This is done by the government laboratory. This work of the laboratory is particularly useful, from a practical standpoint, in doubtful cases of enlarged lymph-nodes. Many cases were sent here as suspected bubonic plague, with enlarged lymph-nodes, high temperature, etc., which were not plague, but were called by us "glandular fever." It is practically impossible to be sure of the diagnosis in these instances, for a day or two, and here the microscope is particularly valuable as giving, at least, negative evidence. Of course these cases of enlarged lymph-nodes did not closely simulate typical plague clinically except in, perhaps, two cases; but many cases of true plague are not typical. For instance:

A male Filipino 18 years of age was admitted with a temperature of 104, and slight enlargement of the lymph-nodes in the left axilla. A lymph-node was aspirated and nothing was found indicative of plague in the smear or culture. The patient was given quinin and calomel and the temperature became normal on the day after admission and remained practically so for two days. On the fourth day, however, the temperature rose again to 104, and a second aspiration of the lymph-node showed the case to be plague both in smear, culture and guinea-pigs. The temperature declined again in a few days, and the patient recovered.

This case was, of course, bubonic plague in a mild form, but there was nothing at first to differentiate it from some of the cases admitted which were not plague, as for example the following:

A Filipino child 4 years old was brought in with a temperature of 104, and a large left femoral bubo. The lymph-node was aspirated repeatedly, but nothing could be found in smear, culture or pigs. There was no infection of foot or leg to account for the bubo, and according to the mother there had been fever for some days before the lymph-node enlarged.

These two cases are briefly mentioned merely to show the occasional difficulties encountered, and the value of laboratory methods in this disease.

In the cases observed since June, 1912, the femoral lymph-nodes have been oftenest primarily enlarged, followed in frequency by the inguinal; in two cases the popliteal lymph-nodes were affected, in three the cervical, and in three the axillary. In only two cases has there been any skin eruption. Three or four cases developed bloody expectoration due to secondary involvement and congestion of the lungs. Specimens of sputum were found to contain immense numbers of the plague bacillus. These cases were, of course, in no way genuine pneumonic plague, all of ours having been of the bubonic type; but as there was usually more or less coughing, every person going near these patients was compelled to wear a mask of absorbent cotton, between double layers of gauze, over the nose and mouth. In addition, when practicable, a light towel or piece of gauze was thrown over the patient's face when it was necessary for any one to remain near him for any length of time. When individuals reach this stage they are usually practically unconscious, so that a light covering over the face causes no annoyance.

In this country, where it is possible for all rooms to be open and well ventilated, it is not likely that the danger to attendants from infected sputum is as great as in Northern China in the winter, for instance, but it must at all times be considerable. No accidents resulted from the few cases occurring here. These cases showed at post-mortem intense congestion of the lungs with involvement of the bronchial glands. At the necropsies of those having femoral or inguinal buboes, even when the lymph-nodes were not greatly enlarged, the distance to which hemorrhage and congestion extended into the abdomen, involving the posterior wall, was particularly remarked.

It might be of interest to note that a cat was found suffering from plague, and that guinea-pigs left in houses from which patients had been taken were infected.

Patients are being treated with serum prepared at the Government Laboratory; about 150 c.c. being given by intramuscular injection as an initial dose, and from 50 to 75 c.c. three or four times a day until 500 c.c. have been administered. This treatment has not been used a sufficient length of time to make any positive statement as to results possible, but it is believed that the serum has a beneficial effect.

As to mortality, twenty-one of the fifty-five patients were found dead and removed to the morgue, and thirty-four were found alive and transferred to the hospital. Of these seven recovered: one Caucasian, five Filipinos, and one Chinaman. This makes the number of cured about 20 per cent. of those found living, and 12½ per cent. of all, which is considered to be a fairly good result when it is remembered that many patients were admitted in a dying condition, and when the general severity of the disease is taken into account.

At this writing the prospect for getting rid of the plague entirely appears to be good, as there have been no cases since the first of the month.

The Pasig River flows through the center of the city. A large part of the white population live in Ermita, Malate and Paco, or the south side, while the north side, particularly Tondo, Binondo, San Nicolas, Santa Cruz and Quiapo, is mostly occupied by natives. Intramuros is the old Spanish walled city.

The first case of plague, June 18, 1912, was in Tondo, near the railroad station; the second, June 26, in Santa Cruz, not far from Bilibid prison; the third, August 4, in Quiapo; the fourth, August 8, also in Quiapo; the fifth, August 11, in Binondo, and so on. Thus they were pretty well scattered around the north side. In October occurred the cases originating in the store-house near the railroad station, and also one case in Paco on the south side of the Pasig River which was undoubtedly contracted in Quiapo, Santa Cruz. In November and December there were two cases in Intramuros. The last case, March 6, 1913, occurred in Sampaloc. All patients living and dead are sent to the San Lazaro Hospital, and the morgue attached to that institution, in the northern part of the city.

---

## A NEW TONSIL-SNARE

LOUIS D. GREEN, M.D.
AND
AARON S. GREEN, M.D.
Assistant in Ophthalmology, Stanford University Medical Department
SAN FRANCISCO

It is without trepidation that we place before the profession a new tonsil-snare. While it is true that accuracy in marksmanship depends largely on "the man behind the gun," nevertheless, the modern rifle will hit the target more frequently than would the ancient musket. Likewise, while the skilful surgeon can perform an operation with instruments that are far from mechanically desirable, he can perform the same operation better and with greater facility with a more suitable instrument.

That the tonsil-snares now on the market are not altogether satisfactory is proved by the existence of the many varieties. The instrument which requires the least time and the fewest assistants in its manipulation is the most desirable.

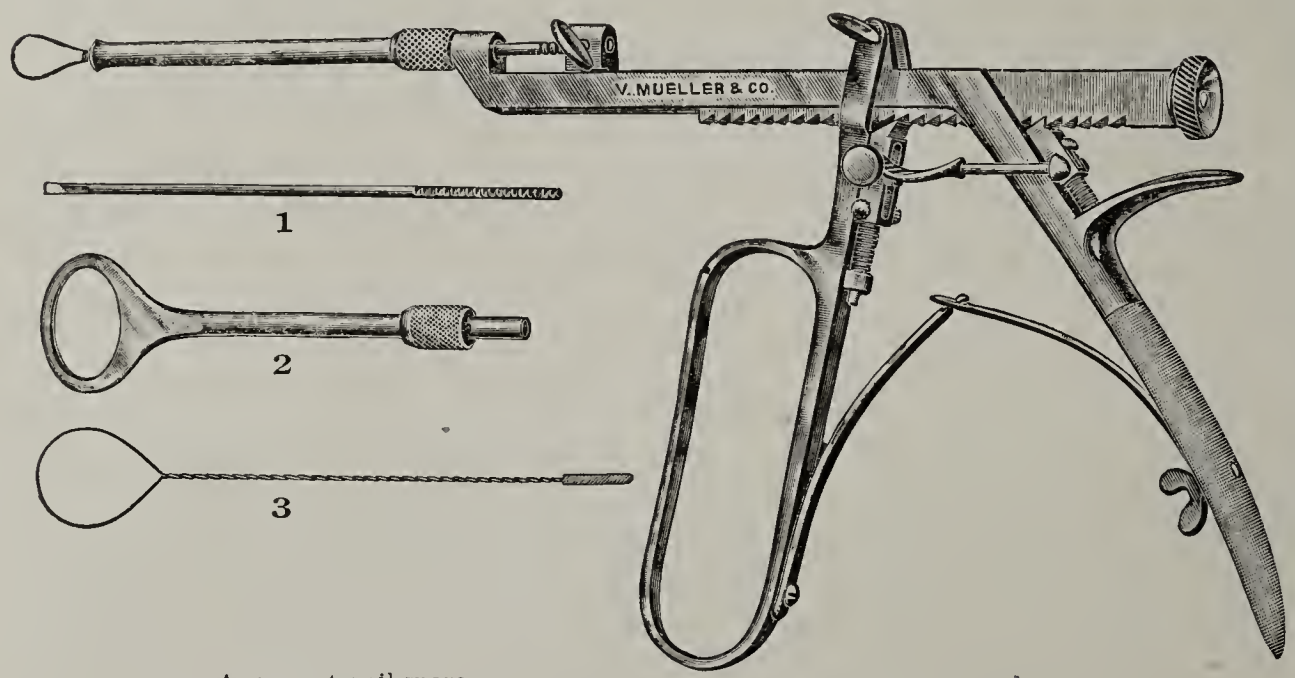
The straight-line snares like the Farlow or Martin, and the numerous modifications, are perhaps the least satisfactory. Not being made on the lever principle, they depend on direct traction, which is usually augmented by a screw device. If the screw is used, it entails an extra step in the procedure and ordinarily requires a

third hand to retain hold of the tonsil, as the operator's hands are both engaged with the snare.

The pistol-handle snares of the Tyding or Peters style overcome the above objections and are becoming increasingly popular. But, while they possess the advantages of speed and the use of only one hand in their manipulation, they have the following distinct disadvantages:

1. Slow snaring is impossible should one have occasion and desire to use that method.

2. The wire loop and cannula travel forward and down when the handles are closed to bring the loop home. This is apt to cause damage to the posterior pillar or dislodge the wire from the tonsil.




A new tonsil-snare.

3. On account of the augmented force, it is difficult or impossible to stop when once traction is begun, with the consequence that a part of the pillar or uvula is liable to be caught in the loop and cut off.

4. Should the loop happen to be too large and the tonsil not detached after bringing the handles entirely together, it places one in a very serious predicament. The ends of the wire are inside of the cannula and not accessible and it is with the greatest difficulty detached from the tonsil. This situation is especially dreadful when the operation is done under a local anesthetic, with the patient gagging and bleeding.

All of the foregoing objections we have overcome in the instrument shown in the illustration.

1. Rapid or slow snaring can be done at will.

2. The cannula remains stationary. This prevents injury to the posterior pillar and partial removal of tonsil on account of slipping of the wire loop.

3. Because of the ratchet, one can stop at any point in the operation to make sure the pillar and uvula are free.

4. Should the loop happen to be too large and the tonsil not quite snared off, it can be very easily disengaged from the tonsil by loosening the thumb-screw and pulling out the stylet.

Other features not possessed by any other snare are that it can be used in any one of three distinct methods: (1) as a short wire snare; (2) by fastening a long wire with a thumb-screw to the carrying rod; (3) by changing the tip for the Sluder-Beck operation.

The instrument, besides being less clumsy than the other scissor-handle snares, has from five to seven times the leverage of those instruments and the tonsil comes out without a sudden jerk.

---

## NEW TONSIL CLAMPS

MARK D. STEVENSON, M.D., AKRON, OHIO

A clamp for one tonsil should be easily applied or removed; it should be self-retaining, and as light as possible so that when the end outside the mouth is not supported no undue pressure or pain will result. Experience soon teaches any one using clamps that only slight pressure is required to stop a hemorrhage from the tonsillar fossae, and the pressure needs to be continued for but a short time — just long enough after the bleeding has ceased to make certain that firm clots have been formed in the bleeding vessels. This will neeessarily vary in different eases, but the average ease ean be eontrolled by slight pressure for five minutes. Too much pressure continued for half hour or more causes not only unnecessary pain and distress but is likely to produce necrosis and possibly phlebitis or thrombophlebitis with subsequent emboli or other undesirable sequences. This instrument (Fig. 1) is made light and springy so that with it the danger of making superfluous pressure is much lessened. It may be left unsupported in the mouth, for the time required, causing little or no distress. If necessary it can be applied to the fossa of the first tonsil removed while the second tonsil is being operated on, or in after-hemorrhage if one fossa only is bleeding and it is known which one, the clamp can be applied to that fossa.

If both are bleeding or it is not known which one is the offender two clamps may be employed. In such cases a

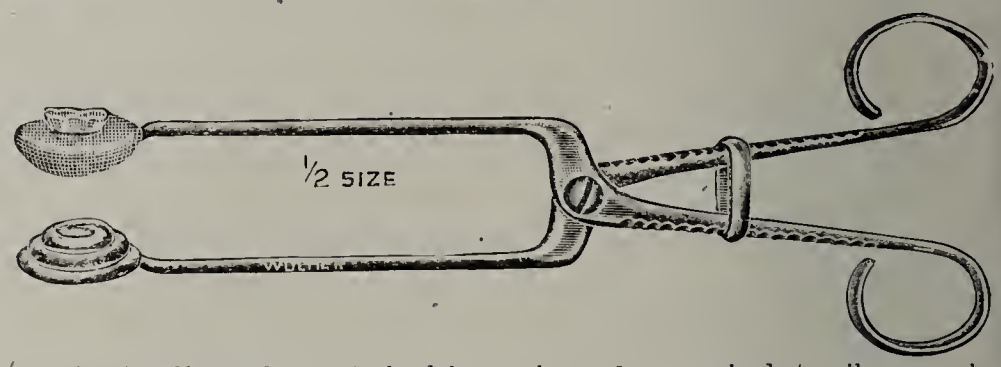



Fig. 1.—Clamp for control of hemorrhage from excised tonsils; can be applied to either side.

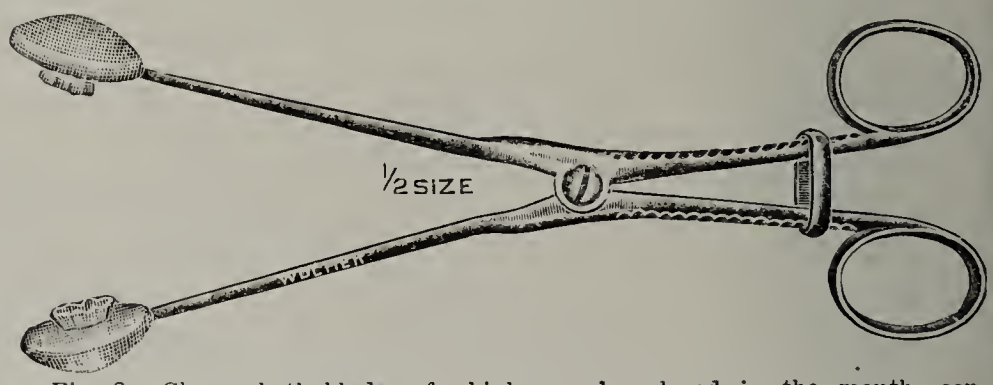



Fig. 2.—Clamp, both blades of which can be placed in the mouth, constricting by pressure outward.

clamp (Fig. 2) both blades of which can be inserted inside the mouth pressing outward against each fossa is sometimes preferable, as it requires less room and does not make so much pressure when unsupported as two, and does not clamp the external tissues overlying the tonsillar fossae, therefore being less likely to produce necrosis, etc. The parts to press against the tonsillar fossae are preferably covered with gauze, a few layers of which may be tied on the tips with any suture material or cord.

The ring on the handles of each variety is easily adjusted to give any desired pressure. A springy tension is less painful than the steady pressure of a stiff instrument, is more effective and not so likely to produce untoward pressure, necrosis or other undesirable sequelae. After the bleeding has ceased, I usually loosen the ring on the handles, doing away with all pressure on the tissues but leaving the instrument in place. The gauze tampon tends to remain in the fossa and may be left there for half an hour or longer. The patient can expectorate with the instrument in place and is not seriously inconvenienced by its presence. When such a clamp is removed the outer part should be loosened first; next the inner blade should be moved away from one fossa toward the opposite fossa and then out of the mouth. If drawn directly forward out of the fossa it is more likely to disturb the tissues and start a fresh hemorrhage.

165 East Market Street.

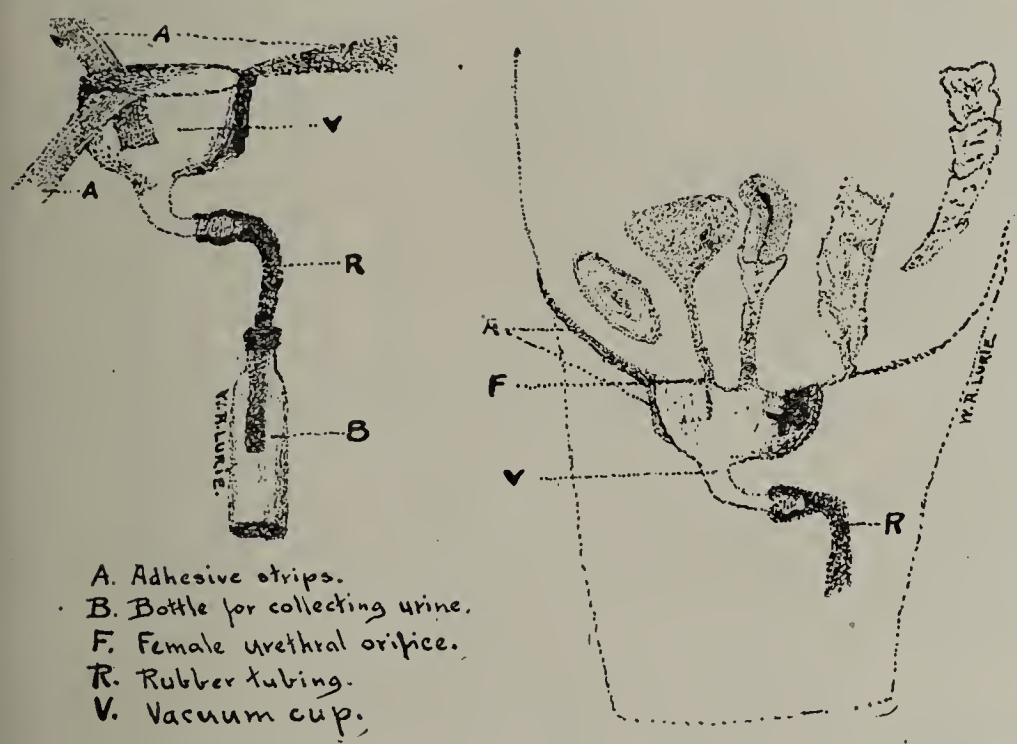
## COLLECTION OF URINE FROM FEMALE BABIES

WILLIAM A. LURIE, M.D., CHICAGO

Having experienced some difficulty in the collection of urine from female baby patients, I decided that if I had any success I would let others know and I now wish to describe a simple method which has proved satisfactory in my hands.

I strapped a narrow cup from my cupping outfit to the abdomen and over the buttocks of my little patient in such a manner that the margins were in close approximation to the vulva. To the opposite end of the cup I attached a bit of rubber tubing, the other end of which was in a bottle which was either strapped to the patient's leg or left in the bed. I found that this simple device was satisfactory and required no watching.

5108 Wentworth Avenue.




Device for collection of urine from female babies.

## NEW SCLERAL TREPHINE

HARRY S. GRADLE, M.D., CHICAGO

Elliot's trephining operation has proved of wonderful service in glaucoma and is now one of the recognized procedures

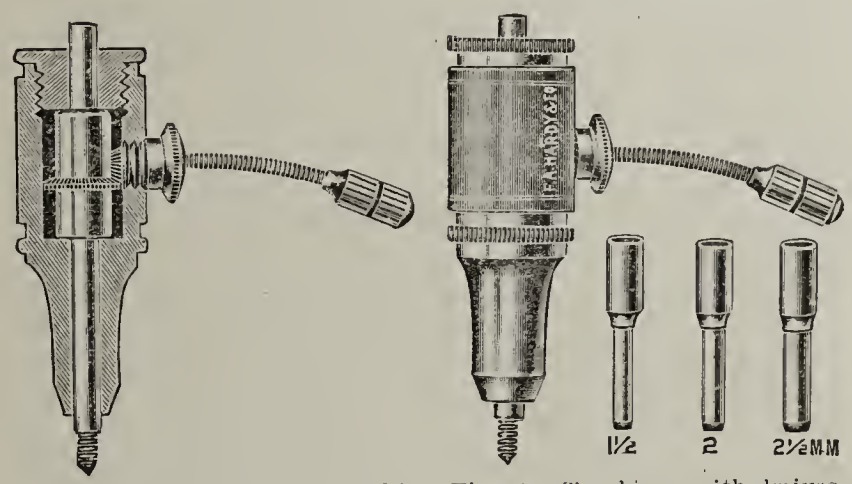



Fig. 1.—Cross-section of trephine. Fig. 2.—Trephine, with knives.

in combating that disease. The technic is simple and the results are equally satisfactory compared with those following iridectomy. Moreover, there is but a minimum of optical disfigurement. The main objections are mechanical and can be attributed to the trephine itself. The hand trephine is difficult to steady and keep in the original incision while applying proper downward pressure and rotary motion. The watch-spring type of corneal trephine cannot be controlled accurately, and the small set-screws, for adjusting the cutting points, are apt to catch the conjunctival flap and badly lacerate it.

Therefore I devised the trephine herewith illustrated: A shaft, rotating freely within a rigid housing, is actuated by a flexible shaft at right angles to the main shaft and connected with it by a simple rack-and-pinion bearing. (Fig. 1). The free end of the flexible shaft terminates in a small knurled head that is rotated between the operator's thumb and forefinger. The lower end of the main shaft is threaded and onto this are screwed the cutting edges of the trephine. There are three of these cylindrical knives, with the relative diameters of 1.5, 2 and 2.5 mm. (Fig. 2).

The use of the instrument is extremely simple. After the conjunctival flap has been dissected free, the trephine is held by the rigid housing in one hand and lowered onto the eye until the proper site for the cutting has been determined. Slight pressure is then brought to bear. Rotary motion is imparted to the cutting edge by gently turning the knurled end of the flexible shaft between the thumb and forefinger of the free hand. This obviates the possibility of any vibratory motion being transmitted to the cutting portion of the instrument.

If, for any reason, the operator wishes to interrupt the course of the operation, the trephine is easily returned to the site of the original incision and the trephining continues in the usual manner.

1337 Fargo Avenue.

## Special Article

# BACTERIAL VACCINE THERAPY: ITS INDICATIONS AND LIMITATIONS*

(*Concluded from page 1956*)

X

Puerperal Infection: In those cases of childbed fever with streptococci as the predominating organisms inoculation of a stock vaccine of the corresponding microbe has at times been followed by symptomatic betterment. Many obstetricians, however, believe that the antistreptococcic serum brings better results than vaccine in this disease. In any case a careful bacteriologic diagnosis of organisms found in the interior of the uterus should be made. In severe cases it is also desirable that a culture be obtained of organisms from the blood.

A minority of the infections of the puerperium, comprising, however, a goodly proportion, arise from invasion by the pneumococcus, colon bacillus, staphylococcus, gonococcus and anaerobes of the *Bacillus aerogenes capsulatus* (Welch) type. These infections obviously are unsuited for streptococcic inoculations, and one should not jeopardize a possible satisfactory outcome by relying on them or on one of the several mixed vaccines advertised for an emergency of so serious a nature.

Erysipelas: Streptococcus vaccine is rarely if ever of benefit in erysipelas. Some bacteriotherapeutists have presented clinical statistics to demonstrate the value of a stock vaccine made from a special strain of streptococci isolated from erysipelas, and others record similar experience following the use of autogenous vaccines for each individual case. On the whole, however, the vaccine treatment of acute erysipelas is of uncertain promise. In the chronic recurrent type of infection the prospects are more encouraging for the use of stock vaccines of erysipelatous cocci, or better still the autogenous vaccines.

Scarlet Fever: The routine employment of streptococcus vaccines in scarlet fever is not advisable. For the streptococcic complications and sequels, such as abscesses, beneficial results may at times be secured by autogenous vaccines.

In certain quarters prophylactic inoculations of streptococcus vaccine are advocated as of value in scarlatina, the statement being made that complete immunity is to be secured in a week following three inoculations of streptococcus vaccine from five to seven days apart. To say the least, such a statement seems unwarranted in view of the still undetermined etiology of scarlatina and of the part played by streptococcus infections in that malady.

Localized Infections: In such affections as streptococcus angina and adenitis following milk infection, autogenous vaccine therapy has been advocated; and the same consideration applies to other localized infections of which otitis media may be taken as a type.

Acute and Chronic Rheumatism: Certain makes of commercial streptococcus and staphylococcus vaccine have been prominently advertised in rheumatism. Acute, subacute and chronic "rheumatism" alike of joints, bursae, tendon sheaths, muscles and nerves are included in the list along with arthritis deformans, as having been "cured" by these vaccines. Such statements are gross exaggerations of the actual conditions, which are that a very occasional case of subacute or chronic rheumatism appears to improve from the inoculation of stock streptococcus and staphylococcus vaccine.

As for the typical "rheumatic fever," we are probably on the threshold of a definite knowledge of the peculiar and specific streptococci concerned in its etiology, and rational vaccine therapy must await the attainment of this information. Many of the rheumatoid affections of a chronic or recurrent type result from a smoldering focus of infection in the tonsils, the accessory sinuses, the middle ear and the alveoli (pyorrhea alveolaris). The task of bacteriotherapy is to identify the bacteria in such foci of infection and to treat by appropriate autogenous vaccines. The employment of vaccine therapy, however, should not lead to neglect of the proper surgical measures for the removal or drainage of the infected focus.

Surgical Prophylaxis: Vaccines, especially of streptococcus and staphylococcus, have been advocated for use preceding operation and after accidental wounds, on the theory that a protective immunity could thus be established against wound disease. There is no sufficient evidence to justify this practice.

*Dosage.*—From 30 to 100 million killed streptococci constitute the average dose, though occasion may arise for larger amounts, from 500 to 1000 million.

### PNEUMOCOCCUS VACCINE

The organisms included under the species pneumococcus vary as to races, strains or groups much as streptococci. For specific therapeutic effects one must recognize this variation to the extent of providing for autogenous vaccines in such cases as offer promise for bacterial inoculations in event of no response to a test dose of stock vaccine. There is little evidence that stock or autogenous vaccines are of value in pneumococcic infections.

*Preparation.*—A stock pneumococcus vaccine should preferably have as its source a strain isolated from a case of pneumonia. It is questionable whether any advantage is secured by the effort to produce a polyvalent vaccine.

Localized Pneumococcic Infections: Since the presence of the pneumococcus in localized infections can be determined only by a bacteriologic diagnosis, the appropriate course is to follow the culture with the preparation and administration of the autogenous vaccine if the indications for it seem clear.

*Dosage.*—From 20 to 100 million constitute the usual therapeutic dose of devitalized pneumococci.

### GONOCOCCUS VACCINE

Stock vaccines of the gonococcus, like those of the staphylococcus, fulfil a useful purpose in vaccine therapy.

*Preparation.*—It is customary to make a stock vaccine by using a suspension of several separate cultures differing in source, though it is problematic whether any advantage is derived by this means.

*Indications.*—Complications of Subacute and Chronic Gonorrhea: The localized inflammatory complications like epididymitis, balanoposthitis, vulvovaginitis of children and chronic conjunctivitis have all been treated with reported success by inoculations of stock gonococcus vaccines. The evidence seems to show, however, that the vulvovaginitis of children is not cured. The discharge may be lessened for a time but practically always breaks out again. Chronic conjunctivitis is usually curable by other means. In chronic infections of the deep urethra and the contiguous structures of the male similar treatment has been disappointing, though the prospects of a

* This series of articles has been prepared under the direction of a committee appointed for the purpose by the Council on Pharmacy and Chemistry of the American Medical Association. The committee consists of Drs. Ludvig Hektoen, Chicago; David L. Edsall, Boston; John Howland, Baltimore; Reid Hunt, Washington, D. C., and Albert P. Ohlmacher, Detroit.

satisfactory outcome appear to be improved in cases in which autogenous vaccines of the secondarily infecting bacteria are combined with that of a stock gonococcus vaccine.

Acute Gonorrheal Infections: Since these are practically always localized, they would be theoretically suited to gonococcus inoculations. The general consensus of opinion, however, is that this form of treatment does not favorably modify acute urethritis, vaginitis and ophthalmia due to the gonococcus, irrespective of whether stock or autogenous vaccines are used.

Gonorrheal Rheumatism: In subacute and chronic gonococcus infection of the joints and related structures, numerous reliable reports have attested the value of treatment with stock gonococcus vaccines. Success, however, is by no means invariable.

*Dosage.*—Gonococcus vaccines are administered in doses ranging from 5 to 100 million.

### MENINGOCOCCUS VACCINE

For the purpose of protective immunity, especially when cerebrospinal meningitis is epidemic, a vaccine of killed meningococci in three doses of 250, 500 and 1,000 million at intervals of from five to seven days has been advocated. It is certain that such inoculations give rise to meningococcus antibodies, but the available statistics are not at present sufficient to establish the worth of this method. Similar antibodies appear in the blood after inoculation of killed gonococci, but fresh gonorrheal infections are known to have occurred in patients undergoing a course of vaccine treatment for chronic gonorrhea.

### COLON BACILLUS VACCINE

Subjected to the differential tests of the bacteriologic laboratory, pathogenic colon bacilli constitute a group of organisms with a few common morphologic and physiologic features which permit classifying them as a species. The common bacterium of the feces in normal mammals, *B. coli communis,* is the type, and this is generally chosen as the source of a stock bacterial vaccine. But the colon bacilli encountered under morbid conditions vary more or less widely from this type. It comes to pass that we have in certain enteric infections, or in the fevers accompanying infections of the bowels, a series of coliform strains, of which the paracolon bacilli and the several dysentery bacilli may be cited as illustrations; while in abscesses the variation may lead to the strains of which *B. pyogenes foetidus* is an example. It follows from this variation that specific therapeutic effects in colon bacillus infections are rarely secured by the use of stock vaccines. Hence the recommendations to employ the commercial product in conditions like "jaundice," gall-bladder infection, appendicitis, peritonitis, pyelitis, rectal abscess, fistula in ano, enteritis, subphrenic and hepatic abscesses and postoperative abdominal fistulas are absurd, and one who follows them is resorting to dangerous temporizing. In this list are infections with other bacterial species, or those in which colon bacillus infection is complicated or mixed. Organisms are not obtainable in most of these conditions and some of them are unsuited to bacterial therapy, but those which have a reasonable claim for consideration from this point of view are appropriately handled only by the use of autogenous vaccines.

Perhaps it is because of the falling short of stock colon bacillus vaccines that so many of the mixed vaccines of commerce contain it. In any event, there is no propriety in administering stock colon bacillus vaccine. It should be dropped from the list of stock vaccines.

### TYPHOID BACILLUS VACCINE

*Preparation.*—As called for in protective antityphoid inoculation, a culture kept under laboratory conditions for some time is more appropriate as the source of a vaccine. It is probably superfluous to attempt a polyvalence for such a stock vaccine by using a number of cultures from different sources. This certainly applies to the vaccine for prophylaxis, and there is no proof of the superiority of a polyvalent vaccine in typhoid therapy.

*Indications.*—Antityphoid Inoculation: Inoculation of typhoid bacillus vaccine designed to confer a temporary protective immunity to typhoid has been widely adopted of late, and on the whole the testimony is favorable to the practice. Accordingly, we here have the most legitimate field for the administration of a stock bacterial vaccine, and it is a sign of hopeful import to find non-commercial laboratories like those of the Army, Navy and boards of health manufacturing and supplying this product for free distribution.

At present it is customary to perform three inoculations at intervals of from seven to ten days with the object of securing a full protection.

Typhoid Fever: The practice of resorting to inoculations of stock typhoid bacillus vaccine as a routine in typhoid is growing, and some observers insist that the clinical course of the disease is favorably modified to such an extent as to warrant the general adoption of the method. Others testify in favor of autogenous vaccine therapy with bacilli obtained from the patient's blood.

The use of vaccines in the treatment of typhoid fever constitutes an extension of the practice of bacteriotherapy for which no basis is afforded by our present notions of the action of these agents. In this connection the fallacious conclusions that have been drawn by clinicians as to the therapeutic value of other supposed remedies in this disease, should be borne in mind.

Typhoidal Complications and Sequels: Whatever may be the judgment relative to the value of vaccine treatment in typhoid fever, there is practical unanimity among bacteriotherapeutists as to the benefits of autogenous vaccines in treating such posttyphoidal affections as those of the bones, joints, gall-bladder and abscesses in conjunction with appropriate operative measures.

*Dosage.*—For purposes of protective immunity, the most recent advice is to inoculate three doses of stock typhoid vaccine, the first of 500 million and the others of 1,000 million each. The therapeutic dose is less firmly established, and varies from 50 to 1,000 million according to the experience of different authorities.

### CONCLUSIONS

Vaccine therapy is a highly specialized field of medicine whose successful pursuit calls for a particular training in bacteriology, immunology and clinical medicine.

The therapeutic possibilities of vaccine therapy have been exaggerated.

The promiscuous use of the stock bacterial vaccines of commerce in the treatment of acute and chronic infections is an irrational procedure.

Ready-mixed commercial vaccines should be abolished.

In cases suitable for bacterial therapy, autogenous vaccines are with few exceptions superior.

Autogenous vaccines should be prepared by those in touch with the patient and not through the agency of remote laboratories.

THE END

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, JUNE 28, 1913

## DIET AND THE ACTION OF DRUGS

On several occasions we have discussed some of the accessory factors in diet, drawing illustrations from recent work on beriberi and on growth and other processes.[1] The researches on these and other subjects have shown that there are present in foods unknown substances which, often in minute amounts, have pronounced effects on growth and other metabolic processes out of all proportion to their dynamic value. These results also show the fallacy of measuring food values solely by calories.

No less striking are the effects of unknown constituents of foods on the resistance of animals (and doubtless of man) to certain poisons. Thus Hunt[2] found that in some cases mice fed on certain diets recovered from forty times the dose of certain poisons fatal to mice fed on other diets; he found it possible to alter at will the resistance of these animals and to overcome the effect of one diet by combining it with others. In a later paper[3] he reported that the size of the thyroid in mice could be altered by changes in the diet, and brought forward some evidence to show that the effects of foods on the resistance of the animals to certain poisons were exerted in part, but only in part, through alterations in the thyroid gland.

One of the poisons with which Hunt worked was morphin; he found that in most cases this drug was much more toxic to mice which had been kept on a milk diet than to those kept on many other foods. These results are of interest in connection with some later observations of Döbeli,[4] who found morphin and opium to be more than twice as toxic to suckling rabbits as to young non-suckling rabbits; there was no such difference in the case of codein. Döbeli carefully reviewed the literature on the use of opium and morphin in infancy and, although recognizing the difficulties of drawing conclusions from observations on individuals who are for the most part abnormal, concluded that the same law holds for infants; that is, it is only during the nursing period that infants are especially sensitive to morphin. As a result of these and further studies Döbeli has suggested[5] the following dosage of morphin for infants: divide the usual dose for an adult of from 65 to 70 kg. (from 143 to 154 pounds avoirdupois) by the quotient obtained by dividing the weight of the adult by the weight of the child; but for nurslings under 10 months reduce the dose so obtained by one half. He says that in the case of codein this additional reduction during the nursing period is not necessary; the dose may be based directly on the weight of the infant as compared with that of the adult.

Döbeli is uncertain whether or not the sensitiveness of the nursling is to be attributed directly to the milk diet; nor does he discuss the question whether or not infants receiving cow's milk as the only food show a similar sensitiveness; but in the present state of knowledge it might be well to apply the formula for the dosage of morphin to all infants receiving an exclusive milk diet.

A number of other illustrations of a relation between the diet and the action of drugs might be cited. Thus Ellinger several years ago found cantharidin to be relatively innocuous to rabbits fed on carrots, although causing a severe nephritis in rabbits fed on oats, the difference being due to the fact that the former diet caused the urine to be intensely alkaline—a condition unfavorable to the development of cantharidin nephritis. The possible bearing of observations of this sort on the development in man of nephritis resulting from toxic substances is obvious.

That an article of diet like "white wheat bread" may show such variations in composition as markedly to affect the resistance of animals (and doubtless of human beings) to certain poisons was also shown by Hunt: mice fed on the bread of one baker were four times as sensitive to certain poisons as mice fed on the bread of another baker; dealers in bread considered the two brands to be the same. The cause of this difference was not determined; it may have been due to comparatively simple differences in methods of manufacture (differences in the amount or kind of fat, milk, salt, etc., employed). In this connection attention may be called to a recent paper by Javal[6] in which he points out that the salt content of different makes of French bread may vary from 0.1 to 10 gm. per kilogram, and that such variations may have a distinct influence on the effects of bromids and iodids administered for therapeutic purposes.

These instances show that many factors which have hitherto not been considered in connection with drug therapeutics may have considerable importance, and again illustrate the need of a more thorough investigation of such supposedly well-studied articles of food as milk and bread and of such drugs as morphin and the bromids.

1. See references in Unintentional Humor in Science, editorial, THE JOURNAL A. M. A., May 24, 1913, p. 1642.
2. Hunt, Reid: Bull. 69, Hyg. Lab., U. S. P. H. S., 1910.
3. Hunt, Reid: Experiments on the Relation of the Thyroid to Diet, THE JOURNAL A. M. A., Sept. 23, 1911, p. 1032.
4. Döbeli, E.: Monatschr. f. Kinderh., orig., 1911, ix, 397; Correspondenz-Bl. f. schweiz. Aerzte, 1911, xli, No. 4; abstr., THE JOURNAL A. M. A., March 11, 1911, p. 783.
5. Döbeli, E.: Correspondenz-Bl. f. schweiz. Aerzte, 1912, xi, 439.
6. Javal: Bull. gén. de thérap., 1912, clxiv, 868.

## THE PULSE-RATE AND METABOLISM

An increase in pulse-rate is commonly looked on as an indication of increased work of the heart. This interpretation is, strictly speaking, correct. But there are other factors, more remote than the transactions in which the cardiac musculature alone is involved, that call for acceleration of the heart-rate. Increased metabolism, wherever it may go on, makes augmented demands on the circulatory system, so that it may well be asked whether an increased pulse-rate can in any way be taken as an index of the metabolic changes in general occurring in the organism. Drs. Benedict and Joslin[1] of Boston have lately pointed out that there is a distinct tendency toward an increased pulse-rate in diabetics. This is in conformity with the increased metabolism which these investigators regard as characteristic of the disease. They point out that the intimate relationship between pulse-rate and metabolism is increasingly evident in every new publication on metabolism, and shows that to-day pulse-rate is taking on new significance. While an increased pulse-rate is invariably accompanied by an increased metabolism, this does not necessarily mean that the increased metabolism is due exclusively to the work of the heart. In fact, from what is known of the work of this organ, probably only a very small proportion of the total increase can properly be ascribed to its actual muscular action. It is likely that the increased pulse-rate is an excellent index of general tonus. Unquestionably, as Benedict and Joslin point out, during increased metabolism and increased pulse-rate, there is some tendency toward an increased respiration-rate; but here again the increased work of the respiratory muscles in connection with the greater activity of the heart can account for only a small quota of the total increase in metabolism.

The average minimum pulse-rate of normal individuals is 54, the maximum 74; for diabetic subjects the newer findings are 65 and 81, respectively. These data were not obtained by the usual cursory examination. The popular conception of a normal pulse-rate is the observation made under all sorts of environmental conditions, usually in the excitement incident to consulting a physician and after the muscular exercise involved in walking. The Boston investigators insist that to obtain a true normal value the observation should be made under conditions which would insure its being unaffected by food, exercise or mental stimulus of any kind. This is possible with the subject lying quietly in bed without food, as happened in all the cases in which Benedict and Joslin reported the pulse-rate.

The current opinion that the fluctuations in the pulse-rate of diabetic subjects remain within normal limits rests on negative evidence. Little attention is ordinarily paid clinically to the pulse-rate in chronic afebrile diseases of a non-circulatory type. It is quite possible, however, that the matter deserves closer attention. If the pulse-rate, properly observed, is in any way an index of metabolism changes in general, we may join Benedict and Joslin in emphasizing the importance of the pulse-rate in diabetes, and particularly the value of changes in pulse-rate in the same patient during the progress of the disease.

1. Benedict, F. G., and Joslin, E. P.: Metabolism in Severe Diabetes, Carnegie Institution of Washington, Pub. 176, p. 85, 1912.

---

## LIFE CONSERVATION

The paradox has been well put that the most precious thing is the cheapest—in money; while the most useless thing is the dearest—in dollars and cents. The cost of killing a man in modern warfare averages $15,000; in the Boer War it was $40,000. The six great European powers are grinding two billions of dollars out of their respective peoples for military preparations—not for war, it is said, but to prevent war! Meanwhile millions of young men who should be engaged in industrial pursuits are maintained in utterly unprofitable idleness, and are quartered, it is declared, in inadequate and sometimes tuberculosis-ridden barracks. On the other hand, Colonel Gorgas and his associates have converted the formerly pestilent and deadly Isthmus of Panama into one of the healthiest regions on earth, at a cost of $2.43 for each life saved. Many hundreds of men, women and children in our South have been cured of the hookworm disease at an average cost of 77 cents for each sufferer. It is indeed true that the most precious thing in nature is human life (and human health by which life is enjoyed and lengthened), and as we have seen, it is about the cheapest; while the most useless and foolish thing is human warfare, which is the most costly.

Irrationality akin to that evinced in Europe—though not so flagrant—has been shown by our House Committee on Indian Affairs in refusing the request of the Secretary of the Interior for adequate funds with which to do hospital sanitation and medical work among the "nation's wards." The appropriation has been $90,000; but investigation revealed conditions much worse than had been supposed. The death-rate from pulmonary tuberculosis in the federal registration area is 11; among the Indians it is 32, while the death-rate of the latter from all causes is 30, or more than double that in the registration area. On ascertaining these facts Secretary Fisher in his annual report recommended that the appropriation for prevention and treatment of disease be increased to $400,000; but the members of our billion-dollar Congress (which had just voted millions to be added to those already given in pensions) balked at such expenditure in behalf of a people for whose welfare our government has very largely assumed the responsibility and whose diseases are constantly endangering their white neighbors.

The conservation of health is perhaps the most important idea which the twentieth century has thus far evolved. Irving Fisher computed that the span of life

in the United States could be increased fifteen years if all the hygienic reforms now known were put into effect, and outlined a plan for better health protection by federal, state and municipal governments, with the cooperation of many agencies and movements now benignantly active for the betterment of sanitary and hygienic conditions among our people. The life-insurance companies have taken admirable part, and have conceived a policy of enlightened selfishness, based on the fact that the longer the policy-holder lives, the more premiums he will pay.[1] Mr. Cox of New York, the counsel of the Association of Life-Insurance Presidents, states that out of a total of nearly thirty million policies in force in American companies at the end of 1910, the companies in this association carry about 77 per cent. (or over twenty-three million), and of the latter, 97 per cent. are in companies now engaged in individual work for health improvement. Five companies within this association (having policies aggregating $22,000,000) make special efforts to stimulate their policy-holders to activities in personal and public hygiene—mostly by articles in company periodicals distributed to policy-holders and by other effective literature. One company has done this for many years. Another cooperates besides with existing antituberculosis and like agencies, for health improvement; this company is experimenting in many cities with visiting nurses to sick policy-holders. Another company has established a department of conservation which is ambitious, among other things, to aid public-health authorities in the fight against preventable disease. This is a tremendous activity indeed, and with plenty of material to work on; for actuaries have estimated that the economic value of lives lost needlessly each year in the United States alone is $1,500,000,000.

1. Cox, R. L.: Conservation of Human Life, reprinted from The Business of Insurance by the Association of Life-Insurance Presidents.

## WASTE PRODUCTS IN THE BLOOD

The theories of the cause of the severe symptoms and frequent fatal intoxications which may arise when the outflow of urine is quantitatively or qualitatively altered for any considerable period of time have overstepped the facts which are at present available to support them. Accordingly the widely used term "uremia" has become little more than the inadequate expression for a series of manifestations with which is associated a mass of more or less shattered hypotheses. Retention has been the key-note in the discussions on the subject; but whether the toxic factor retained in the circulation is a normal product of metabolism ordinarily eliminated speedily by the properly functioning kidneys, or whether it is an intermediate compound representing incomplete metabolism; whether it is nitrogenous or non-nitrogenous, organic or inorganic, or several combined—these have been questions for debate.

It is useless to continue an idle war of words when substantial facts on which to build a structure of some permanence can be procured. The study of the urine has been relied on largely, if not exclusively, in the past to give the clue to the retarded elimination. It requires little insight to appreciate that a comparison of the chemical composition of the circulating blood in normal health and in supposed instances of uremia or defective elimination by the kidneys is likely to give even better insight into the detrimental conditions. Recently obtained figures for non-protein nitrogen and urea nitrogen in normal human blood indicate between 22 and 26 mg. for the former, and for the latter from 11 to 13 mg. per hundred grams of blood.[1] From this remarkable narrowness in the range of variation it would seem that the perfectly normal kidney maintains a surprisingly constant level of non-protein nitrogen and urea in the blood, as it does of sugar. The figures for uric acid are far more variable. If they are put at from 1 to 2 mg. it appears that this is distinctly larger than the content of the blood of other mammals. The now well-appreciated exceptional position of man in respect to uric acid metabolism is thus again sharply emphasized.

Folin and Denis state that a "perfectly normal kidney" appears to be the exception rather than the rule as soon as one leaves the thoroughly healthy adults and examines any kind of "clinical material." Evidences of impaired kidney efficiency come plainly to light. The blood of chronic nephritis patients always gives high figures. Inasmuch as some of the cases of recognized nephritis carry no greater accumulation of waste nitrogen in the blood than was found in a series of patients afflicted with syphilis or insanity, it becomes a question of interest whether the blood-analysis test will not hereafter serve as a better index of incipient nephritis than the conventional clinical diagnostic symptoms.

Clinicians have long maintained that gout and general kidney inefficiency need not go hand in hand. Folin and Denis have now shown that there is apparently no relation between the amount of urea or other non-protein nitrogen and uric acid in human blood. A typical "uric acid blood" may be found without any evidence of the retention of other nitrogenous compounds. Since normal human blood contains some uric acid and the latter is apparently not so readily destroyed in the normal organism as is commonly assumed, it is quite possible that a damage to the kidney sufficient to provoke the retention of uric acid and the development of gout may be too slight to affect the excretion of other more soluble products. In any event the modern investigation of the accumulation of waste products in the blood in disease is carrying us nearer to the real seat of the difficulty. It is in line with the refinement of diagnostic skill in other directions

1. These and other data quoted are taken from Folin, O., and Denis, W.: Uric Acid, Urea and Total Non-Protein Nitrogen in Human Blood, Jour. Biol. Chem., 1913, xiv, 29.

whereby incipient or latent nephritis may be earlier detected and defects of elimination as well as metabolism more adequately recognized. If each waste product actually tells a distinct story, great progress may be looked for. Meanwhile theories must bide their time.

## BEHRING'S NEW METHOD OF INOCULATION AGAINST DIPHTHERIA

While the curative treatment of diphtheria with diphtheria antitoxin constitutes one of the great triumphs of modern medicine, our present methods of prevention of diphtheria are admittedly far from satisfactory. Diphtheria antitoxin acts by neutralizing the toxin which causes the principal effects of infection with diphtheria bacilli and in the meantime the bacilli are destroyed more or less successfully by the usual means of defense against invading bacteria. But the use of diphtheria antitoxin for preventive purposes is not a practical success because the antitoxin is eliminated too rapidly, as it is part and parcel of the proteins of a foreign serum which are soon destroyed when introduced into the human body. For this reason the passive immunity from diphtheria antitoxin in horse-serum lasts from two to three weeks only. Under ordinary conditions the frequent injection of antitoxic serum for this purpose is not practicable for several and obvious reasons.

The fundamental principle on which Behring bases his new method[1] of securing a more permanent immunity is the active immunization of the human body itself; that is, the elaboration of diphtheria antitoxin by the body of the person inoculated. This is to be accomplished by the injection of mixtures of diphtheria toxin and antitoxin that are almost neutral and, consequently, produce no toxic effects of any importance, there being present a minimal excess only of toxin. It has long been known that more or less balanced mixtures of this kind produce immunity in animals, and in 1907 Theobald Smith[2] suggested that it might be possible to employ this method to produce immunity in man. Subsequently, Smith studied the effects of injections of neutral mixtures in guinea-pigs and horses and again pointed out the applicability of the method to human beings.[3] Now Behring and his collaborators find that the injection of toxin-antitoxin mixtures in human beings does result in an accumulation in the blood of antitoxin, sometimes very large and persisting for at least several weeks. This may be accomplished without any unfavorable results. Behring believes that the immunity so produced is much more durable than the passive immunity from antidiphtheria horse-serum and also that the serum from human beings actively immunized may be used to good advantage for curative and preventive purposes, because the antitoxin will remain much longer when introduced in homologous serum.

This use of human serum has practical limitations, however, and the danger of transfer of other infectious diseases must always be borne in mind. Unquestionably a long step in advance in the method of prevention of diphtheria has been taken. It is doubtful, however, whether the ideal method has been evolved, because the procedure discussed probably does not include any factors whereby the tolerance of the diphtheria bacillus by the organism is prevented. A person might possess a high degree of active immunity to diphtheria toxin and yet harbor virulent bacilli in his throat which he would be the means of disseminating. In order to diminish as much as possible the chances for the bacilli to establish themselves in this manner it would seem desirable to increase also the active resistance of the body to the diphtheria germ, and possibly this could be accomplished by the injection with the toxin-antitoxin mixture of suitable quantities of killed bacilli or of proteins derived from them so as to produce an active antibacterial as well as antitoxic immunity. We may look forward with interest to the results of this new departure in the prevention of diphtheria.

1. Behring's Method of Inoculation against Diphtheria, Berlin Letter, THE JOURNAL A. M. A., June 14, 1913, p. 1896.
2. Smith, Theobald: The Degree and Duration of Passive Immunity to Diphtheria Toxin, Transmitted by Immunized Guinea-Pigs, Jour. Med. Research, 1907, xvi, 359; abstr., THE JOURNAL, July 20, 1907, p. 281.
3. Behring: Active Immunity Produced by So-Called Balanced or Neutral Mixtures of Diphtheria Toxin and Antitoxin, Jour. Exp. Med., xi, 241. Further Studies on the Immunizing Effect of Mixtures of Diphtheria Toxin and Antitoxin, Jour. Med. Research, 1910, xxiii, 433.

## THE INDEX

This issue of the THE JOURNAL contains the index to the current, or sixtieth, volume of THE JOURNAL, including the current medical literature which has been listed from week to week. The Index contains references to original articles in over two hundred of the leading medical journals of the world, including those of the principal foreign countries.

The Index consists of two parts—an author and a subject index. Under "Authors" appear the names of all who have contributed articles to THE JOURNAL or to any other medical journal listed in the current literature, as well as the names of those whose papers are abstracted in the medical society reports in THE JOURNAL. Under "Subjects" will be found complete references to all reading-matter in THE JOURNAL and references to the original articles in all domestic and foreign journals listed, arranged under the subject of the article with double entry when necessary and with numerous cross-references to facilitate the use of the Index. The figures in bold-faced type refer to reading-matter in THE JOURNAL.

The "Guide to Current Medical Literature," under which title the Index appears in pamphlet form,[1] contains, in addition, the titles of the articles listed, arranged chronologically and by journals, as in the Cur-

1. The Guide to Current Medical Literature may be obtained from the Association office at 50 cents a copy.

rent Medical Literature Department. It is issued in separate form for convenience—to make it unnecessary to handle the bound volume of The Journal.

Just preceding the Index a list of the journals indexed during the past six months is given. Any foreign journal, except those starred, will be lent by The Journal to subscribers and members in the United States with the understanding that it will not be held over three days. Requests for journals should be addressed to the Library of the American Medical Association and six cents in stamps should be enclosed. This covers the average expense of mailing a journal. The addresses of the domestic journals are given, and these can be obtained direct from the publishers. No domestic journal will be lent as these can be obtained direct from the publishers as easily and as quickly as from us.

## Current Comment

### DIABETIC FOODS

Time and again The Journal has called attention to the dangers which beset both physician and patient in the prescribing or purchasing of flours or foods for diabetics. For years the hapless sufferer from diabetes has been cruelly exploited and physicians have been wickedly deceived by the manufacturers of foods that are sold under the claim—inferential or direct—that they have a low carbohydrate-content. The need of some adequate protection being given the public and the profession has been very practically recognized by the Connecticut Agricultural Experiment Station. This institution first examined a number of diabetic foods in 1906 when its analytical laboratory was under the direction of Dr. A. L. Winton. Since that time the laboratory has further extended the work under its present efficient director, Mr. John Phillips Street. In this issue we publish a preliminary report of the latest investigation by Mr. Street and Prof. L. B. Mendel of "Diabetic Foods Offered for Sale in the United States." The article is so brief and to the point that it needs no summarizing. The tabulations accompanying it will, we believe, prove of the utmost value not only to the profession but also to the public. It is highly desirable that physicians should have some thoroughly reliable and up-to-date information regarding the diabetic foods on the American market. We believe that Mr. Street's article furnishes just such information.

### DRUGS CONCEALED IN POST-CARDS

A novel method of smuggling cocain and morphin to drug habitués was recently discovered in the Sing Sing State Prison at Ossining, N. Y. In spite of unremitting vigilance and the closing up of all conceivable channels, there seems to have been an unusual drug addiction among the convicts. The authorities realized that the convicts were getting their "dope," but how? It was a customary thing for convicts to receive through the mail embossed or encrusted cards, with bouquets standing out from the surface, and raised woodland scenes or figures. The cards were apparently from friends or relatives, and bore such messages as "We are well at home and always think of you." One morning when the mail was being examined before its delivery to the prisoners, attention was drawn to an embossed post-card which was suspiciously heavy. When the embossing of the suspected card was ripped loose the hollow space within was found to contain morphin pellets, some of them half a grain in strength. Other embossed or encrusted cards were found to contain some drug either in pellet or in powder form.

### FELLOWS OF THE AMERICAN MEDICAL ASSOCIATION

At its recent annual session, the House of Delegates of the American Medical Association adopted what will appear to some a radical change, that is, the changing of the term "members" to "fellows" of the American Medical Association. It may be well, therefore, to emphasize once more the fact that the change is not a radical one, but simply and solely a change in name. This was explained in The Journal, March 8, 1913, p. 762. There is no change in relationship of any individual to the organization as a whole, or to the scientific branch, or assembly, of the American Medical Association. Heretofore, members of component county and constituent state associations have been designated as "members of the organization." The organization as a national body is the American Medical Association, and those who have been called "members of the organization" will hereafter be called "members of the A. M. A." So also, the contributing members—those who have been known as "members of the A. M. A."—are now designated as "fellows of the A. M. A."

### THE MINNEAPOLIS SESSION

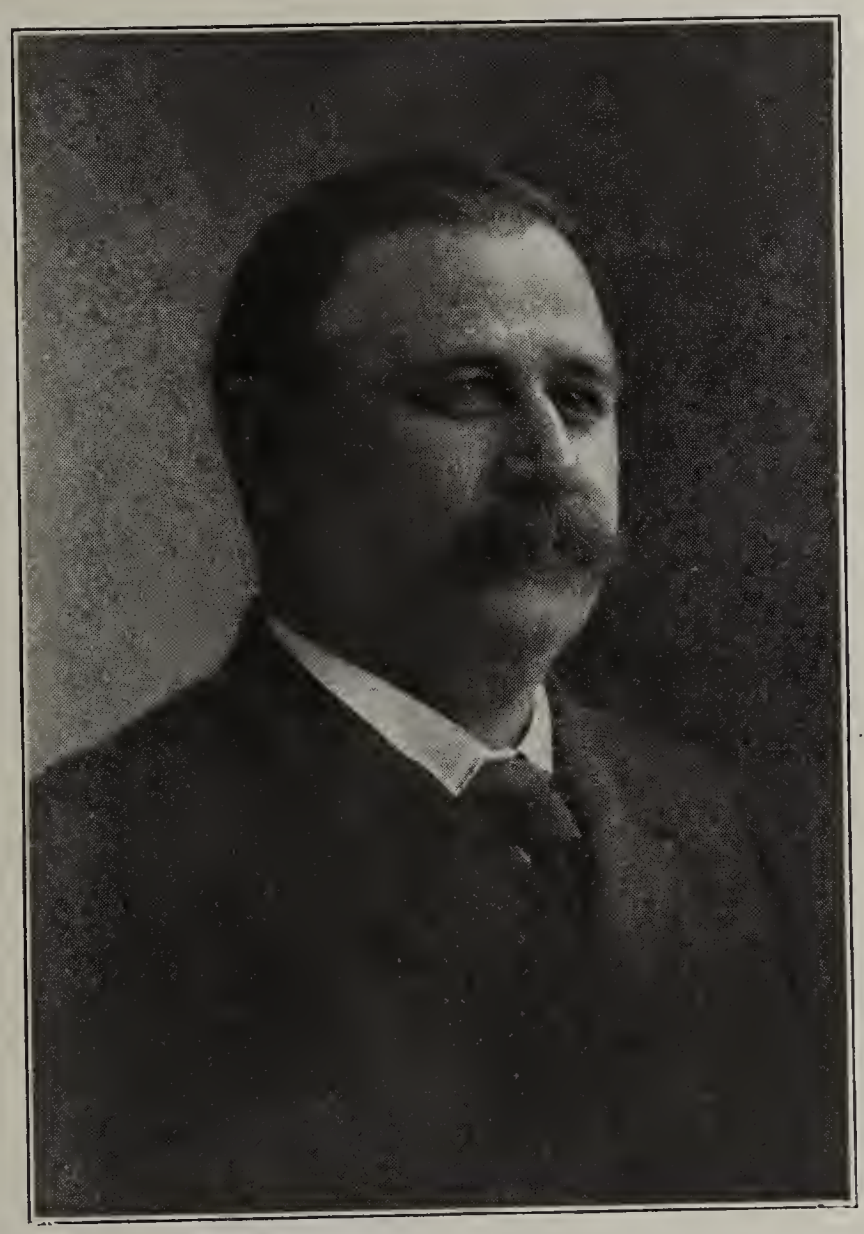
The sixty-fourth annual session of the American Medical Association has passed into history as a decided success. The efforts of the local profession bore fruit in pleasant arrangements for the entertainment of the visitors. The attendance was large, the states of Minnesota, Iowa, Wisconsin and the Dakotas being especially well represented. A summary of the registration by states and by sections will appear in The Journal next week, showing some interesting details. The report of the proceedings of the House of Delegates, which was begun in The Journal last week, is continued in this issue; and the minutes of the various sections will appear in The Journal July 5. The section work this year was unusually excellent. The programs were good, containing many uncommon contributions of importance. In addition, the section attendance and interest was greater than for many years, partly because of the freedom from distraction on the university campus. The section meetings were isolated from the busy city and from social engagements. Furthermore, complimentary lunch was served on the grounds at noon on Tuesday, Wednesday and Thursday; thus the members were able quickly to return to their section meeting places, and the attendance materially profited from this fact. The social events at Minneapolis were an interesting series

of well-planned functions. The ladies were well cared for, and had every attention shown them in that charming city. The House of Delegates was an earnest, active body, studying deeply the problems which came before it, and taking a number of rather important steps which deliberate study had shown to be wise. The Minneapolis and Minnesota physicians are to be congratulated on the large meeting which resulted from the call of the Northwest, and on the success which attended their efforts to entertain the American Medical Association.

---

### THE PRESIDENT-ELECT—DR. VAUGHAN

In the selection of Dr. Victor Clarence Vaughan as President-Elect, the House of Delegates of the American Medical Association has done deserved honor to one of the eminent members of our profession—one who is eminent not only as a physician, but also as a chemist, as a medical teacher and as a scientist. Dr. Vaughan was born in Mount Airy, Mo. He received his preliminary education at Mount Pleasant (Mo.) College and the University of Michigan, and was graduated from the medical department of that university in 1878. During his student life he was assistant in the chemical laboratory, retaining this position for five years after his graduation. His connection with the teaching force of the university has continued until this day. In 1879 he became lecturer on medical chemistry. A year later he was made assistant professor of the same branch. After three years he was appointed professor of physiologic and pathologic chemistry and associate professor of therapeutics and materia medica, and in addition to this work, he was made director of the Hygienic Laboratory in 1887. In 1890 he became dean of the Department of Medicine and Surgery. He was a member of the State Board of Health from 1883 to 1895, and was reappointed in 1901, and made president of the board in 1904. During the Spanish-American War Dr. Vaughan served as major and surgeon of the Thirty-Third Michigan Infantry, U. S. V., and later as division surgeon, and was recommended by the President for the brevet of lieutenant-colonel. He was appointed a member of the United States Typhoid Commission in 1898-1899. In 1900 he became surgeon-general of the Spanish-American War Veterans. He has been an active member of the Association for many years, and has served as a member of the Council on Medical Education of the American Medical Association since its establishment in 1904. He is a member of many learned scientific societies, was president of the American Academy of Medicine in 1902, and of the Association of American Physicians in 1908. In addition to his text-book on physiologic chemistry, which appeared in 1879, he was co-author with Dr. Novy of the well-known books on "Ptomains and Leukomains" and "Cellular Toxins," and in addition, has contributed more than one hundred and fifty articles to current medical and scientific literature. Dr. Vaughan is a teacher of superior rank. He presents a subject in attractive and forceful manner and has developed new and practical methods of instruction. He is progressive in establishing and maintaining ideal elements in education. In public health conservation he sees the end and applies the means so that the public benefits from instruction which it appreciates and can utilize. His wide grasp of conditions, his habit of independent thinking and his firmness in standing for his own ideas fit Dr. Vaughan for leadership, and his choice as President of the American Medical Association must appeal to all as both natural and logical.



PRESIDENT-ELECT VICTOR C. VAUGHAN

---

## *Medical News*

### CALIFORNIA

**Personal.**—Dr. Samuel Gardner, assistant chief surgeon of the Southern Pacific Hospital, San Francisco, was operated on for appendicitis in that institution, June 9.

——Dr. R. O. Moody, of the department of anatomy of the University of California, has been elected head of the Berkeley Dispensary.

**Doctors' Building for San Francisco.**—Members of the San Francisco County Medical Society have arranged to put up a thirteen-story building at Post and Powell Streets for the exclusive use of physicians and dentists. The building is to cost $2,000,000 and is to contain club rooms, an assembly hall, a medical library and headquarters for the medical society, the remainder of the building being given over to offices for physicians and dentists.

### COLORADO

**Appropriations.**—The state has authorized the expenditure of $4,000 for the establishment of a workshop in Denver for the adult blind and $7,000 for the construction of sanitary cells at the State Penitentiary, Canyon City.

## ILLINOIS

Personal.—Dr. A. S. Horn, Tampico, was operated on in the Dixon Hospital recently for vesical calculus.——Dr. and Mrs. George T. Palmer, Springfield, have removed for the summer to the new tuberculosis colony located west of the city, of which he is in charge.——Dr. H. D. Singer, Hospital, head of the Psychopathic Institute, fractured his right arm while cranking his automobile, June 6.——Dr. Sidney D. Wilgus, Hospital, has purchased the Jenks Sanatorium, Rockford, from the widow of Dr. Jenks.——Dr. W. F. Reynolds, Eldora, fell recently, dislocated his shoulder.——Dr. J. Mather Pfeiffenberger, Alton, has started for Europe.——Dr. E. M. Price, Astoria, spilled a bottle of nitric acid on his face and arms, seriously injuring his right eye. He is in the Galesburg Hospital for treatment.——Dr. C. Martin Wood, Decatur, has returned from Europe.

### Chicago

**Minor on Tuberculin.**—On June 16, Dr. Charles L. Minor, Asheville, N. C., delivered an address to the Study Circle of the Chicago Tuberculosis Institute at the City Club on "My Experience in Tuberculin Treatment."

**Medical Women Elect.**—The Medical Women's Club held its annual meeting, June 11, and elected the following officers: president, Dr. Effie L. Lobdell; vice-presidents, Drs. Marie B. Mayer and Eliza R. Morse; secretary, Dr. Sadie B. Adair, and treasurer, Dr. Agnes Mikkelsen.

**Municipal Sanatorium.**—The finance committee of the Chicago city council passed a resolution, June 13, authorizing the trustees of the Municipal Tuberculosis Sanatorium to spend $400,000 for the infirmary group of buildings now under construction at North Fortieth and Bryn Mawr Avenues.——Dr. William E. Buehler, president of the board of trustees of the Gil W. Barnard Masonic Hospital Association announces that he has the promise of subscriptions sufficient to finance the hospital. The institution is to cost about $150,000 and work will be commenced in the near future.——A permit has been granted for a five-story brick addition to St. Joseph's Hospital to cost $180,000.

## INDIANA

**Jury Finds for Physicians.**—In the case of Carlton Chaney against Drs. Hugh H. Elliott and John T. Paxton in which malpractice was charged and $5,000 damages asked, the jury, on June 13, rendered a verdict in favor of the defendants.

**Contract Let for Hospital.**—The contract for the construction of the new hospital building at the Indiana School for Feeble-Minded Youth, Fort Wayne, was awarded June 7, the contract price being $69,950. The hospital will consist of a main building and one wing.

**Tuberculosis Notes.**—A tract of five acres of ground near Anderson has been donated by the city council for a tuberculosis camp. The local council of women expects to provide the funds for its equipment. The camp will accommodate one hundred patients——The sick ward of the Boehne Antituberculosis Camp, Evansville, was dedicated June 15.

## MARYLAND

**New Building for State Hospital.**—Work has commenced on a new building at the Spring Grove State Hospital for the Insane, Catonsville, to cost $75,000. The building will accommodate 100 patients and will be used for acute cases.

**Price Declared Sane.**—After having been adjudged insane by a sheriff's jury at Towson, without his knowledge, and after being confined in institutions for the insane since April 22, Dr. Marshall Langton Price, formerly secretary of the State Board of Health, was declared sane, June 20, also by the verdict of a sheriff's jury at Towson. Proceedings against him were brought by his wife, and after two physicians had certified that he was of unsound mind, the court signed an order excusing his attendance before the jury. The second jury was summoned on petition of Dr. Price through his counsel, in which he claimed that the former proceedings were of ex parte nature and were undertaken without his knowledge or presence. Dr. Price took the stand and declared that his nervous condition was caused by mental worry. Dr. Arthur P. Herring, secretary of the State Lunacy Commission, and Dr. Charles G. Hill of Mount Hope, testified that Dr. Price was in normal condition while Dr. Edward N. Brush of the Sheppard and Enoch Pratt Hospital, testified to the contrary.

### Baltimore

**New Laboratory.**—At the Church Home and Infirmary, a pathologic laboratory has been fitted up in the basement at an expense of about $2,000.

**Donation to Hospital.**—A donation is to be given to the Kernan Hospital for Crippled Children which will increase the capacity of the institution to forty beds.

**Personal.**—Dr. William S. Halsted sailed for Europe June 10.——Dr. Guy L. Hunner had conferred on him the honorary degree of Doctor of Sciences by Dickinson College, Carlisle, Pa., June 11.

**Public Health Exhibit.**—The Medical and Chirurgical Faculty of Maryland will install a public health exhibit at the Fulton Avenue Baptist Church under the auspices of the Boys' Brigade Hospital Corps. In addition to the exhibit, daily addresses will be given.

**Honorary Degrees Conferred.**—Yale University has conferred the honorary degree of A.M. on Dr. Harvey W. Cushing, formerly of Johns Hopkins Medical School.——St. Johns College, Annapolis, has conferred the honorary degree of A.M. on Dr. Nathan Winslow.

## MASSACHUSETTS

**Tuberculosis Notes.**—Night clinics for the diagnosis and treatment of tuberculosis have been opened at the out-patient department of the Boston Consumptives Hospital, 13 Burroughs Place, for patients unable to attend in the daytime. The clinic is to be opened at 7 o'clock each Monday evening.

**Old Health Official Dies.**—Charles A. Downes, for twenty-five years a clerk and inspector in the Boston Board of Health, since that time superintendent at the State Sanatorium, Lakeville, and a special officer of the Massachusetts Humane Society, died in the Boston City Hospital, June 10, from pneumonia.

**State Medical Society Meeting.**—The one-hundred and thirty-second annual meeting of the Massachusetts Medical Society was held in Boston, June 10-11. The Shattuck lecture was delivered by Dr. Harvey W. Cushing, Baltimore, on "Diabetes Insipidus." The following officers were elected: president, Dr. Walter P. Bowers, Clinton; vice-president, Dr. Lyman Asa Jones, North Adams; secretary, Dr. Walter L. Burrage, Boston (reelected); treasurer, Dr. Edward M. Buckingham, Boston; librarian, Dr. Edwin H. Brigham, Boston, and chairman of the committee of arrangements, Dr. Arthur N. Broughton, Jamaica Plains.

## MICHIGAN

**Society Enlarges Home.**—The Wayne County Medical Society, Detroit, is to build an addition to its club building at 33 High Street, East, to cost about $35,000. The addition will be two stories in height; the lower floor is to be equipped with laboratory apparatus and the upper floor as a medical library.

**Personal.**—Dr. W. E. Blodgett, Detroit, has been elected consulting orthopedist to the Butterworth Hospital, Grand Rapids, and will hold a clinic at this hospital on Friday of each week.——Dr. Guy L. Kiefer, health officer of Detroit, has resigned and will reenter private practice.——Dr. Henry M. Leach, Saginaw, is reported to be critically ill with heart disease.——Dr. G. L. McBride has been elected chief, Dr. Ralph H. Spencer, vice-chief and Dr. Ralph C. Apted, secretary of the staff of the Butterworth Hospital, Grand Rapids.——The house and office of Dr. M. C. L. Kitchen, Lupton, was burned recently and Dr. Kitchen has removed to Bentley.——Dr. Max Ballin, Detroit, who has been seriously ill, is reported to be convalescent.——Dr. Charles M. George, Detroit, held for an investigation in connection with the death of Belle Barry, has been released as no evidence appeared against him.

## MISSOURI

### St. Louis

**Addition to Hospital.**—St. Luke's Hospital is to have a new addition to cost $175,000. The addition is to be four stories in height, 128 by 40 feet, and will accommodate about sixty patients. A maternity ward will be the chief feature of the new structure.

**Farm Sanatorium.**—A forty-acre farm in St. Louis County has been offered to the Missouri Association for the Relief and Control of Tuberculosis to be used as the site for a sanatorium for children suffering from tuberculosis. The organization has tentatively accepted the gift.

**Personal.**—Dr. Elias Potter Lyon, dean of the St. Louis University School of Medicine has been appointed by the University of Minnesota Regents to succeed Dr. F. F. Wesbrook, dean of the College of Medicine. Dr. Lyon will also be director of the department of physiology. He will take charge of the department, September 1.

## NEW YORK

**New York State Mineral Springs Reservation Commission Meets.**—This organization met at Saratoga on June 17 and on the evening of that day the members were the guests of honor at a dinner given at the Casino by the Saratoga Springs Medical Society. One hundred guests were present from New York City and many from cities in northern New York. Addresses were made by George Foster Peabody, General Benjamin Tracy and Dr. Simon Baruch.

**A New Health Organization.**—The Bureau of Hygiene was incorporated by the secretary of state June 10, the directors are John D. Rockefeller, Jr., and Paul M. Warburg of New York City; Starr J. Murphy and Charles O. Heydt of Montclair, N. J., and Katherine Bement Davis of Bedford, N. Y. This bureau has for its objects the study, amelioration and prevention of undesirable social conditions, crimes and diseases which adversely affect the well-being of society, with special reference to prostitution and the evils associated therewith, and for the establishment of voluntary aid to cooperate with public and private agencies.

**Board to Study School Children's Ailments.**—Health Commissioner Dr. Francis E. Fronczak, Buffalo, has appointed an advisory or consulting board of eleven physicians to act with Dr. Arthur E. Schaefer, deputy health commissioner and head of the Bureau of Hygienics, to study and remedy physical ailments responsible for subnormal school children. The board is made up as follows: neurology, Drs. Floyd S. Crego, Arthur C. Schaefer, R. Montfort Schley, Herman G. Matzinger and D. R. Kuhlman; medicine, Drs. Carroll J. Roberts, Franklin W. Barrows and Francis A. Drake; rhinology and laryngology, Dr. George L. Brown; ophthalmology, Dr. Charles S. Meahl, and gynecology, Dr. Maud J. Frye.

### New York City

**New Home for Nurses.**—The Red Cross Hospital, located on Central Park West, is about to build a four-story extension to the hospital building to be used as a nurses' home, at a cost of $20,000.

**Vaccination for Vacationists.**—Health Commissioner Lederle urges those who are going to spend their vacations in the country to be vaccinated against typhoid and reminds them that the Health Department will perform the vaccination free.

**Personal.**—Dr. S. Simon Baruch and Dr. Augustus B. Wadsworth have resigned from the faculty of the College of Physicians and Surgeons.——Dr. and Mrs. C. A. Brown, Dr. and Mrs. William Fletcher Stone, Dr. and Mrs. Robert Abbe, Dr. Alexis Carrel and Dr. J. E. Palmer have sailed for Europe.

**Protection Against Wood Alcohol.**—The New York Commission for the Prevention of Blindness has written to Mayor Gaynor urging him to sign the ordinance recently passed by the Board of Aldermen requiring manufacturers of wood alcohol in New York State to label the liquid "wood poison." In investigating the causes of blindness in the state it was found that four persons had been killed and fourteen blinded during the past year by drinking or inhaling wood alcohol. The Central Federated Union has also asked the mayor to sign the ordinance.

**Commencements.**—Cornell University conferred the degree of doctor of medicine on nineteen graduates at its commencement on June 12. Addresses were made by Dr. William L. Polk, Dean of the Medical Department of the University and by Acting President Crane of the University. It was announced that every graduate had received a hospital appointment.——The Medical Department of New York University and Bellevue Hospital Medical College bestowed diplomas on seventy-five graduates at the annual commencement on June 4. The Valentine Mott bronze medal was awarded to Noel H. Campbell of Brooklyn; the John A. Fordyce prize in dermatology to Myron Louis Morris of New York, and the Glover C. Arnold prize in surgery in equal parts to Thomas Webster Edgar and Irving Gray, both of New York.

**Public Health Board.**—Representatives of nearly one hundred private charitable organizations met at the New York Academy of Medicine on June 4 under the auspices of the Public Health Committee of the Academy and formed a central committee for the purpose of securing cooperation toward the general conservation of the public health of the city. The following resolutions were adopted:

WHEREAS, There are in the city about 100 private organizations interested in the various phases of public health work; and

WHEREAS, The existing lack of close cooperation and coordination permits duplication and waste of effort as well as distinct loss in effectiveness of the various independent endeavors; therefore be it

*Resolved*, That a central committee of the public health of New York City, composed of representatives of the various organizations, be chosen to act as a clearing house for the exchange of ideas and information, and for the coordination of the varied private health activities of the city and to provide for the institution of an annual conference of the organizations.

The central committee was made up as follows: Chairman, John H. Finley, president of City College; secretary, Dr. E. H. Lewinski-Corwin; Dr. John H. Huddleston, Miss Lillian D. Wald of the Nurses' Settlement; Dr. Edward L. Keyes, Jr., Dr. C. E. A. Winslow of the American Museum of Natural History; Dr. Luther H. Gulick, Dr. Livingston Farrand, Homer Folks, and Charles L. Dana. It was announced that Mrs. E. H. Harriman had offered to meet the expenses of carrying on the work.

## NORTH CAROLINA

**State Society Meeting.**—At the annual meeting of the Medical Society of the State of North Carolina held in Morehead City, June 17-19, the following officers were elected: president, Dr. J. M. Parrott, Kinston; vice-president, Dr. John R. Irwin, Charlotte; secretary, Dr. John A. Ferrell, Raleigh (reelected); chairman of the committee of arrangements, Dr. Albert Anderson. Drs. Cyrus Thompson, Jacksonville, and A. A. Kent, Lenoir, were chosen members of the State Board of Health. The new board of councilors was organized and elected Dr. M. L. Stevens, Asheville, president, and Dr. K. P. B. Bonner, Morehead City, secretary. The society adopted a plan of medical defense whereby an attorney is employed by the organization to handle all prosecutions of members and to look after the enforcement of the medical laws of the state, thus relieving individual members and the component societies from this duty.

## OREGON

**Alumni Association Organized.**—On June 19, a number of the graduates and faculty of the medical department of the Univeristy of Oregon met in Portland and organized an alumni association, electing the following officers: president, Dr. W. E. Smith, Portland; vice-presidents, Drs. William A. Trimble and J. C. Tamiesie, Portland, Dr. Isabel Sedgwick, Vancouver, Wash., and Dr. F. E. Selover, Eugene; secretary, Dr. A. G. Bettman, Portland; treasurer, Dr. Charles L. Rybke, Portland. It was decided that after the merger of the medical department of the Willamette University, Salem, with the medical department of the University of Oregon, the alumni of the former institution will be admitted to the Association on equal terms. The merger takes place June 17.

## PENNSYLVANIA

**Personal.**—Dr. O. F. Harvey has resigned from the staff of the White Haven Sanatorium to accept a position as assistant superintendent of a similar institution in Howell, Mich.

**Lazear Memorial Fund.**—At the twenty-fifth reunion of the class of 1888 of Washington and Jefferson College, Washington, June 17, a library memorial fund was established in honor of Dr. Jesse W. Lazear, M.C., U. S. A., a member of the class, who left before graduation to study medicine and who afterward became a member of the commission to investigate the rôle of the mosquito in the transmission of yellow fever, and therein became a martyr to the cause of scientific research.

### Philadelphia

**City Bath Houses Open.**—Bath houses in every part of the city were thrown open on June 20 for the summer season; Mondays and Thursdays will be reserved for women and girls.

**Alumnae to Raise Endowment.**—The Alumnae Association of the Women's Medical College has formulated plans to raise an endowment fund of $500,000 to continue maintenance of the college as a separate institution.

**Health Officer Sustained.**—On June 20, the Board of Health ordered the quarantine of a residence on North Bouvier Street, upholding the diagnosis of scarlet fever made by Dr. Andrew A. Cairns of the board's staff in opposition to the verdict of four other physicians.

**Civic Club to Work for Wrapped Bread.**—The Civic Club, through its pure food committee, plans a campaign this summer to arouse women to the unnecessary danger incurred through the handling of bread. An endeavor will be made to have bakers wrap all bread so soon as it leaves the ovens.

**More Vivisection Warrants.**—The Women's Society for the Prevention of Cruelty to Animals is preparing further prosecution of those connected with the medical school of the University of Pennsylvania and several additional warrants will be issued. Dr. J. E. Sweet, assistant professor of surgical research, is under bail awaiting a hearing on the charge of cruelty.

**Health Bureau Issues Warning.**—The Department of Health has issued a warning to the householders of the northeast section of the city to boil all water coming from the city mains, because of an increase in the number of typhoid fever cases. Manufacturers are blamed for the increase for pumping raw unfiltered water in the piping system, connected at some points with the city mains.

**Building for Medical Society.**—At the meeting of the Luzerne County Medical Society in Wilkes-Barre, June 11, the executive committee was authorized to purchase a site for the erection of a permanent home for the organization. A site 54 by 75 feet at South Franklin Street has been selected and a two-story brick building will be erected on this site containing offices, assembly and reading rooms and a library.

**Baby Saving Show Opened.**—The annual baby saving show, under the auspices of the Child Hygiene Association opened on the second floor of the City Hall, June 19. The exhibit will be conducted all summer and in addition to a model room, showing the best conditions for raising a child, an apartment is shown showing the worst conditions. One corner of the show is devoted to teaching how a baby should be treated and cared for at bathing time; how a child should be kept cool, etc.

**Medical Institutions.**—Builders are estimating on the plans and specifications for a new *x*-ray laboratory for the Medico-Chirurgical Hospital.——The city is prepared to begin the additional buildings at the Philadelphia Institution for the Feeble-Minded at Byberry Farms. Contracts have been awarded for a two-story building, containing dining room and kitchen, 149 by 78 feet, to be built at a cost of $28,000, and a laundry building, a two-story structure, 43 by 90 feet, to cost $41,000.

**Class Reunions.**—At the annual reunion of the class of 1893 of the Medical Department of the University of Pennsylvania, June 13, Dr. John R. Frost, secretary of the class, was presented with a gold watch in appreciation of his work as class historian.——At the fifteenth annual reunion dinner of the medical class of 1898 of the University, held June 15, Dr. A. A. Uhle was presented with a gold watch given by the class as a reward to the man who had done the best and most notable research work since graduation; Dr. Theodore Le Boutillier was unanimously elected permanent class historian and announcement was made that a permanent club house at 3705 Woodland Avenue had been secured.

**Hospitals.**—The hospitals on the Race and Chestnut Street Piers opened June 19, but neither will be in running order for a week, owing to the provisions of recent appropriations to the Department of Child Hygiene of the Bureau of Health. The Chestnut Street Pier will be kept as heretofore as a nursery and play place for babies while the Race Street Pier will have sixty beds installed, have fifteen nurses and a resident physician, and all babies found to be in need of hospital treatment will be sent there.——A school popularity contest was opened June 10 to obtain funds for the erection of the Providence General Hospital, to be built at Lincoln Drive and Wissahickon Avenue. A perpetual bed, valued at $5,000, will be established for the school receiving the largest number of votes, to be used by sick pupils.——The West Philadelphia Hospital for Women, Preston and Forty-First Streets, is planning for a brick addition.——Alterations, to cost $3,000, are to be made to the Williams ward building at the department for the insane of Pennsylvania Hospital, Market and Forty-Fourth Streets.——The Hospital of the Woman's Medical College of Pennsylvania opened its new building in North College Avenue, June 3.

## SOUTH CAROLINA

**Dispensary Opened.**—A medical dispensary has been opened at Hartsville. It is located in a cottage in Mill Village which as been remodeled. Medicines and the services of a trained nurse are at the disposal of the operatives without expense.

**New State Board Members.**—The governor, on recommendation of the South Carolina Medical Association, has appointed Dr. E. W. Pressly, Clover, and Dr. John Lyon, Ninety-Six Greenwood, as members of the State Board of Medical Examiners.

Personal.—Dr. W. L. Pou has completed sixty years of practice at St. Matthews.——Dr. Lee J. Hammett, Gaffney, has been appointed resident physician at Mountain View Sanatorium, Catawba, Va.——Dr. William Weston, Columbia, associate physician at Thompson Infirmary, has resigned and will specialize in diseases of children.——Dr. J. J. Watson, Columbia, has been appointed physician in charge of the infirmary.——Dr. G. M. Mood has been elected city bacteriologist of Charleston, vice Dr. Robert Lee Wilson.

## SOUTH DAKOTA

**New Hospital.**—Dr. T. S. Kammerling, Spencer, has purchased the Dr. Kelly Hospital in that place and will take over the management at once.

**Personal.**—At the annual stockholders' meeting of the German-Baptist Hospital Association, Aberdeen, Dr. C. A. Homan was reelected president and Dr. F. W. Freyburg, Mitchell, vice-president.——Dr. Frederick W. Minty, Rapid City, has been designated as the official censor of the Black Hills Medical Society.

**Physicians Exonerated.**—At a meeting of the Board of Censors of the Black Hills Medical Association, charges preferred by Dr. C. W. Hargens, Hot Springs, against Drs. P. T. Geyerman, J. B. Naftzger and F. E. Walker, Hot Springs, for alleged violation of the principles of ethics by advertising in Hot Springs papers, were dismissed after an exhaustive hearing.

**State Association Meeting.**—The thirty-second annual meeting of the South Dakota State Medical Association was held in the Law Building of the State University of Vermillion, May 27 to 29 and the following officers were elected: president, Dr. F. A. Spafford, Flandreau; vice-presidents, Drs. Fred Treon, Chamberlain, and J. B. Vaughan, Castlewood; secretary-treasurer, Dr. R. D. Alway, Aberdeen, and councillors, Drs. H. T. Kenney, Pierre, and T. J. Billion, Sioux Falls.

## TENNESSEE

**New Isolation Hospital Recommended.**—Dr. W. E. Hibbett, health officer of Nashville, has recommended that a new isolation hospital be constructed for the city. The old building is located some distance from the city, is too small and is at times surrounded by backwater.

**New Officers.**—East Tennessee Medical Association spring meeting held at Lenoir City, May 15-16: president, Dr. J. G. Eblen, Lenoir City; secretary-treasurer, Dr. H. P. Larimore, Chattanooga. The fall meeting will be held at Rogersville and the spring meeting of 1914 at Harriman.

**State Board Elections.**—At the annual meeting of the State Board of Medical Examiners held in Nashville, May 30, Dr. Ambrose McCoy, Jackson, was elected president to succeed Dr. E. E. Hunter, Elizabethton; Dr. W. L. McCreary, Knoxville, vice-president, vice Dr. W. H. Halbert, Nashville, and Dr. A. B. De Loach, Memphis, secretary in place of Dr. C. A. Abernathy, Pulaski. The office of the secretary is to be moved to Memphis.

**Personal.**—Dr. A. B. De Loach, Memphis, has been appointed a member of the State Board of Medical Examiners.——Dr. I. J. Tatum has been elected a member of the Gleason common council.——Dr. D. M. Ford, Meadorville, was fired on from ambush near that place, June 11, but was not injured. An ex-convict has been arrested charged with the crime.——Dr. Z. D. Massey, physician of the State Prison, Nashville, was operated on in St. Thomas Hospital in that city, June 1, for appendicitis, and is reported to be doing well.

## TEXAS

**Warning.**—The public is warned against a person signing himself John Gamble, who is going through the State of Texas claiming to be organizing a beneficiary order known as the Loyal Order of Lions. He is said to agree to appoint a physician medical examiner for the order, providing he will become a member of the order. After collecting from $3 to $5 from the physician, however, it is said that Gamble disappears.

**Personal.**—Dr. H. K. Leake has been reelected president of the Board of Health of Dallas.——Dr. August J. Streit, Galveston, was operated on for appendicitis in Waco June 6.——Dr. C. W. Truehart, recently reelected city health officer of Galveston, has resigned, to take effect August 15.——Dr. T. T. Jackson, San Antonio, has been elected health officer of Bexar County, vice Dr. D. Berrey.—Dr. W. L. Barnard, Carrizo Springs, has been appointed local surgeon of the San Antonio, Western and Gulf Railroad.——Dr. John T. Moore has been elected president and Dr. S. M. Lister, vice-president, of the Houston Board of Health.

**Sanatorium and Hospital Notes.**—Newton Sanatorium, Cameron, is well under construction. The building will cost about $50,000.——Tarrant County and Fort Worth will be the first to erect a joint county hospital under the provisions of the Colquitt-McGregor act, which goes into effect July 1. Under this act, cities and counties acting jointly are given

authority to care for and maintain locally, victims of tuberculosis or other communicable disease and thereby obviate the necessity of sending them to the State Tuberculosis Colony, Carlsbad.——Dr. I. N. Suttle, Corsicana, has purchased a house at Thirteenth Street and Sixth Avenue and will convert it into a sanatorium for surgical patients.——Physicians of Wichita Falls are planning the establishment of a new hospital.——The new two-story reinforced concrete building erected by the Texas Antituberculosis Association on the Sealy Hospital ground, Galveston, for the treatment of children suffering from tuberculosis of bones, is ready for occupancy and will be in operation some time this month.

**Faculty Changes.**—The following changes in the faculty of the University of Texas Department of Medicine are announced: Dr. George Fay Gracey, professor of chemistry and toxicology resigned to enter practice in New York as a specialist on diseases of the eye; Dr. Howard Rush Dudgeon, adjunct professor of surgery and clinical professor of genito-urinary diseases and dermatology, resigned to enter private practice in Waco; Dr. George Cyrus Kindley, demonstrator of pathology and bacteriology, resigned to enter practice in Pittsburg; Dr. Reuben Morgan Hargrove, resigned to take a surgical internship in Philadelphia hospitals; Dr. James Persons Simonds, professor of preventive medicine, is attending summer school at Harvard University, preparing to take the degree of Doctor of Public Health; Dr. Marie Charlotte Schaefer, associate professor of biology, histology and embryology, has been given a leave of absence for one year on account of health; Dr. James J. Terrill, professor of pathology, has resigned and will locate in Temple; Dr. H. O. Sappington, lecturer on, and demonstrator in obstetrics and gynecology, has resigned on his election as member of the Galveston City Commission.

## VIRGINIA

**New Officers.**—Southwestern Virginia Medical Society at Roanoke, June 3-4: president, Dr. John A. Tipton, Hillsville; secretary-treasurer, Dr. A. B. Greiner, Rural Retreat, (reelected). Marion was selected as the next place of meeting.

**Personal.**—Dr. B. E. Summers has been elected medical inspector of Richmond, vice Dr. V. T. Goode, Jr., resigned on account of ill health.——Dr. Charles V. Carrington, Richmond, who recently returned from abroad, was operated on for acute appendicitis at St. Luke's Hospital, June 1, and is reported to be doing well.

**Hospital News.**—A preliminary meeting of physicians of the Eastern Shore was held at Accomac recently, looking to the establishment of a hospital at Accomac Court House.——The last of the patients were transferred from the Virginia Hospital to the Memorial Hospital, Richmond, June 10. It is probable that the Virginia Hospital will be converted into dormitories for the use of students of the Medical College of Virginia.

## LONDON LETTER

*(From Our Regular Correspondent)*

LONDON, June 7, 1913.

### The Falling Birth-Rate

According to a report just issued by the census office this country contains a larger proportion of young adults than either France, Germany, Holland or Sweden. It has fewer children than any of those countries but France, and fewer older persons than any except Germany. In consequence of the fall in the birth-rate the proportion of young children has considerably diminished. For each million of the population in 1881 there were 135,551 children under the age of 5 years. In 1891 this number fell to 122,523, and since then to 114,262 in 1901 and to 106,857 in 1911.

At the London School of Economics and Political Science Karl Pearson, in delivering a course of lectures on "Infant Welfare," drew attention to the falling birth-rate which has existed since 1878. He showed that the process was less rapid in places like Sheffield where men were chiefly employed, whereas in places like Dewsbury, where wool was the staple industry, it was more marked. In woolen areas the average families were 1.3, in cotton areas 1.8 and in engineering areas 2.12, the interpretation being that, except in the latter case, the families, and consequently the towns, were not reproducing themselves. Immigration from the rural districts could not continue, for their birth-rates, too, were falling. The character of the population was tending to become more middle-aged, and if the population was to be replaced, average families of four and five were required—a point of vital importance to the nation, for no nation of forty millions could stand against one of sixty millions. That was the political aspect. The suggestion had been made that the loss might be made good by better care of the children, but by keeping the children alive it would not be possible to get the class of mentally and physically fit children that was desired. It had to be remembered that a fall in the infant death-rate was accompanied by a rise in the percentage of delicate children, and vice versa.

### Mental Deficiency Bill

At present scores of thousands of mental and defective persons are left uncared for and unprotected to live a miserable existence, who might live happily under proper provisions. With this object the government has introduced a bill which has passed its second reading and according to which all mentally defective persons, whether lunatics, imbeciles, idiots or feeble-minded, will be placed under a single board of control consisting primarily of the existing state-paid lunacy commissioners. This board will consist of twelve paid commissioners, at least one of whom must be a woman, and three unpaid commissioners, of whom one must be a woman. Feeble-minded persons not now certifiable as insane will not be dealt with compulsorily unless it is proved that they are neglected, abandoned or cruelly treated, or that they are guilty of some crime or of habitual drunkenness or children certified by the local authority as being too low mentally or morally to benefit by special schools. The only other class which comes under the bill is that of women who give birth to illegitimate children while in receipt of poor-relief. The number of persons who it is estimated will have to be provided for by the bill is 90,000.

## PARIS LETTER

*(From Our Regular Correspondent)*

PARIS, June 6, 1913.

### A Chair of Exotic Pathology

A chair of exotic pathology has been established at the Collège de France. The assembly of the professors of the college has submitted for the choice of the ministry, Dr. Nattan-Larrier as their first choice and Dr. Tanon as their second choice for this chair.

### Death of Dr. Gaujot

Dr. Gaujot, former medical inspector of the military health service, is dead. He was professor of clinical surgery and director at the Ecole d'application de médecine et de pharmacie militaires du Val-de-Grace.

### A Tribute to American Science

Admiral Peary, the discoverer of the North Pole, is to be received this evening at a formal meeting of the Geographical Society. In connection with this, Charles Nordmann, an astronomer at the Observatory of Paris, published an article which ended thus: "In honoring Peary we give just due to an admirable thing which excites the envy of the whole world —American science. Is it because this young nation is not tied down by red tape as we are? Is it because in that country old age is not a necessary or sufficient condition for obtaining the opportunities to achieve things and that young men direct the laboratories as well as command the battleships? One thing is certain: In addition to the monstrous cannons which command respect in the domain of force, the United States knows how to make new arms for conquering the realms of thought. In this field especially America is great and is worthy of its flag studded with stars."

### A Chair of Child Hygiene

The commission on depopulation has decided that it would be well to organize in the various schools of medicine specialized instruction on child hygiene. The Faculté de médecine de Paris passed a resolution last February in favor of the creation of a chair of child hygiene (THE JOURNAL, March 22, 1913, p. 917).

### Physicians' Service in Dueling

Has a doctor the right to fees for his services as a physician in a duel? A court in Cairo presided over by a French judge recently passed on this question. A doctor demanded $20 (100 francs) as his fee for his services in a duel. The duelist declared that the claim was not legal because it was based on complicity in an illegal act. The decision was that although the seconds of the duelist were his accomplices in

crime, this was because the conditions of the duel required the seconds to give aid and assistance to the duelist in this commission; but the physician, when he gives no such aid, merely acts in his official capacity, and therefore has a right to his fee.

## BERLIN LETTER

*(From Our Regular Correspondent)*

BERLIN, May 30, 1913.

### Personal

Prof. F. A. Hoffmann, director of the University Medical Policlinic at Leipsic, has been appointed regular privy councillor, with the title of Excellency.

Professor Abderhalden goes to Vienna as the successor of Professor Ludwig to take charge of the Institute for Medical Chemistry.

### Alcoholic Excesses among Students

That in spite of the anti-alcoholic declaration of the students the sport of drinking among them occasionally leads to marked excesses, has been shown anew by an unfortunate occurrence at Halle. May 26 a student took a seat at a table in a beer-saloon, put a beer-glass on his head and let a fellow student shoot at it. Four shots were fired, amid the great excitement of the crowd, three of which went wide of the mark; the fourth hit the student in the head.

At the surgical clinic, to which the wounded man was taken, there was found a complete left-sided hemiplegia. The prognosis is said to be very doubtful. The unlucky marksman who, like the student, was drunk, was arrested. With some satisfaction we have ascertained that in this sad case it is not a medical student who is concerned, but a law student and a philologist. It is to be hoped that the occurrence will be a flesh-and-blood illustration, teaching the results of acute and chronic alcoholism to medical students.

### Temperance Leaflets for Soldiers

In order to restrict the use of spirits in the army, all soldiers are furnished free of cost with circulars which describe, by examples, the bad results of excessive use of alcohol and the military offenses resulting from it. After next autumn the circulars will be distributed yearly to the new recruits.

### Offices of Specialists

In consequence of the remarkable changes in population in Greater Berlin, especially with reference to the fact that the patients of the Krankenkassen often live in different localities from those in which the private dwellings of the specialists are situated, a number of specialists have established one or more offices in various locations aside from their private offices. A number of general practitioners have repeatedly objected to this custom, because they have found that it injures their practice. In addition many other specialists do not approve of the methods of their colleagues.

In order to restrict this evil the Union of Free-Choice Insurance Physicians has proposed that in future the members shall have their medical insurance office only at the location of their private office. In order to carry out this idea a general meeting of the society, which includes nearly 2,000 physicians of Greater Berlin, was called. After thorough and very lively debate the specialists remained the victors. It was determined by vote that the hitherto prevailing custom should be allowed to continue.

### Dedications of Hospitals

The additional buildings of the Charlottenburg Infants' Home were dedicated, May 8. The home is founded by a private society. In this infants' home—the only institution of its kind in Germany—mothers may remain six months with their children, an advantage of the greatest importance for the health and prosperity of the children. In addition, children of well-to-do families may be taken for a certain time to board, a provision by which the society is assured a good source of income.

May 19, a new lupus sanatorium with forty beds was opened for business in Giessen. The director of the institution is Professor Jesionek, director of the Giessen clinic for skin and venereal diseases. In addition to this sanatorium, there is a similar lupus institution at Graudenz in West Prussia.

### Merging of Annual Meetings

In order to avoid the contemporaneous sessions of German annual medical meetings, the executive committee of the Gesellschaft der Naturforscher und Aerzte has written to the German-Austrian scientific and medical societies proposing and urging a systematic and scientific cooperation of these societies with the first-mentioned association. It is proposed that all the societies hold their annual meeting separately one year, and the next year in common with the other societies, at the annual meeting of the first-mentioned association, generally called the Naturforscher congress. One year chiefly the special questions of each particular science will come up for discussion, while every alternate year, in which the common meeting is held, questions will be discussed which are of interest in common to all scientists and physicians, or to larger groups. This matter will be discussed on the occasion of the eighty-fifth Naturforscher meeting at Vienna next autumn.

## VIENNA LETTER

*(From Our Regular Correspondent)*

VIENNA, June 7, 1913.

### Some Figures Relating to Contract Practice in Austria

The official report of the union of the Austrian sick clubs (Krankenkassen) was published recently, dealing with the year 1912. Some of the figures are interesting to medical men. Thus, the number of the members of all the 3,350 clubs—for as many are reported on—was 3,467,329. Of these, 1,353,165, or about 40 per cent., were ill for at least three days each; under this space of time no records are kept of those unfit for work. These patients received altogether sick-pay for 29,042,720 days, or on an average each patient was twenty-three days ill. It is interesting to note that besides these cases of illness, 56,198 cases of childbirth, with 1,555,508 days of sick-payment were recorded (28 days each). The last item is one of the latest additions to the benefits extended to the members of the clubs, and the beneficial effect of this measure on the health of the mothers is well marked. There were 27,731 cases of death from disease among the members, 0.75 per cent of the total number of the insured persons, while this figure formed a little over 2 per cent. of the total of the patients in 1912. It is one of the lowest figures of mortality on record since the formation of the Krankenkassen (1882) in Austria.

The income of all the clubs from the weekly and the monthly contributions of the employers and employed persons (for these form the clubs) amounted to $18,000,000 (86 million kronen), while the expenditures were nearly $16,000,000 (79,000,000 kronen). The expenditures in favor of the insured person required 85 per cent. of the total expenditure. Out of these sums, medical help, including medicines, required 13½ million kronen; in 1911 it required 12½ million, and in 1910 only 11½ million (from 16 to 17 per cent. of the total). If we consider the expenditure per patient, we find that each patient cost the clubs 70 cents (3.67 kronen) or each day 7 cents (one-third of a krone). Such small sums naturally show that the payment of the medical men must be very low indeed. But the surplus of $1,500,000 (7 million kronen) signifies that doctors' fees could be increased a good deal without endangering the budget of the clubs, as they always assert.

## *Marriages*

LAWRENCE R. PACKARD, M.D., Whitehall, Mont., to Miss Fanny Graves of Shelton, Minn., at Livingston, Mont., June 1.

LAWRENCE SAFFORD CHAMBERLAIN, M.D., San Diego, Cal., to Miss Mabelle Lucille Power at Coronado Beach, June 7.

WILLIAM LAWRENCE ESTES, M.D., South Bethlehem, Pa., to Miss Anne Greble of Washington, D. C., June 11.

JAMES ROBERT MCCORD, M.D., New York City, to Miss Marion Crawford Roberts of Utica, N. Y., June 25.

IRA ELLIS HUNTER, M.D., to Miss Pearl Belle Langendorf, both of Toledo, Ohio, at Perrysburg, O., June 5.

PAUL COLGROVE, M.D., Oberlin, Ohio, to Miss Mildred Kerlin of Storm Lake, Iowa, at Iowa City, Iowa, June 11.

AUGUST J. STREIT, M.D., Galveston, Tex., to Miss Benedicta Hander of Perry, Tex., at Waco, Tex., June 5.

ROBERT GARFIELD SAVAGE, M.D., Oak Park, Ill., to Miss Margaret Neary of Austin, Chicago, June 11.

ROBERT FRANKLIN LISCHER, M.D., Mascoutah, Ill., to Miss Clara E. Herman of Freeburg, Ill., June 10.

JOHN CHARLESWORTH LITTELL, M.D., U. S. N., to Miss Grace L. Green at Salt Lake City, Utah, June 4.

ARGO MONTAGUE FOSTER, M.D., Appleton, Wis., to Miss Isla Saunders of Oconto Falls, Wis., June 6.

HENRY THEODORE COLLENBURG, M.D., to Miss Mary N. Stewart, both of Baltimore, June 14.

JOHN WILLIAM BROWN, M.D., Bremond, Tex., to Miss Kate Laurence Adams of El Paso, June 4.

JAMES E. RAWLINGS, M.D., Daytona, Fla., to Miss Madge Mogee of Norristown, Pa., May 22.

WARREN FREDERICK PEARCE, M.D., to Miss Lillian Temple Swope, both of Quiney, Ill., May 1.

RUPERT NORTON, M.D., Baltimore, Md., to Miss Cecilia Hendriekson in New York City, June 7.

CHARLES BURNSIDE, M.D., Los Angeles, Cal., to Miss Ethel Kuhn of Audubon, Iowa, June 11.

LEE MAXWELL NANCE, M.D., Dallas, Tex., to Miss Dorothy Rose of Vieksburg, Miss., June 5.

ISRAEL HENRY CHILCOTT, M.D., to Miss Vera Marguerite Apfel, both of Chicago, June 4.

ADOLPH AUGUST PASSER, M.D., Olivia, Minn., to Miss Irene Monk of Minneapolis, May 15.

J. CLARK STEWART, M.D., to Miss Isabelle A. Raiche, both of Minneapolis, Minn., June 4.

THOMAS A. PHILLIPS, M.D., to Miss Mary Louise Coon, both of Lyons, N. Y., June 4.

WILLIAM RALPH EDDLEMAN, M.D., to Miss Ella Reever, both of Gold Dust, Tenn., May 28.

H. BEACH MORSE, M.D., to Miss Marion Jean Parks, both of Bay City, Mich., May 31.

JOHN ADAMS WOLFER, M.D., Chicago, to Miss Edna Ola Kunze of Detroit, June 10.

ALLAN N. MOORE, M.D., to Mrs. Grace Holly Lee, both of Lockport, N. Y., June 4.

SAMUEL E. PARR, M.D., to Miss Alice Louise Strawn, both of Ottawa, Ill., June 18.

---

## Deaths

**Francis Jenks Hall, M.D.** Johns Hopkins University, Baltimore, 1905; died in Peking, China, May 25, from typhus fever, aged 37. After a year in hospital work he went to China as a missionary of the Presbyterian Board, where he filled chairs in the Union Medical College and Woman's Medical College, Peking, being dean of the former at the time of his death. Dr. Hall was a Chinese scholar of great promise and at the time of his death was engaged in getting out the second Chinese edition of Osler's "Practice of Medicine."

**Thomas H. Barnes, M.D.** Medical College of Virgina, Richmond, 1853; University of Iowa, Iowa City, 1872; a retired practitioner of Suffolk, Va.; a former member of the Virginia legislature and of the convention which revised the constitution of the state; chairman of the board of visitors of the Medical College of Virginia, Richmond, and of William and Mary College, Williamsburg; a practitioner of Nansemond County until 1885, when he retired; died at his home in Suffolk, June 4, from senile debility, aged 82.

**Roscoe Evans, M.D.** Western Pennsylvania Medical College, Pittsburgh, 1889; a member of the Medical Society of the State of Pennsylvania; assistant demonstrator of anatomy and assistant lecturer on surgery in his alma mater; district surgeon of Allegheny City and assistant surgeon of the Pennsylvania System; chairman of the executive committee of the Pittsburgh School Visitors Association; died at the home of his father in Pittsburgh, June 6, from pneumonia, aged 38.

**Charles H. Haskin** (license, Michigan, eight years of practice, 1900); a practitioner since 1869; for four years a member and once president of the common council of Jackson; county physician of Jackson County for two terms and overseer of the poor for four years; a veteran of the Civil War; died at his home in Jackson, May 28, aged 74.

**Mark W. Moore** (license, District of Columbia, 1896); manager of the Law Reporting Company, Washington; first secretary of the American Federation of Labor; died at his home in Washington, May 16, from heart disease, aged 61.

**J. M. Finney** (license, Missouri, years of practice, 1883); died suddenly in his office in Cape Girardeau, June 1, from cerebral hemorrhage, aged 61.

**George Washington Towar, M.D.** Harvard Medical School, 1858; assistant surgeon of the Twenty-Fourth Michigan Volunteer Infantry and later assistant surgeon in the Army until 1882; president of the Towar Creamery Company, Detroit; died at his home in that city, May 31, from cerebral hemorrhage, aged 78.

**Thomas Claude Waldron, M.D.** Louisville and Hospital Medical College, 1908; a member of the American Medical Association; physician to the W. M. Ritter Lumber Company, Matewan, W. Va.; died at the Knox Creek Hospital, Hurley, Va., May 14, from abscess of the liver, aged 31.

**Charles Drennen, M.D.** Medical College of Albama, Mobile, 1873; of Drennens, Ala.; a Confederate veteran; for many years a practitioner; for four years a member of the common council of Brimingham; died at his winter home near Orlando, Fla., June 3, from arteriosclerosis, aged 72.

**Thomas Jefferson Daniel** (license, Arkansas, 1903); representative from Logan County in the Arkansas legislature in 1903 and author of the medical bill; formerly a member of the Logan County Board of Medical Examiners; died at his home in Magazine, June 4, aged 56.

**John Daniel Turner, M.D.** Jefferson Medical College, 1858; a member of the Medical Society of Virginia; surgeon in the Confederate service throughout the Civil War; died at his home "Orapaxe," New Kent County, June 2, aged 79.

**Owen Crow Spear, M.D.** Jefferson Medical College, 1906; a member of the Delaware State Medical Society; of Wilmington; died in the Delaware Hospital, Wilmington, June 3, four days after an operation for appendicitis, aged 48.

**William Stroud Bolton, M.D.** Tulane University, New Orleans, 1880; of El Paso, Tex.; surgeon of volunteers during the Spanish-American War with service in the Philippines; died at the Hotel Dieu, El Paso, June 3, aged 54.

**William Tillman, M.D.** University of Munich, Germany, 1887; formerly city physician of La Crosse, Wis., and later a practitioner of Stoddard; died at the home of his mother in La Crosse, June 4, aged 52.

**A. P. Sparkman, M.D.** Tulane University, New Orleans, 1861; for thirty-eight years clerk of the circuit court of Pike County, Miss.; a Confederate veteran; died at his home in Magnolia, June 2, aged 72.

**Frederick Andrew Grossman, M.D.** Eclectic Medical Institute, Cincinnati, 1903; at one time postmaster of Cleves, Ohio; was found dead under his overturned automobile, near Cleves, June 4, aged 56.

**Lovett Taft Guerin, M.D.** Starling Medical College, Columbus, Ohio, 1870; of Columbus; a veteran of the Civil War; died in Grant Hospital, Columbus, June 3, from diabetes, aged 68.

**Edward C. Beach, M.D.** Yale Medical School, New Haven, Conn., 1888; a member of the Connecticut State Medical Society; died at his home in Milford, June 2, from pneumonia, aged 46.

**Walter August Jensen, M.D.** University of Iowa, Iowa City, 1911; formerly of Melbourne, Iowa; died in the E. M. and H. E. Brown Sanitarium, Independence, Iowa, June 1, aged 35.

**Leonard C. Furr, M.D.** Atlanta (Ga.) Medical College, 1890; of Crandall, Ga.; died at that place, June 1, from gunshot wounds received in a pistol duel the day before, aged 50.

**Herbert Whitworth, M.D.** Pulte Medical College, Cincinnati, 1875; coroner, physician and health officer of Ford County; died at his home in Dodge City, Kan., May 17, aged 60.

**Thomas Norvell Jefferis, M.D.** Jefferson Medical College, 1886; for many years a practitioner of Mexico; died at his home in North Wilkesboro, N. C., May 30, aged 57.

**George Henry P. Weeks, M.D.** Hahnemann Medical College, Chicago, 1888; of Chicago; died in St. Ann's Hospital in that city, June 6, from pneumonia, aged 46.

**Andrew Jackson Carpenter, M.D.** Eclectic Medical College of the City of New York, 1886; died at his home in Neosho Rapids, Kan., May 17, aged 80.

**J. D. A. McDonald, M.D.** McGill University, Montreal, 1873; of Montreal; a well-known expert in chess; died in the Montreal General Hospital, May 31.

**William H. H. McCloud** (license, years of practice, Illinois, 1878); for forty-six years a practitioner; died at his home in Ridge Farm, June 4, aged 67.

**James Thomson, M.D.** University of Toronto, Ont., 1908; of Winchester, Ont.; died at his former home in Hastings, Ont., April 7, aged 25.

**Amos B. Miller** (registration, prothonotary of Berks County, Pa.); died in his home in Lancaster, June 2, from cerebral hemorrhage, aged 68.

**Solomon Wexlar Laub, M.D.** Tulane University, New Orleans, 1906; of Las Cruces, N. Mex.; died in Natchez, Miss., May 11, aged 34.

**John Passmore Cheesman, M.D.** Hahnemann Medical College, Philadelphia, 1879; died at his home in Swedesboro, N. J., May 7, aged 61.

**George Alexander Pettigrew, M.D.** University of Toronto, Ont., 1870; died at his home in Peterboro, Ont., March 4, aged 68.

**Walter R. Gosewisch, M.D.** Tulane University, New Orleans, 1888; died suddenly at his home in Los Angeles, May 24, aged 50.

**Charles J. Wagner, M.D.** Southwestern University, Dallas, Tex., 1908; of Dallas; died in Vienna, Austria, April 29, aged 26.

**William S. Nelson** (license, Arkansas, 1903); of Dilworth; died at Nashville, Ark., June 3, from congestion of the brain, aged 46.

**John A. Lung, M.D.** Cincinnati Physio-Medical College, 1849; of Chewelah, Wash.; died in Spokane, Wash., March 31, aged 89.

**James S. McIntosh, M.D.** Cincinnati College of Medicine and Surgery, 1867; died at his home in Covington, Tenn, May 4, aged 77.

**George DeWitt Green, M.D.** Hahnemann Medical College, Chicago, 1885; died at his home in Holt, Mich., May 24, aged 65.

**Milo J. Gilkerson, M.D.** Eclectic Medical Institute, Cincinnati, 1876; died at his home in Tekamah, Neb., April 8, aged 69.

**James Howard Lott, M.D.** Jefferson Medical College, 1878; of Buffalo, Wyo.; died in Hot Springs, Ark., May 26, aged 65.

**Edward L. Downs, M.D.** University of Maryland, Baltimore, 1886; died at his home in Butler, Pa., March 27, aged 55.

**Jesse A. Eaton** (license, Missouri, twelve years' practice, 1872); died at his home in Belgrade, May 6, aged 69.

**Samuel M. Hardman** (license, West Virginia, 1900); died at his home in Clarksburg, June 3, aged 62.

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

## THE ELECTRO-OXYGEN INSTITUTE

### Fake Concern at Omaha Swindled Many People—Promoters in the Custody of Federal Authorities—Formerly Driven Out of Louisville, Ky.

Some months ago[1] we published an account of the prosecution, instituted through the local medical profession of Louisville, of the promoters of a so-called "Advanced Medical Science Institute." At that time we said that probably this concern would be heard of elsewhere. In the latter part of April there appeared in the newspapers of Omaha outrageous advertisements of an "Electro-Oxygen Institute." This concern had a career of but two or three weeks, during which time, however, many people of Omaha and vicinity were swindled. It will be remembered that the chief promoter of the "Advanced Medical Science Institute" of Louisville was one X. W. or H. W. or Z. T. Witman. This is the man, as developments proved, who, together with his wife and Dr. E. D. Brantley, was promoting the Omaha fake.

In their newspaper advertising at Omaha they claimed to have their office equipped with $12,000 worth of wonderful electrical apparatus, including a $5,000 "electro-oxygen" machine, with which, in conjunction with the "famous Fredman serum," as they expressed it, they claimed to cure tuberculosis, and published alleged testimonials of patients to that effect. They also claimed to cure Bright's disease, diabetes and cancer, besides a host of other things, and did not hesitate to quote alleged statements from well-known medical men to the effect that surgery was a failure in such diseases as gall-stones and appendicitis, and that the electro-oxygen treatment was the only effective one. The impression given in their deceptively worded advertisements that they used the Friedmann serum for the treatment of tuberculosis brought dozens of patients to their offices. Knowing that their deception would soon be found out, after a large sum of money had been taken from the patients they closed the offices and departed without leaving any information as to their destination. Complaints of patients put the local and the United States authorities on their trail and they were located in Denver. Before they could be arrested, however, they again fled. Information that Dr. Brantley had returned to his former home, Memphis, resulted in his arrest in that city and from him it was discovered that Witman and his wife had found a "promising field" in Colorado Springs, where they also were arrested. The charge against them was using the mails to defraud. They were held in bail pending trial in the United States Court at Omaha.

1. Propaganda for Reform, THE JOURNAL A. M. A., Dec. 21, 1912, p. 2273

# Correspondence

### Where Is the Fundus of the Bladder?

*To the Editor:*—In view of the article by Dr. Lewis in THE JOURNAL (June 7, 1913, p. 1765) on "Where Is the Fundus of the Bladder?" may I ask what part of the bladder would Dr. Lewis call the base or bottom (fundus) in a man standing on his head, or lying down, or in a quadruped?

What part would he call the base or bottom of a cylindrical bottle, in whatever position it might be? How many sides has it, and if more than one, how delimit them?

What is the base or bottom of a pyramid, though standing on its apex?

To apply the term "summit" or "vertex" to the bottom of a bottle or a bladder, seems to me quite as much out of place as to apply the term "vertex" to a breech presentation.

M. E. WOODLING, M.D., Las Vegas, N. Mex.

[The preceding letter was submitted to Dr. Lewis, who replies:]

*To the Editor:*—I can see no force whatever in your correspondent's question. The fact that a person's bladder is turned upside down when he stands on his head does not change the name of the several parts of the bladder any more than it changes the person's name for him to go to bed. "Fundus of the bladder" means a certain part of the bladder, namely, the base of the bladder.

BRANSFORD LEWIS, M.D., St. Louis.

**Fee-Splitting Places a Premium on Poor Surgery.**—Fee-dividing in any form that is practiced is characterized by the *Journal of the Indiana State Medical Association* as "a dishonorable traffic in the ills of humanity. Followed to its logical conclusion it means the sale of the patient to the highest bidder. It can be nothing more than the rankest commercialism when general physicians seek a fee-divider, and usually the one paying the largest commission, to whom patients are to be referred. In a general way the question of ability is not considered, and the embryo surgeon without education, training or experience can and does do a large surgical practice if he pays well for the services of the members of the steering committee. The unfortunate patient who has placed his trust in his family physician is not consulted." In an editorial note the *Journal* says that fee-dividing is a crooked deal between surgeon and general physician, with the patient as "the goat."

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

## CORROSIVE SUBLIMATE POISONING

*To the Editor:*—In cases of poisoning by swallowing a tablet of corrosive sublimate, would it not be worth while to open the stomach promptly and deal locally with it? It might be found that the tablet had expended its corrosive influence on one or two spots which could be excised, with, perhaps, most of the poisonous substance.

I believe it is the local destruction, not the systemic poisoning, that kills the patient. In 1889 I treated a case in which a corrosive sublimate tablet had been used hypodermatically by mistake, and, although it produced local gangrene and a deep slough, there were no constitutional symptoms. In poisoning by swallowing large quantities of arsenic, too, as in "Rough on Rats," I have seen patients show no poisoning, but only gastritis, when the stomach has been emptied in a reasonable time. It may be found that these tablet cases may be best treated by the surgeons.

J. EMMET O'BRIEN, M.D., Scranton, Pa.

ANSWER.—Such poisons as arsenic and mercuric chlorid sometimes act very rapidly. Thus arsenic has been fatal in twenty minutes and mercuric chlorid at the end of half an hour. It is probable that the fatal mischief would be likely to have occurred before a patient could be made ready for operation.

The first thing to do in a case of poisoning, if possible, is to give an antidote; the next is to empty the stomach. In corrosive sublimate poisoning the antidote is white of egg, which should be given in not too great quantities since an excess may redissolve the precipitate at first formed. As soon as the antidote has been given the stomach should be emptied, preferably by the stomach-tube. In case the stomach-tube is not available copious draughts of milk containing emetics should be given.

Dr. W. H. Allen, Ph.G., Detroit, suggests as an antidote for poisoning by swallowing bichlorid tablets, the use of hydrogen sulphid or sodium sulphid, which will result in the formation of black mercuric sulphid which is insoluble in hydrochloric acid.

## VALUE OF SALVARSAN IN THE SIGNIFICANCE OF WASSERMANN REACTION

*To the Editor:*—1. Do you consider a faintly positive Wassermann reaction, and ability to stand four injections of neosalvarsan of 0.9 gm. each, without great disturbance, and about three weeks apart, to be conclusive evidence of syphilis in one who has never had any of the cardinal symptoms of syphilis, such as angina, an eruption, enlarged lymphatics, loss of hair, chancre, etc.?

2. Does the mere fact that one can assimilate the salvarsan, even if a Wassermann is negative, indicate syphilis beyond a doubt?

3. What is a faintly positive Wassermann and what does it signify?

4. Could the disease be hereditary after 50 years, with no previous symptoms, and then give a Wassermann reaction? If so, would the use of salvarsan be proper?

E. F. FISH, M.D., Milwaukee, Wis.

ANSWER.—1. Yes.

2. No.

3. A positive result in the Wassermann reaction is indicated by the fact that no hemolysis of the blood-corpuscles used occurs. If a partial hemolysis only occurs, the reaction might be considered faintly positive; if complete hemolysis occurs, the reaction is negative. The failure of complete hemolysis would indicate that some factor was prohibiting its occurrence. If the conditions in the test have been carefully carried out, a partial hemolysis indicates the probability of a specific inhibition of the hemolytic action. Such a case would be suspicious of syphilis, but the evidence would not be conclusive.

4. While it is very improbable that a hereditary syphilis would remain to the age of 50 without producing symptoms, it cannot be regarded as impossible. Unless contra-indicated by the condition of the patient salvarsan would be proper treatment for any case of syphilis.

## RIGGS' DISEASE

*To the Editor:*—1. Please give recent literature and books on the subject of Riggs' disease.

2. Are there other diseases similar to this that attack the gums?

FREDERICK BOOTH, Michigan City, Ind.

ANSWER.—1. The following books and articles treat of the subject:

Pickerill, H. P.: Stomatology in General Practice, Oxford University Press, New York, price $5.50.

Talbot, E. S.: Interstitial Gingivitis, Ransom and Randolph Co., Toledo, Ohio, price $4.00.

Noguchi, H.: Treponema Mucosum (new species) Mucin-producing Spirochete from Pyorrhea Alveolaris, *Jour. Exper. Med.*, August, 1912; abstr., THE JOURNAL, Aug. 17, 1912, p. 577.

Medalia, L. S.: Chronic Pyorrhea Alveolaris, *Boston Med. and Surg. Jour.*, Dec. 12, and Dec. 26, 1912.

Chapman, C. H.: Pyorrhea Alveolaris, *West Virginia Med. Jour.*, October, 1912.

Wood, J. H.: Biologic Therapeutics in Pyorrhea Alveolaris; Autogenic Method, *Kentucky Med. Jour.*, July 1, 1912.

Best, V. G.: Pyorrhea Alveolaris, *Dublin Jour. Med. Sc.*, February, 1912.

Glynn, E.: Vaccine Treatment with Special Reference to Pyorrhea Alveolaris, *Med. Press and Circular*, Jan. 17 and Jan. 24, 1912.

Briggs, E. C.: Interstitial Gingivitis, *Boston Med. and Surg. Jour.*, Aug. 31, 1911.

Williams, W. R.: Vaccine Therapy of Pyorrhea Alveolaris, *Am. Jour. Med. Sc.*, May, 1911.

2. Various poisons, as well as such diseases as scurvy, produce a softening and inflammation of the gums, but they have not the same characteristics as pyorrhea alveolaris (Riggs' disease).

## TYPHOID MORTALITY

*To the Editor:*—Please state what percentage of typhoid-fever patients died fifteen or twenty years ago, and what percentage dies at the present time. I do not think that it is so successfully treated now as it was fifteen years ago.

W. G. HENDRIX, M.D., New London, Mo.

ANSWER.—A table is given by Hare in his "Practice of Medicine" showing the mortality in Philadelphia from 1888 to 1902. According to this table the mortality twenty-five years ago was 21 per cent.; twenty years ago it was 19 per cent.; in 1898 (fifteen years ago) it had fallen to 11 per cent., and in 1902 it was approximately at the same figure.

The case fatality rates for the city of Washington, reported for the eight years 1903 to 1910, inclusive (*Bull. Hyg. Lab.*, U. S. P. H. S., 78, October, 1911) were as follows: 1903, 12.98 per cent.; 1904, 14.01 per cent.; 1905, 12.94 per cent.; 1906, 14.4 per cent.; 1907, 12.0 per cent.

## RADIUM IN ARTHRITIS DEFORMANS

*To the Editor:*—1. Can you refer me to literature on the use of radium in arthritis deformans?

2. Are any radium preparations given by hypodermic injection?

CHARLES J. FOOTE, M.D., New Haven, Conn.

ANSWER.—1. The following articles on the use of radium may be referred to:

Gudzent, F.: Radium Emanations in Treatment of Arthritis and Gout, *Berl. klin. Wchnschr.*, Nov. 20, 1911; abstr., THE JOURNAL, Dec. 23, 1911, p. 2111.

His, W.: Treatment of Gout and Rheumatism by Radium, *Brit. Med. Jour.*, Feb. 4, 1911; abstr., THE JOURNAL, March 4, 1911, p. 700.

His, W.: Radium in Gout and Rheumatism, *Berl. klin. Wchnschr.*, Jan. 30, 1911; abstr., THE JOURNAL, March 4, 1911, p 782

Kemen: Radium Therapy of Chronic Articular Rheumatism, Gout and Sciatica, *Petersburg med. Ztschr.*, Feb. 28, 1912.

2. According to the article of Gudzent, solutions of radium salts are sometimes injected in the neighborhood of diseased joints; more commonly the preparation used is a solution of the radium emanation.

## THE TRANSMISSION OF RECURRENT FEVER BY THE LOUSE

*To the Editor:*—I was much interested in your editorial in THE JOURNAL, May 24, p. 1647, on "The Transmission of Recurrent Fever by the Louse." Does this work invalidate that done by Dr. Robert Koch (*Berl. klin. Wchnschr.*, 1906, p. 183) on African recurrent fever and the tick *Ornithodorus moubata?*

M. D.

ANSWER.—There seems to be a distinct difference between the ordinary relapsing, or recurrent, fever and the African recurrent fever, on which the observations of Koch, referred to, were made. It is probable that the diseases are transmitted by different insects.

## ALCOHOL INJECTIONS FOR TRIFACIAL NEURALGIA—NEOSALVARSAN

*To the Editor:*—1. Please give references, or information relative to the injection of alcohol for the cure of trifacial neuralgia.

2. What is the present status of neosalvarsan as a curative agent in syphilis? Is it considered safe when given intravenously?

J. M. J.

ANSWER.—1. A list of references to articles on this subject was published in THE JOURNAL, Sept. 21, 1912, p. 960.

2. Neosalvarsan is generally considered as equivalent to salvarsan in its effects.

# Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

## A HANDFUL OF EDITORIALS

There is perhaps nothing which reflects the real sentiment of the public so accurately as the editorial columns of the daily newspaper. The advertising pages may be and often are influenced by financial considerations. In very few cases can the editorial utterance of a newspaper be bought. The views expressed stand for the personal opinion of the editor, expressed in a manner which will in his judgment meet the approval and support of a majority of the readers. From the editorial pages of any large number of newspapers, therefore, one can form a pretty accurate idea of the views of the average citizen.

To one who has been watching the campaign for better health legislation, there is no one fact more striking than the marked increase in public interest as shown by the increasing amount of space devoted to the discussion of health matters in the newspapers, and the growing demand for greater governmental activities for the prevention of disease. Of the many editorials on health topics, quotations from only a few of the more striking are possible.

The York (Pa.) *Daily*, in a lengthy editorial on the Panama Canal and its value as an object-lesson, says:

"Nowhere and never in the world's history has there been such triumph of men over the forces of Nature. This applies to disease-producing agencies as well as to mechanical conditions. Let the public not forget when they think of the Panama Canal that underlying the surface of this enormous governmental work is the minute and painstaking investigation in the recondite cause of disease, in the little laboratories where men are hidden from public observation and where they concern themselves with the study of disease germs and culture methods and the use of the microscope. And let them not forget also that the heroism displayed by those who have lost their lives in this sort of study is equal to any heroism displayed on the battle-field, or anywhere else. In fact it is superior to it, because it concerns men giving deliberately, from stern conviction of duty toward others, and it is devoid of the glamor and applause which come to men who are in the public eye. All praise, then, to the men who, like Dr. Walter Reed of the United States Army, and others, have sacrificed themselves in the attainment of knowledge, which is now the property of the world at large."

The New York *Sun* has long taken advanced ground on public health questions. Discussing "The Education of Our Physicians," the *Sun* says:

"The American Medical Association, which stands for all that is best and highest in every department of the physician's life work, is an organization the like of which does not exist elsewhere, combining the most scientific zeal in its membership with executive ability of the highest type in its management. We have recently referred to the Council on Pharmacy and Chemistry, which under its direction carries on an unrelenting warfare against quackery within and without the profession. While we are not always in accord with its policy in minor matters, the course of THE JOURNAL of the American Medical Association is commendable in the essentials."

After commenting on the work of the Council on Medical Education, the editorial continues:

"Medical legislation should recognize no sect or school and should demand the same knowledge of the principles and practice of medicine from all applicants for license. The examiners should be experts in their branch and be well paid, and not be chosen from the medical schools. When the average legislator can be induced to recognize the importance of health to his constituents the latter will be protected. Medical education is as important as sanitation."

In Pittsburgh, Pa., a systematic campaign against quackery has been going on. The Pittsburgh *Sun* recently commented on "Quacks and the Public." It said:

"The exposé and punishment of quack doctors now going on in this city should not be without a wholesome influence on the public, too. While in cases of desperate sickness it is natural to 'take chances' on anything offered for relief, still in many of the instances in which the people have been defrauded it has been their gullibility rather than their desperation that has led to their being victimized. They have taken the word of strangers in preference to that of the reputable doctors who have lived among them for years. They are also able to find the money to pay the quacks—the latter have no time to waste on them if they aren't—whereas the genuine physicians have repeatedly worked to relieve suffering and save lives with the full knowledge that they probably would never get a cent for it. The people should think too much of their lives and their health to entrust them to strangers or persons without proved reputations for knowledge, skill and honesty. Read and ponder: Who are performing the great operations and effecting the remarkable cures? The quacks? Of course not. Then why waste any time with a quack when you are sick?"

The *Sun* editorial has summed up the whole question. Who are the men who are making the advances in our knowledge of disease and its prevention? The "advertising specialist," the "patent-medicine" faker, the "new thought" devotee? If not, what claim have they on public confidence in time of need?

The South Fork (Pa.) *Record* is evidently not impressed with the arguments of the reactionaries. It devotes two columns to expressing its views. All of it is good, but only a part can be quoted. Under the title "The Family Doctor and the Medical Trust," the *Record* says:

"During the last week the Johnstown papers have given much space to attacks on the American Medical Association, or, as they are pleased to call it, 'the medical trust,' which have a tendency to mislead the public or at least make them forget for a time, usually a very short time, their good old 'family doctor.' It is said that the 'stuff' referred to has been running as paid advertising but it has not been marked as such and therefore one cannot be blamed for holding the opinion that it is printed as news or opinions of the various editors. Why they take such a stand is another matter. The charges contained in these articles are too absurd to repeat except that they intimate that all doctors affiliated with the American Medical Association are banded together to hoodwink suffering humanity. If such were the case this country would be in a sad state of affairs."

It would, indeed; but how passing strange that the dark and subtle method followed by the "medical trust" and its members to "hoodwink suffering humanity" is to encourage the growth of knowledge by which disease can be prevented and eliminated!

The *Record* is frank in acknowledging its point of view on "ethics." It continues:

"The charges deal also with 'ethics' and in this connection we will readily admit that we often get out of patience with the so-called 'code'; but that is because we are a seller of advertising which the ethics forbid the physicians to buy. In South Fork, however, the editorial policy is not controlled by the business office and whether it bankrupts us or not we feel it a duty to say a word in defense of that great man who sacrifices more money, more pleasure and more energy for mankind than any other—the family doctor."

After discussing the family doctor, the development of medical knowledge and the growth of specialists and special knowledge, the *Record* concludes:

"The American Medical Association is responsible for laws that make it hard for the incompetent to hang out their shingles. It is responsible for such laws as have been passed compelling the manufacture of pure food. It is responsible for the laws that prohibit the sale of medicines containing opium, alcohol or other harmful drugs without the contents being plainly stated on the label. It is responsible for many reforms along this line that have proved a boon to humanity, and that is why it is called the medical trust."

# Book Notice

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. DeLee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School, Chicago. Cloth. Price, $8 net. Pp. 1060, with 913 illustrations. Philadelphia: W. B. Saunders, 1913.

This new treatise, one of the most elaborate of text-books on obstetrics offered to the profession in recent years, is based on the author's "Notes." The needs of the general practitioner and of the student are constantly held in view, the direct relation of purely scientific subjects to daily practice being clearly emphasized. Again the practitioner requires considerable detail and abundant illustration, and this the author provides. The essentials are presented in large type, the less important matter in smaller type. Operative procedures are described briefly, but full explanation is set forth beneath the many illustrations depicting the operation in successive steps. Hence, in emergency, the reader may obtain a fair idea of the methods described from the pictures alone.

The author has borrowed from familiar plates with due acknowledgment. To Bumm in particular is gratitude expressed. The material for most of the drawings, however, came from the Lying-In Hospital service.

In the arrangement of the text, the conventional order is followed. The physiology of pregnancy, of labor and of the puerperium occupy the first three sections. The changes of menstruation and the development of the decidua and of the placenta are unusually well set forth. The mechanism of labor is covered in elaborate detail.

The child is first considered in the section devoted to hygiene and conduct of pregnancy and labor. The author says that the time has come for the practical application of eugenics. The influence of premature labor on skeletal and genital development, of bottle feeding on the general physical and mental growth and of the acute infectious diseases as factors in the subsequent organic deficiencies is emphasized, all with regard to rearing the infant girl from the point of view of her future pregnancy and labor. The author's instructions to his own patients during pregnancy and to the nurse are reproduced, as is his list of articles for the obstetric satchel. While strongly advising a properly equipped maternity hospital he gives adequate directions for the conduct of labor in the home. Here he requires the aid not only of the nurse but also of an assistant physician. "Every labor case should have two physicians. The duties of the assistant are first, to watch the fetal heart-tones so that if the child should show signs of exhaustion or asphyxia it be recognized in time and the frequency of stillbirths be thus diminished; second, to keep an accurate history of the labor; third, to care for the patient in the first stage while the accoucheur is attending to other work, or obtaining the rest he will need for the proper conduct of the second and third stages. . . . If obstetrics is ever to obtain the dignity of surgery—and it should—if the parturient woman is ever to enjoy the same benefit as the surgical patient — and she deserves them — the accoucheur must be given sufficient help and the makeshift policies of obstetric practice must be abolished."

In delivery, when lacerations seem inevitable, a deep episiotomy is practiced, wisely deep when used at all. A 1 per cent. solution of silver nitrate or a 25 per cent. argyrol solution is invariably employed in the eyes of the new-born, the author favoring universal legislation to enforce prevention of ophthalmia neonatorum.

The second half of the volume is given over to considerations of pathologic obstetrics. In the toxemias of pregnancy thorough search of the recent literature as well as close clinical observation is evident. In the treatment of eclampsia the author strongly favors prompt delivery when, indeed, he does not terminate pregnancy prematurely, the preeclamptic condition not yielding to treatment. Venesection is favored but is reserved until after delivery, as the loss of blood at birth may be sufficient.

In inevitable abortion tamponade of the cervix and vagina is advised, followed by curettage in all cases, often simply to gain assurance that no remnants are left. The same method is followed in incomplete abortion. On the other hand, in septic abortion, curettage is as strongly avoided, and only when hemorrhage renders it necessary is the tampon employed to empty the uterus. Only after septic symptoms have subsided are placental masses removed by the finger or ovum forceps.

In the treatment of placenta praevia by version emphasis is well placed on the point that extraction should not immediately follow. The rubber bag is used within the fetal sac and is preferred to the gauze or cotton tampon. Cesarean section in placenta praevia centralis will be rare, the author believes, if all proper conditions are met, such as pregnancy at or near term with mother and child both in good condition and the cervix closed or difficult to dilate, with adequate hospital facilities and an operator "capable of his task."

In a detailed discussion of the contracted pelvis, the clinical aspect is emphasized. In general, expectancy is repeatedly urged when operative procedures are under consideration, and throughout the author shows the influence of Schroeder and of the later Vienna school.

At times, by way of avoiding polemic discussion, a dogmatic attitude is observed. This characteristic is no better displayed than in the treatment of uterine rupture, in which the following occurs: "Under no circumstances may a woman threatened with rupture of the uterus be transported to a hospital." In treatment the author's experience leads him to favor drainage of the peritoneum and the tear, laparotomy being done only to meet special indications. In some cases the rupture may be repaired in whole or in part from below. The discussion of the pathology of the puerperium is given over to a thorough consideration of puerperal infection and to diseases of the breast. A careful general examination preceding all operations and a local one following is made an invariable rule. Preparatory operations comprise the various methods of opening the cervix and those of enlarging the bony pelvis. The incision for vaginal hysterectomy and the Doederlein method of performing hebosteotomy are described in minute detail. Contrary to the teaching of other obstetricians, infection is held to be a contra-indication of thus enlarging the bony pelvis. Indications and conditions for forceps extraction are well formulated, and this instrument is described as a rotator or a lever, simple traction being the dominant function. Laceration of the vagina and avulsion of the bladder are the things to be feared in rotation with the blades. Hence in deep transverse arrest the forceps are applied first obliquely to both head and pelvis. After rotation by traction is completed the case is left for spontaneous expulsion. In occipitoposterior positions the author prefers to extract as the head rotates spontaneously, either posteriorly or permitting anterior rotation if this occurs. The Scanzoni-Fritsch method he has seldom found preferable. His first choice here, as in face and brow presentation, is to attempt manually to change the position of the head, rotating from posterior to anterior or flexing the head, as the case may require. It would appear that he finds these maneuvers less difficult to perform than do many operators, even though rotation may require that the engaged head be almost totally disengaged. Again showing the influence of the Vienna school, the author is not an enthusiastic exponent of the axis-traction instrument. In his own hands he plainly prefers the simple Simpson forceps, considering axis-traction as not artistic and the Tarnier model as capable of great danger to both mother and babe. The place of inlet forceps extraction as a major operation and its dangers are well set forth. A brief chapter on the induction of premature labor and an appendix covering a few points in technic complete the volume.

From the student's point of view the subject-matter is well arranged and the frequent phrase "my own experience," shows the work to be as much one man's as it is a collaboration from the writings of many. Often a subject is concluded with a short concise summary, another feature that appeals strongly to the crowded student or the hurried practitioner. Lengthy bibliographies have been avoided, but sufficient recent references are given to aid the reader in his deeper library research.

# Medicolegal

## Malpractice Liability Extended by Concealment

*(Groendal vs. Westrate (Mich.), 137 N. W. R. 87)*

The Supreme Court of Michigan reverses a judgment for the defendant on a directed verdict in this action for malpractice where the point on which a verdict was instructed was that the right of action was barred by the statute of limitations. The court says that the statute in force at the time this cause of action arose provided that all actions for malpractice against physicians and surgeons should be commenced within two years after the cause of action accrued, but the plaintiff, in instituting her suit more than two years after the right of action accrued to her, relied on the provisions of section 9739 of the compiled laws of 1897, which reads: "If any person who is liable to any of the actions mentioned in this chapter shall fraudulently conceal the cause of such action from the knowledge of the person entitled thereto, the action may be commenced at any time within two years after the person who is entitled to bring the same shall discover that he has such cause of action, although such action would be otherwise barred by the provisions of this chapter."

The plaintiff, who was a heavy woman, had, on May 1, 1906, while at work in her home cleaning the stairs leading to the second story of the house, fallen from the top step and suffered a subglenoid dislocation of the left humerus. The defendant was called and attended her within about half an hour after the accident, and was informed how it occurred, but stated that the arm was not out of joint or broken; that it was just stretched and bruised, and he took no steps to reduce the dislocation, but simply bandaged the arm and treated it with liniment.

The case made by the plaintiff showed: First, the relation of physician and patient, which, of itself, begets confidence and reliance on the part of the patient. This relation had existed for a term of years, and during that time she had had no other physician. They were fellow countrymen, and conversed together in their native tongue. She was ignorant and unlearned, and relied on him and believed that he told her the truth. She maintained her trust in him until April, 1909. It was not a mere silence on the part of the defendant which was relied on. He repeatedly told the plaintiff that her arm was not broken or dislocated. Under the circumstances of the case the question of her diligence to discover her condition was one of fact, to be submitted to the jury.

Whether the defendant first knew of the dislocation of the plaintiff's shoulder when he was first called to attend her, or discovered it later, when it was too late to reduce it, was of no consequence.

## Relation of Physician and Patient Existed and Question of Malpractice for Jury

*(Coss vs. Spaulding (Utah), 126 Pac. R. 468)*

The Supreme Court of Utah reverses, with directions to grant a new trial, a judgment rendered on a nonsuit granted on the defendant's motion. The court says that the evidence introduced by the plaintiff, a boy 12 years of age, tended to show that about 2:30 o'clock one afternoon he was run over by an automobile and the tibia of the right leg broken. The driver of the automobile took him home and told his mother that he thought his leg was broken, and offered to procure a physician. The mother replied that, on account of the nervous condition the plaintiff was in, she did not want a physician called just at that time. The driver gave the plaintiff's mother the telephone number of his employer, a Mr. Purdue, and requested her to call his employer whenever she wanted a physician, and that he would send her one. The plaintiff's mother testified that that evening her husband called up Mr. Purdue, who said he would send his physician. The next morning he brought the defendant, and she stepped up, and he said, "I am Mr. Purdue, and this is my physician, Dr. Spaulding." Dr. Spaulding examined the leg, and when she asked him if it was broken, he said, "No." He gave a prescription for liniment and said to get a mud poultice and put that on to get the soreness out, that the leg would be all right in a few days.

The defendant insisted that the evidence failed to show that the relation of physician and patient existed between him and the plaintiff. But the court is clearly of the opinion, from the evidence adduced, that the relation of physician and patient existed. The defendant not only called on and examined the plaintiff for the purpose of determining the character and extent of the injury, but after the examination was completed he prescribed for the plaintiff and gave directions to his mother, who was caring for and nursing him, regarding the treatment he should receive at her hands for the injury.

It was further contended that the plaintiff could not recover damages from the defendant because neither he nor any one authorized to act for him employed the defendant to perform the services in question. It was conceded, however, that the defendant was employed by Mr. Purdue, and that under the contract of employment he, on the occasion referred to, examined and prescribed for the plaintiff's injury. The defendant, therefore, was under the same legal obligation to the plaintiff to use ordinary care and skill in his examination and treatment of the injury as he would have been under if the plaintiff or the plaintiff's mother had employed him to perform those services. It was to recover damages for an alleged breach of this legal duty that this action was brought. The action, therefore, was not based on contract, as the argument of counsel for the defendant seemed to imply, but on tort. Under the great weight of authority, the question of whether the plaintiff, his guardian, or some third party employed the defendant to perform the services was wholly immaterial. Even though a physician or surgeon renders his services gratuitously, he cannot escape liability for his negligent or unskilful treatment of his patient.

The court is of the opinion, and so holds, that the question of whether the defendant used ordinary care and skill in his diagnosis and treatment of the plaintiff's injury should have been submitted to the jury.

## Acceptance of Warrant for Part of Claim Precludes Recovery of Balance

*(Paulson vs. Ward County (N. D.), 137 N. W. R. 486)*

The Supreme Court of North Dakota holds that in this action, brought by a physician to recover a balance claimed to be due for professional services and supplies furnished by him for the support of the poor of the county, it was error to overrule a demurrer interposed on the ground that the complaint did not state facts sufficient to constitute a cause of action. The complaint recited the performance of services and the furnishing of supplies of the total reasonable value of $750, and that bills in due form of law, duly verified and approved by a commissioner of the board, were presented to the board of county commissioners of the county for their consideration, and, after mutilating the bills, the board allowed the plaintiff $265 only, wherefore he asked judgment for $750, less a credit of $265. If this action were between private parties the court would have no hesitancy in holding the demurrer not well taken, as it would not sufficiently appear that the partial payment received was under an agreement that the same should be in full for the claim and so constitute an accord. But where unliquidated claims against a county are duly presented to its board of county commissioners for allowance, and the claims are considered together and allowed at a lump sum less than the amount claimed and a warrant is drawn for the amount so allowed, which warrant is accepted by the claimant, such acceptance is presumed to be in full payment of the claims presented. The claimant cannot accept such a warrant and credit the amount thereof on the total of the claims presented, and then sue for the balance rejected. He must repudiate the allowance and submit his claim as a whole to the courts, or accept the warrant in full payment.

# Society Proceedings

## COMING MEETINGS

Maine Medical Association, Portland, July 2-3.
Washington State Medical Association, Everett, July 14.

## AMERICAN SURGICAL ASSOCIATION

*Annual Meeting held in Washington, D. C., May 6-8, 1913*

*(Concluded from page 2026)*

### Diagnosis and Treatment of Border-Line Pathologic Lesions

DR. JOSEPH C. BLOODGOOD, Baltimore: By border-line pathologic lesions are meant those in which it is difficult, clinically, or from the gross appearance, or from the frozen microscopic section, to come to a definite conclusion as to whether a lesion is benign or malignant. The earlier after the first symptom patients present themselves for treatment, the greater will be the number of cases in which the diagnosis will present difficulties; in this stage the prognosis after proper treatment is best. We have sufficient experience at present to allow us to formulate definite conclusions as to the proper method of diagnosis and treatment in this stage, in which the result should be the best. Incomplete removal of any malignant disease in its earliest stage gives much worse results than complete removal in a later stage. Incomplete removal of a distinctly benign lesion, with the exception of angioma, is always followed by the reformation of the tumor from the residues left behind, and the chances of malignant change in these residues are greater than in the undisturbed benign lesion; this fact also should be kept in mind.

The surgeon must have the easily available knowledge of the different pathologic processes which may occur in definite localities. He must be familiar with the methods of diagnosis of the lesion in this special region and the nature and extent of the operation which promises the best results. The diagnosis as to the proper treatment rests on, first, a careful study of all the available clinical evidence. In some cases this is sufficient to indicate the proper treatment without a gross or microscopic investigation. I think that this is true for palpable masses in the stomach and colon. The resection of such masses, without an investigation of their gross and microscopic pathology by cutting into them, yields the best results with the least mutilation and danger. If the pathologic examination after their removal shows a benign lesion, the patient is protected from the later development of cancer; if, on the other hand, it should prove to be malignant, the chances of a cure are best.

The next important question to answer is, What shall a surgeon do when in doubt after he has exhausted clinical, and gross and microscopic pathologic investigation? The answer to this question rests on the knowledge of the frequency of malignant disease in the different regions and the results of radical treatment. In the breast, the complete operation for cancer should always be performed for any lesion in a woman over 25 unless the benignity of the lesion is established. The complete operation should follow immediately on the exploratory incision. This conclusion is based on the fact that the mutilation of the complete operation is but slight, and the additional danger is little, if any, while the probabilities of a cure of the malignant tumor subjected to complete operation in this doubtful stage is 80 per cent. or more; if the operation is done in two stages the chances of a cure are reduced to almost nothing. In bone lesions the mutilation of amputation is so great and the chances of a cure of any doubtful lesion should it prove malignant are so slight that the most conservative operation should always be chosen. This is also true for doubtful lesions in the nasopharynx and antrum, on the alveolar border of the jaws, and in the body of the lower jaw.

If surgeons will carefully investigate these lesions clinically, scrutinize their gross appearance and look at the frozen sections, and keep a check on their results up to date, they will soon be in a position to meet the requirements of the diagnosis of these border-line pathologic lesions, inasmuch as immediate treatment based on this investigation will lead to a removal of the lesion, giving the patient the best opportunity of a cure with the least mutilation and danger. If the campaign for the education of the people on the early signs and symptoms of what is or may be cancer bears fruit, surgeons will be called on more and more to treat these lesions in a stage in which accurate diagnosis is more difficult and when the dangers of incomplete removal following an inaccurate diagnosis increase with the space of time between the first signs and symptoms of the disease and the date of treatment.

#### DISCUSSION

DR. JOHN B. MURPHY, Chicago: The final court of appeal in these cases is the clinical result and not the microscopic report.

DR. CHARLES H. MAYO, Rochester, Minn.: In border-line pathologic lesions in which an exploratory operation cannot immediately, if necessary, be followed by diagnosis from a frozen section, the wound, even though the condition be considered benign, should be packed with Harrington's solution No. 9 for several days until a microscopic report can be obtained. Do not close such a wound; leave it open and drain, and burn the lymphatics with hydrochloric acid.

DR. ARPAD G. GERSTER, New York: There is the possibility of tumors in the breast being either of tuberculous or syphilitic origin, therefore not requiring amputation. Involution mastitis based on gout, actinomycosis in the breast, and various systemic disorders may be accompanied by swellings in the breast, emphasizing the point that not all swellings in the breast are necessarily on their way to malignancy.

### Exclusion of the Bladder; an Operation of Necessity and Expediency

DR. CHARLES H. MAYO, Rochester, Minn.: The best method of disposing of the secretion of the kidneys in patients in whom it is necessary or expedient to exclude the bladder, remains still one of the serious problems of surgery. To say, however, that the modern methods of operation in these cases expose the patient to greater danger from infection than is compensatory with the mitigation of his suffering, considering the natural mortality of the disease, is not consistent with the history of the patients or the records of the progress of surgery. The best theoretical and practical anastomoses of the ureter with the large bowel are those which permit the ureters to traverse some distance between the mucosa and outer wall of the bowel before penetrating its lumen, or are infolded by the wall of the bowel for a certain distance; also the method which transposes the base of the bladder to make it a part of the rectal wall. The control against regurgitation is due to its closure by compression in the wall of the bowel. In eight cases of cancer, transperitoneal resection of large areas of the bladder was done, with transplantation of the ureter to the opposite side. In three cases of cancer the bladder was completely removed. In four cases of exstrophy the ureter was transplanted to bowel. No deaths.

#### DISCUSSION

DR. FRANCIS S. WATSON, Boston: In one case I established a permanent renal fistula in the loin by nephrostomy sixteen years ago, doing the same operation on the opposite side nine years ago, and during these many years, with the exception of four months, the patient has been kept perfectly dry, free from odor, comfortable and in excellent health. I devised an apparatus for receiving the renal drainage. Nephrostomy is superior in results to ureterostomy. A drainage-tube inserted into the kidney should be carried just within the entrance of the calyx into the renal pelvis, and care should be taken to avoid having it press too hard against the wall of the renal pelvis lest it cause ulceration; this drainage-tube should be of large size, which might make it necessary to stretch or enlarge the mouth of the calyx where it joins the renal pelvis.

DR. HARRY M. SHERMAN, San Francisco: I wish to report the progress in a case in which I did the Petersen operation

for exstrophy of the bladder in a child aged 3 about twelve years ago. The patient has developed most satisfactorily. Five years ago he was operated on for inguinal hernia, and it was most interesting and instructive to find that even with the absence in this case of the pubic bone the anatomy of the hernia had still been preserved. At this operation I investigated the condition of the ureters in the rectum and found them in excellent condition and with no indication of an ascending infection.

DR. ROBERT G. LE CONTE, Philadelphia: Experimentation has shown that the extension of infection upward is not through the lumen of the ureter but by means of the lymphatics along the course of the ureter. The longer the anastomosis or the more ureter covered by intestine in implantation into the intestinal wall, the greater the liability to ascending infection.

DR. JOHN J. BUCHANAN, Pittsburgh, Pa.: We must consider the possibility of ascending infection being due to the fact that the cut end of the ureter is in reality the cut end of a mucous canal, which contracts, causing dilatation of the ureter and pelvis of the kidney, and thus predisposing to infection. I believe that before one can intelligently deal with this question, it will be necessary to learn what effect is produced on the patient by injection into the rectum of large quantities of the patient's urine prior to operation.

---

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### American Journal of Diseases of Children, Chicago

*June, V, No. 6, pp. 425-500*

1 *Infantile Cerebrocerebellar Diplegia, of Flaecid, Atonic-Astasic Type. L. P. Clark, New York.
2 *Papulonecrotic Tuberculides in Infants. B. M. Wronker, New York.
3 Pathogenesis of Casein Curds in Stools of Infants. A. F. Hess, New York.
4 Diagnostic Value of v. Pirquet Test. F. L. Waehenheim, New York.

1. **Infantile Cerebrocerebellar Diplegia.**—Clark summarizes his paper as follows:

We have here under consideration an extreme defect disease of the cerebro-cerebellar function with relationship to bodily movements, of an unknown pathogenesis (probably based largely if not solely on a developmental defect) which is for the most part intrauterine in origin and which we find expressed in clinical manifestations of atonia, astasia, hypotonia, mutism and idiocy. We believe it constitutes a distinct type of palsy of infancy. The disorder not only affects isolated movements, but particularly the association of movements or the motor synerges so-called. The movements by themselves as shown in the type are not incoordinated as in tabetics, but are characterized by dysmetria and discontinuity. Whenever the child's movements relate to the maintenance of an attitude, especially in sitting or standing, there is instability, wavering from side to side, or astasia. The children show great disturbance of the reactions to equilibration, due to the fact that the defective cerebellum fails to effect and hasten the reestablishment of equilibrium, much the same way as it fails to make isolated movements precise and regular. Again, the defective cerebellum fails to apportion the measure and the continuity of movement. There is instability and imperfect reactions to equilibration by a special tonic action. This latter function is co-governed by the cerebrum and to some degree by peripheral stimulation. The defect in cerebellar function shown in hypotonia is not compensated for by a diseased cerebrum. The latter organ being unable to substitute or take up the cerebellar function there results a persistent dominance of hypotonus throughout the life-picture of this type, the suppression of the cerebellar functions in the condition or disease under study does not produce a palsy *per se* as ordinarily understood. Motility of the limb remains. It is never abolished entirely, as some movements or attempts at equilibration probably remain because some degree of substitutional power of the cerebrum is still possible; the greater part of its loss, however, is largely in evidence in this unique disease.

2. **Papulonecrotic Tuberculides in Infants.**—In nine cases of infantile tuberculosis, the diagnosis was first made by Wronker by the finding of papulonecrotic tuberculides. These skin lesions are absolutely characteristic, and when once seen are not easily confused with other conditions. They are of extreme diagnostic importance, especially in infancy when the clinical diagnosis of tuberculosis is notoriously uncertain. The majority of cases in infants are indicative of general miliary tuberculosis. The prognosis is generally bad, but not always fatal. The von Pirquet reaction is a great aid in clinching the diagnosis. A negative reaction, however, must not be allowed to mislead one in the presence of papulonecrotic tuberculides.

### Canadian Medical Association Journal, Toronto

*June, III, No. 6, pp. 451-546*

5 *Puncture of Corpus Callosum. E. Archibald, Montreal.
6 Recent Work on Accessory Factors in Nutrition. H. S. Raper, Toronto.
7 Tuberculosis of Genito-Urinary System from General Practitioner's Standpoint. W. Hutchinson, Montreal.

5. **Puncture of Corpus Callosum.**—Archibald believes in obstructive hydrocephalus of high grade in the infant; (two cases) callosal puncture proved temporarily of slight benefit, but ultimately failed to relieve the condition.

### Journal-Lancet, Minneapolis

*June 1, XXXIII, No. 11, pp. 301-326*

8 Etiologic Relationship between Ulcer and Cancer of Stomach. G. D. Head, Minneapolis.
9 Limitations and Possibilities of Roentgenoscopy. G. Earl, St. Paul.
10 Refinements of Diagnosis Possible in General Practice. J. P. Schneider, Green Isle, Minn.
11 Case of Intestinal Obstruction by Gall-Stone. G. Schwyzer, Minneapolis.
12 Surgery in Country Hospitals. L. Sogge, Windom, Minn.

### Journal of Experimental Medicine, New York

*June, XVII, No. 6, pp. 593-688*

13 *Hematogenous and Obstructive Icterus. G. H. Whipple and C. W. Hooper, Baltimore.
14 *Icterus. G. H. Whipple and C. W. Hooper, Baltimore.
15 Morphologic Studies in Experimental Cretinism. A. L. Tatum.
16 Behavior of Saprophytic Cocci with Regard to Gram's Stain. I. J. Kligler, New York.
17 *Studies on Experimental Pneumonia in Rabbits. M. C. Winternitz and A. D. Hirschfelder, Baltimore.
18 Idem. A. D. Hirschfelder and M. C. Winternitz, Baltimore.
19 Components of Sphingomyelin. P. A. Levene, New York.

13. **Hematogenous and Obstructive Icterus.**—The results of the authors' experiments showed that normal and Eck fistula dogs react in a similar manner to the intravenous injection of hemoglobin obtained from laked red cells of the same animal. Hemoglobin appears in the urine after a few minutes and bile pigments in one to one and one-half hours. In this simple type of hematogenous jaundice the reaction is in no way influenced by shutting out the portal blood from the liver and cutting down its blood-supply to about 25 per cent. of normal. In a second type of hematogenous jaundice produced by chloroform anesthesia, which produces central liver necrosis, there is no essential difference between the normal and Eck fistula dog. The Eck fistula dog, as a rule, is more resistant to this poison, but, given a definite liver necrosis, the jaundice developing will reach its maximum on the second day as in the normal animal. This jaundice must be explained in part by capillary biliary obstruction, but in part by a hemolysin formed in the injured liver cells (Joannovics and Pick).

Simple obstruction of the common duct when combined with an Eck fistula gives rise to a definite low grade icterus with bile pigment constantly present in the urine. Under these conditions after doubly ligating and cutting the common duct with separation of the cut ends, the lumen of the duct may be established and bile may enter the intestine by means of a fistulous tract between the cut ends of the bile duct. The formation of bile and bile pigments is much less in an Eck fistula dog than in a normal animal and consequently the icterus is much less intense. This is probably due to a lessened activity of the liver cells because of decreased blood-supply. This observation does not harmonize with the current view that bile pigments are formed solely from hemoglobin, as there is no evidence of more hemolysis in a normal than in an Eck fistula dog. This suggests to the authors that the bile pigment may be formed in part, at least, from other substances than hemoglobin, and further, that bile pigment formation normally may depend in part on the functional activity of the liver cell rather than on the amount of hemoglobin supplied to it.

14. **Icterus.**—The object of this paper is to submit evidence that hemoglobin can be transformed into bile pigment in the circulation when the liver has been excluded from participation in the reaction. The authors summarize their work as follows:

The intravenous injection of red cells obtained from the same animal and laked by distilled water is similar to certain types of hemolysis which result in hematogenous jaundice. This procedure cannot be criticized on the grounds of introducing toxic substances. The hemoglobin circulating in the blood-stream is rapidly changed, in part at least, to bile pigment. The change goes on with practically the same rapidity in a normal circulation, in an Eck fistula animal, and in a dog with Eck fistula and hepatic artery ligation. Moreover, the bile pigment formation goes on in a dog whose liver, spleen and intestines have been shut out of the circulation, and in those with a head and thorax circulation. In the last experiments there had been no operative manipulation of the liver and the bile pigment could not have escaped from the liver and have been absorbed by the circulation above the diaphragm; for example, by the thoracic duct. It is possible that the endothelium of the blood-vessels is the agent which brings about the rapid change of hemoglobin free in the plasma.

The authors conclude that in dogs, at least, hemoglobin can be rapidly changed into bile pigment in the circulating blood without participation of the liver.

17. **Experimental Cretinism.**—Several members of litters of very young rabbits, from two to three weeks old, weighing from 150 to 250 gm. each, were thyroidectomized by Tatum, while at least two members of each litter were kept for controls. In summarizing his findings Tatum says that degenerative changes were noted in practically every parenchymatous organ. Among these the most striking has been that of serous inhibition by the most active cells of these organs. In regard to the changes in the glands of internal secretion, the findings corroborate the statements of Cushing in regard to hypophysectomy, that removal of one gland of internal secretion results in changes in all the other glands. In this case, degenerative changes predominate in the hypophysis, thymus, ovary and testis, while hyperplasia is seen in the islands of Langerhans and the medullas of the adrenal glands. Finally, in the rabbit athyroidism is responsible for grave degenerative changes in practically all organs and tissues of the body, and many of the symptoms of cretinism have an anatomic basis in organic cellular changes.

### Journal of Outdoor Life, New York

*June, X, No. 6, pp. 160-188*

20 Moderation. N. B. Burns, North Reading, Mass.
21 Care of Far Advanced Consumptive. E. A. Gray, Chicago.

### Mississippi Medical Monthly, Vicksburg

*June, XVIII, No. 2, pp. 25-43*

22 Plea for Feebleminded Children. J. H. Fox, Asylum.
23 Accident Neurosis; with Report of Case. G. S. Bryan, Amory.
24 Cesarean Section. H. R. Shands, Jackson.

### New York State Journal of Medicine, New York

*May, XIII, No. 5, pp. 235-296*

25 *Certain Elementary Concepts in Education Applied to Medicine. J. G. Adami, Montreal.
26 *Prevention and Cure of Cancer. P. Syms, New York.
27 Relation of Special to General Medicine. S. Voorhees, Elmira.
28 Duty of Physician in Education. H. A. Eastman, Jamestown.
29 *Prognosis in Infantile Paralysis. W. R. Townsend, New York.
30 Abnormal Temperatures. M. Cavana, Sylvan Beach.

25. **Elementary Concepts in Education.**—Adami advocates the appointment of a federal medical council, subsidized by the government at Washington, and formed of representatives from all the states, a council which should appoint well-known leaders of the profession to act as committees or assessors, to visit, report on and make recommendations regarding the efficiency and deficiencies of the individual medical schools of this continent, the expenses of such inquisitions to be met by the schools visited. Let each state continue to control and direct its own educational methods. Let the Federal assessors test the results, making sure that they reach the desired standard of quality. If this be asking too much at the present moment, at least the state might take action, might appoint committees of inquisition to inquire and report on the quality of the instruction afforded and the examinations of the schools within its boundaries, and might accept the graduates of those schools without the present farce of an examination which does not educe the capacity of the examinee.

26. **Prevention and Cure of Cancer.**—If it is true that 50 per cent. of cancers show a definite and easily recognized precancerous stage, and if it is true that there are 80,000 deaths from cancer in the United States annually, then, Syms says, the remedy of the precancerous state, and the prevention of cancer will save 40,000 of our citizens annually from this terrible scourge.

29. Abstracted in THE JOURNAL May 17, p. 1575.

### Michigan State Medical Society Journal, Grand Rapids

*June, XII, No. 6, pp. 307-354*

31 Floating Cartilage in Knee-Joint. C. D. Brooks, Detroit.
32 Cataract Operation. J. G. Huizinga, Grand Rapids.
33 Legal Aspects Pertaining to Medical Profession. H. V. Barbour, Detroit.
34 Report on One of Dr. Friedmann's New York Clinics. N. M. Kassabian, Coopersville.
35 Tetanus. A. F. Kingsley, Battle Creek.

---

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

*May 31, 1, No. 2735, pp. 1145-1192*

1 Trend of Thought in Recent Pharmacologic Research. W. Whitla.
2 *Further Experience of Cardiac Sign in Cancer. W. Gordon.
3 Lipodystrophia Progressiva. F. P. Weber.
4 Chronic Pneumococcal Infection of Lungs in Children. P. L. Sutherland and A. A. Jubb.
5 Treatment of Adenoids and Enlarged Tonsils without Operation. W. Steuart.
6 Cause of Enlarged Tonsils and Adenoids in Children and Their Treatment with Lymph-Node Extract. H. T. Ashby.
7 Iodin as Antiseptic in Tropical Countries. J. C. Ridgway.
8 Bionomics of Rat-Flea. C. Strickland.

2. **Cardiac Sign in Cancer.**—The cardiac sign in cancer first described by Gordon nine years ago consists of a remarkable diminution of the cardiac dulness in the recumbent posture as determined by digital percussion. In that posture the dulness, in the normal adult, begins above about the third costal cartilage, reaches rightward as nearly as possible to the mid-sternal line, and measures across about 3 to 3½ inches at the level of the fifth costal cartilage. On the other hand, in the cancer patient who presents the sign the cardiac dulness in recumbency begins above about the fourth or fifth costal cartilage, has its right margin ½ inch or 1 inch to the left of the mid-sternal line, and measures across less than 2 inches at the level of the fifth costal cartilage. Often it measures less than 1 inch across. Sometimes there is no cardiac dulness at all.

Gordon explains the sign in three different ways: 1. In some cases of cancer the heart is small, and this reduction in size has been said to account for the reduction of the dulness. It may sometimes partly explain it; but by no means always; for often the dulness, though very small in the recumbent position, is normally or even abnormally broad in the erect. 2. If the loss of elasticity, so common in the skin in cases of cancer, affects the lung as well, it is conceivable that ordinary respiration may induce a sort of spurious emphysema and thus diminish the dulness. It is now known that a peculiar form of emphysema does often occur in cancer —Fenwick found it in 28 per cent. of his cases of gastric cancer—and no doubt in many cases this helps to produce the sign. 3. The cardiac sign is often associated with a remarkably soft and toneless pulse, and with very feeble heart sounds. If we suppose that the first is due to a deficiency of blood—such as the anemia so often present suggests—and that the second shows a flabbiness of the heart muscle comparable to the flabbiness of the skeletal muscles so often recognizable in such patients, it is not difficult to imagine

what a flabby and imperfectly filled heart, more than a normal heart, would do. And this is just what actually seems to occur. For the disparity between the heart dulness in the erect and recumbent positions in cancer is usually much greater than that observed either in health or in other diseases. Gordon has found, for instance, a heart dulness in a case of cancer measuring 5 inches across in the erect position, drop to 1½ inches across when the recumbent posture was assumed. Where the heart is considerably displaced upward by abdominal distention, Gordon has found the sign unreliable. Here clearly the organ is pushed from a wider into a narrower space, where it cannot so easily drop away on recumbency from the anterior chest wall. Again, where a large esophageal cancer has lain just behind the heart the sign has been absent, and Gordon thought that this might be explained by the growth pinning the organ forward against the sternum and rib cartilages.

In 1908, from a study of 103 cases, into all of which a suspicion of cancer had entered, Gordon obtained the following figures: Of thirty-eight cases in which a presumable cancer was naturally accessible to direct observation or was examined at operation or post-mortem, 89 per cent. showed it. Of forty-six cases, on the other hand, which could not be supposed to have been cancerous, it was only found present in 24 per cent. His further experience bears out this contrast. During the last four years he has collected 107 cases, either cancerous, simulating cancer, or accompanied by loss of flesh. They indicate that whereas in cancer the sign is present in an overwhelming majority, in non-cancerous cases it is even rarer than his former figures suggested. Thus, of thirty-six cases which appear undoubtedly to have been cancerous, 83 per cent. showed the sign, whereas of seventy-one cases which cannot be supposed to have been cancerous, only 8 per cent. showed it. Putting together this series and that of 1908, we obtain ninety-three cancerous cases showing the sign in nearly 87 per cent., and 117 non-cancerous cases showing it in only 14 per cent.; or, considering the results in another way, of ninety-eight cases showing the cardiac sign, 82 per cent. were cancerous, and of 112 cases not showing this sign 88 per cent. were non-cancerous.

## Lancet, London

*May 31, I, No. 4683, pp. 1507-1574*

9 Trend of Thought in Recent Pharmacologic Research. W. Whitla.
10 Electric Action of Human Heart. A. D. Waller.
11 *Primary Epithelioma of Nipple in Girl Aged Eleven. W. H. Battle and B. C. Maybury.
12 Analysis of Nystagmus. A. Abrahams.
13 *Case of "Idiopathic" Cerebral Abscess. J. Henderson.
14 *Bacillus of Unusual Kind (Proteus Group) Isolated from Case of Septicemia. J. A. B. Hicks.
15 Case of Colocynth Poisoning. R. B. Roe.

11. **Epithelioma of Nipple.**—A girl aged 11, was admitted to the hospital June 8, 1910, with a ten weeks' history of attacks of pain in the left nipple. Shortly after the commencement of the pain the nipple was found to be somewhat larger than that on the other side. Treatment consisting of hot fomentations was carried out in the out-patient department four weeks previous to admission; on one occasion the nipple was incised but no pus was found. On admission the left nipple was found to be enlarged about the size of a small hazel-nut. Superficially the tumor consisted of a layer of horny material, covering the deeper portion which was of softer consistency. There was no infiltration of the subcutaneous tissues, and the tumor was not adherent to the deeper structures. Pain of a stabbing character was produced on palpating the tumor. No enlarged lymph-nodes were felt in the axilla.

The first operation was performed June 17. The tumor together with the subcutaneous tissues down to the pectoralis major, was removed by two elliptic incisions made above and below the nipple and half an inch away from it. Bleeding points were ligatured with catgut, and the wound was closed with salmon-gut. The report from the clinical laboratory was "squamous-celled carcinoma."

The patient was readmitted six weeks later with a soft, painless, polypoid excrescence of about the size of the original nipple growing in the scar. One lymph-node was felt enlarged in the axilla under cover of the pectoralis major. July 22, the second operation was performed. Two elliptic incisions were made giving the scar a wide berth, and the granulation growth, axillary glands and sternal portion of the pectoralis major were removed. The report of the clinical laboratory was: "The scar shows chronic inflammation with giant cells around ligatures. Nodes normal." There is at present no evidence of recurrence.

13. **"Idiopathic" Cerebral Abscess.**—Henderson's patient, a schoolboy aged 13, awoke one morning complaining of severe headache. A few minutes later he had a convulsive seizure, the face becoming cyanosed and the limbs being violently jerked about. This convulsion lasted about thirty minutes, and was followed at intervals during that day by seven others of a similar nature. Next morning there was a further convulsion. On the next day he seemed to be perfectly well, and an examination of the cerebrospinal fluid, obtained by lumbar puncture, was quite negative. He remained well for a month, when he had an attack of sickness and vomiting, but thereafter he presented no symptoms of illness, and was dismissed well four weeks later. There was during his residence no return of the convulsions and no complaint of headache. After the patient's return home he was perfectly well for a few weeks, but then the headache began to reassert itself. It recurred at intervals of about a week, with varying severity, until the beginning of October, when the pain became almost constant and always frontal in distribution. It was usually felt on rising in the morning, then diminishing after an hour or two, only to return with increasesd severity later. Often it was much less severe, or almost absent in the evening. Along with the constant headache he exhibited great restlessness and sleeplessness.

After October 3 (six months after onset of the original trouble) he again became sick and vomited, and until admission to hospital the sickness was rarely absent. Fits of vomiting, without definite food relation, occurred three or four times daily, the vomitus being described by the boy's mother as "just like bile." Four days before admission he had a convulsive seizure, the limbs being very rigid and the eyes rolling about. This only lasted a few minutes, and was not repeated. There was no history of injury to the head at any time, ear trouble, or other septic process. Family history negative. The boy died nineteen days later.

On opening the head the dura mater appeared to be tightly stretched, and the surface of the brain was dry, anemic and flattened. In the left lower parietal region there was a large thin-walled cyst, causing a considerable external bulging. This proved to be a large abscess about 3 inches in diameter. The convolutions affected were most probably the gyrus supramarginalis in its whole extent, and the posterior central, angular and superior temporal toward the margin of the abscess. This abscess extended inward about the level of the corpus callosum, and had burst into the ventricles. Pus was also escaping around the crura cerebri, and there was at the base an early acute meningitis, extending right down the spinal cord. There was no spreading above the tentorium cerebelli or along the Sylvian fissures. The middle ears were examined and proved to be quite healthy. Nothing noteworthy was found elsewhere, all the internal organs, both of chest and abdomen, being quite healthy. This case is placed on record for several reasons. The symptoms and course of the disease were not at all typical or characteristic, and the absence of any assignable cause during life, with the failure to discover a cause on post-mortem examination, rendered a correct diagnosis extremely difficult, if not quite impossible. In such cases, with no evidence of the origin of infection, Henderson says, a diagnosis of abscess must always be absolutely uncertain.

14. **Unusual Bacillus in Septicemia.**—The bacillus described by Hicks, he states, belongs to that group of bacteria known as the "proteus group," its growth in media with production

of a foul odor, its liquefaction of gelatin and milk clot being the features relegating it to this group. It is pathogenic to the guinea-pig and in the case recorded to a human being. It is this latter fact that has led Hicks to consider this case worthy of record, for here is an organism which belongs to the group of saprophytic organisms causing a true septicemia such as is usually associated with the parasitic bacteria. Lastly, it is probably a new species, its nearest ally being a member of the group described by Houser.

### Presse Médicale, Paris

*May 15, XXI, No. 40, pp. 397-404*

16 Tuberculous Peritonitis without Effusion. (La forme anaseitique de la péritonite tuberculeuse.). P. F. Armand-Delille.
17 *Spinalis Muscle Sign of Pleurisy. (Le signe des spinaux.) F. Ramond.

*May 17, No. 41, pp. 405-416*

18 Disturbance from Dilatation of Cecum and Inflammation around Ascending Colon. P. Alglave.

*May 21, No. 42, pp. 417-424*

19 *Differentiation of Pleuritic Effusion. (L'hydrothorax baeillifère.) M. Villaret and P. Descomps.
20 Amino-Acids as Culture Medium for Bacteria. R. Dalimier and E. Lancereaux.
21 Sodium Salts in Treatment of Melancholia. (Des injections associées, d'iodure de sodium et de cacodylate de soude en particulier dans les états mélancoliques.) J. Champion.

17. **The Spinalis Muscle Sign.**—Ramond regards this sign of pleurisy as analogous to the rigidity of the abdominal walls in case of trouble below. There is a reflex contraction of the spinalis muscle tending to immobilize the diseased thorax and pleura. As the patient stands perfectly straight, in case of pleurisy, the contracted spinalis muscle forms a prominent mass, hard and larger than the normal outline of the muscle. This occurs, of course, in other conditions, but these can be easily excluded when examining for pleurisy. The spinalis muscles are liable to be unusually developed in porters or in case of much lordosis and the sign may accompany kidney and liver disease, peritonitis, etc. These conditions, however, can generally be excluded when it is a question of pleurisy. The spinalis sign is extremely useful for revealing pleurisy in its incipient stage; it may persist for weeks or months after recovery.

19. **Tuberculous Hydrothorax.**—Villaret and Descomps call attention to the diagnostic importance of various simple chemical reactions which may be obtained in the effusion found with pleurisy even when it may seem to be an ordinary hydrothorax. Microscopic examination apparently confirms its merely mechanical origin as it shows the manifest predominance of endothelial cells, but inoculation of guinea-pigs may reveal a tuberculous origin. They report a case of this kind in which a man of 35 had a pleural effusion but there was no lymphocytosis in the effusion and the other features suggested ordinary hydrothorax. The Rivalta and Gangi tests and the collargol-precipitating reaction showed on three occasions that the infusion was of inflammatory nature and thus enabled a correct diagnosis long before inoculation of animals gave positive results. The Rivalta reaction is the formation of a little cloud like a puff of cigarette smoke when some of the effusion is added to 50 c.c. of distilled water containing 1 drop of acetic acid. The fluid remains limpid in case of a transudation. The Gangi reaction is the double disk which forms when some of the effusion is poured on hydrochloric acid. A white ring forms at the zone of contact with a transudate, but with an inflammatory effusion there is a second disk above, and sometimes a violet stain.

### Semaine Médicale, Paris

*May 28, XXXIII, No. 22, pp. 253-264*

22 Causes of Intermitteney in Stuttering. (De l'intermittence dans le bégaiement.) Chervin.

### Berliner klinische Wochenschrift

*May 19, L, No. 20, pp. 906-952*

23 Inflammatory Tumors on Omentum. (Ueber circumscripte entzündliche Tumorbildung in der Bauchhöhle, ausgehend vom Netz.) V. Sehmieden.
24 *Posterior Rhinitis in Infants. (Die Rhinitis posterior im Säuglingsalter.) F. Göppert.
25 Recurrent Paralysis with Mitral Stenosis; Four Cases. Mediastinitis Probably Responsible. (Zur Frage des Zustandekommens linksseitiger Recurrenslähmung bei Mitralstenose.) H. Dorendorf.
26 Chemistry of the Cell. III. (Die sauren Kerne.) P. G. Unna and E. Wolf.
27 *Action of Epinephrin on Coronary Circulation. (Zur Frage der Adrenalinwirkung auf den Coronarkreislauf.) F. Meyer.
28 The Question of Reinfection with Syphilis. H. Löhe.
29 *Access to Lacrymal Sac Through Nose. (100 Fällen von Dakryostenose.) J. M. West.

24. **Seriousness of Rhinitis in Infants.**—Göppert emphasizes the clinical importance of coryza in infants as is becoming recognized more and more. We know now that the infant's "cold" is often the main cause for so-called parenteral diarrhea and that dyspeptic disturbances are frequently the result of the toxic influences from coryza infection. He relates a recent experience in which all the ten infants in his service contracted coryza within two weeks; only a few developed bronchial catarrh but nearly all had more or less diarrhea and lost rapidly in weight, some to a considerable extent. The coryza often locates in the back of the nose and it may obstruct the passages permanently, the children suffering from impeded breathing as with adenoids, retarding their development for months or even years, and liable to entail secondarily serous meningitis and pressure on the brain. He gives an illustration of one infant to show the typical aspect with this obstructive posterior rhinitis. The nostrils are wide, the nose apparently clear and sound, the expression a little anxious, the upper part of the face inclined to puffiness, and the chest short and narrow, the abdomen abnormally long in proportion. There is generally more or less meteorism, probably exaggerated by the child's swallowing air. There is also a tendency to frequent recurrence and exacerbation of the rhinitis. As the child grows and the skull becomes larger, the passages become permeable.

27. **Action of Epinephrin on the Coronary Vessels.**—Meyer's ingenious experimental work on dogs and cats has confirmed the assumption that epinephrin dilates the coronary vessels and accelerates and increases the circulation through them.

29. **Operations for Suppuration in Lacrymal Sac.**—West thinks the proper way to treat this is by cutting off a little chip from the nasal process of the superior maxillary bone and from the lacrymal bone, working through the nose, until the lacrymal sac at the side wall of the nose is exposed. Then the side of the sac toward the nose is cut away. By this means ample communication is provided by the natural routes between the eye and the nose, above the inferior turbinate bone which is left intact. He has performed this conservative operation for dacryostenosis in over a hundred cases and in 90 per cent. of the cases the suppuration promptly healed, the normal course for the tears was restored, and this with nothing to induce disfigurement.

### Deutsche medizinische Wochenschrift, Berlin

*May 15, XXXIX, No. 20, pp. 921-976*

30 The Pathology and Treatment of Degenerates. A. H. Hübner.
31 Serodiagnosis of Cancer. (Zur Frage der serologischen Karzinomdiagnostik. II. Die Meiostagminreaktion.) M. Rosenberg.
32 *Vaccination against Diphtheria. (Zur Prophylaxe und Therapie der Diphtheria.) E. Schreiber.
33 *Serotherapy of Pregnancy Dermatitis. (Zur Schwangerschaftsserumtherapie der Schwangerschaftstoxikosen.) W. Rübsamen.
34 Technic for Removal of Cancer of Upper Jaw. (Die erweiterte Operation der malignen Oberkiefertumoren.) F. Kuhn.
35 *Operations on Nose in Treatment of Headache. (Nasenoperationen zur Beseitigung von Kopfschmerzen.) Fröse.
36 *General Asthenia and Diabetes. (Asthenische Konstitutionskrankheit und Diabetes mellitus.) G. Graul.
37 Treatment of Sexual Impoteney. (Die physikalische Therapie der sexuellen Impotenz.) E. Tobias.
38 Incarcerated Appendix-Hernia. (Beitrag zur Aetiologie der Appendicitis.) A. Sasse.

32. **Vaccination against Diphtheria.**—Schreiber's experiences were some of those on which Behring based his announcement in regard to the efficacy of his method of immunizing against diphtheria. (See Berlin Letter, p. 1896.) Schreiber says that the conflicting experiences in regard to the immunity con-

ferred by one attaek of diphtheria are explained by the large amounts of antitoxins found in the blood of some persons while others have little or none. It will be interesting to determine in future research the connection between large proportions of antitoxins in the blood after diphtheria and the freedom of such persons from new attacks of the disease later. Behring's method of vaccination does not induce active immunization until twenty-one days after the first injeetion. It is possible, Sehreiber remarks, that it might be advisable to inject antitoxin while the vaccination is under way. Matthes' experience in one elinical ease seems to indicate that the eombination of the two methods did not detract from the specific action of either. Schreiber reports parenthetically the ease of a robust woman of 23 who had a severe typieal attack of anaphylactic phenomena on injection of diphtheria antitoxin fourteen years after she had been treated with antitoxin during an attack of diphtheria. He knows of no case on record in which such severe and protracted disturbances were oberved after such a long interval.

33. **Serotherapy of Pregnancy Dermatitis.**—Rübsamen once reported a ease in which serotherapy had no effect on a pregnancy hemorrhagie dermatitis, but in two more recent cases the effect was surprisingly beneficial. The serum injected was from healthy parturients and the eure was prompt and permanent.

35. **Operations on the Nose to Cure Headache.**—Fröse reviews his experiences in ten cases to show the remarkable benefit that may follow operations on the nose when eonditions induee eongestion or pressure, entailing neuralgia or headaehe. In one man a projecting ledge on the septum had induced a reflex heart neurosis, with palpitations and dropped beats—cured by excision of the protuberance. Koblanck reported nine similar cases—all in medieal men—four years ago, and has encountered a similar case sinee, all respouding with a eomplete cure to operative measures restoring normal permeability to the nose. Only one of Frösc's ten patients had a little nausea and fever after these operations on the nose for headaehe, and this one patient had refused to obey the direetions to keep the head up. He gives minute instruetions for the technic for such operations: eocain spray has proved useful in some eases. He insists that submucous resection of the septum far up and back is not the dangerous operation some think. It is possible in this way, without sacrifieing important parts of the nose, to remedy conditions which have induced for years headaehe and neuralgia, especially pain from pressure on the branehes of the anterior ethmoidal nerve from the abnormal shape of the septum. The fear of operative meningitis has deterred many from attempting this useful little operation, and Fröse's communication aims to dispel this fear.

36. **Constitutional Asthenia and Diabetes.** — Graul has encountered cases of Stiller's universal asthenia in which there seemed to be insufficient functioning of the autonomic nervous system, while in others this autonomic system seemed to be in a state of exaggerated functioning. The latter condition seems to have a favorable influence on existing diabetes of purely nervous origin.

### Medizinische Klinik, Berlin

*May 11, IX, No. 19, pp. 735-776*

39 Delivery with Narrow Pelvis. (Geburt bei engem Becken.) A. Dührssen.
40 The Criminal Insane. (Geisteskranke Verbrecher.) Ziemke.
41 Influence of Diathermia on the Temperature. (Einfluss der Diathermie auf die Körper- und Gewebetemperatur des Menschen.) A. Fürstenberg.
42 Spontaneous Pneumothorax after Induced Pneumothorax. J. Hornung.
43 Necessity for Special Institutions for Treatment and Care of Bone and Joint Tuberculosis. (Behandlung der chirurgischen Tuberkulose in Spezialheilanstalten.) O. Vulpius.
44 Overestimation of Radio-Activity as the Potent Element in Mineral-Waters. E. H. Kisch.
45 Action on the Blood Supply of the Brain by Heat Stimuli Applied to the Skin. J. Strasburger.
46 Hot Foot Bath in Differentiation and Treatment of Sprains. (Das heisse Bad bei Verstauchungen.) Kantorowicz.

### Münchener medizinische Wochenschrift

*May 13, LX, No. 19, pp. 1017-1072*

47 *Comparison of Temperature in Rectum and Axilla. (Vergleichende Temperaturmessungen.) C. Stäubli. Concluded in No. 20.
48 Gall-Stone Obstruction of Common Bile Duct. (Indikationsstellung beim akuten Steinverschluss des Ductus choledochus nebst statistischen und technischen Bemerkungen.) L. Heidenhain.
49 *Intravenous Drop Infusion. (Ueber intravenöse Dauerinfusion.) M. Friedmann.
50 Improved Technic for Cultivation of Diphtheria Bacilli. (Verwendbarkeit der Conradi-Trochschen Tellurplatte zum Diphtherienachweis.) Klunker.
51 Volitional Contraction of the Tensor Tympani; Two Cases. E. Mangold.
52 *Epidemic Poliomyelitis. (Erkrankung von Geschwistern an Heine-Medinscher Krankheit.) Trumpp.
53 Physiology and Pathology of the Digestive Tract. (Experimentellradiologische Studien zur Physiologie und Pathologie des Verdauungstraktes.) R. Lenk and F. Eisler.
54 Efficacy of Chondrotomy for Emphysema. (Zur Freundschen Emphysemoperation.) F. Jessen.
55 Diagnosis of Spinal Cord Tumors. (Rückenmarkstumoren.) Janeke.
56 Operative Removal of Undiagnosed Foreign Bodies in Neck or Abdomen. (Eigentümliches Verhalten von Fremdkörpern.) C. Sultan.
57 *Mosquito Net as Protector against Malaria in 1888. (Zur Geschichte der Malariaübertragung.) E. Schrwald.

47. **Comparative Temperature Measurements.**—Stäubli has already called attention to the increase in the rectal temperature after walking, even in the healthy, while the temperature in the axilla may drop. He gives some charts to show the behavior of the temperature in mouth, axilla, rectum and groin; the two latter run a parallel course, rising after exercise and subsiding to normal in twenty or thirty minutes. He warns that no reliance can be placed therefore on the temperature in the rectum unless the patient has been perfectly quiet for from thirty to sixty minutes before it is taken.

49. **Intravenous Drop Infusion.**—Friedmann has applied the technic for protoclysis for intravenous infusion of salt solution and has been much pleased with the harmlessness and efficacy of the method in his experience with twenty cases. He added a little heart tonic or epinephrin as happened to be needed, and kept up the infusion five hours or longer, once for twenty-three hours, the cannula introduced into the median cephalic or ulnar vein. The forearm is raised perpendicularly by a bandage suspended from a frame above. The blood-pressure does not rise so rapidly under the infusion as with the ordinary technic, but it slowly increases and keeps steadily at an even, approximately normal level. There were no by-effects and the heart seemed to bear without injury infusion of large amounts in this way, up to three or five liters or even more. Of course the blood-pressure must be kept under constant control, and if it goes above normal or the patient becomes restless and uncomfortable the fluid must be shut off. The abdomen must also be kept under supervision to watch if there is transudation; superfluous fluid seems to be thrown off in this way if the kidneys and sweat glands are not working sufficiently. He experimented further with medicating the fluid, and thinks that his results were encouraging for administering drugs in this way.

52. **Epidemic Poliomyelitis.**—Trumpp states that this disease appeared at Munich in the last of 1912 almost in epidemic form; thirty cases were reported by the pediatrists alone, mostly isolated cases. In one family with ten children three of the children developed unusual types and the disease seemed to recur after an interval. In one child the mild clinical picture was intentionally exaggerated at the recurrence after five weeks; the case suggests the necessity for being on one's guard against imitation and simulation.

57. **Mosquito Net as Protector against Malaria in 1888.**—Schrwald cites from Stanley's "Darkest Africa" a passage in which Stanley mentions that Emin Pasha had told him that since he had made a practice of sleeping under a mosquito net he had been free from malaria. Stanley mentions it merely as an absurd idea. He made no effort to act on the sug-

gestion and continued to suffer from malaria afterward as before, while Emin Pasha carried his own mosquito net around with him and was apparently immune to the disease. Emin was a physician but the true connection between the net and the disease did not occur to him.

### Wiener klinische Wochenschrift, Vienna

*May 8, XXVI, No. 19, pp. 737-780*

58 *Treatment of Stab Wounds of the Lungs. (Zur Frage: Operative oder konservative Behandlung von Stichverletzungen der Lunge.) E. v. Kutscha.
59 Mechanism of General Anesthesia with Magnesium Sulphate. (Zur Kenntnis der Magnesiumnarkose.) J. Schütz.
60 The Changes in the Hypophysis with Acromegaly. H. Poindecker.
61 *Cancer of the Lung. (Ueber den sogenannten Schneeberger Lungenkrebs.) A. Arnstein.
62 From the Seat of War. (Kriegschirurgische Erfahrungen aus Serbien.) J. v. Budisavljevic.
63 Action of Therapeutic Exercises on the Circulation. II. (Die Wirkung der Heilgymnastik auf die Blutzirkulation im Lichte der klinischen Erfahrungen.) S. Salaghi.
64 *Conservation of Energy in Medical Publications. (Der energetische Imperativ—Ostwald—und die medizinischen Zeitschriften.) J. Kollarits.

58. **Stab Wounds of the Lungs.**—Four cases are described to illustrate the various conditions that may be encountered compelling operative measures, and eight other cases in which the patients recovered without an operation. Kutscha compares his experiences with those of others on record and remarks that severe hemorrhage and collapse from pneumothorax justify operative measures even when no differential pressure procedures are applicable. If the thorax is opened it should be done extensively enough for ample access and suture of the wound in the lung before attempting pneumopexy or artificial insufflation of the lung.

61. **Schneeberg Miners' Lung Cancer.**—Arnstein calls attention anew to the remarkable prevalence of malignant disease of the lungs in the miners in the Schneeberg district in Saxony. The minerals mined are mostly cobalt, bismuth and nickel. In 1878 Härting and Hesse reported that a lymphosarcoma of the bronchial lymph-nodes or an endothelial sarcoma was responsible for 75 per cent. of all the deaths among the miners. Arnstein has been investigating the subject anew and found that one-third of all the miners admitted to the hospital 1907-1911 entered with the diagnosis of cancer of the lung, and it was given as the cause of death in 44 per cent. of the death certificates. It is probable that in many cases tuberculosis and possibly also pneumoconiosis may have been erroneously diagnosed as cancer of the lung as necropsies are rare. The local mining industry is declining, and Arnstein urges more extensive study of the subject while there is still material for it. In the two cases which he was able to examine post mortem, the trouble proved to be chronic pulmonary tuberculosis in one case, but in the other true carcinoma of the lung with metastasis.

64. **The Conservation of Energy in Medical Publications.**—Kollarits pleads for two reforms in scientific publications, medical and otherwise, which would mean a great saving in energy, time, expense and space. His first suggestion may seem trivial but he declares that if one studies it a little the great advantage of its general adoption will become apparent. This suggestion is that all books should be of a standard uniform size, differing in thickness only. Think of the waste of shelf-room in libraries, he exclaims, the difficulty of packing books, and the endless number of different machines and tools required to make the books of the varying sizes now in vogue. The price of books could be reduced if all were of a standard size. The international organization of the chemical associations has adopted a uniform standard size for all the journals on chemistry. The leading German medical weeklies are about 10 by 12 inches in size, and he says that the bound volume is so unpleasantly large that no one but an athlete can handle it conveniently.

His other plea bears on the duplication of abstracts in current medical literature. All of the six leading German weeklies are taken in the medical libraries and many physicians subscribe to more than one and also to the two French weeklies. This means that six or eight reviews of the same original article are thus received, in the various weeklies, duplicating, nay, sextupling the abstract, a useless expense to publishers and subscribers and a wearisome annoyance to readers, while filling to no purpose the library shelves. He thinks it is no exaggeration to say that a fourth of the shelf-space given up to these journals is wasted in this way. His suggestion for a remedy is radical, as he would like to have the leading journals unite to publish a separate supplement common to all and alike for all, devoted exclusively to abstracts of current medical literature. The subscriber would receive this supplement with the first of these journals to which he subscribed, and all the other weeklies could be obtained at a cheaper price as they would not have to supply this supplement. He remarks that the abstract-writers might be looked on as too autocratic, as the fate of the original articles would thus rest to such an extent in their hands alone, and it might be better not to disclose their identity. One great advantage of this plan would be that the abstracts could be made more numerous and more complete. It might be possible to publish the common supplement in several different languages, as physicians of different races have practically the same needs in keeping abreast of the medical sciences.

### Zeitschrift für Kinderheilkunde, Berlin

*VII, Nos. 3-4, pp. 161-320. Last indexed June 14, p. 1931*

65 Calcium and Phosphorus Metabolism Studied in Two Boys of 13 and 14. O. Herbst.
66 *The Diet in Infections. (Welche Aufgaben stellen die Infektionen im Säuglingsalter der Diätetik?) L. Langstein.
67 Colostrum as Nutriment. (Der Nährwert des Colostrum.) L. Langstein, F. Rott and F. Edelstein.
68 Deviation of Complement in Whooping-Cough. (Der Komplementbindungsvorgang bei Keuchhusten.) M. Manicatide.
69 *Prophylaxis of Infection in Infants' Wards. (Zur Infektionsverhütung im Säuglingspital.) L. F. Meyer.
70 The Blood and the Heart Action in Healthy Children. (Arbeitsleistung des Blutes und des Herzens bei gesunden Kindern vom 6 bis 11 Lebensjahre.) E. Müller.
71 *Inanition in Infants and Glycosuria. (Inanition und Zuckerausscheidung im Säuglingsalter.) H. Rietschel.
72 Importance of Laws of Physics and Chemistry in Study of Infant Metabolism, etc. (Beispiel für die Bedeutung physikalischer und physikal-chemischer Forschungen in der Physiologie und Pathologie des Säuglings.) B. Salge.
73 Albuminuria in New-Born Infants. F. Heller.
74 Idiosynerasy in Infants to Cow's Milk. H. Neuhaus and G. Schaub.

66. **Diet in the Infections of Infancy, Particularly in Tuberculosis.**—Langstein reiterates that next to mothers' milk protein milk, "albumin milk," offers the best food for infants, not only in acute infections, but in tuberculosis. The diet should be poor in carbohydrates and rich in fat and protein and albumin milk answers these requirements. An excess of carbohydrates leads to increased fermentation and production of acids, thereby causing demineralization, which is held by some authorities to be an important factor in the nutritional disturbances of tuberculosis.

69. **The Control of Infection in Infants' Wards.**—Meyer believes that in so far as the condition known as hospitalism exists to-day it is to be attributed to infection, chiefly of the respiratory system. From statistics of the Berlin infants' hospital, he found that a much greater percentage of the deaths were from respiratory diseases than from nutritional diseases, and that practically every child sojourning in the hospital four weeks or more had some sort of respiratory infection, the majority of them influenza. He believes that many cases of digestive disturbance are secondary to respiratory infections, and this conclusion is confirmed by the marked decrease in diarrhea and other intestinal complaints after steps were taken to hinder the spread of such infections. Believing that these infections are spread directly through the air, he adopted the plan of dividing the ward into separate compartments with a central corridor between. The compartments were separated at first by cloth screens in wooden frames, later by glass partitions. Visitors were not allowed to enter the compartments, but only the corridor. Pictures of the arrangement of the compartments are given and tables showing the very favorable results obtained. Before this separate box

system had been installed, each child admitted with a catarrhal infection had infected on an average two others, while afterward thirty-six children admitted with respiratory infections transmitted them to only two others. Diphtheria, however, could not be controlled in this way, showing that it is spread indirectly through others. As stated before, there was a marked gain in the general health of the children guarded from respiratory infection.

71. **Inanition and Excretion of Sugar in Infants.**—Rietschel calls attention to the fact that withdrawal of food, which is frequently used as a therapeutic measure, involves some danger for the child. He showed experimentally that after two or three days of fasting sugar could be demonstrated in the urine even of healthy infants, thus proving that damage had been done to the intestinal epithelium. This does not occur in adults. This injury may be more intense and lead to much more serious results in sick infants.

### Zentralblatt für Chirurgie, Leipsic

*May 17, XL, No. 20, pp. 761-808*

75 Fascia Flap for Restoration of Diaphragm; Experimental Research. (Ueber den plastischen Ersatz von Zwerchfelldefekten durch die Fascia lata.) P. S. Ikonnikoff and A. W. Smiroff.

76 Reduction of Fractures under Local Anesthesia. B. Dollinger.

77 *Injury of Nerves from Blocking the Brachial Plexus. (Nervenschädigungen bei Plexusanästhesie.) M. Hirschler.

77. **Injury of the Nerves with Local Anesthesia of the Brachial Plexus.**—Hirschler reports three cases of direct injury of the nerves after blocking the brachial plexus; the patients were men of 16, 52 and 59. In the latter case the disturbances were paralysis of the flexors of the index finger and tendency thereto in the thumb and middle finger; electric tests showed the complete reaction of degeneration. By the end of four months the paralysis had subsided but the fingers were still weak. In the other cases the disturbances were merely sensory. When the injection is made into the brachial plexus there is always possibility of injuring the nerve fibers from the tip of the needle; when other nerves are blocked, the injection is merely around, not into the nerve proper, as in the case of this plexus. He does not think the by-effects are severe enough to prohibit the use of this technic as it may be possible to avoid them by using suitable needles. In case of patients requiring much use of the fingers, such as pianists, violinists and fine handcraftsmen, some other method of local anesthesia might be preferable.

### Zentralblatt für Gynäkologie, Leipsic

*May 17, XXXVII, No. 20, pp. 713-756*

78 Technic for Cesarean Section. (Zur Technik des Kaiserschnittes.) J. Veit.

79 *Rupture of Uterus under Pituitrin. (Fall von Uterusruptur nach Pituitrin.) E. Herz.

79. **Rupture of the Uterus after Pituitrin.**—Herz reports a case in which a primipara of 20, delicate and anemic, had had weak ineffectual labor for two days when Herz injected 1 c.c. of pituitrin at 4:15 p. m. The labor pains increased at once in intensity and duration and after twenty minutes assumed a tetanic character, each lasting from five to seven minutes, and extremely severe. At 5:15 there was a tempestuous uterus contraction with evident rupture of the uterus, and at 7:15 p. m. the child was born in deep asphyxia but was revived after an hour's work. The cervix was found entirely torn off from the front wall of the uterus; the child and placenta had been expelled through the ragged gap. No attempt was made to suture the rupture, and sedatives were required to quiet the after-contraction, but the patient recovered. In the forty-seven cases in which he has used pituitrin his experience was always least favorable with frail, anemic women, some of them having vertigo and syncope, vertigo and vomiting or tinnitus persisting several days or tenesmus with much diuresis. The os at the time the pituitrin had been injected in the case of rupture, was permeable for only two fingers, and the lower segment of the uterus bulged outward; this may have afforded a predisposition to rupture. The disproportion between the size of the head and the flat rachitic pelvis was not sufficient to explain the rupture. The pituitrin had also evidently injured the fetus by the furious contractions induced, as the heart sounds were very faint. He adds that others have reported unfavorable action from hypophysis extract in various cases; post-partum atony of the uterus has been reported by Stern, Bagger and Jörgensen, and Spaeth has had two cases, while the latter, Malinowsky, Lieven and Nagy have reported weakening of the heart sounds and asphyxia of the child; Schneider-Sievers, Calman and Voigt have reported cases of collapse, tinnitus and dizziness; Nagy, Schneider-Sievers and Toepfer of eclampsia; contraction of the previously dilated os has been mentioned by Mackenrodt, Patek, Rieck, Hamm and Heil; Hamm, Voigts and Mackenrodt have reported tetanus of the uterus, and Voigts, premature separation of the placenta.

### Zentralblatt für innere Medizin, Leipsic

*May 24, XXXIV, No. 21, pp. 521-552*

80 Technic for Roentgenoscopy of the Duodenum. O. David.

### Gazzetta degli Ospedali e delle Cliniche, Milan

*May 18, XXXIV, No. 59, pp. 615-630*

81 Clinical Significance of Indican and Urorosein in the Urine and of Tryptophan in the Stools. B. Vasoin.

*May 20, No. 60, pp. 631-638*

82 *Two Cases of Traumatic Leukemia. A. Facchin.

82. **Traumatic Leukemia.**—Facchin has found seven cases recorded of leukemia developing after an accident involving the spleen, including two in which it followed splenectomy; Murrich regarded amputation of the thigh as responsible for the leukemia in his case. In Facchin's two cases the spleen was directly injured in a fall or in an accident bending the body far over backward. The extreme pallor and weakness and the leukemic blood-findings continued a progressive course until each of the young men died of intercurrent pneumonia in about two months after his accident.

### Policlinico, Rome

*May 18, XX, No. 20, pp. 697-732*

83 *Etiology of Progressive Paralysis. V. Massarotti.

83. **Etiology of Progressive Paralysis.**—Massarotti states that in all of his thirty-five patients with this affection, the connection with syphilis was unmistakable and there was always a history of no or inadequate treatment.

### Brazil-Medico, Rio de Janeiro

*April 22, XXVII, No. 16, pp. 151-160*

84 The "Coccus-Like Bodies" or "Marginal Points" in the Blood are Merely Shreds of Broken Down Red Corpuseles. (Pesquizas sobre a natureza dos anaplasmas.) E. C. Dias and H. de B. Aragão.

*May 1, No. 17, pp. 161-170*

85 Modern Treatment of Painful Flat-Foot. (Tratamento do pe chato doloroso.) C. Werneck.

### Ugeskrift for Læger, Copenhagen

*May 15, LXXV, No. 20, pp. 809-868*

86 *Sterilization of Olive Oil, Glycerin and Liquid Paraffin. (Metode til sterilisation af nogle ikke vandige Stoffer med højt Kogepunkt.) K. Schroeder.

86. **Sterilization of Olive Oil, Glycerin and Liquid Paraffin.**—Schroeder tested these substances as supposedly sterilized by the technics commonly in vogue and found that the sterilization was far from being dependable. He then instituted research of his own in this line and announces that heating in a dry oven for one hour at a temperature of 160 C. will positively sterilize olive oil, glycerin and liquid paraffin without injury to the substances, the bottle or the cork. He used wide-mouthed bottles holding from 15 to 30 c.c., stoppered them with a stout cork and was careful not to fill them more than two-thirds full. As the boiling point of glycerin is at 290 C. and that of the other substances mentioned probably equally high, they do not boil at 160, and there is no danger of forcing out the cork.

# THE OPENING MEETING OF THE ASSOCIATION

## Tuesday Morning, June 17

The opening general meeting of the Association was held in the Minneapolis Auditorium, and was called to order at 10:30 a. m. by the President, Dr. Abraham Jacobi, New York.

Ex-Presidents, members of the Board of Trustees, and other officers of the Association occupied seats on the platform.

Rev. James E. Freeman, D.D., Minneapolis, delivered the invocation.

### Addresses of Welcome

President Jacobi introduced George Edgar Vincent, Ph.D., LL.D., President of the University of Minnesota, who delivered the following

#### WELCOME FROM THE UNIVERSITY OF MINNESOTA

*Mr. President, Members of the American Medical Association, Ladies and Gentlemen:* To me has been assigned the grateful duty in behalf of the educational interests of this community of bidding you welcome. I omit the well-worn phrases, the time-honored jocularities, the traditional cynicisms, the rhapsodic tributes, with which you are so often greeted. By violating the conventions let me hope that I convince you of the sincerity of our respect and good will.

The state of Minnesota maintains in Minneapolis and St. Paul a center of scientific investigation and of liberal and professional education. To the members of this university community it is a keen satisfaction to welcome this distinguished body of men and women, dominated by the scientific spirit and by educational ideals. In days when specialization seems to isolate investigators from each other, it is well to remember that fundamental to all specialized tasks are a method and an aim which bind all separate inquiries into one inspiring, cooperative search for truth.

One division of the university feels a peculiar interest in your presence. The medical school extends to you fraternal greetings of genuine warmth. In this school the university takes just pride. To its upbuilding the medical men of these cities have devoted themselves loyally. Under conditions sometimes disheartening they have persisted with courage and unflagging zeal. Gradually the unification of medical education for the whole state has been achieved. Minnesota enjoys the distinction of having unified medical education under state control. The close association on the laboratory side between the medical school and the state board of health affords an efficient concentration. (Applause.)

The school is fortunate in having complete control of its own hospital, the capacity of which will, by recent act of the legislature, be increased to 175 beds. Inasmuch as this hospital receives only charity patients, certain complications which sometimes arise when hospitals are conducted on another basis are in this case happily avoided. Affiliation with the city hospitals of Minneapolis and St. Paul provides a wide range of clinical material and gives the school facilities for thorough instruction. An outpatient department under university control is taxed to the limits of its capacity.

While the medical school lays more stress on men than on buildings, it would be affectation to conceal the satisfaction which the institution feels in the new and completely equipped laboratories which have within the last two years been provided for the medical school. These represent an immense labor of study, planning and supervision by the medical staff.

If the medical school of the University of Minnesota is not satisfied with merely being in your Class A-plus, but has ambition to occupy a high place in that honored list, our friends will set this down to the natural hopefulness of this buoyant region. We do not count on creating consternation immediately in Boston, New York and Baltimore, but we do hope to win increasing recognition for devotion to high standards and ideals or undergraduate teaching, the development of graduate instruction, and the fostering of medical research. We look forward to the time when the medical school will be brought into close relationship with the various hospitals and institutions of the state, so that through this agency the university may increase the scope and efficiency of its service to the commonwealth. (Applause.)

One aspect of medical education gives us concern. We rely on your Association to do its part in solving the problem. The number of years required for medical education, and the consequent expense are in danger of limiting the area of ability from which the medical profession is recruited. To the plea that individuals have a right to a short and easy road to professional practice we may well turn a deaf ear. Here, as elsewhere, the interests of the public transcend those of the individual. A cheap medical education is the most expensive for the community. But to limit candidates for medical practice to the economically strong is a wholly different thing. There is reason to believe that men and women who might contribute much to the progress of medicine are now excluded from candidacy. A system of scholarships, maintained through private endowment, through state aid, through the cooperation of an Association like yours, might go far toward meeting this difficulty. The profession must be open to the best ability, wherever found. (Applause.)

This community is honored by the presence of men and women who are dominated by the scientific spirit. In a sense, with the advance of knowledge the area of disagreement is narrowed. As phenomena are investigated and their laws formulated differences of opinion must yield to the convincing tests of truth. As the underlying medical sciences develop and as clinical research extends its area, sects and schools in medicine must lose their significance and surrender to a science that knows no fundamental antitheses and conflicts. There will always be a frontier on which investigators offer rival theories and where speculation must thrive, but research leaves behind it a widening territory of ascertained and indisputable truth. You are to be congratulated on the passing of parochial conceptions of your profession, and on the growth of a scientific cosmopolitanism. (Applause.)

You are to be felicitated also on the socialized ideals of your profession. Less and less is medicine regarded as a personal career—more and more it is exalted as a public service. This changed point of view is a part of the spirit of the times. The old individualism is yielding to the new consciousness of the community, of new loyalty to the common life.

Your Association's conception of your social mission is admirably manifested by your interest in preventive medicine and public health. To those cynics who see in your profession a conspiracy to keep people ill and hence productive of fees there seems something sinister and incredible in your apparent desire to keep the public well. But your sincerity and social spirit will be vindicated as you push your campaign of popular education, and forgetting the older ethics of aloofness from public affairs you make yourselves felt more and more in the national life. (Applause.)

By your interest in medical education, your attempts to standardize institutions, your plea for education not only of practicing physicians but also of public health officers, you are rendering service which cannot fail to gain recognition and hearty approval. We who are struggling with the chaos of our educational system need your aid and are grateful for what you are doing.

In nothing have you shown a truer conception of your duty than in your campaign for popular education concerning individual and public health. There was a time when many members of your profession were contented to give their opinions with dogmatic authority. They expected to have these accepted by a docile public. You realize the difference between an aristocratic bureaucracy and a democracy. In the former the experts may in true paternal fashion command submissive masses and expect unquestioned obedience, but in a democracy the experts must take their fellow citizens into their confidence and must tell them not only what to do but why. In your campaign, therefore, for public education, you are not only rendering an essential service, but you are conforming to the true principle of democracy, which must be built not on the unwilling submission, but on the intelligent cooperation of the people. (Applause.)

Finally, you are to be congratulated on the creation and perpetuation of the professional spirit. A man can be himself only as he lives the life of cooperation and comradeship. A profession is a collective personality. Each individual makes contribution to the whole, it is true, but the materials and the inspiration for his own development, are drawn from the common store. Only as men have the imagination to see their lives in their wider relationships, only as they lose their petty personal interests in larger and more generous common purposes, can they attain the true possibility of personal growth. May your profession gain steadily in its loyalty to truth in its disinterested devotion to the common life, in its high ideals of personal integrity and of professional obligation. (Loud applause.)

WELCOME FROM THE CITY OF MINNEAPOLIS

Hon. Wallace G. Nye, Mayor of Minneapolis, was introduced and said:

*Mr. President, Members of the American Medical Association, Ladies and Gentlemen:* Minneapolis, dressed in her finest summer robe, is proud of the opportunity now hers of entertaining and paying hostage to so distinguished a group of visitors.

If I were able to express to you a welcome so hospitable and so complete in the words at my command, and do so in all its graciousness and sweetness. I am sure the honey-bees would swarm around my face (laughter), for Minneapolis has looked forward to your coming with pleasant and pleasurable anticipations of the helpful discussions which are to take place. By your meeting here, she hopes to form new acquaintances within her gates. Minneapolis bade me to say that if any act is committed, or omitted in the arrangements for your convenience or your pleasure in any degree, which will lessen their completeness, we trust you will not attribute it to a lack of desire on her part, but to her youth and inexperience.

Minneapolis is a maid of tender years. She has not attained full stature. She has only recently begun to take on those charms of form and graces of manner which characterize her years of maturity. Half a century spans her life and fewer years than that mark the period of her principal growth. And she has been growing some but always in a peaceful sort of way. She has never had any great affliction. She has been a fortunate maiden who has never suffered any great calamity. In fact, she has never had any affliction at all, except occasionally growing pains (laughter) and those, I might add, have always been most keenly felt by her taxpayers. (Laughter.)

Minneapolis is pleased to have you here because the opportunity of your coming enables her to display her charms and for you to become acquainted with them. Her motives are not mercenary. She wants you to enjoy yourselves. She wants you to see her flour-mills, hospitals, factories, banks and other institutions which go toward the making of a strong community; but more than all these, she wants you to see the splendid efforts she has made to keep business away from the doctors by supplying her people with health-giving outdoor resources for happiness and the joy of living. (Applause.) She wants you to believe that her joy in your coming is unselfish, although she realizes that in spite of the resolution recently passed by your executive body, you will be obliged to split some of your hard-earned fees with her. (Laughter.) And if any of you, unable to tear yourselves away from her charms, become members of our community, she will bid you welcome to her happy family although with a warning that she will not decrease her efforts to lessen the demand for members of your noble profession. (Applause.)

We want you to see our parks, our playgrounds, our public baths, for Minneapolis in the last few years has been giving special attention to cleanliness, to sanitation, to fire prevention, to pure air and pure food and drugs. We are doing something along all these lines and with your coming, it will be helpful to us. (Applause.)

We are delighted to have you here because of the proud and prominent position which the American Medical Association occupies in the world, and because we have learned that your mission is not to serve the local members of this profession but to serve mankind. Minneapolis knows from years of experience that you are intensely interested in the conservation of the health of the people in this and other communities, and so not only in this community, but in every community throughout this country, your members are unselfishly making themselves active forces in lessening the causes of diseases and sickness and in prolonging human life. (Applause.)

Finally, Minneapolis gladly expresses the hope that this meeting will prove helpful to you, and helpful to the world, and that your stay will be very pleasant. (Applause.)

WELCOME FROM THE STATE OF MINNESOTA

Hon. Adolph Olson Eberhart, Governor of Minnesota, was introduced and said:

*Mr. President, Members of the American Medical Association, Ladies and Gentlemen:* After listening to the splendid addresses of welcome by the President of the University of Minnesota, and by the Mayor of Minneapolis, I shall be very brief. As governor of the state, I extend to you a hearty welcome on behalf of our citizens. We are glad to have you with us. We trust you will spend your money freely while you are here. It is a pleasure personally for a man in my position to sit here and look into the faces of so many honest people. (Laughter.)

The mayor spoke about the beauties and attractions of Minneapolis, but said very little about the city across the way. It is true, they are twin cities, and they constitute a considerable portion of the state of Minnesota. Both cities consider themselves very important—a thing you would find out if you were governor. (Laughter.)

It is very essential that we should have so many doctors here with us at this time when our board of health is considering the question of certified milk. Pure milk is a godsend to all of us. It has been jokingly remarked that if there are not enough microbes in the milk, the milk-dealers connect the milk with the water system. (Laughter.)

But, seriously, gentlemen, you are doing a great work. You are achieving results. The greatest service that can be rendered to mankind must come from the medical profession, and Minnesota is one of the states which to-day is actively engaged in educating the people with regard to public health, the prevention of disease, and how to prolong life. (Applause.)

We hope this session of your Association will be the best in its history, and that it will result in good not only for the great state of Minnesota, but for every country and every people in the civilized world. (Applause.)

Dr. Frank C. Todd, Chairman of the Local Committee on Arrangements, called attention to the scientific program and the receptions and entertainments announced.

Dr. Jacobi, in introducing Dr. Witherspoon, said:

"Before vacating this place, I beg leave to say that I had hoped for an opportunity to express some thoughts and wishes uppermost in my mind; not that I believe that there is anything that I know or could suggest beyond what your Trustees and Councils are able and eager to do for this Association of ours. There are but two principal suggestions I made before the House of Delegates yesterday. I repeat them here because after all they may concern you intimately. One was that the House of Delegates should so arrange its meetings that in our Section meetings we should not be deprived of the cooperation of the men who owe their places in your House of Delegates to the recognition of their superiority; nor is it proper that their services rendered to us should rob them of their participation in scientific discussions. Another plea is that the Secretaryships in our Sections should be made, if possible, permanent offices. My reasons are detailed in a brief valedictory which will appear in THE JOURNAL. All of this I repeat here because I was ever of the opinion that the democracy of our institutions, political, social and scientific, justifies the information, and participation of all.

Now, members and fellows of the American Association: after having enjoyed the honorable duty of presiding over you, the moment has arrived to bid you goodbye, but only to join your ranks. These sixty years I have dwelt amongst you and our people a willing and grateful disciple and cooperator, and now I gladly return to where I belong. I leave this office in the charge of your choice, a good, staunch, forceful man, known to us all, to whom it has been intrusted; known to the young students of the land, whom he has matured; to the public at large for his eloquence and for his teaching. I have learned to appreciate him as a bright and warm-hearted representative of the practical American idealism, which has been and is to remain the soul and backbone of our sacred profession and of this country of ours, of the present and of the future. I do not call his name—I need not introduce him, he has come into his own. (Applause.)

President Witherspoon (turning to Dr. Jacobi) said:

Honored Sir, your remarks concerning me are not only highly appreciated, but I would do violence to my own feelings did I not say to you on retiring, that while your country has given to this many grand and noble things, especially medicine, none in my judgment is comparable to the high and noble idealism which your life among us has taught. In my association with you I have not only appreciated your high sense of honor and earnest desire to do everything you can for the moral uplift of the profession, but I have learned to revere your high and noble character, respect your great learning, and by intimate association to love you. (Applause.)

After these introductory remarks, President John A. Witherspoon, Nashville, Tenn., delivered an address entitled "Our National Health Problem."

The opening meeting then adjourned.

# PROCEEDINGS OF THE MINNEAPOLIS SESSION

## MINUTES OF THE SIXTY-FOURTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT MINNEAPOLIS, JUNE 16-20, 1913

(*Continued from page 2019*)

## *HOUSE OF DELEGATES*

### *Second Meeting—Monday Afternoon, June 16*

The House of Delegates reconvened at 2:10 p. m. and was called to order by the President.

Dr. D. Chester Brown, Connecticut, Chairman, presented a report from the Committee on Credentials, naming the delegates seated, and at the conclusion of the report said:

There have been two applications made for membership in the House of Delegates, one by Dr. George T. Welch, New Jersey State Medical Society. At the last session of the House of Delegates, at Atlantic City, a standing rule was adopted that alternates should be specifically designated for delegate. In this instance, New Jersey has appointed delegates, but did not designate the particular alternate for delegates. Dr. Welch is a duly elected alternate, but has no credentials to present showing that he has been given authority to act for any delegate on the list.

The same is true of Dr. James W. Dinnen, of the Indiana State Medical Society. As neither of these gentlemen has presented any credentials to the Committee on Credentials, we have decided that they cannot be seated in the House under the standing rule.

Dr. E. T. Abrams, Michigan, moved that the rules be suspended and that the two gentlemen named, who came without credentials, and who were elected alternates in the regular way, be seated.

Motion seconded.

Dr. E. J. McKnight, Connecticut, moved that this matter be laid on the table until to-morrow afternoon.

Motion seconded and carried.

Dr. Wendell C. Phillips, New York, moved that the last two lines of Standing Rule No. 1, "With an alternate designated for each delegate to act in his stead when so authorized by the principal," be rescinded.

Motion seconded and carried.

Dr. E. J. McKnight, Connecticut, moved a reconsideration of the vote whereby the matter relating to Standing Rule No. 1 was laid on the table until to-morrow afternoon, and that it now be taken off the table for consideration.

Motion seconded and carried.

The motion to seat these alternates was then put and carried.

The minutes of the previous meeting were read and approved.

#### Report of the Committee on Red Cross Medical Work

The President called for the report of the Committee on Red Cross Medical Work, and as there was no member of that Committee present, Dr. Arthur T. McCormack, Kentucky, moved that the report be referred to the Reference Committee on Reports of Officers.

Motion seconded and carried.

The report follows:

*To the Members of the House of Delegates of the American Medical Association:*

The Committee on Red Cross Medical Work was created at the 1912 session as the result of a communication from the Chairman of the Central Committee of the American Red Cross requesting the appointment of a committee to consult and advise with a committee of the American Red Cross as to the best arrangement to be made for the medical relief in times of disaster. This request was presented by President Welch at the Session of 1911 held at Los Angeles, and submitted to the Reference Committee on Report of Officers.

The Reference Committee concurred in the recommendation of the President and "believed it to be most appropriate and desirable that the Association should give its approval and assistance to the American Red Cross in times of national disaster and through its local organizations should select men of probity and recognized professional competence to be the agents through whom the beneficence of the nation is bestowed.

"It is recommended therefore, that the President be authorized to appoint a committee of five to consult and to advise with a committee of the National Red Cross for the purpose above stated and to report at the next annual meeting such scheme of cooperation as may be agreed on."

The President appointed a committee and at the session held at Atlantic City in 1912 the committee submitted an excellent report signed by A. T. McCormack, chairman, Charles A. L. Reed, Miles F. Porter and H. L. E. Johnson. The report points out the urgent need of an effective medical force throughout the country which may be available without delay in case of a local disaster to cooperate with the American Red Cross. The committee recommended that a standing committee of three on Red Cross medical work be constituted by an amendement to our By-Laws, and emphasized the importance of the work not only for the relief of distress in times of war and disaster, but also in the prevention of needless suffering and sacrifice of life from faulty sanitary and housing conditions, and from industrial and other violence. This report was referred to the Reference Committee on Amendments to the Constitution and By-Laws, and the following By-Law known as Section 8 of Chapter VIII was adopted:

Section 8. Committee on Red Cross Medical Work. The Committee on Red Cross Medical Work shall consist of three members, one of whom shall be appointed by the President upon the nomination of the Surgeon General of the Army, one upon the nomination of the Surgeon General of the Navy, and the third member of the committee, who shall be its chairman, shall be appointed by the President and nominated to the Red Cross as the representative of this Association on its Relief Board. This committee is authorized to cooperate with the National Red Cross and shall have advisory supervision over state and county committees having charge of the same subject and shall be empowered to act for the Association in matters involving medical personnel in times of disaster, provided that it shall expend money or contract financial obligations only as shall be authorized in writing by the Board of Trustees.

Pursuant to the action of the Association, President Jacobi on September 14, 1912, appointed a Committee on Red Cross Medical Work composed of Lieut. Col. Francis A. Winter, Medical Corps, U. S. Army; Surgeon E. M. Blackwell, Medical Corps U. S. Navy and George M. Kober as chairman.

Your committee after several consultations with representatives of the American Red Cross begs to submit the following, as showing its conception of what is desired and its estimate of what should be done to accomplish the purpose:

1. It is believed that the American Red Cross desires to enlist the sympathy of the medical profession in general, and the active cooperation of certain representative men of that profession in time of disaster or other emergency which may occur in any section of our country.

2. It is understood that the Red Cross desires to bring duly qualified medical men into a position to direct or participate in the medical work and to cooperate with the nursing and local lay services which represent the organization at differ-

ent places, in order that there may be coordination of effort between the various elements of the Red Cross service.

To bring about these results the committee adopted the following procedure:

There are about 1,986 component societies affiliated with the American Medical Association. The committee has communicated with the secretary of each County Society by sending to that official a circular letter, appended hereto and marked Exhibit A.† The responses to this circular are expected to supply the names of five physicians to serve as members of a County Committee on Red Cross Medical Work, two of whom shall be the President and Secretary of the County Medical Society *ex-officio*, the other three members shall be selected by the President of said Society, preferably from the censors, councilors or the executive committee. In case of disaster requiring the intervention of the Red Cross, that organization will be in a position to call upon these County Committees to select a sufficient number of qualified medical men for service in the Red Cross medical work, and to advise with the representatives of that society on questions of medical policy and procedure. The Red Cross will thus be assured of the services of qualified medical men.

3. Having secured the appointment of County Committees with names and addresses, it would remain for the Red Cross to effect a concert of action between the various activities in any community, by such measures, and by such individuals within its organization as might seem best to bring about the result.

The recommendations of the committee, affecting the method employed in securing the appointment of County Committees on Red Cross Medical Work are set forth in detail, in the appended circular letter, which was approved by the Executive Committee of the American National Red Cross and issued Feb. 14, 1913.

Your committee takes pleasure in reporting that up to April 30 fifty-seven County Medical Societies in twenty-four states have organized committees, and quite a number of secretaries of County Societies have acknowledged the receipt of the communication and promised to bring it to the attention of their respective bodies at the next meeting.

| | | | |
|---|---|---|---|
| Alabama | 1 | Missouri | 4 |
| Arkansas | 2 | Nebraska | 3 |
| California | 2 | New York | 1 |
| Dist. of Columbia | 1 | Ohio | 1 |
| Florida | 2 | Oklahoma | 2 |
| Georgia | 1 | Pennsylvania | 3 |
| Illinois | 10 | Rhode Island | 1 |
| Indiana | 2 | South Carolina | 2 |
| Iowa | 5 | Tennessee | 1 |
| Kentueky | 4 | Texas | 4 |
| Louisiana | 1 | Virginia | 1 |
| Mississippi | 1 | West Virginia | 2 |

The committee believes that the disasters of floods, tornadoes and forest fires which have swept over different sections of the country emphasize the need of prompt organization of County Committees on Red Cross Medical Work in all parts of this country. In order to keep the subject before the profession and to reduce the expense of correspondence, which has been defrayed by the Red Cross, to a minimum, the secretary of the American Medical Association, has caused our circular letter to be reprinted in the *Bulletin* in such a manner that it can be removed and placed with the memoranda of the secretary of a county society for consideration and action at the next meeting of that body.

Such a follow up system may become necessary from time to time until the desired object is attained.

The American Red Cross Magazine for April, 1913, also published the circular with the following words of appreciation:

"Many replies are coming from County Medical Societies indicating a cordial acceptance of the committee's plan. It may be said in this connection that the medical profession has always been generous and responsive in the highest degree in all its relations with the Red Cross. The purpose of this new plan is to provide a simple system by means of which the cordial relationship may become more effective."

† Exhibit A, a circular letter, p. 161 of the Hand Book, is omitted here.

In conclusion your committee expresses the hope for prompt action by all Medical Societies in affiliation with the American Medical Association so that there may be a comprehensive system of cooperation between the Red Cross and the medical profession of the United States.

When this is accomplished we may expect that in addition to an effective organization for emergency relief work these committees will prove strong auxiliary forces to both the Council on Health and Public Instruction and the American Red Cross in their general campaign for the mitigation of human suffering and the saving of lives.

Respectfully submitted,

GEO. W. KOBER,
Chairman.
F. A. WINTER,
Lieut.-Colonel Medical Corps, U. S. Army.
E. M. BLACKWELL,
Surgeon U. S. Navy.

Dr. Frank B. Wynn, Indiana, presented the report of the Committee on Scientific Exhibit, as follows:

### Report of the Committee on Scientific Exhibit

*To the Members of the House of Delegates of the American Medical Association:*

The present Scientific Exhibit, in point of size, variety and uniform excellence, has not been surpassed, if equaled, at any previous meeting. The Catalog of Exhibits and Program of Demonstrations, herewith submitted, offer strong proof of the statement.

The superb housing afforded this year, with every possible arrangement for proper classification and demonstration, appeal with great force to scientific workers who have sometimes chafed under the unavoidable shortcomings of quarters offered. Let us rejoice at our present good fortune, but have a care lest it spoil us for accepting gracefully at subsequent meetings what necessity may have to offer.

In the opinion of the Committee, $1,000, annually, is ample for the maintenance of the exhibit, as at present conducted. It is recommended that this sum be appropriated for the succeeding year.

It is urged that a Committee on Awards be appointed at once in order that they may have ample time to inspect and pass on exhibits.

It would not be fair to conclude this report without some general references to this splendid array of scientific material and the sixty or more scientists who have devotedly labored, without money and without price, to bring the exhibit to a successful consummation. Every member who fails to visit it will be guilty of neglect of duty and of opportunity.

A careful perusal of the exhibit will show that certain features are emphasized. It is gratifying to note that anatomy and physiology claim larger representation than heretofore; including, besides many beautifully prepared anatomic specimens, several research exhibits.

Surgical pathology is given marked prominence in a large amount of gross and microscopic material, very carefully demonstrated.

Cancer and infectious diseases furnish several most interesting research exhibits and demonstrations.

Noteworthy is the series of exhibits showing newer methods of anesthesia and physiologic researches on the subject.

The Roentgen-ray exhibits treat chiefly gastro-intestinal diagnosis, and public health exhibits give conspicuous attention to the milk problem.

Perhaps the most noteworthy feature, however, consists in the large number of exhibitors who have consented to make formal demonstrations at stated hours—thirty-eight in all. For long the effort has been made to convince exhibitors that demonstrations were a great advantage to them as well as for the wider educational influence of the exhibit. That this evolution has come slowly offers greater certainty for its permanence.

We may summarize briefly some of the present purposes and aims of the Scientific Exhibit:

1. It should be the avenue through which research workers from year to year present the fruits of their investigations for consideration and friendly criticism by fellow workers. The same things should likewise be presented to practitioners in order that they be kept alert as to fundamental scientific progress in medicine.

2. Effort is being made to coordinate more and more the work of sections with the exhibit. The worthy features of a paper are thus visualized and vitalized. It helps both reader and hearer, and tends to diminish tedious compilations. Several of the papers read at this session are illuminated most admirably by exhibits. Such often bring the convincing evidence to the observer which the written article will not bring to the reader. Papers too often and too easily are padded; the scientific demonstration shows the naked truth. The Scientific Exhibit becomes to the real scientist a forum in which he may proclaim and prove his contentions, or place on his critics the burden of disproof.

3. The Scientific Exhibit is seeking to eliminate clannishness among scientific workers and to democratize their labors for the common good of the profession. Snobbery should not belong to medical research. The scientific investigator who holds himself aloof from the practitioner is keeping the leaven out of the bread of professional life. On the other hand, the practitioner of medicine or surgery who looks askance at laboratory methods as visionary and unpractical is building his house on the sands of error and not on the rocks of truth, and it will not stand.

With the rapid growth of the Association and the multiplication of sections, there is a centrifugal tendency which is not unmixed with evil. Should there not be some converging or restraining influence which will continue to bind the work of all the sections firmly to the fundamentals which underlie all progress in any branch of medicine? What agency could better accomplish this than the Scientific Exhibit?

In conclusion, what shall we say of the men who have so industriously and unselfishly labored to make this exhibit a success—sixty or more of them? Not only has their service been gratuitous; it has entailed great expenditure of labor, time and money. The animus of their interest and participation lies in the scientific spirit which leads them on into medical idealism. Thus have labored Dr. Louis B. Wilson and Dr. Thomas G. Lee on the committee, and the large number whose names appear in the program. We owe to them a debt of gratitude which it is impossible to repay. We can only say of them and their predecessors that they have been heroes in the army of science. In the gallant company of our ranks have marched Carroll and Ricketts. Of this sort of stuff are those loyal workers and supporters of the Scientific Exhibit made. All honor to them! We cannot do less than show our appreciation by attentive patronage of the splendid exhibits which their efforts have brought to successful fruition.

Respectfully submitted,

FRANK B. WYNN, Chairman.

On motion, duly seconded, a rising vote of thanks was extended to the Committee for its work.

Dr. Arthur T. McCormack, Kentucky, moved that a committee of three on awards be appointed by the President.

Motion seconded and carried.

The President appointed on this committee Drs. William T. Councilman, Joseph A. Capps and W. C. Woodward.

### Report of the Committee on Anesthesia

Dr. W. D. Gatch, Indiana, Chairman, presented the report of the Committee on Anesthesia, as follows:

*To the Members of the House of Delegates of the American Medical Association:*

This committee, shortly after its appointment, began to consider in what manner its work could be applied to the best advantage. Its members were all of the opinion that the subject of anesthesia is too broad, and that its practical bearings are too important to be reviewed adequately in a brief report. They felt that the time has come when this committee should do for anesthesia what the Council of Pharmacy has done for pharmacy, namely, make a thoroughgoing, critical investigation of every phase of the subject. For the following reasons we believe that there is need for such an investigation:

1. Communications from surgeons and anesthetists in all parts of the country show that there is a general dissatisfaction with our present results in anesthesia. Deaths and post-anesthetic complications are far too common.

2. There has of late been a tremendous interest in everything which has to do with anesthesia. The physiology, pathology and pharmacology thereof are being studied by many investigators and numerous new methods are being tried. Ether is now being administered by intratracheal and intrapharyngeal insufflation, intravenously and intramuscularly. The use of nitrous oxid is being warmly advocated, either alone or combined with ether and sedative drugs, or combined with local anesthesia. Finally, various methods of nerve blocking, local anesthesia and spinal anesthesia are being used. The proper evaluation of these procedures requires thorough investigation, for there is danger that at least in unskilful hands many of them may cause great harm, and that, therefore, some very useful methods may fall into discredit.

3. Since the very discovery of general anesthetics practically no new agents have been introduced which have proved as good as those first employed—ether, nitrous oxid and chloroform. All of these have obvious disadvantages, and it is not unreasonable to hope that scientific pharmacology may be able to discover new and better anesthetics. An investigation of the kind we advocate might do much to stimulate work with this object in view.

4. The nature of the action of anesthetics on the tissues, and especially on nerve tissue, is still very imperfectly understood, though of late years considerable additions to our knowledge have been made. Likewise there are many points in the physiology and pharmacology of anesthesia which require further investigation. It is obvious that to solve these fundamental problems would be of great advantage to practical anesthesia.

5. The instruction of medical students and interns in anesthesia even in many of our best hospitals and medical schools is often inadequate, and our arrangements for securing the best possible attention for each patient who is anesthetized are frequently poor. On this particular subject we shall have more to say later.

6. No adequate critical review of the various matters we have enumerated is at present to be found in any language. We believe that such a work, published in a series of pamphlets, would be of great value in directing future investigations along useful lines, and as a guide to the solution of the daily problems of the surgeon and anesthetist.

For these various reasons this committee decided to begin the preparation of a comprehensive review of the entire subject of anesthesia. We realized the magnitude of the task we were undertaking, and that considerable time would be required for its completion; nevertheless, we felt that the object in view was sufficient justification for our temerity. Each member of the committee was given a phase of the subject which he was best qualified to treat, and much actual work has been done. Statistics have been collected from hospitals and medical schools, the literature has been studied, and some original investigations carried out. But the labor has been so great that none of the committee is at present ready to make a final report on his part of the subject. We must, therefore, ask for an extension of time in which to complete this work. In addition to the work we have just described, the committee has arranged for a demonstration covering the recent work in anesthesia, in the Department of Scientific Exhibits. This, we hope, will enable all who are interested in the subject to learn from the investigators themselves much of what has recently been accomplished in this field.

On one particularly important subject the committee feels that it should make some specific recommendations at this time, since it feels that it has already sufficient information to make the same of value. This subject is the regulation of the administration of anesthetics in hospitals and elsewhere, and the instruction of medical students in anesthesia.

That our results in the field of anesthesia are no better is to be attributed to the general failure to take a broad view of the relations of anesthesia to general medicine and surgery, to a lack of proper organization of our hospital staffs, and, finally, to a lack of proper training of medical students and interns in anesthesia.

Good results in anesthesia depend not only on skilful administration of the anesthetics, but also on careful preliminary examination and preparation of the patient, intelligent cooperation of the surgeon and anesthetist, and proper postoperative care. To secure the necessary attention to each patient requires a hospital organization especially adapted to this purpose. In each hospital some one man must be made responsible for good results in anesthesia. He must be given the authority to see that every patient is carefully examined and prepared for operation; he must confer, when necessary, with the surgeon concerning the anesthesia, and he must be given charge of the care of the patient during his recovery from the same. He must have the power to instruct and direct the nurses and interns in the part of the work which they may be called on to do. Finally, he must be held responsible for every complication or accident due to anesthesia. A competent man provided with the authority we have outlined and cooperating with his surgeon can, we believe, at the present time prevent most of the deaths and other calamities which are all too frequent under the present system. A good salary together with the interest and importance of the work will secure plenty of men capable of filling such a position in any city of the country.

In certain hospitals it may not be desirable to employ a special man for this work. This is true of university hospitals and private hospitals directed by members of their own staff. In institutions of the former class, in which men serve an apprenticeship of several years on the resident staff, it is an excellent plan to place some member of the same in full charge of the anesthesia for a certain period of his stay. The experience is a valuable part of his training for surgery. Part of his duty should be the investigation of problems of anesthesia and the instruction of interns and medical students in practical anesthesia. He should also train a successor to himself.

In private hospitals the chiefs of the clinics may themselves look after the broader aspects of the work, and intrust the actual administration of the anesthetic to properly qualified assistants.

We believe that trained anesthetists, given the power we have defined, should be employed by all municipal and other charitable hospitals. In that large class of hospitals without a fixed staff, and in which every physician is allowed full control of his patients, it is doubtful if the plan of organization described is possible. For operations in such institutions the problem of securing good anesthesia is largely the same as for operations done elsewhere than in hospitals. The responsibility in respect to the anesthesia in all such cases must rest with the surgeon. In many cases, however, such hospitals can employ a good anesthetist to instruct their nurses and interns, and be at the service of any surgeon who requests his assistance. A tactful and efficient man in such a position will frequently be able to control practically the entire anesthetic situation of his hospital. The expense of his employment is a good investment for the hospital, even from a financial standpoint.

The instruction in anesthesia of medical students calls for consideration in this report. We believe that the importance of the subject requires that every student receive adequate instruction therein. This should not be limited to the mere administration of anesthetics, but should be broad enough in scope to give the student an intelligent conception of all the factors which must be taken into account in planning the anesthesia for each patient. The physiology and pathology of the respiration and circulation should be reviewed; also the effects of the various surgical postures, of hemorrhage, of trauma, of decreasing the bodily warmth, etc. The pharmacological action of chloroform, ether, nitrous oxid, morphin, hyoscin, atropin, strychnia, cocain, novocain, and various other drugs used in anesthesia, should be studied, preferably by means of experiments on animals. With the study of each drug, the use and dangers of the same in actual practice should be pointed out. After this preliminary study the student should be given as many clinical demonstrations of anesthesia as possible. In each of these he should know the results of the physical examination of the patient, the trouble for which the operation is performed, the preparation for operation, and the postoperative care. He should also follow every step of the administration, taking records at frequent intervals of the patient's pulse, blood-pressure and perhaps temperature. He should observe at least a dozen cases in this manner. Such instruction can be given to small groups of five or six students. Nothing short of such a course will give the student an adequate knowledge of modern anesthesia. We condemn the practice of allowing the student to administer the anesthesia except under very strict supervision—a supervision which should also be given him even in his intern year.

The preliminary work described above is already given in the laboratory years of the medical course. All that the plan we advocate requires is that this work be reviewed in the clinical years and its practical bearings pointed out. The actual demonstrations will necessitate hardly a change in the schedule of most schools. For at each operative clinic a small group of students can be called to study the anesthesia.

Respectfully submitted,

W. D. GATCH, Chairman.
T. S. CULLEN.
EVARTS A. GRAHAM.
JAMES P. GWATHMEY.
REID HUNT.

It was moved that the report be received and the Committee continued.

Motion seconded and carried.

## Report of the Committee on Memorial to the Medical Officers Who Lost Their Lives in the Civil War

The President called for the report of the Committee on Memorial to Medical Officers Who Died in the Civil War, and in the absence of the Chairman of this Committee, Dr. Arthur T. McCormack, Kentucky, moved that the report be received and approved by the House of Delegates.

Motion seconded and carried.

The report is as follows:

*To the Members of the House of Delegates of the American Medical Association:*

At the sixty-third annual session of the Association held at Atlantic City, June, 1912, this committee reported progress and was continued.

At the last meeting of your Central Committee the chairman, Col. Wm. C. Gorgas, on account of the long distance at which he is removed from the other members resigned the chairmanship, and Dr. S. Weir Mitchell was appointed in his place.

The formation of the General Committee of one from each state has progressed rapidly since the issuance of an explanatory circular letter to one delegate in each state requesting nominations to your Central Committee. Those delegates who have been addressed and thus far have failed to report are urged to respond promptly, giving the name of a surgeon in good standing and who is a member of the American Medical Association, if not able to give the name of one who served in the Civil War.

The complete list of the Naval Surgeons who lost their lives during the Civil War has been received from the Bureau of Medicine and Surgery of the Navy Department at Washington, D. C.

Surgeon General Rupert Blue, of the Public Health Service, has accepted the position on the committee made vacant by the lamented death of Gen. Walter Wyman.

Your Central Committee felicitates itself on the realization that both in Illinois and Georgia memorials embodying the sentiments advocated in the first report of this committee are

about to be erected. We are still too close to the Civil War to measure its leaders in perspective, but it is not too early to affirm that the surgeons, on both sides, from the beginning to the end of that fratricidal conflict helped to make history which endures to-day as a permanent tribute to the bravery and unselfishness of the medical profession.

The day of reconciliation between us will not be in the future—it is now. A few of us who were at Gettsburg fifty years ago will be there next month—and Oh, what a change! "To one who looked down on the three terrible days of that hot July of 1863 such a commemoration as will take place would have seemed incredible. The reconciliation between the North and the South, now complete, is the most sublime moral miracle in modern history. It has come about through no concessions of the principles that were fought for—through no surrender of the convictions which lay back of that mighty struggle—but through an acceptance of the lessons of a terrible experience—through a new comprehension, in one section of the principle of nationality, and a recognition in the other of the courage and integrity of purpose of its former antagonists. In the words of the brave General Gordon of Georgia, 'We fought until the furnace of war melted all our discords and molded us into one homogeneous nation.'"

When the appropriate shaft contemplated by your committee shall have been erected, it will, in a small degree, demonstrate our appreciation of the noble services of those surgeons who gave up their lives in the performance of duty to a common humanity.

All the expenses incurred in the work thus far have been paid by the committee. The committee asks to be continued with the privileges, instructions and appropriations authorized by the House at the Atlantic City meeting of 1909.

Respectfully submitted,

S. WEIR MITCHELL, Chairman,
WILLIAM C. GORGAS,
G. LANE TANEYHILL, Secretary,
W. W. KEEN,
G. B. THORNTON.

### Report of Committee to Arrange for Clinic Days

Dr. Charles L. Mix, Illinois, Chairman, presented the report of the Committee to Arrange for Clinic Days, as follows:

*To the Members of the House of Delegates of the American Medical Association:*

The Committee to Arrange for Clinic Days reports as follows:

One of the members of the Committee, Dr. Alexander Lambert, having resigned, his place was filled, at the suggestion of your Chairman, by President Abraham Jacobi. He named as the fifth member of this Committee Dr. James E. Moore of Minneapolis, who had already been appointed on a similar Committee on Clinics as Chairman, by the Minneapolis Local Committee on Arrangements.

By the appointment of Dr. Moore as a member of the Association's Committee on Clinic Days, the work of the local committee and of the national committee was perfectly harmonized. Your chairman arranged for a meeting in Minneapolis which he attended, at which Dr. James E. Moore was appointed as the direct representative of the Committee of the American Medical Association. He has, at the cost of infinite trouble, succeeded in arranging for the program to be given to-day and immediately following the meeting of the Association.

The Committee makes the following five suggestions to the House of Delegates, as to the personnel of the Committee:

1. That the present Committee be made a continuous body.

2. That Dr. Dr. James E. Moore, appointed during the current year, serve four years more, his term of office expiring with the meeting of the American Medical Association in 1917.

3. That the four remaining members of the present Commitee retire in alphabetical order, Dr. John M. T. Finney, this year; Dr. Edward Martin, in June, 1914; Dr. Philip Marvel, in June, 1915; Dr. Charles Louis Mix, in June, 1916.

4. That the President of the American Medical Association each year appoint a new member of the Committee on Clinic Days, the new member to be selected from among the physicians in whose city the next meeting is to be held.

5. That the chairmanship of the Committee change each year, going to the oldest member of the Committee; Dr. Edward Martin to be Chairman in 1914; Dr. Philip Marvel in 1915; Dr. Charles Louis Mix in 1916, and Dr. James E. Moore in 1917.

The committee also makes the following recommendation; namely, that publicity be given to the program which it arranges, such program to be printed in the official program in THE JOURNAL of the American Medical Association, as well as in the hand-book for visitors at the annual meetings. It further suggests that such printed program be given publicity exactly equaling that accorded the regular program.

Respectfully submitted,

CHARLES LOUIS MIX, Chicago, Chairman.
EDWARD MARTIN, Philadelphia.
JOHN M. T. FINNEY, Baltimore.
PHILIP MARVEL, Atlantic City.
JAMES E. MOORE, Minneapolis.

On motion, duly seconded, the report was referred to the Reference Committee on Miscellaneous Business.

### Report of the Committee to Advise with the British Medical Association

Dr. E. J. Goodwin, Missouri, presented the report of the Committee to Advise with the British Medical Association Concerning a Joint Meeting, as follows:

*To the Members of the House of Delegates of the American Medical Association:*

At the last meeting of the Association you passed a resolution authorizing the appointment by the President of a committee to confer with the British Medical Association with the view, or purpose, of holding a joint meeting. The author of the resolution, and distinguished Chairman of the Committee, Dr. A. T. Bristow of Brooklyn, N. Y., recently died. The Committee feels keenly the loss of his invaluable service. The President appointed in his place, Dr. W. W. Grant of Denver, Colorado.

In reply to a letter addressed to the British Medical Association, the following acknowledgment has been received:

BRITISH MEDICAL ASSOCIATION
429, Strand, London, W. E.
March 27, 1913

Secretary, American Medical Association,
535 Dearborn Avenue, Chicago, U. S. A.

Dear Sir:—

I have the honour to acknowledge your letter of the 13th of March, covering letter addressed to the British Medical Association.

This shall be laid before the Council of the British Medical Association at its meeting on the 23d of April next.

I am, yours faithfully,

(Signed) GUY ELLISTON,
Financial Secretary and Business Manager.

The committee asks to be continued, or that a new committee be constituted, to complete its task and that the House of Delegates empower it to arrange for such a joint session, should this be desirable, it being definitely understood that in the interim between meetings of the House of Delegates the committee shall act in cooperation with and under the sanction of the Board of Trustees.

Respectfully submitted,

W. W. GRANT,
E. J. GOODWIN,
THOMAS W. HUNTINGTON,
GEORGE H. SIMMONS,

It was moved that the report of the Committee be received, and that the Committee be continued.

Motion seconded and carried.

Dr. Goodwin called attention to the fact that it would be necessary to add another member to this joint committee to fill the place of Dr. Bristow.

The President stated that his successor would make this appointment.

Dr. G. Wythe Cook, District of Columbia, presented the following amendment to Section 4, Chapter 1, of the By-Laws by reading the following communication:

The following resolution was unanimously adopted by the Medical Society of the District of Columbia at a meeting held April 30, 1913:

WHEREAS, The American Medical Association June 4, 1912, adopted the following as Section 4, Chapter 1, of its By-Laws:

EFFECT ON MEMBERSHIP OF REMOVAL TO ANOTHER STATE.—A member who changes the location at which he practices medicine from the state through whose constituent association he holds membership in the American Medical Association to another state in which there is a constitnent association, is eligible to membership in the component society of his new location upon the presentation of a transfer card and an official statement that his dues have been paid in full in the society in which he holds membership. He shall forfeit his membership in the American Medical Association one year after such change of location, unless he becomes a member of the constitnent association of the state to which he has moved. Provided, however, that if the component society into whose territory such member has moved shall refuse him membership, the member shall be privileged to appeal to the Judicial Council of the Association to determine whether or not he be guilty of any act that warrants the enforcement of the provisions of this section. Pending the decision of such appeal, he shall retain his membership in the American Medical Association through his original state association: And provided, further, that the term "the practice of medicine" throughout these by-laws shall be held to mean the offering of service or counsel for the relief of those suffering from abnormal physical or mental conditions.

*Be It Resolved*, That the Medical Society of the District of Columbia is opposed to the foregoing section, because (1) its language is vague and ambiguous; and (2) each constituent association should, for obvious reasons, have full, absolute and unrestricted control over the admission of applicants to its own membership, without any authority, jurisdiction or power of interference in the matter on the part of the American Medical Association, or its Judicial Council; Therefore, be it

*Resolved*, That the Delegate of this Society to the American Medical Association is instructed to offer and promote the adoption of some such substitute as the following for the foregoing Section 4, Chapter 1, of the By-Laws:

REMOVAL OF MEMBERS.—A member of a constituent association removing from the jurisdiction thereof may remain eligible for membership in the American Medical Association for a period of eighteen months following such removal, after which such eligibility shall cease, unless or until it is reestablished by his becoming a member of the constituent association of the jurisdiction in which he is then located.

On motion, duly seconded, the amendment was referred to the Reference Committee on Constitution and By-Laws.

Dr. Randolph Winslow, Maryland, presented the following communication, which was referred to the Board of Trustees:

HOME FOR WIDOWS AND ORPHANS OF PHYSICIANS, INCORPORATED
1615 BOLTON ST.,

BALTIMORE, June 1, 1913.

*To the American Medical Association:*

A year ago, at the meeting held at Atlantic City, we presented to your honorable body a proposal to turn over to it the property and franchises of our Home. We were then told that the proposal was received with applause, but that it was handicapped by being connected with a project for a tuberculosis sanatorium, which caused action on it to be delayed.

We, therefore, wish now—under more favorable auspices we hope—to renew our proposal. The property in question consists of a large 3½ story dwelling, on a lot 20 by 132 feet, situated in the best residential section of Baltimore, and we own it in fee.

Our Home is chartered under the laws of Maryland and is designed to care for all destitute widows and orphans of reputable physicians who apply—without territorial limitation; i. e., its scope is already national. It is the only such institution, so far as we can learn, in the United States. We have had seven inmates so far, the last two having been taken out of the poor houses.

Our only object in seeking this affiliation with the American Medical Association is to provide for the permanence of our institution and the only conditions that we desire to impose in this transfer will be that the Home shall be located permanently in Baltimore, where it originated, and that our Board shall continue as its local managers. Should you accept our proposal, we promise to redouble our zeal in working for the interests of the home and we expect to continue to raise the amount necessary for its economical maintenance.

Yours respectfully,

MRS. EUGENE F. CORDELL,
President.
MRS. SALVATORE DEMARCO,
MRS. JOHANNES MATTERN,
Secretaries.
MRS. J. F. H. GORSUCH,
MRS. LOUIS A. GRIFFITH,
Vice-Presidents.
DR. EUGENE F. CORDELL,
Treasurer.

Dr. H. D. Arnold, Massachusetts, offered the following amendment:

To amend Rule 1 for the guidance of the Committee on Credentials, as amended June 16, 1913, by the addition of the following clause at the end of the Rule:

"The constituent associations shall designate an alternate for each delegate, who may take the place of the delegate when authorized to do so by said delegate in writing. In the absence of such authority any alternate who has been duly chosen by the constituent association may be seated in place of any delegate who is unable to attend, providing he presents proper authority from the President or Secretary of said Society."

It was moved that this be referred to the Reference Committee on Rules and Order of Business.

Motion seconded and carried.

Dr. Dwight H. Murray, New York, proposed the following amendment to Chapter IX, by adding Section 12, as follows:

"All resolutions passed by the House of Delegates, not referred to a Committee of the House of Delegates during its session, shall go to a Committee composed of the President, the Chairman of the Board of Trustees and the Chairmen of the other four standing committees of the House of Delegates.

"All such resolutions shall be void unless approved by a majority of said Committee."

It was moved that this amendment be referred to the Reference Committee on Amendments to Constitutions and By-Laws.

Motion seconded and carried.

Dr. Dwight H. Murray, New York, moved that the discussion in a committee of the whole of the advisability of amending the By-Laws so as to provide a speaker for the House of Delegates be set down for the special time of 2 o'clock on Wednesday, as recommended by the Judicial Council.

Motion seconded and carried.

Dr. Abraham Jacobi expressed his appreciation of the kindnesses he had received at the hands of the members of the House of Delegates.

Dr. George W. Guthrie, Pennsylvania, proposed that the House of Delegates express its appreciation of the services Dr. Jacobi has rendered to the Association as its President by a rising vote.

A most enthusiastic ovation was given to Dr. Jacobi, which was closed by the members of the House forming in line and personally paying a tribute of respect to him, immediately after the House had adjourned.

## Third Meeting—Tuesday Afternoon, June 17

The House of Delegates met at 2 p. m., and was called to order by the President, Dr. John A. Witherspoon, Nashville, Tenn.

In assuming the Chair, President Witherspoon said:

"In presiding over this body, I wish to say that I have not had very much experience in these matters, and I come with two conditions, one of which is great enthusiasm for the best interests of this great organization, and the other is an intense desire to see that everybody has a perfectly fair show. I shall not make a speech, but simply say that any error I may make will be of the head and not of the heart."

Dr. D. Chester Brown, Connecticut, Chairman, made a supplementary report for the Committee on Credentials, and asked that action be deferred on it until the report of the Reference Committee on Rules and Order of Business was presented, which request was granted.

Dr. A. B. Cooke, Tennessee, moved that the report of the Reference Committee on Rules and Order of Business be called at this time.

Motion seconded and carried.

Dr. Theodore B. Appel, Pennsylvania, Chairman, presented the report of the Reference Committee on Rules and Order of Business, as follows:

### Report of Committee on Rules and Order of Business

Your Committee on Rules and Order of Business, after consideration of the resolution presented by Dr. H. D. Arnold, amending Standing Rule No. 1, for the Guidance of the Committee on Credentials, recommends the adoption of the following modification of the aforesaid resolution:

*Be it resolved*, That Rule No. 1, as amended June 16, 1913, be amended by the addition of the following clauses at the end of the rule:

"The Constituent Associations shall designate an alternate for each delegate, who may take the place of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the Constituent Association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said Association."

JOHN O. POLAK,
HUBERT A. ROYSTER,
EDGAR H. HINES,
M. N. VOLDENG,
THEODORE B. APPEL, Chairman.

Dr. Wendell C. Phillips, New York, moved that the report be adopted.

Motion seconded and carried.

It was then moved that the report of the Committee on Credentials be adopted.

Motion seconded and carried.

The Secretary announced that a quorum was present.

The minutes of the previous meeting were read and approved.

### Report of Reference Committee on Medical Education

Dr. Henry L. Elsner, New York, Chairman, presented the Report of the Reference Committee on Medical Education, as follows:

*To the House of Delegates of the American Medical Association:*

Your Committee, to which was referred the report of the Council on Medical Education, reports as follows:

The faithful and monumental work which has been done by the Council on Medical Education during the period of its existence has exerted an influence which has lifted American medicine to a higher plane than ever before; no single factor has been so potent in improving our methods of education.

Your Committee appreciates and commends the efforts of the Council on Medical Education and would express the gratitude of the entire medical profession.

This report would be incomplete and unjust if it failed to mention the splendid service of the Secretary of the Council on Medical Education, Dr. N. P. Colwell, who has devoted himself untiringly and enthusiastically to the work, which because of his assistance has been eminently constructive.

Since the publication of the standard four-year high-school course fixed as the prerequisite for the work of the proposed preliminary college year, the Council has learned that a slight modification has been found essential. Owing to the fact that in certain sections of the country few high schools give to the same student courses in both Latin and a modern language, to prevent what would be an unnecessary hardship your Committee, at the suggestion of the Council, recommends that the number of required units of high-school work be reduced from nine to seven and that the student be permitted to offer two units of either Latin or French or German among the seven required units.

We are especially encouraged by the earnestness of those in charge of the Southern Medical College, and congratulate them on the success of their recent efforts to advance medical education.

Your Committee believes, after a study of the data offered by the Council, that the decrease in the number of medical colleges is not detrimental and has in no measure lessened the opportunities for the study of medicine.

The medical student is still privileged to enter on the study of medicine at a cost within his means, but in higher-grade colleges.

We note with satisfaction that twelve state licensing boards have taken action adopting one or two years of higher preliminary requirements in advance of a four-year high school course; and that twenty-four state boards have withdrawn recognition from a large number of low-grade medical schools of the Class C type. The support of the state licensing boards is so important to the cause of medical education that we hope and believe that other states will soon take similar action.

The Committee believes that the Council should be encouraged in its preliminary investigation of the hospitals throughout the country, and is already convinced by the data submitted that sufficient opportunities are available to supply internships for all medical graduates. The Committee believes that the voluntary seeking of hospital appointments by the large majority of recent medical graduates is most encouraging and argues in favor of a stronger and a better profession. It further believes that the addition to our present curriculum of a year of such service would not be a hardship to the medical student, but a decided advantage to both the medical profession and to the public.

Your Committee recommends that the House of Delegates request the Council on Medical Education to report at the next annual meeting on the feasibility of requiring for the degree of Doctor of Medicine this additional hospital year of the students entering with the fall of 1915.

There is a growing demand in our country for proficient health officers, and the Committee is convinced that the education of their men deserves this careful consideration of the Council on Medical Education in connection with an added year of preparation, and would suggest that the Council investigate this subject and report at the next annual meeting of the House of Delegates.

It further appears to your Committee that postgraduate courses of study might with profit demand the attention of the Council on Medical Education, and it therefore suggests that a report be submitted to the House of Delegates at its next annual meeting dealing with such instruction.

Respectfully submitted,

HENRY L. ELSNER, Chairman.
HORACE D. ARNOLD,
WALTER A. JAYNE,
V. G. VECKI,
A. C. COTTON.

Dr. Wendell C. Phillips, New York, moved that the report be adopted.

Motion seconded and carried.

### Report of Committee on National Department of Health

The President called for the Report of the Committee on National Department of Health, Dr. John B. Murphy, Illinois, Chairman.

At the request of the Chairman, a member of the Committee, Dr. William A. Evans, Illinois, read the report, as follows:

Four meetings of the Committee on National Health Organization have been called during the year. At the first of these meetings, called in Chicago, but three members were present. One meeting was held in Washington, in conjunction with representatives of the Committee of One Hundred, American Association for the Advancement of Science; another meeting was held in Philadelphia, in conjunction with the Council on Health and Public Instruction, and a third meeting was held in Washington, in conjunction with the same Council. The Committee has, however, been as active as circumstances would

permit in the entire period that has elapsed since the last meeting of the Association.

In no inconsiderable part, through the active efforts of the Committee, or, one might say, of one of the members of the Committee, Dr. Evans, more or less satisfactory "health planks" were inserted in the recent platforms in each of the great political parties, and the planks that were inserted in the platform of the successful party was by far the strongest and most satisfactory of all that have at any time been inserted in any platform.

The efforts of your Committee have been devoted toward two ends: first, the creation of a Committee on Public Health, in the House of Representatives; second, the establishment of a Department of Health.

The establishment of a Committee on Health in the House of Representatives is looked on not only as according due recognition in the national legislature to the most important of all subjects with which any government ever has to deal, but also as being a very important step toward obtaining in the House favorable consideration of legislation looking toward the proper organization of the now scattered and incomplete federal health services. Your Committee had every reason to expect that in the recent organization of the Committees of the House of Representatives, provision would be made for a Committee on Health and regrets to report that no such action was taken.

With the expiration of the Sixty-Second Congress, March 4, last, the bill commonly known as the Owen bill, and officially entitled as reported, "A Bill to Establish an Independent Public Health Service, and for Other Purposes," S. 1, which had been favorably reported by the Senate Committee on Public Health and National Quarantine, died. Taking the advantage of experience in efforts looking toward the enactment of that bill, a new bill had been drafted, and was introduced by Senator Owen into the Sixty-Third Congress, being Senate Bill No. 1, entitled, "A Bill to Establish a Department of Health, and for Other Purposes." There has been, of course, no possibility of procuring action on that bill during the current special session.

Representatives of this Committee visited the American Institute of Homeopathy at its Pittsburgh, Pa., meeting and explained to it the movement for a national Department of Health. As soon as this explanation was made, the institute endorsed the measure by formal vote. This convinces the Committee of two truths. First, it is wise for the American Medical Association each year to send representatives to organizations working along lines similar to ours to explain to them all actions of our organization in which they may be interested and to invite similar organizations to send representatives to our meetings for a similar purpose. This conclusion is not within our province, but we offer it to you gratuitously as a suggestion out of last year's conference.

The second conviction is germane. If our homeopathic friends have been misled by representations made to them, it is certain that members of Congress have also been misled. If an explanation of the bill cleared up those misstatements and caused them to indorse a national Department of Health, it seems probable that proper explanations made to misinformed members of Congress would cause them to favor a department, when this bill becomes active in the House or Senate, or both. This Committee strongly advises that suitable representation be maintained at Washington for the purpose of correcting the false statements made by the opposition. We suggest that steps be taken to enter into a working agreement among the organizations interested in human welfare to bear jointly the expense of maintaining this representation. Such organizations as the National Chamber of Commerce, the National Association of Manufacturers, the National Federation of Labor, the National Educational Association, the National Federation of Women's Clubs, the American Association of Life-Insurance Presidents, the National Association of Charities and Correction, the Committee of One Hundred, the American Institute of Homeopathy, the National Eclectic Medical Association and the National Dental Association and all other interested agencies should be invited into this cooperation.

The enactment of this bill represents the objective point toward which all of the energies of the Association should be directed, if the Association is going to live up to the ideals which it has heretofore set. If, however, the Association is going to play an effective part in the enactment of progressive health legislation, it must do something more than "hurrah" during the annual meetings of the Association. The creation of a Committee on National Health Organization, with instructions to do what it can to procure the enactment of legislation designed to increase the efficiency and economy of federal public health administration, and specifically to bring about the coordination and consolidation of existing federal public health services in a department of health is nothing so long as that Committee is not provided with means wherewith to do its work. Yet all efforts to obtain funds wherewith to carry on its work that have been made by the Committee appointed at the last meeting of the Association have failed.

An appeal was made to the Board of Trustees for an appropriation for that purpose, but the Board of Trustees refused to make any such appropriation on the ground, it is stated, that the appropriation should come from the Council on Health and Public Instruction. It is to be noted, however, that on the very day the Board of Trustees refused to make an appropriation for the expenses of the Committee on National Health Organization, the estimates of the Council on Health and Public Instruction were before the Board of Trustees and those estimates included no provision for the expenses of the Committee on National Health Organization. And yet the Board of Trustees when it rejected the estimates of the Committee on National Health Organization, and referred it for funds to the Council on Health and Public Instruction, did not increase the appropriation made for the Council on Health and Public Instruction so as to enable it to make an appropriation for the needs of the Committee.

It should be distinctly understood that if the Committee is to promote actively the reorganization of our federal health service, it will be necessary to have some one who can make it his business to gather the necessary facts in support of such legislation, and to put those facts into the hands of the men who must pass on any measure of this kind before it becomes a law. The arguments that are being advanced against any coordination and consolidation of the various public health services so as to increase their efficiency and economy must be discovered and met in a proper manner. The Association has not the right to ask any one of its members to do this work for the Association at so great a personal sacrifice as would be necessary to make the work effective. Whether one engaged in such work be or be not called a lobbyist, is immaterial. The name has come to have a certain stigma attached to it because of improper methods sometimes used, but if any representative of the Association do this altruistic work in a proper manner, on behalf of the Association, he would be a poor representative, and this would be a poor Association, if it were frightened at the bugaboo of a word.

For several years the public, and particularly the members of the national legislature, have been persistently misinformed about this measure. It has been said that it was a measure concocted by and for the advantage of the American Medical Association and its members, that it was intended as a measure to regulate the practice of medicine, that under it only one school of medicine would be allowed to practice, that it means state medicine, that it would invade homes and destroy individual liberty and would do scores of other wild and impossible things—statements known to the informed to be foolish and awfully foreboding to those obsessed with fear, and creating timidity on the part of those whose minds are engrossed with other things. These falsehoods and misrepresentations have been widely accepted because there was no agency to combat them. Emboldened by the supineness of the American Medical Association, these groups are opposing laws for the public health and the administrative activities of health departments, state and municipal. They are fast demonstrating that they are enemies of the common weal, but there is no agency to combat either their false statements or their pernicious activities against the public health. Unfortunately for the people of this country, a majority of your Board of Trustees has refused to appropriate money to support representatives at Washington to correct these misstatements; where the Board has made appropriation, it has been held up by one member for years opposed to the activity of the Association in this matter.

The maintenance of representation at the seat of government is necessary, if this legislation is to pass. It is the method made use of by the national association for labor legislation in passing the phosphorus bill and other humanitarian legislation, by the National Federation of Labor and by commercial, philanthropic and sociologic organizations in securing legislation universally considered to be right and proper.

In so far as relates to the relation that exists or should exist between this Committee and the Council on Health and Public Instruction, your Committee begs to call your attention to the fact that the work of the Council on Health and Public Instruction has been understood to be the study of existing

legislation in a critical way, so as to enable the Council to advise those who are in search of certain information as to what legislation has been enacted and with what results and as to what legislation the Council would recommend elsewhere. It has never been understood to be the function of the Council on Health and Public Instruction to do anything more than this (whatsoever) to promote the enactment of legislation and, so far as is known, the Council has never taken any such action. This Committee, on the other hand, was definitely created, it is understood, for the purpose of promoting legislation toward the accomplishment of a particular end; and to make the Committee an adjunct to the Council on Health and Public Instruction, as the Board of Trustees has undertaken to do, is to confuse the purposes for which the two bodies were created.

The undersigned deemed it a mistake to have had the trustees place this matter in the hands of the present Council on Health and Public Instruction and to have placed this Committee under their leadership.

We will assume that these gentlemen are honest to their convictions. They are men of the highest character and the loftiest motives. They are so profoundly impressed with the justice of their cause that they cannot understand why it needs to be explained to or argued with members of Congress according to the prevailing custom.

Great principles are established, great fights are won by earnest men intent on victory and refusing to be put aside. With profound respect for these gentlemen, they have not brought to this project any such qualities. They have always seemed timid, able to discover defect, able to see obstacles, conservative, judicial, careful of every interest whose rights might be thought to be invaded. They have shown themselves entirely without the capacity for aggressive leadership necessary to win this fight.

We, the undersigned, cannot see any virtue in pretending to be for a Department of Health directly and then covertly attempting to get it by an expansion of the great Public Health Service. It is the judgment of the undersigned that the American Medical Association should either discontinue the Committee or else give it funds, and the freedom to develop its own leadership.

It is the judgment of the undersigned that, pursuing the plan followed for several years past, there will never be a national Department of Health. The fault lies not with the House of Delegates. They have always endorsed it unanimously. The fault lies in trying to accomplish an end with machinery unsuited to the purpose, and manned by men out of sympathy with the proved and accepted methods for getting results with legislative bodies.

We, the undersigned, recommend that the American Medical Association either withdraw its support from the bill for a national Department of Health, or that it compel greater activity by its agents.

The present type of activity is a hindrance to the bill, a harm to the health cause, and detrimental to the medical profession.

For reasons stated, it is recommended that the House of Delegates definitely determine the status of this Committee and instruct the Board of Trustees and the Council on Health and Public Instruction accordingly. The Committee recommends that the House of Delegates again declare its adherence to the movements now under way looking toward the consolidation and coordination of our federal Public Health Service into a Department of Health; that it instruct the President, the Secretary, the Treasurer, the Manager and Editor, and all other officers of the Association, the Board of Trustees, and all Councils and Committees of the Association, to do whatever may lie within their power and within the power of each of them looking toward the enactment of legislation toward the end named; and that the Committee on National Health Organization be continued.

J. B. MURPHY,
J. N. HURTY,
W. C. WOODWARD,
W. A. EVANS.

Dr. George H. Kress, California, moved that the report be referred to the Reference Committee on Legislation and Political Action.

Motion seconded and carried.

## Report of Reference Committee on Reports of Officers

Dr. Donald Campbell, Montana, presented the report of the Reference Committee on Reports of Officers, as follows:

We, the Committee, beg leave to present to the House of Delegates the following recommendations:

### PRESIDENT'S REPORT

The first recommendation in the President's report is that the Secretary of Sections be elected for a term longer than one year, and that the continuance in office of such secretaries for long periods of time will add to the value of the sections and the importance of the Association. No change in the By-Laws is necessary to accomplish this desirable end.

Section 2, Chapter XI, of the present By-Laws, provides that all section officers are elected for one year. Each section may elect its secretary to serve a longer time at its discretion. This reference is very timely and we note that the trustees in their report made the same suggestion. We recommend that the House of Delegates place itself on record as being in favor of the election of secretaries of sections for a longer term than one year, and that the Secretary of the Association be requested to notify the several sections that the House of Delegates recommends to the several sections that the Secretary of the Sections be elected for a term of not less than three years.

And, further, to carry this into effect, in the first five sections, those on the Practice of Medicine; Surgery; Obstetrics, Gynecology and Abdominal Surgery; Ophthalmology, and Laryngology, Otology and Rhinology, the Secretary shall be elected for a term of three years at the annual election. The next five sections, on Diseases of Children; Pharmacology and Therapeutics; Pathology and Physiology; Stomatology, and Nervous and Mental Diseases, should be asked to elect their secretaries this year for a term of two years and thereafter for a term of three years, and the last five sections, on Dermatology; Preventive Medicine and Public Health; Genito-Urinary Diseases; Hospitals and Orthopedic Surgery, to elect their secretaries this year for one year and thereafter for a term of three years.

The desirability of ample time for discussion of the many important measures brought before the House of Delegates is a strong argument in favor of extra days in which the delegates may meet and also give them more time to attend the scientific sessions. Objections to lengthening the sessions are many, but the Committee would like to suggest that a partial solution of this problem might be to hold evening sessions of the House of Delegates, with the exception of the night when the President's reception is held. This would, of course, interfere with some of the social functions, but while the social functions are most delightful, there is an old saying, "business before pleasure."

The Committee would suggest the trial of this plan before attempting to lengthen the sessions.

In regard to the recommendations that the President should be an ex-officio member of the trustees, standing committees, councils, etc., the Committee suggests that the Secretary of the Association be requested to invite the President to all such meetings.

### TRUSTEES' REPORT

The Reference Committee is gratified to report to this House that the Report of the Board of Trustees submitted at this annual session evidences satisfactory conditions of the business activity of this Association.

### REPORT OF THE JUDICIAL COUNCIL

We endorse the recommendation of the Judicial Council relative to a speaker of the House of Delegates and are gratified to note that the House of Delegates has already appointed an hour when it will sit as a Committee of the Whole for the discussion of this question.

We recommend that the other delegates express their appreciation of the investigation made by the Judicial Council of the secret division of fees and of contract practice and recommend the adoption of the resolutions proposed by the Judicial Council, namely:

*Resolved,* That any member of the American Medical Association found guilty of secret fee-splitting or of giving, or receiving commissions, shall cease to be a member of the American Medical Association.

*Resolved,* That the House of Delegates of the American Medical Association recommends to each constituent body that it endeavor through the action of its various county societies to reform the various abuses of lodge practice in their separate communities in order that the lodges may give an adequate service to its members and an honorable remuneration to the medical men.

The Reference Committee urges the House to bring the work of the Committee on Red Cross Medical Work to the attention of the entire membership of the organization and to urge cooperation of all in this practical method of relieving distress in times of calamities.

Dr. A. B. Cooke, Tennessee, moved that the report be adopted.

Motion seconded.

Dr. H. D. Arnold, Massachusetts, moved as an amendment that the report be taken up seriatim.

The amendment was seconded, accepted, and the original motion as amended was carried.

Dr. Campbell read the section relating to the President's report.

Dr. Hubert Work, Colorado, moved as a substitute for that part of the report of the Reference Committee on Reports of Officers relative to providing for the House of Delegates holding its meetings at hours that do not conflict with the time occupied by the scientific program, namely, that the House shall convene on Monday of the week of the annual session, and that the scientific program shall begin on Wednesday instead of Tuesday, and that in order to carry this into effect, Section 1, Chapter V, of the By-Laws, shall be amended by inserting the word "second" before the words "day preceding the opening of," so that the section shall read: "The House of Delegates shall meet annually on the second day preceding the opening of, and at the same place as, the annual session of the Association."

On motion, duly seconded and carried, no action was taken on this section of the report and the proposed substitute was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. Seale Harris, Alabama, introduced the following, which, on motion, duly seconded, was referred to the Reference Committee on Constitution and By-Laws:

*Resolved*, That Section 1, Chapter V, be amended to read that "the House of Delegates shall meet for the transaction of business on the Saturday and Monday preceding the opening of the annual session of the scientific branch of the Association."

A session of the House of Delegates shall also be held on the morning of Thursday of the week of the scientific assembly, at which time officers of the Association shall be elected and the business of the Association completed; provided, however, that at any annual session the House of Delegates, by a two-thirds vote, may direct that the subsequent annual session shall be held at some time and place other than that at which the scientific assembly convenes.

The section relating to the Report of the Secretary was read. It was moved that this section be adopted. Motion seconded and carried. The section pertaining to the Report of the Board of Trustees was read. It was moved that this section be adopted. Motion seconded and carried. The section relating to the report of the Judicial Council was read. It was moved that this section be adopted. Motion seconded.

Dr. Robert M. Funkhouser, Missouri, moved that this Association disapproves of members of the American Medical Association receiving commissions from instrument houses or houses dealing in medical supplies, and any member so receiving rebates or commissions shall be dropped from this Association.

Seconded.

Dr. H. D. Arnold, Massachusetts, moved to amend that this matter be referred to the Reference Committee on Constitution and By-Laws with instructions to report such changes in the Constitution and By-Laws as will make the recommendation effective. The amendment was accepted.

The original motion as amended was put and carried.

The section relating to Red Cross medical work was read.

It was moved that this section be adopted.

Motion seconded and carried.

Dr. D. Chester Brown, Connecticut, Chairman, presented a supplementary report for the Commitee on Credentials in reference to the seating of Dr. A. Augustus O'Neill, Illinois.

Dr. A. M. Harvey, Illinois, stated that Dr. Robison is a regularly elected delegate from Illinois, but at present is in Europe. Dr. O'Neill is a regularly elected alternate at large from the state of Illinois. He, therefore, moved that Dr. O'Neill be seated in the House of Delegates.

Motion seconded.

It was moved that the rules be suspended in order that the House might act on this case.

Motion seconded and carried.

Dr. A. M. Harvey, Illinois, thereupon moved that Dr. O'Neill be seated in the House of Delegates.

Motion seconded and carried.

Dr. E. J. Goodwin, Missouri, Chairman, presented the report of the Reference Committee on Legislation and Political Action. It was moved that the report be recommitted.

Motion seconded and carried.

### Report of the Reference Committee on Miscellaneous Business

Dr. C. R. Woodson, Missouri, Chairman, presented the report of the Reference Committee on Miscellaneous Business, as follows:

Your Committee recommends that the Medical Society of the District of Columbia be recognized as the legitimate successor of the Medical Association of the District of Columbia, and as such, entitled to membership and representation in this Association with all the rights and privileges of its other constituent bodies.

Referring to the report of the Committee to Arrange for Clinic Days, your Committee recommends that the resolution and recommendation be referred to the Board of Trustees with instructions to report at this or the next annual session, as to the advisability of such additional days to the scientific sessions, as will make such clinic practicable, and that the present Committee to Arrange for Clinic Days be continued until the next annual session.

Referring to the report of the Committee on the Mode of Commemorating the Completion of the Panama Canal, your Committee recommends its reference to the Board of Trustees, with approval.

C. R. WOODSON, Chairman,
A. T. MCCORMACK,
LOUIS J. HIRSCHMAN.

This report was considered section by section, and then adopted as a whole.

### Report of the Reference Committee on Amendments to the Constitution and By-Laws

Dr. Floyd M. Crandall, New York, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws.

On motion duly seconded and carried the report was received. It was then moved and seconded and carried that the report be considered section by section. The report as as follows; the action taken on each section is entered in parentheses immediately after the section acted on:

The Reference Committee on Amendments to the Constitution and By-Laws reports that it recommends the adoption of the substitute for the amendment to Article 3 of the Constitution proposed by the Judicial Council.

The membership of this Association shall consist of (such members of the Constituent Associations and of such medical officers of the Army, of the Navy and of the U. S. Public Health Service, as shall make application in accordance with the By-Laws hereinafter provided) the members in good standing in its constituent state and territorial associations.

There shall be conducted by the American Medical Association a scientific session in which all members of the Association who qualify as hereinafter provided in the By-Laws as Fellows of the American Medical Association shall be privileged to participate.

[Adopted.]

It recommends that the Amendment to Article 10, Section 2, namely, that there be added to the section the words "and the President, Secretary and Editor of THE JOURNAL shall be members of the Board of Trustees without the right to vote" be not adopted.

[Concurred in.]

It further recommends the adoption of the By-Laws as proposed in the report of the Judicial Council.

On several motions, duly seconded and carried, each section was adopted after correcting a misprint in Section 4, Chapter I, of the By-Laws as they appear in the report, so that the word "members" was changed to "fellows" in the sentence reading, after correction "These fellows shall not be required to become personal subscribers to THE JOURNAL of the American Medical Association."

The Committee recommends that the amendment to the By-Laws, Section 4, Chapter I, proposed by the representative of the District of Columbia, be not adopted.

[Concurred in.]

The Committee reported that the amendment to the By-Laws, proposed by Dr. Dwight H. Murray, relative to the introduction of new business at a time when there is no opportunity for seriously considering the subject presented, was already provided for in the By-Laws.

(Dr. Murray asked permission to withdraw the amendment as he had learned of the provision existing to accomplish the purpose desired subsequent to having offered the amendment. The permission was granted.)

The Committee recommends the adoption of the amendment to Section 12, Chapter XI, of the By-Laws, proposed by the Board of Trustees, namely, that the word "thirty" be substituted for the word "forty." (On motion duly seconded this was carried.)

The Committee further recommends the adoption of the amendment to Section 5, Chapter XI, of the By-Laws, proposed by the Board of Trustees, namely, that the last sentence of this section be changed by inserting in parentheses, after the word "committee," "as constituted at the close of the annual session," and changing "the" to "this." The sentence would then read: "This committee (as constituted at the close of the annual session) shall examine and pass on all papers read before the section, and shall endorse for publication only those that are of scientific or of practical value, and which will reflect credit on the section before which they were read."

(Upon motion duly seconded, this was carried.)

### Report of the Reference Committee on Sections and Section Work

Dr. Thomas A. Woodruff, Illinois, Chairman, presented the report of the Reference Committee on Sections and Section Work, as follows:

WHEREAS, A petition signed by 250 prominent members of the American Medical Association, who are also members of the American Gastro-Enterologic Society and of the American Proctologic Society, requests the formation of a new section to be known as "the Section on Gastro-Enterology and Proctology," we recommend the formation of a Section to be entitled the "Gastro-Enterologic and Proctologic Section of the American Medical Association," under the following conditions:

First: That the American Gastro-Enterologic Society and the American Proctologic Society be disbanded and hold their meetings jointly as a Section of the American Medical Association to be designated as above;

Second: We also recommend that the number of papers to be read at any annual session be limited to fifteen.

THOMAS A. WOODRUFF,
WILLIAM LE MOYNE WILLS,
S. W. S. TOMS,
ROCK SLEYSTER.

It was moved that the report be adopted.

Motion seconded and carried.

Dr. Alexander Lambert, Chairman of the Judicial Council, reported that the following letter introduced by title by the President of the Association in his address was referred to the Judicial Council for consideration and report:

MAY 17, 1913.

ABRAHAM JACOBI, *President,*
*American Medical Association,*

*My Dear Doctor:*—In 1908 the undersigned were appointed a Committee by the American Institute of Homeopathy to present to the American Medical Association on behalf of the homeopathic profession of the United States a proposition for a *joint* investigation of the scientific merits of the method of drug selection expressed by the formula, *similia similibus curantur.*

The committee has presented the matter to individual members of the House of Delegates, but we believe the matter has never been regularly presented to the House or to the Association itself, as a whole. We request that you bring the matter up for consideration and early action by both. For the following reasons it seems to us a subject worthy of your serious thought.

This rule has governed the selection of drugs in the treatment of disease by a considerable number of medical practitioners for over a century. We feel that the time has come when this formula should be brought before the whole medical profession, carefully investigated by modern scientific methods and a determination of the exact value of this method in the practice of medicine made. We seek this—

First, because the voluntary testimony of a large number of physicians who do not understand the correct application of this method indicates their desire to make use of it.

Secondly, because a large number of men who attempt its use ought to be able to get a better understanding of its true significance.

Thirdly, because we believe a large majority of the medical profession would have their usefulness and their power to benefit the sick largely enhanced by a thorough knowledge of this method.

Fourthly, because we believe that suffering is lessened and sickness more speedily and comfortably terminated through drugs administered according to the rule of similars.

Fifthly, because we feel that a careful investigation of this subject belongs to the whole medical profession and not to any single branch of it.

Sixthly, we feel that such research regarding the formula of similars is desirable, because the exactness of modern science with the present means of investigation, together with the accurate observation of the subjective as well as the objective symptoms, make it expedient to investigate the action of many drugs coming into use at the present time, as well as to reexamine those long proved.

The Judicial Council recommends that the House of Delegates direct the Secretary to acknowledge the receipt of the communication of the Committee of the American Institute of Homeopathy, constituted in 1908, and that this Committee be asked to advise this body as to whether or not it is still authorized to act for the American Institute of Homeopathy, and with what power it is vested. Further, if the Committee wishes to renew the request for cooperation in determining proof, the American Medical Association will be pleased to receive a definite scientific proposition submitted over the individual signatures of the committee.

It was moved that the report of the Judicial Council be adopted.

Motion. seconded and carried.

Dr. A. M. Corwin, Illinois, offered the following resolution:

WHEREAS, The American Medical Association annually attracts to its session a large number of the profession, including its leading scientific exponents; and

WHEREAS, The total membership of this growing Association is so great that but limited opportunity is afforded for the presentation of valuable papers; and

WHEREAS, Many of our ablest thinkers and workers find it increasingly difficult to obtain places on the scientific program; and

WHEREAS, It is evident from a perusal of the published program of the present meeting that many individuals are scheduled for at least two contributions each, either in the same or in separate sections;

*Resolved*, That this House of Delegates in the interest of greater fairness and of a wider distribution of the privileges and obligations to all, recommends that no member be allowed to appear for the reading of more than one paper at each session. Be it

*Recommended*, That Section 13, Chapter XI, of the By-Laws be changed to conform with these resolutions.

It was moved and seconded that the resolution be referred to the Reference Committee on Constitution and By-Laws.

Motion seconded and carried.

Dr. F. C. Warnshuis, Michigan, offered the following resolution:

WHEREAS, The official journals of the various state organizations are largely dependent on their advertising income for the maintenance of their publications; and

WHEREAS, The present tendency of the large business firms and corporations is to discourage the placement of advertising contracts with so-called "class publications"; and

WHEREAS, Several of the independent medical publications have made combinations for the securing of advertising contracts for the individual journal composing these combinations; and

WHEREAS, It is essential that our state journals be assisted in securing these needed advertising contracts, if they are to be expected to attain or maintain a high standard in the field of medical journalism; therefore, be it

*Resolved*, That the President of the House of Delegates be authorized to appoint a Committee of three members to be known as the Committee on Bureau of State Medical Journals.

*Second*. That this Committee be authorized to take the necessary steps to form a Bureau of State Journals for the purpose of securing advertising contracts.

*Third*. That this House of Delegates, through its Secretary and the Committee thus to be appointed, respectfully request the Board of Trustees of the American Medical Association to make such necessary early appropriation of funds for the purpose of financing the preliminary steps requisite for the formation and establishment on a working basis of such a bureau.

On motion of Dr. A. B. Cooke, Tennessee, duly seconded, this was referred to the Reference Committee on Miscellaneous Business.

Dr. Thomas S. Cullen, Maryland, presented the following resolution:

WHEREAS, The American Society for the Control of Cancer, a society composed of representatives of the medical profession and influential laymen, has been recently founded for the purpose of disseminating knowledge concerning the symptoms, diagnosis, treatment and prevention of cancer; to investigate the conditions under which cancer is found, and to compile statistics in regard thereto; therefore, be it

*Resolved*, That this movement deserves the cooperation of the medical profession of America, and that this Association heartily commends its worthy purpose.

It was moved that the resolution be adopted.

Motion seconded and carried.

Dr. Torald Sollmann, Ohio, Section on Pharmacology and Therapeutics, offered the following resolution:

WHEREAS, It has been repeatedly shown by the Council on Pharmacy and Chemistry, and by the Chemieal Laboratory of the A. M. A., as well as by other investigators, that many drugs and preparations used in the treatment of disease are of unreliable composition, through earelessness, negligence, ignoranee and other reasons; and

WHEREAS, This condition of affairs is against the interests of public health and the progress of the seienee of medicine; therefore it is evident that greater activity is needed in the enforcement of existing laws relating to drugs and medieines; therefore, be it

*Resolved*, That the Seetion on Pharmaeology and Therapeutics requests the House of Delegates of the A. M. A. to bring this matter to the attention of the proper federal and state authorities, and urge on them the need for more energetie and effeetive action in this direetion.

It was moved that the resolution be referred to the Reference Committee on Legislation and Political Action.

Motion seconded and carried.

Dr. Torald Sollmann, Ohio, delegate from the Section on Pharmacology and Therapeutics, presented the following resolution which, on motion, duly seconded, was referred to the Reference Committee on Miseellaneous Business:

WHEREAS, It is desirable that the articles officialized by the Pharmaeopeia of the United States should reflect the progress of therapeutics; and

WHEREAS, Therefore the inclusion of artieles in the Pharmacopeia now in progress of revision should be determined by their therapeutie merit; and

WHEREAS, The decision of therapeutic questions should logically and in fairness be left mainly to the medical members of the Revision Committee; therefore, be it

*Resolved*, That the section request the House of Delegates of the Ameriean Medical Association to urge on the Committee of Revision of the Pharmaeopeia of tbe United States that the selection of artieles to be included be left to the Committee on Scope, in which the medieal profession has a majority representation, rather than to the Executive Committee, which represents mainly the pharmaeeutical profession, and which has overriden half the ehanges advoeated by the Committee on Seope.

It was moved that the resolution be referred to the Reference Committee on Miscellaneous Business.

Motion seconded and carried.

---

## *Fourth Meeting—Wednesday, June 18*

The House of Delegates met at 2 p. m., and was called to order by the President.

The Secretary reported a quorum present.

Dr. D. Chester Brown, Connecticut, Chairman, presented a supplementary report from the Committee on Credentials, as follows:

The Committee reports that the secretary of one of the constituent state associations has telegraphed names of members of that state association, and directed that these be seated should the regularly eleeted delegates and alternates fail to register.

It will be noted that these men have not been reported in compliance with the standing rules, as having been elected either delegates or alternates. Consequently the Committee on Credentials has declined to seat them.

Dr. George H. Kress, California, moved that the report be adopted.

Motion seconded and carried.

The President announced that the special order set for this hour was that the House shall go into a committee of the whole to consider the question of the advisability of eleeting a speaker for the House of Delegates.

The House then resolved itself into a committee of the whole.

Later the Committee of the Whole rose and the House entered on its regular order of business.

The Secretary read the minutes of the previous meeting.

Dr. A. M. Corwin, Illinois, moved the adoption of the minutes.

Motion seconded.

Dr. H. D. Arnold, Massachusetts, arose for information and asked how many, and who of the Committee on National Department of Health had signed the report presented to the House of Delegates yesterday.

The Chair requested the Chairman of the Committee to reply

Dr. John B. Murphy, Illinois, replied that the report was signed by four members of the Committee, namely, W. C. Woodward, W. A. Evans, J. N. Hurty and John B. Murphy.

Dr. Arnold said there are nine members on the Committee, five of whom did not sign the report, namely, J. N. McCormack, S. G. Dixon, William H. Welch, Hermann M. Biggs and Henry P. Walcott; and moved as an amendment that the record be corrected so as to state this fact and to show that the report is in reality a minority report.

This motion was seconded by several delegates, accepted, and the original motion as amended was adopted.

### Report of Reference Committee on Legislation and Political Action

Dr. E. J. Goodwin, Missouri, Chairman, presented the report of the Reference Committee on Legislation and Political Action, as follows:

Concerning the resolution introduced by Dr. Torald Sollmann, representing the Section on Pharmacology and Therapeutics, which was referred to this Committee, requesting that the House of Delegates bring the need of enforeing existing laws relating to drugs and medieines to the proper federal and state authorities, and to urge on them the need of more energetic and effeetive aetion, the committee approved the resolution and reeommends its adoption, provided that any committees appointed shall be nominated by the constituent state associations, and the work shall be carried on under the jurisdiction and control of the several state associations, and that these committees shall report through the state associations.

The report of your Reference Committee on Legislation and Political Action, having been recommitted in order that the Committee might include in its deliberations the report of the Committee on National Health Regulations, now begs to submit its complete report in accordance with the instructions of the House of Delegates, as follows:

The report of the Committee on National Department of Health has been carefully considered. In order to make a comprehensive and intelligent report to the House of Delegates, your Committee entered into an analysis of the status of the Special Committee on National Department of Health, its origin and purposes, and its relation to the Council on Health and Public Instruction. The Committee was created at the St. Louis session in 1910 for the express purpose of drafting a bill for a national department of health. This Committee reported to the Los Angeles session and it was evidently considered that it had completed its task, as the Reference Committee on Legislation and Political Action recommended that the report be accepted and the Committee discharged and that further action in the matter be referred to the Council on Health and Public Instruction. Consideration of this recommendation was postponed to a later session of the House. Before further action could be taken by the House, unanimous consent was granted Dr. A. T. McCormaek to introduce a resolution. This resolution pledged the support of the Association to the principles of the Owen bill and recommended the continuance of the Committee on National Department of Health and instructed that Committee to act with the Council on Health and Public Instruction. Under suspension of the rules, this resolution was adopted.

Chapter IX, Section 5, of the By-Laws defines the duties of the Council on Health and Public Instruction as follows: "The work of the Council shall embrace the following subjects: (*a*) Legislation, (*b*) Organization, (*c*) Public Instruction, (*d*) Defense of Medical Research, (*e*) Public Health."

From the foregoing it is clearly evident that there is a duplication of functions of the Council and of the Special Committee.

The first recommendation of the Committee on National Department of Health, to wit: That the American Medical Association each year send representatives to organizations working along similar lines to ours and explain to them all acts of our organization in which they might be interested and to notify similar organizations to send representatives to our meetings for similar purposes, is endorsed.

We do not concur in the recommendation of the Committee that the Association maintain a paid lobbyist at Washington.

We do not concur in the recommendation that representatives of this Association, independently or in conjunction with organizations of a purely commercial nature, as recommended by the Committee, cooperate for the purpose of maintaining a lobby at Washington.

On investigation we find that that part of the report stating that "all efforts to obtain funds to carry on its work have failed," is an error.

Investigation proves that $800 was requested by the Secretary of the Special Committee in January, 1913, and that the Council appropriated $1,000 in response to this request. Furthermore, we find that every bill presented by the Special Committee or its members has been paid by the Council. On questioning a member of the Committee present at the request of your Reference Committee, we learned that some members had not been reimbursed for some expenses because the bills had never been presented. We recommend that the Council request these members to present such bills and that they be paid.

That portion of the report which states that the Board of Trustees failed to make any appropriation on the ground that the appropriation should come through the Council having in charge all legislative matters under the By-Laws is correct, and the action of the Trustees is justified and is in accordance with the By-Laws and by the fact that the Board of Trustees did appropriate money to the Council for legislative purposes.

That portion of the report which states that due to the supineness of the American Medical Association the enemies of the National Department of Health are opposing laws for vital statistics and laws and ordinances on public health, and the administration of activities of health departments, state and municipal, and that there is no agency to combat their false statements, is not borne out by the facts because more laws bearing on vital statistics have been passed during the last six years through the efforts of the American Medical Association and its Council on Health and Public Instruction than had been passed in the preceding twenty-five years.

Concerning that portion of the report which says, "In so far as relates to the relation that exists, or should exist between this Committee and the Council on Health and Public Instruction your Committee begs to call your attention to the fact that the work of the Council on Health and Public Instruction has been understood to be the study of existing legislation in a critical way, so as to enable the Council to advise those who are in search of certain information as to what legislation has been enacted and with what results, and as to what legislation the Council would recommend elsewhere. It has never been understood to be the function of the Council on Health and Public Instruction to do anything more than this (whatsoever) to promote the enactment of legislation, and so far as is known the Council has never taken any such action"; your Reference Committee in refutation of this statement refers the House to the duties of the Council as defined by the By-Laws quoted previously in this report, and to reports of the Council as to the work that it has undertaken and accomplished.

That portion of the report which reads, "It is the judgment of the undersigned that pursuing the plans followed for several years past, there will never be a national department of health" is heartily concurred in by your Reference Committee.

We concur in that part of the report which reads, "The fault lies in trying to accomplish an end with machinery unsuited to the purpose"; but that portion of the report which refers to proved and accepted methods for getting results from legislative bodies, we do not concur in for the reason that there are no proved and accepted methods of getting results from legislative bodies.

That portion of the report which reads, "We, the undersigned, recommend that the American Medical Association either withdraw its support from the bill for a national department of health or that it compel greater activity by its agents. The present type of activity is both a hindrance to the bill and a harm to the health cause and detrimental to the medical profession" is a direct reflection on the Committee making the statement.

We do not concur with that part of the report which reads, "The undersigned deemed it a mistake to have had the Trustees place this matter in the hands of the present Council on Health and Public Instruction and to have placed this Committee under their leadership," for the reason that the resolution adopted by the House of Delegates at Los Angeles continuing the special committee, instructed it to work with the Council on Health and Public Instruction and for the further reason that the Council on Health and Public Instruction is the regularly organized channel through which this work can be most effectively accomplished.

That portion of the report which reads, "Great principles are established; great fights are won by earnest men intent on victory and refusing to be put aside. With profound respect for these gentlemen, they have not brought to this project any such qualities. They have always seemed timid, able to discover defects, able to see obstacles, conservative, judicial, careful of every interest whose rights might be thought to be invaded. They have shown themselves entirely without the capacity for aggressive leadership necessary to win this fight," we call to your attention and wish to congratulate the Association on having a Board of Trustees possessing the great qualities of mind and heart referred to in this paragraph while sympathizing with them in their apparent lack of capacity for aggressive leadership notwithstanding the possession of so many other commendable attributes.

Referring to that portion of the report which reads, "It is the judgment of the undersigned that the American Medical Association should either discontinue the Committee or else give it funds and the freedom of developing its own leadership," we most heartily concur with that portion of the recommendation which advises the discontinuance of the Committee.

We recommend that when a Committee on Health has been established in the House of Representatives, the Council appoint, by virtue of its authority, and in consultation with the President, such committee or committees as it may deem advisable to further the interests of national health legislation with the ultimate object of the establishment of a department of health.

Your Committee desires to call the attention of the House to the fact that the statement presented by Dr. Evans and referred to the Reference Committee on Legislation and Political Action is signed by the following members of the Committee: J. B. Murphy (by W. A. E.), J. N. Hurty, W. C. Woodward (by W. A. E.) and W. A. Evans, a minority of the Committee; the other members of the Committee are Hermann M. Biggs, H. P. Walcott, J. N. McCormack, S. G. Dixon and William H. Welch. Furthermore, the members who signed the report are referred to throughout as the "undersigned" and not as the Committee.

Your Reference Committee feels that this statement of a minority of the Committee is an unjust and unmerited reflection on the Board of Trustees and the Council on Health and Public Instruction, a reflection which one would hardly expect from a Special Committee charged with the duty of handling most delicate legislative problems.

Furthermore, your Committee feels that the work of the American Medical Association toward national health legislation should be directed to the enlightenment of the people and legislators on the necessities for a department of health, but should not be directed to members of Congress by paid lobbyists, which we conceive to be an improper method of accomplishing results. We are opposed to so-called lobbying in any manner whatsoever, and we believe that the Association should make it plain to the people that the American Medical Association will not spend one cent for the purpose of improperly influencing members of Congress.

In view of the foregoing your Committee believes that its original report should not be altered; on the contrary, it seems to us that the report of the Special Committee adds emphasis to the recommendation of your Reference Committee that the Special Committee on National Health Legislation be discontinued. That report reads as follows:

Your Committee, to whom was referred the Report of the Council on Health and Public Instruction, has carefully studied the contents of this report and has observed the recommendations contained therein. Not only have the recommendations of the Council been carefully considered, but we have reviewed in detail the reports and recommendations of the various subcommittees of the Council.

Your Committee finds that the work of the Council on Health and Public Instruction is rapidly extending along lines that will ultimately include a propaganda of instruction for the prevention of every preventable disease.

The Council has discovered avenues through which information may be disseminated that hitherto have been unknown or entirely closed to them.

As an instance, we will mention the changed attitude of the press toward the announcements from this Association; from an attitude of passive indifference, they have become active exponents of the recommendations of the Association. This is the result of the work of the press bureau of the Council. The Council has discovered that there are about sixty national organizations doing or attempting to do work for the protection of the public health. The Council has already taken steps toward correlating these forces and any others that may be discovered, to eliminate waste effort and establish concentrated and effective measures.

The reports of the subcommittees of the Council show a remarkable degree of energy in suggesting means and methods

of preventing and controlling disease and establishing laws, state and national, affecting the public health.

Your Committee first desires to congratulate the Association on the establishment of the Council on Health and Public Instruction and to commend the Council and its subcommittees for their untiring, intelligent and effective labors; for we are convinced that it has been largely through the work of the Council and its committees that the public has been awakened to a proper realization of the true intentions and purposes of the American Medical Association and its constituent bodies.

Your Committee believes that the work of the Council can be even more effective and possibilities of conflict removed if the House of Delegates reposes in the Council full and complete authority to direct all activities touching its constituted duties.

Since the work of the Special Committee on National Public Health Legislation is a duplication of duties already belonging to the Council, we recommend that the Special Committee on National Public Health Legislation be discontinued.

Your Committee finds that committees have been appointed from time to time by sections and by the executive officers of the Association to carry out the propaganda of public health instruction in the constituent state associations, without communication or counsel with the state associations.

Your Committee believes that such action is not just to the constituent state associations. We therefore recommend: That the Council in developing its activities, which we again wish to say are paramount in keeping this Association in a proper light before the public, shall work through the constituent state associations and their committees rather than by the creation of new or special committees; and that all committees and persons representing any department of the American Medical Association, or representing any of its activities within the borders of any constituent state association, shall be appointed by the executive officers of the state associations; and such committee shall be under the jurisdiction and control of the state association and responsible to the Council on Health and Public Instruction through the state association.

We recommend that no committee shall be appointed by the sections or by any subcommittee with duties extending into the territory of any constituent state association. All such committees shall be appointed by the constituent state association and be under the jurisdiction and control of the state association.

We recommend that the report of the Subcommittee on Uniform Regulation of Membership be adopted and that the Board of Trustees be requested to arrange for another conference of the state secretaries at such time and place as the Board deems advisable.

E. J. GOODWIN, Chairman.
A. R. MITCHELL,
THOMAS S. CULLEN.

Dr. A. B. Cooke, Tennessee, moved that the section of the report concerning the resolution of Dr. Sollmann be adopted.

Motion seconded and carried.

Dr. Goodwin read the second section of the report, which pertained to the report of the Council on Health and Public Instruction and the report of the Committee on a National Department of Health.

Dr. Dwight H. Murray, New York, moved that the House go into executive session.

Motion seconded and carried, and the House went into executive session.

Dr. E. J. Goodwin, Missouri, moved the adoption of the report, which was seconded by Dr. Wendell C. Phillips, New Work.

Dr. A. C. Cotton, Illinois, moved to amend by substituting for the report a preamble and resolution which he read. During the reading a point of order was raised, namely, that this new preamble and resolution could not be substituted for the report of the committee. The Chair ruled that the point of order was well taken.

Dr. A. M. Harvey, Illinois, moved to amend that, with the exception of those parts of the report which referred to the Committee on National Department of Health, the report of the Reference Committee be adopted.

Motion seconded, but failed to carry.

The original motion to adopt the report of the Reference Committee as a whole was then put and carried.

Dr. J. J. McGovern, Wisconsin, introduced a preamble and resolution which was seconded, authorizing the appointment of a committee of five members of the House of Delegates to investigate the causes of unrest which seem to prevail among physicians.

Dr. Scale Harris, Alabama, moved that the resolution be tabled.

Motion seconded and carried.

The executive session was closed and an open meeting entered on.

### Report of Reference Committee on Amendments to Constitution and By-Laws

Dr. Floyd M. Crandall, New York, presented the Report of the Reference Committee on Amendments to the Constitution and By-Laws.

At the session of the House of Delegates, held June 17, Dr. A. M. Corwin of Illinois offered the following resolution:

WHEREAS, The American Medical Association annually attracts to its session a large number of the profession, including its leading scientific exponents; and

WHEREAS, The total membership of this growing Association is so great that but limited opportunity is afforded for the presentation of valuable papers; and

WHEREAS, Many of our ablest thinkers and workers find it increasingly difficult to obtain places on the scientific program; and

WHEREAS, It is evident from a perusal of the published program of the present meeting that many individuals are scheduled for at least two contributions each, either in the same or in separate sections,

*Resolved*, That this House of Delegates, in the interest of greater fairness and of a wider distribution of the privileges and obligations to all, recommends that no member be allowed to appear for the reading of more than one paper at each session. Be it

*Recommended*, That Section 13, Chapter XI, of the By-Laws be changed to conform with these resolutions.

The Committee recommends that the following be substituted for Chapter XI, Section 13, of the By-Laws:

SEC. 13. CAN PRESENT PAPERS BEFORE ONLY ONE SECTION.—No fellow shall present more than one paper at any annual session. The title and abstract of the paper must be submitted to the secretary of the section before which the paper is to be read. No paper shall occupy more than fifteen minutes in the reading.

Two resolutions were introduced designed to change the times of meeting of the House of Delegates. The first was introduced by Dr. Hubert Work, Colorado, who moved as a substitute for that part of the report of the Reference Committee on Reports of Officers relative to providing for the House of Delegates holding its meetings at hours that do not conflict with the time occupied by the scientific program, namely, that the House shall convene on Monday of the week of the annual session, and that the scientific program shall begin on Wednesday instead of Tuesday, and that in order to carry this into effect, Section 1, Chapter V, of the By-Laws, shall be amended by inserting the word "second" before the words "day preceding the opening," so that the section shall read: "The House of Delegates shall meet annually on the second day preceding the opening of, and at the same place as, the Annual Session of the Association."

The second resolution was as follows:

*Resolved*, That Section 1, Chapter V, be amended to read:

The House of Delegates shall meet for the transaction of business on the Saturday and Monday preceding the opening of the annual session of the scientific branch of the Association.

A session of the House of Delegates shall also be held on the morning of Thursday of the week of the scientific assembly at which time officers of the Association shall be elected and the business of the Association completed, provided, however, that at any annual session the House of Delegates, by a two-thirds vote, may direct that the subsequent annual session shall be held at some time and place other than that at which the scientific assembly convenes.

Two members of the Committee being absent, and the remaining members not being able to agree, a majority report cannot be returned.

One member recommends the adoption of the amendment proposed by Dr. Work.

Two members do not recommend the adoption of either amendment at the present time.

FLOYD M. CRANDALL, Chairman,
EDWIN WALKER,
BEN R. MCCLELLAN.

The report was considered section by section.

On motion, duly seconded and carried, the substitute for Chapter XI, Section 13, of the By-Laws, recommended by the Committee was adopted.

On motion of Dr. Wendell C. Phillips, New York, the House declined to adopt at this session any amendments to the By-Laws affecting the time of the meetings of the House of Delegates at present in effect.

Dr. Holman Taylor, Texas, presented the following preamble and resolutions and moved their reference to the Board of Trustees.

Motion seconded and carried.

WHEREAS, The committee appointed by this Association "To Consider the Mode of Commemorating the Completion of the Panama Canal," has reported that no appropriation has been made to cover the expense of organizing or beginning the work in hand; and

WHEREAS, This preliminary work will require the expenditure of considerable money for clerical hire, correspondence, and so forth; therefore be it

*Resolved*, That the Committee be continued and the Trustees be requested to make an appropriation for the necessary preliminary work; and be it

*Resolved*, That it is the sense of this House of Delegates and the Committee is so instructed, that the memorial shall take the form of:

1. A Congress on Tropical Medicine, and the Committee is directed to proceed to organize such Congress, with the advice of the President and the Board of Trustees of this Association.

2. A permanent monument, to be erected by popular subscription, at or near the entrance of the Canal, in commemoration of the triumph of American preventive medicine and sanitary science, and that said monument shall include a bronze statue of Colonel William C. Gorgas, and recognition in some suitable manner of Laveran, Ross, Finley, Reed, Agramonte, Carroll, Lazear and such others as may have made notable contributions to preventive medicine and sanitary science; and be it further

*Resolved*, That it is the sense of the House of Delegates that the great work of engineering science should be commemorated in like manner by a companion statue to Colonel George W. Goethals, and this Committee is instructed to communicate this suggestion to the appropriate organization of American engineers and invite their cooperation in a joint movement to this end; and finally, be it

*Resolved*, That the Committee be instructed to petition the Congress of the United States, in the name of the American Medical Association, for permission to erect said monument or monuments and to provide suitable site or sites therefor.

HOLMAN TAYLOR,
MARVIN L. GRAVES,
ISADORE DYER.

Dr. Thomas S. Cullen, Baltimore, presented the following:

*Resolved*, That the House of Delegates of the American Medical Association heartily endorses the so-called "*Printer's Ink* bill," is gratified that it has become a law in several states, and hopes that in the near future it may become effective in every state of the Union.

The *Printer's Ink* bill is as follows:

Any person, firm, corporation or association, who, with intent to sell or in any wise dispose of merchandise, securities, service, or anything offered by such person, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein, makes, publishes, disseminates, circulates or places before the public, or causes, directly or indirectly, to be made, published, disseminated, circulated or placed before the public in this state, in a newspaper or other publication, or in the form of a book, notice, hand-bill, poster, bill, circular, pamphlet or letter, or in any other way, an advertisement of any sort regarding merchandise, securities, service or anything so offered to the public, which advertisement contains any assertion, representation or statement of fact, which is untrue, deceptive or misleading shall be guilty of a misdemeanor.

It was moved that the resolution be adopted.

Motion seconded and carried.

Dr. A. B. Cooke, Tennessee, presented the following resolution, referring to Chapter 1, Section 3, of the By-Laws:

*Resolved*, That nothing in this Section shall be construed as exempting any member of the American Medical Association from compliance with the requirements of the civil laws of the state or district into which he may have removed.

On motion, duly seconded and carried, this was made a standing rule.

Dr. Oscar Dowling, Louisiana, said that he had been requested by the officers of the Section on Preventive Medicine and Public Health to advise the House that they took pleasure in recommending Mr. Samuel Hopkins Adams for associate membership in the American Medical Association.

On motion, duly seconded and carried, the House adjourned.

---

## *Fifth Meeting—Thursday, June 19*

The House of Delegates met at 2 p. m., and was called to order by the President.

The Secretary called the roll and 116 delegates responded.

The minutes of the previous meeting were read and approved.

The President declared the order of business to be the election of officers.

Accordingly the House proceeded to an election which resulted in the choice of the following: President, Dr. Victor C. Vaughan, Ann Arbor, Mich.; First Vice-President, Dr. Walt P. Conaway, Atlantic City, N. J.; Second Vice-President, Dr. Frank C. Todd, Minneapolis; Third Vice-President, Dr. Lillian H. South, Bowling Green, Ky.; Fourth Vice-President, Dr. Sol G. Kahn, Salt Lake City, Utah; Secretary, Dr. Alexander R. Craig, Chicago (reelected); Treasurer, Dr. William Allen Pusey, Chicago (reelected); Trustees: Dr. W. W. Grant, Denver; Dr. Frank C. Lutz, St. Louis; Dr. Oscar Dowling, Shreveport, La, and to fill the term made vacant by the death of Dr. Daugherty, Dr. Thomas McDavitt, St. Paul, Minn.

The president then nominated and the House confirmed the following: Member of Judicial Council, Dr. A. B. Cooke, Nashville, Tenn.; Member of Council on Health and Public Instruction, Dr. W. S. Rankin, Raleigh, N. C.; Member of the Council on Medical Education, Dr. H. D. Arnold, Boston.

The Secretary presented a list of names for associate membership endorsed by the officers of various sections, and on motion, duly seconded and carried, the Secretary was instructed to cast the ballot of the House in each case in which the applicant is eligible for associate membership in the Association, namely, when the applicant is not eligible to membership in his constituent state association.

Dr. Thomas S. Cullen, Maryland, rose to a question of personal privilege and asked unanimous consent to permit the introduction of a motion according the floor to Mr. Samuel Hopkins Adams. Consent having been given, the motion was made, seconded and carried.

Mr. Adams then addressed the House on the subject of medical advertisements in the public press.

### Supplementary Report of the Board of Trustees

Dr. W. W. Grant, Colorado, Chairman, presented a supplementary report for the Board of Trustees. The Board of Trustees desired to call the attention of the House of Delegates to the fact that the Reference Committee has made no report regarding the subject of creating new sections. The Board would be glad to have the House take some action in regard to it.

With reference to the request from the Home for Widows and Orphans, which was referred to it, the Board thinks that this should go properly to the Judicial Council and recommends such reference.

In regard to the Bureau of Advertising, no report has been made to the Board of Trustees. It is recommended that the Board be authorized at its discretion to undertake the establishment of a Bureau in line with the resolution introduced and referred to the Reference Committee on Miscellaneous Business.

As to the report of the Committee to Consider the Mode of Commemorating the Completion of the Panama Canal, and the resolution introduced by Dr. Holman Taylor, Texas, the Board wishes to refer these to the House and suggests that the Honse recommend that the Board, at its discretion, shall make an appropriation for certain preliminary work to this end.

Dr. J. W. Andrews, Minnesota, moved that the report of the Board of Trustees be adopted.

Motion seconded and carried.

The President announced the appointment of the following officers of the new Section on Gastro-Enterology and Proctology, should this section be established in accordance with the conditions imposed: Chairman, Dr. Joseph M. Mathews, Louisville, Ky; Vice-Chairman, Dr. J. A. McMillan, Detroit; Secretary, Dr. A. J. Zobel, San Francisco; Executive Committee: Dr. Dwight H. Murray, Syracuse, N. Y.; Dr. John L. Jelks, Memphis, Tenn., and Dr. L. J. Hirschman, Detroit.

It was moved that these appointments be ratified.

Motion seconded and carried.

Dr. Arthur T. McCormack, Kentucky, asked unanimous consent, which was granted, to introduce the following resolution:

WHEREAS, the Minneapolis *Journal*, published in Minneapolis, our host, not only closes its advertising columns to all forms of quackery, but also conducts an active campaign against such advertising carried by many of its contemporaries, be it

*Resolved*, That the American Medical Association deems it peculiarly appropriate at this meeting to endorse the standards maintained by the Minneapolis *Journal* in the matter of medical advertisements, and to congratulate the legitimate advertisers and the public of this community on the proof thus afforded that a newspaper can be successful without the support of the Great American Fraud.

It was moved that the resolution be adopted.

Motion seconded and carried.

### Medical Association of Porto Rico

Dr. Alexander Lambert, New York, Chairman, made a supplementary report for the Judicial Council. The Judicial Council has considered the petition of the Medical Association of Porto Rico praying that it be accepted as and constituted a constituent association of the American Medical Association. The Judicial Council recommends that the Medical Association of Porto Rico be recognized as a constituent association of this Association.

Dr. Arthur T. McCormack, Kentucky, moved that the report be adopted.

Motion seconded and carried.

### Supplementary Report of the Reference Committee on Amendments to the Constitution and By-Laws

Dr. Floyd M. Crandall, New York, Chairman, presented the following report of the Reference Committee on Amendments to the Constitution and By-Laws:

The Committee recommends that the Secretary be directed to have the Public Health Service designated by this title wherever the name occurs in the Constitution and By-Laws, that the Secretary be further directed to rearrange the chapters and sections of the By-Laws, renumbering them whenever necessary so that the sections relating to definite subjects may be grouped, and offers the following amendment to the Constitution to be voted on next year, namely; that in Article 3 of the Constitution, second paragraph, the words "scientific assembly" be substituted for "scientific session."

FLOYD M. CRANDALL,
EDWIN WALKER,
BEN R. MCCLELLAN,

Dr. Wendell C. Phillips, New York, moved the adoption of the report.

Motion seconded and carried.

Dr. C. R. Woodson, Missouri, Chairman, presented a supplementary report of the Reference Committee on Miscellaneous Business, as follows:

With regard to the preamble and resolution introduced by Dr. F. C. Warnshuis, Michigan, the majority of the committee recommends the adoption of this report, but the Chairman of the Committee does not concur in this recommendation.

Concerning the preamble and resolution referred to this Committee, which was introduced by Dr. Torald Sollmann, Section on Pharmacology and Therapeutics, the Committee unanimously recommends the adoption of this preamble and resolution.

C. R. WOODSON,
A. T. MCCORMACK,
KENNETH A. J. MCKENZIE,
JOHN Z. SHEDD,
LOUIS J. HIRSCHMANN.

On separate motions, duly seconded and carried, each section of the report was adopted.

### Report of the Committee on Awards

The report of the Committee on Awards was then presented, and on motion, duly seconded and carried, the report was adopted.

The report is as follows:

In view of the general excellence of all the exhibits, your Committee found great difficulty in deciding as to their relative merits. It wishes to recommend highly the exhibits as a whole and the very effective manner in which the demonstrations were made.

The Committee has awarded the gold medal to Dr. C. C. Bass of Tulane University for the exhibit of the "Cultivation of Malarial Plasmodia in Vitro."

As exhibits to be distinguished by certificates of merit, the Committee recommends the following:

"Cancer in Plants," Erwin F. Smith, United States Bureau of Plant Industry.

"Intestinal Parasitic Diseases," Lillian H. South, Kentucky State Board of Health.

"Histology of Goiter," L. B. Wilson, Mayo Clinic.

"Studies in the Physiology of Anesthesia," W. D. Gatch, Frank Mann and Dowell Gann, Indianapolis.

"Exhibit of Fetal Peritoneal Folds by Means of Specimen Photographs and Drawings," Joseph Rilus Eastman, Indiana University School of Medicine, Indianapolis.

"Blood-Vessel Suturing and Transplantation of Blood-Vessels and Intestines," J. S. Horsley, St. Elizabeth Hospital, Richmond, Va.

"Roentgen-Ray Plates of Lesions of Various Internal Viscera," D. H. Carman, Mayo Clinic.

Signed by order of the Committee:

W. T. COUNCILMAN, Chairman.

### Report of Committee on Transportation and Place of Session

Dr. J. R. Pennington, Illinois, Chairman, presented the report of the Committee on Transportation and Place of Session, as follows:

Your Committee on Transportation and Place of Session has received invitations to hold the next annual session of the American Medical Association from the following cities, which your Committee reports alphabetically: Atlanta, Atlantic City, Chicago, Louisville, New Orleans, New York and Washington, D. C.

The Committee has given careful consideration to each of these and reports that it recommends to the House of Delegates that the next annual session be held in Atlantic City.

J. RAWSON PENNINGTON, Chairman,
W. T. SARLES,
GEORGE D. HEAD,
THOMAS COLEMAN,
ALFRED J. ZOBEL.

Dr. A. T. McCormack asked the unanimous consent that he might introduce a motion to accord the privileges of the floor to Dr. Curran Pope, Kentucky, who is authorized to present in person an invitation to the House of Delegates, asking the Association to meet next year in Louisville, Ky.

Consent having been given, a motion was introduced, seconded and carried.

Dr. Pope then invited the Association to come to Louisville for its next meeting.

Dr. A. T. McCormack, Kentucky, moved that the report be amended by substituting Louisville for Atlantic City.

Motion seconded.

Dr. G. Wythe Cook, District of Columbia, rose to a question of personal privilege and stated that he desired to have the House consider the District of Columbia's appeal that the Association meet next year in Washington.

Dr. George W. Guthrie, Pennsylvania, moved as a substitute that Atlantic City, Louisville and Washington, D. C., be placed in nomination and the House proceed to a ballot to determine the place of the next annual session.

Motion seconded and carried.

A ballot was then taken and Atlantic City was selected.

Dr. A. L. Brittin, Illinois, asked unanimous consent, which was given, to introduce the following resolution:

*Resolved*, That the American Medical Association now in convention assembled offers through its House of Delegates a vote of its most sincere thanks to the medical profession of the state of Minnesota, and to the residents of these beautiful Twin Cities, Minneapolis and St. Paul, for the courteous and generous entertainment and hospitality during the period of this meeting.

Motion seconded and unanimously carried.

As there was no further business to come before the meeting, on motion of Dr. Perry H. Bromberg, Tennessee, seconded by Dr. Thomas S. Cullen, Maryland, the House adjourned *sine die*.

---

## *Members of House of Delegates in Attendance*

[The figures indicate the number of delegates to which the state is entitled.]

ALABAMA—3
Seale Harris.....Mobile
H. T. Inge.....Mobile

ARIZONA—1
John E. Bacon.....Miami

ARKANSAS—2
Morgan Smith.....Little Rock
William V. Laws.....Hot Springs

CALIFORNIA—3
George H. Kress.....Los Angeles
George Hare.....Fresno
V. G. Vecki.....San Francisco

COLORADO—2
Hubert Work.....Pueblo
W. A. Wayne.....Denver

CONNECTICUT—2
E. J. McKnight.....Hartford
D. Chester Brown.....Danbury

DELAWARE—1

DISTRICT OF COLUMBIA—1
G. Wythe Cook.....Washington

FLORIDA—1

GEORGIA—3

HAWAII—1

IDAHO—1
J. N. Alley.....Fort Lapwai

ILLINOIS—9
A. L. Brittin.....Athens
A. C. Cotton.....Chicago
K. A. Zurawski.....Chicago
A. Augustus O'Neill.....Chicago
R. J. Conltas.....Mattoon
E. W. Fiegenbaum...Edwardsville
A. M. Harvey.....Chicago
A. M. Corwin.....Chicago
J. A. Koch.....Quincy

INDIANA—4
J. Rilus Eastman.....Indianapolis
Edwin Walker.....Evansville
F. B. Wynn.....Indianapolis
James M. Dinnen.....Fort Wayne

IOWA—3
L. W. Littig.....Davenport
M. N. Voldeng.....Cherokee
J. C. Rockafellow.....Des Moines

ISTHMIAN CANAL ZONE—1

KANSAS—2
J. T. Axtell.....Newton
George M. Gray.....Kansas City

KENTUCKY—4
J. A. Stucky.....Lexington
Carl Lewis Wheeler....Lexington
V. E. Simpson.....Louisville
A. T. McCormack..Bowling Green

LOUISIANA—2
Oscar Dowling.....Shreveport

MAINE—1
E. H. Bennett.....Lubec

MARYLAND—2
Randolph Winslow.....Baltimore

MASSACHUSETTS—5
H. D. Arnold.....Boston
H. G. Stetson.....Greenfield
H. W. Van Allen.....Springfield
Hugh Cabot.....Boston
H. E. Sears.....Beverly

MICHIGAN—4
E. T. Abrams.....Dollar Bay
F. C. Warnshuis....Grand Rapids
Louis J. Hirschman.....Detroit
C. E. Boys.....Kalamazoo

MINNESOTA—2
J. W. Andrews.....Mankato
Thomas McDavitt.....St. Paul

MISSISSIPPI—2
W. S. Leathers.....University

MISSOURI—5
C. R. Woodson.....St. Joseph
A. W. McAlester, Jr..Kansas City
H. L. Reid.....Charleston
Reuben M. Funkhouser..St. Louis
E. J. Goodwin.....St. Louis

MONTANA—1
Donald Campbell.....Butte

NEBRASKA—2
A. D. Nesbit.....Tekamah
A. R. Mitchell.....Lincoln

NEVADA—1
Benjamin F. Cunningham....Reno

NEW HAMPSHIRE—1
John Z. Shedd.....North Conway

NEW JERSEY—3
C. R. P. Fisher.....Bound Brook
Geo. T. Welch.....Passaic
William S. Lalor.....Trenton

NEW MEXICO—1
S. D. Swope.....Deming

NEW YORK—11
Wendell C. Phillips.New York City
William D. Johnson.....Batavia
Grant C. Madill.....Ogdensburg
Dwight H. Murray.....Syracuse
Henry D. Furniss..New York City
Henry L. Elsner.....Syracuse
Floyd M. Crandall.....New York
Edgar A. Vander Veer.....Albany
John C. MacEvitt.....Brooklyn
S. W. S. Toms.....Nyack
John O. Polak.....Brooklyn

NORTH CAROLINA—2
H. A. Royster.....Raleigh

NORTH DAKOTA—1
James Grassick.....Grand Forks

OHIO—6
W. J. Means.....Columbus
E. O. Smith.....Cincinnati
H. C. Haning.....Dayton
Ben R. McClellan.....Xenia
J. H. J. Upham.....Columbus

OKLAHOMA—2
E. S. Lain.....Oklahoma City
J. H. White.....Muskogee

OREGON—1
K. A. J. MacKenzie.....Portland

PENNSYLVANIA—9
George W. Guthrie...Wilkes-Barre
Theodore B. Appel.....Lancaster
L. M. Gates.....Scranton
A. W. Baugh.....Paoli
Jno. Foster.....New Castle
W. Rowland Davies.....Scranton
William T. Hamilton.Philadelphia

PHILIPPINE ISLANDS—1

RHODE ISLAND—1
D. L. Richardson.....Providence

SOUTH CAROLINA—1
Edgar A. Hines.....Seneca

SOUTH DAKOTA—1
W. R. Ball.....Mitchell

TENNESSEE—2
A. B. Cooke.....Nashville
Perry Bromberg.....Nashville

TEXAS—5
W. B. Russ.....San Antonio
Holman Taylor.....Fort Worth
Joe Becton.....Greenville

UTAH—1
W. Brown Ewing..Salt Lake City

VERMONT—1

VIRGINIA—3
J. Shelton Horsley.....Richmond

WASHINGTON—2
P. B. Swearingen.....Tacoma

WEST VIRGINIA—1
P. A. Haley.....Charleston

WISCONSIN—3
J. F. Pember.....Janesville
J. J. McGovern.....Milwaukee
Rock Sleyster.....Waupun

WYOMING—1
M. A. Newell.....Sheridan

### Delegates from the Sections

PRACTICE OF MEDICINE
Joseph A. Capps.....Chicago

SURGERY
W. LeMoyne Wills.....
.....Los Angeles, Cal.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY
Thomas S. Cullen...Baltimore, Md.

OPHTHALMOLOGY
Thomas A. Woodruff.....Chicago

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
.....

DISEASES OF CHILDREN
.....

PHARMACOLOGY AND THERAPEUTICS
Torald Sollmann.....Cleveland

PATHOLOGY AND PHYSIOLOGY
J. W. Vaughan.....Detroit

STOMATOLOGY
G. V. I. Brown...Milwaukee, Wis.

NERVOUS AND MENTAL DISEASES
George W. Robinson...Kansas City

DERMATOLOGY
.....

PREVENTIVE MEDICINE AND PUBLIC HEALTH
M. P. Ravenel.....Madison, Wis.

GENITO-URINARY DISEASES
Bransford Lewis.....St. Louis

HOSPITALS
Joseph Howland.....Boston

ORTHOPEDIC SURGERY
.....

### Delegates from Government Services

George H. Torney.....
.....United States Army
Charles F. Stokes.....
.....United States Navy
John W. Kerr.....
....U. S. Pub. Health Service

---

## *The Sections at Minneapolis*

### SECTION ON PRACTICE OF MEDICINE

TUESDAY, JUNE 17—AFTERNOON

The meeting was called to order by the Chairman, W. Jarvis Barlow, Los Angeles. The Chairman welcomed the members of the Section, and expressed high appreciation of the honor conferred on him by his selection as Chairman of the Section.

Dr. Leonard W. Ely, Denver, read a paper on "Chronic Arthritis." Discussed by Drs. Richard C. Cabot, Boston; Van G. Yeager, Hayward, Wis.; Joseph L. Miller, Chicago; Collins Johnson, Grand Rapids, Mich., and Leonard W. Ely, Denver.

Dr. Thomas McCrae, Philadelphia, read a paper on "Remote Effects of Lesions of the Prostate and Deep Urethra." Discussed by Drs. Hugh H. Young, Baltimore; W. O. Bridges, Omaha; J. M. Anders, Philadelphia, and Walter Bierring, Des Moines, Iowa.

The Chairman appointed a nominating committee to report at a subsequent meeting, consisting of Drs. W. S. Thayer, Baltimore; Charles L. Minor, Asheville, N. C., and Louis Warfield, Milwaukee, Wis.

Dr. James S. McLester, Birmingham, Ala., read a paper on "Studies on Uric Acid in the Blood and Urine, with Special Reference to the Influence of Atophan." Discussed by Drs. W. S. Thayer, Baltimore; Hugo A. Freund, Detroit, and J. S. McLester, Birmingham, Ala.

Dr. H. Z. Giffin, Rochester, Minn., read a paper on "Clinical Notes on Patients from the Middle Northwest Affected with Entameba." Discussed by Drs. V. G. Yeager, Hayward, Wis.; W. C. Dixon, Nashville, Tenn.; H. D. Head, Minneapolis; W. V. Brem, Los Angeles; W. W. Tompkins, Charleston, W. Va., and H. Z. Giffin, Rochester, Minn.

Dr. V. C. Vaughan, Jr., Detroit, read a paper on "Value of the Tuberculin Reaction in Early Diagnosis of Tuberculosis." Discussed by Drs. R. C. Cabot, Boston; C. L. Minor, Asheville, N. C.; F. M. Pottenger, Monrovia, Cal.; Kennon Dunham, Cincinnati; E. L. Tuohy, Duluth, Minn., and V. C. Vaughan, Jr., Detroit.

Dr. Charles L. Minor, Asheville, N. C., read a paper on "Artificial Pneumothorax for Relief of Advanced Pulmonary Tuberculosis." Discussed by Drs. S. A. Knopf, New York; Moses Collins, Denver; Kennon Dunham, Cincinnati; Mary E. Lapham, Highland, N. C., and C. L. Minor, Asheville, N. C.

Dr. LeRoy S. Peters, Silver City, N. M., read a paper on "Blood-Pressure Studies in Tuberculosis at High Altitudes."

Dr. John W. Flinn, Prescott, Ariz., read a paper on "Rest and Repair in Pulmonary Tuberculosis."

These two papers were discussed by Drs. C. L. Minor, Asheville, N. C.; S. A. Knopf, New York; John Ritter, Chicago; F. M. Pottenger, Monrovia, Cal.; R. L. Byrnes, Salt Lake; T. H. Hay, Stevens Point, Wis.; R. C. Cabot, Boston; LeRoy S. Peters, Silver City, N. M., and J. W. Flinn, Prescott, Ariz.

### WEDNESDAY, JUNE 18—MORNING

Dr. Joseph L. Miller, Chicago, read a paper on "Clinical Aspects of Hypertension."

Dr. Alexander Lambert, New York, read a paper on "A Comparison Between Jaequet's Sphygmograph and Crehore's Micrograph in Cardiac Tracings."

Dr. Louis Warfield, Milwaukee, Wis., read a paper on "The Clinical Determination of Diastolic Pressure."

Dr. Willard J. Stone, Toledo, Ohio, read a paper on "Clinical Significance of High and Low Auscultatory Pulse-Pressures."

Dr. Hugo A. Freund, Detroit, read a paper on "Perpetual Arhythmia."

These five papers were discussed by Drs. L. M. Warfield, Milwaukee, Wis.; Henry Elsner, Syracuse, N. Y.; W. S. Thayer, Baltimore; H. S. Munro, Omaha; J. M. Anders, Philadelphia; T. McCrae, Philadelphia; W. W. Tompkins, Charleston, W. Va.; R. C. Cabot, Boston; Walter L. Bierring, Des Moines, Iowa; A. C. Griffith, Kansas City, Mo.; Alexander Lambert, N. Y.; J. L. Miller, Chicago, and Hugo A. Freund, Detroit.

Dr. H. S. Plummer, Rochester, Minn., read a paper on "Relation of the Toxic Symptoms to the Pathologic Types of Goiter." No discussion.

Dr. Elmer F. Otis, Penuelas, Porto Rico, read a paper on "Diseases of Porto Rico." Discussed by Dr. W. S. Thayer, Baltimore.

Drs. Ernest T. F. Richards, St. Paul, and W. C. Johnson, Minneapolis, read a paper on "Study of a Case of Congenital Hemolytic Jaundice." Discussed by Drs. W. S. Thayer, Baltimore; A. J. Caffrey, Milwaukee, Wis.; J. L. Miller, Chicago; Ernest T. F. Richards, St. Paul, and W. C. Johnson, Minneapolis.

### WEDNESDAY, JUNE 18—AFTERNOON

A joint meeting was held with the Section on Pharmacology and Therapeutics.

The following papers were read as a Symposium on Serums and Vaccines:

Dr. John F. Anderson, Washington, D. C.: "Federal Control over the Manufacture of Serums and Vaccines" (read in the author's absence by Dr. John W. Trask, Assistant Surgeon General of the Bureau of Public Health and Marine-Hospital Service, Washington, D. C.).

Dr. Rufus I. Cole, New York: "Treatment of Pneumonia by Specific Serums."

Dr. George H. Weaver, Chicago: "Antistreptococcus Serum."

Dr. E. C. Rosenow, Chicago: "The Treatment of Lobar Pneumonia with Partially Autolyzed Pneumococci Extracts."

Dr. Frederick F. Russell, Washington, D. C.: "Typhoid Vaccination in the Army in 1912."

These five papers were discussed by Drs. J. L. Miller, Chicago; W. V. Brem, Los Angeles; W. W. Tompkins, Charleston, W. Va.; H. S. Munro, Omaha; W. E. Scott, Adel, Iowa; Henry Hansen, Jacksonville, Fla.; L. A. Knopf, New York; V. G. Yeager, Hayward, Wis.; D. A. Herron, Comfrey, Minn.; A. D. Hirschfelder, Baltimore; Rufus I. Cole, New York; E. C. Rosenow, Chicago, and Frederick F. Russell, Washington, D. C.

### THURSDAY, JUNE 19—MORNING

The following officers were elected: Chairman, Dr. Charles Lyman Greene, St. Paul; Vice-Chairman, Dr. John B. Elliott, Jr., New Orleans; Secretary, Dr. Roger S. Morris, Clifton Springs, N. Y.; Delegate, Dr. Ray L. Wilbur, San Francisco; Alternate, Dr. Joseph H. Pratt, Boston.

A letter was sent to the Secretary of the Section from the House of Delegates suggesting that hereafter the secretaries be elected for a period of three years.

The Nominating Committee suggested that if the officers of the Section should feel during the course of the year that some especially notable piece of work had been done, they might invite an orator to describe the work to the Section. No other recommendation was made in connection with the nomination of an orator.

Dr. Henry H. Janeway, New York, read a paper on "Gastroscopy with Demonstration."

Drs. G. Reese Satterlee and L. T. LeWald, New York, read a paper on "The Water-Trap Stomach: Symptomatology, Diagnosis and Treatment."

Dr. R. Walter Mills, St. Louis, Mo., read a paper on "Points of Value to be Derived from Roentgenoscopy of the Gastro-Intestinal Tract."

These three papers were discussed by Drs. Chevalier Jackson, Pittsburgh; John Draper, New York; L. G. Cole, New York; M. L. Graves, Galveston, Texas; Fenton B. Turck, New York; Henry H. Janeway, New York; G. Reese Satterlee, New York; L. T. LeWald, New York, and R. W. Mills, St. Louis.

Dr. Richard C. Cabot, Boston, read a paper prepared by himself and Dr. Haven Emerson, New York, on "Cause and Treatment of Diarrhea." Discussed by Drs. W. S. Thayer, Baltimore; P. S. Roy, Washington, D. C.; F. M. Pottenger, Monrovia, Cal.; J. S. McLester, Birmingham, Ala.; G. N. Head, Minneapolis; Seale Harris, Mobile, Ala.; S. Bailey, Mt. Air, Iowa; T. W. Sturmm, St. Paul, and R. C. Cabot, Boston.

Dr. Walter V. Brem, Los Angeles, read a paper on "Cerebrospinal Fluid in the Diagnosis and Treatment of Syphilis." Discussed by Drs. A. R. Dochez, New York; R. C. Cabot, Boston; F. F. Russell, Washington, D. C.; A. J. Caffrey, Milwaukee, Wis.; J. S. McLester, Birmingham, Ala.; William Litterer, Nashville, Tenn., and W. V. Brem, Los Angeles.

### THURSDAY, JUNE 19—AFTERNOON

The following papers were read as a Symposium on Leprosy:

Dr. Isadore Dyer, New Orleans: "Dermatologic Aspects of Leprosy."

Dr. E. Boeckmann, St. Paul: "Clinical Aspects of Leprosy."

Dr. C. Duval, New Orleans: "Bacteriology and Specific Therapy of Leprosy." (Read in the author's absence by Dr. Isadore Dyer, New Orleans.)

Dr. Rupert Blue, Washington, D. C.: "Public Health Aspects of Leprosy in the United States." (Read in the author's absence by Dr. W. C. Rucker, Washington, D. C.)

These four papers were discussed by Drs. H. M. Bracken, St. Paul; M. L. Graves, Galveston, Tex.; Guilford H. Sumner, Des Moines, Iowa; H. E. Menage, New Orleans; W. C. Rucker, Washington, D. C.; Isadore Dyer, New Orleans, and E. Boeckmann, St. Paul.

## SECTION ON SURGERY

### TUESDAY, JUNE 17—AFTERNOON

The Chairman, Dr. A. F. Jonas, Omaha, called the meeting to order at 2 p. m.

Dr. A. F. Jonas, Omaha, delivered the Chairman's address, entitled "The Surgeon and the Research Laboratory."

Dr. John B. Deaver, Philadelphia, read a paper on "Posterior Gastro-Enterostomy in Acute Perforated Ulcer of the Duodenum. Report of Thirty Cases." Discussed by Drs. A. J. Ochsner, Chicago; R. C. Coffey, Portland, Ore.; W. J. Mayo, Rochester, Minn.; W. W. Babcock, Philadelphia; K. A. J. McKenzie, Portland, Ore.; H. T. Sutton, Zanesville, Ohio, and John B. Deaver, Philadelphia.

Dr. Angus McLean, Detroit, read a paper entitled "Postoperative Ileus." Discussed by Drs. E. B. Claybrook, Cumberland, Md.; F. T. Murphy, St. Louis; D. N. Eisendrath, Chicago; W. W. Babcock, Philadelphia, and Angus McLean, Detroit.

Dr. John W. Perkins, Kansas City, Mo., read a paper entitled "Congenital Dislocation of the Knees, with Report of Two Cases." Discussed by Drs. L. Ely, Denver; R. H. Sayre, New York, and J. W. Perkins, Kansas City, Mo.

Dr. Hugh H. Trout, Roanoke, Va., read a paper entitled "Proctoclysis: An Experimental and Clinical Study." Discussed by Drs. L. L. McArthur, Chicago, and Hugh H. Trout, Roanoke, Va.

Dr. David Cheever, Boston, read a paper entitled "Etiology and Significance of Membranes about Cecum and Colon." Discussed by Drs. J. N. Jackson, Kansas City, Mo.; F. G. Connell, Oshkosh, Wis.; M. B. Trinker, Ithaca, N. Y.; J. W. Draper, New York, and Gray, Kansas City, Mo.

Dr. J. Louis Ransohoff, Cincinnati, read a paper entitled "Anaphylaxis in the Diagnosis of Cancer." Discussed by Dr. Oscar Berghausen, Cincinnati.

### WEDNESDAY, JUNE 18—MORNING

Dr. Leonard Freeman, Denver, read a paper entitled "The External Bone Clamp Versus the Internal Bone Plate in Fractures of Long Bones." Discussed by Drs. J. B. Murphy, Chicago; L. L. McArthur, Chicago; A. E. Hertzler, Kansas City, Mo.; C. W. Allen, New Orleans, and L. Freeman, Denver.

Dr. John B. Murphy, Chicago, read a paper entitled "Surgical Management of Injuries to the Elbow-Joint, Primary and Secondary." Discussed by Drs. F. J. Cotton, Boston; Willy Meyer, New York; C. H. Lemon, Milwaukee, Wis.; H. M. Sherman, San Francisco, and J. B. Murphy, Chicago.

Dr. Charles H. Mayo, Rochester, Minn., read a paper entitled "Surgery of the Thyroid: Observations on Five Thousand Operations." Discussed by Drs. George W. Crile, Cleveland; A. J. Ochsner, Chicago, and C. H. Mayo, Rochester, Minn.

Dr. J. E. Thompson, Galveston, Tex., read a paper entitled "Study of the Circulation in Some Cases of Gangrene of the Foot." Discussed by Drs. C. W. Allen, New Orleans; W. W. Grant, Denver, and J. E. Thompson, Galveston, Tex.

Dr. Willy Meyer, New York, read a paper entitled "Extrathoracic and Intrathoracic Esophagoplasty." No discussion.

### WEDNESDAY, JUNE 18—AFTERNOON

Dr. William D. Haggard, Nashville, Tenn., delivered the Oration on Surgery entitled "The Requirements of the Surgeon."

The following papers were read as a Symposium on Infections.

Dr. Frank Billings, Chicago: "Chronic Focal Infections as a Causative Factor in Chronic Arthritis."

Dr. Hugh H. Young, Baltimore: "Infections of the Prostate and Seminal Vesicles. Their Role in Toxemia."

These two papers were discussed by Drs. John Ridlon, Chicago; Bransford Lewis, St. Louis, and D. N. Eisendrath, Chicago.

Dr. Miles F. Porter, Fort Wayne, Ind., read a paper entitled "Injection of Boiling Water for Hyperthyroidism." No discussion.

### THURSDAY, JUNE 19—MORNING

The following officers were elected: Chairman, Charles H. Frazier, Philadelphia; Vice-Chairman, J. E. Thompson, Galveston, Tex.; Secretary, E. S. Judd, Rochester, Minn.; Orator, Joseph C. Bloodgood, Baltimore; Delegate, J. N. Jackson, Kansas City, Mo.; Alternate, R. C. Coffey, Portland, Ore.

Dr. J. F. Percy, Galesburg, Ill., read a paper entitled "Nephritis as a Surgical Problem and Its Treatment as a Preliminary to Operation." No discussion.

Dr. R. D. Carman, Rochester, Minn., read a paper entitled "Technic of Roentgenoscopy of the Gastro-Intestinal Tract, and Interpretation of Screen and Plate Findings." Discussed by Drs. A. MacLaren, St. Paul; J. T. Case, Battle Creek, Mich.; C. E. Ruth, Des Moines, Iowa; B. W. Sippy, Chicago; M. F. Porter, Fort Wayne, Ind., and R. D. Carman, Rochester, Minn.

Dr. Joseph C. Bloodgood, Baltimore, read a paper entitled "The Added Responsibility of the Surgeon when Called on to Treat Surgical Lesions in Their Earliest Stages." Discussed by Drs. A. B. Kanavel, Chicago; A. J. Ochsner, Chicago; F. D. Gray, Jersey City, N. J.; H. C. Sharp, West Baden, Ind., and J. C. Bloodgood, Baltimore.

Dr. J. Rilus Eastman, Indianapolis, read a paper entitled "Fetal Peritoneal Folds and Their Relation to Postnatal Acute and Chronic Occlusions of the Large and Small Intestine."

Dr. J. N. Jackson, Kansas City, Mo., read a paper entitled "Symptoms and Diagnosis of Membranous Pericolitis."

Dr. John E. Summers, Omaha, read a paper entitled "Surgical Aspects of Intestinal Stasis from an Anatomic Point of View."

These three papers were discussed by Drs. M. L. Harris, Chicago; H. H. Royster, Norfolk, Va.; A. A. Law, Minneapolis; D. N. Eisendrath, Chicago; J. N. Jackson, Kansas City, Mo.; J. R. Eastman, Indianapolis, and J. E. Summers, Omaha.

Dr. Emmett Rixford, San Francisco, read a paper entitled "The Mechanism of the Production of Fractures." No discussion.

Dr. Alfred Luger, Vienna, read a paper entitled "Radiographic Changes in Pituitary Disease." Discussed by Dr. Charles H. Frazier, Philadelphia.

### THURSDAY, JUNE 19—AFTERNOON

Dr. James T. Case, Battle Creek, Mich., read a paper entitled "Roentgenoscopy of the Liver and Biliary Passages." Discussed by Drs. L. G. Cole, New York; G. E. Pfahler, Philadelphia; A. D. Bevan, Chicago, and J. T. Case, Battle Creek, Mich.

Dr. Clarence A. McWilliams, New York, read a paper entitled "The Necessity of Preserving the Periosteum in Bone Transplantation."

Dr. Fred H. Albee, New York, read a paper entitled "Original Uses of the Bone Graft in Surgery."

These two papers were discussed by Drs. J. E. Moore, Minneapolis; F. J. Cotton, Boston; D. B. Phemister, Chicago; H. O. Marcy, Boston; C. A. McWilliams, New York, and F. H. Albee, New York.

The following papers were read as a Symposium on Anesthesia:

Dr. Isabella C. Herb, Chicago: "Administration of Alkaloids before Anesthesia."

Dr. Harry G. Sloan, Cleveland: "Nitrous Oxid and Oxygen Anesthesia."

Dr. Charles H. Peck, New York: "Intratracheal Insufflation Anesthesia (Meltzer-Auer)."

Dr. J. F. Mitchell, Washington, D. C.: "Local Anesthesia."

Dr. W. M. Boothby, Boston: "Ether Percentages."

These five papers were discussed by Drs. C. W. Allen, New Orleans; Karl Connell, New York; Evarts Graham, Chicago, and H. G. Sloan, Cleveland.

### FRIDAY, JUNE 20—MORNING

Dr. William L. Rodman, Philadelphia, read a paper entitled "Gastric Tetany." Discussed by Drs. J. W. Draper, New York; M. F. Porter, Fort Wayne, Ind.; Robert Earle, St. Paul, and W. L. Rodman, Philadelphia.

Drs. Nathaniel Allison and Barney Brooks, St. Louis, read a paper entitled "An Experimental Study of the Mobilization of Ankylosed Joints." Discussed by Drs. D. D. Lewis, Chicago; J. H. Rishmiller, Minneapolis, and B. Brooks, St. Louis.

Dr. Bertram M. Bernheim, Baltimore, read a paper on "Therapeutic Possibilities of Transfusion."

Dr. J. J. Hogan, San Francisco, read a paper on "Theory and Practice of Transfusion."

These two papers were discussed by Drs. A. R. Kimpton, Boston; T. Sollmann, Cleveland; H. M. Sloan, Cleveland; V. C. Vaughan, Jr., Detroit; B. M. Bernheim, Baltimore, and J. J. Hogan, San Francisco.

The following resolution, introduced by Dr. J. F. Percy, Galesburg, Ill., was adopted:

*Resolved,* That this section strongly endorses the action taken by the House of Delegates on the education of the public and the profession looking toward the control of cancer.

## SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

### TUESDAY, JUNE 17—AFTERNOON

The Section was called to order by the Chairman, Dr. F. F. Simpson, Pittsburgh, Pa.

Dr. E. E. Montgomery, Philadelphia, occupied the Chair during the reading of the Chairman's address on "Right-Sided Hypertension with Occasional Cardiac Dilatation as Postoperative Complications."

Dr. George W. Crile, Cleveland, read a paper on "Some Newer Methods of Reducing the Mortality of Operations on the Pelvic Organs." Lantern-slides were shown in connection with the paper. Discussed by Drs. Henry O. Marcy, Boston; C. O. Thienhaus, Milwaukee, Wis.; A. E. Hertzler, Kansas City, Mo.; George Gellhorn, St. Louis, and George W. Crile, Cleveland.

Dr. Henry Dawson Furniss, New York, read a paper on "Postoperative Renal Infection." Discussed by Dr. J. W. Draper Maury, New York.

Dr. Richard R. Smith, Grand Rapids, Mich., read a paper on "Final Results of 193 Operations for Ectopic Pregnancy." Discussed by Drs. E. E. Montgomery, Philadelphia; Rufus B. Hall, Cincinnati; Chester M. Echols, Milwaukee, Wis.; John A. Lyons, Chicago; (?) Hall, Kansas City; John Osborn Polak, Brooklyn, and Richard R. Smith, Grand Rapids, Mich.

Dr. J. H. Carstens, Detroit, read a paper on "The Movable Kidney." Discussed by Drs. Rufus B. Hall, Cincinnati; Philemon E. Truesdale, Fall River, Mass.; Henry O. Marcy, Boston; A Goldspohn, Chicago, and J. H. Carstens, Detroit.

Dr. Edward Reynolds, Boston, read a paper on "Further Points on the Sterility of Women." Discussed by Drs. Robert T. Frank, New York; Laura Branson, Iowa City, Iowa; Charles S. Bacon, Chicago; J. H. Jacobson, Toledo, Ohio, and Edward Reynolds, Boston.

Dr. K. I. Sanes, Pittsburgh, Pa., read a paper on "Membranous Dysmenorrhea." Discussed by Drs. Robert T. Frank, New York; Henry O. Marcy, Boston; George Gellhorn, St. Louis, and K. I. Sanes, Pittsburgh, Pa.

### WEDNESDAY, JUNE 18—MORNING

Dr. Franklin H. Martin, Chicago, read a paper on "Prolapse of the Uterus: Its Surgical Treatment."

On motion it was resolved that the paper of Dr. Martin and the two succeeding papers be discussed jointly.

Dr. E. E. Montgomery, Philadelphia, read a paper on "Vagino-Uterine Prolapse and Its Effective Treatment."

Dr. George B. Somers, San Francisco, read a paper on "The Anatomy and Surgical Utility of the Sacro-Uterine Ligaments."

These three papers were discussed by Drs. A. E. Benjamin, Minneapolis; William M. Polk, New York; Walter B. Dorsett, St. Louis; J. Riddle Goffe, New York; Robert Earle, St. Paul; A. Goldspohn, Chicago; George Gellhorn, Chicago; G. Betton Massey, Philadelphia; Franklin H. Martin, Chicago; E. E. Montgomery, Philadelphia, and George B. Somers, San Francisco.

Dr. John Osborn Polak, Brooklyn, read a paper on "A study of the End-Results of the Webster-Baldy Operation." Discussed by Drs. Edward Reynolds, Boston; R. S. Yarros, Chicago; C. W. Barrett, Chicago, and John Osborn Polak, Brooklyn.

Dr. Philemon E. Truesdale, Fall River, Mass., read a paper on "Tuberculous Salpingitis." Discussed by Drs. D. C. Balfour, Rochester, Minn.; Curtis S. Foster, Pittsburgh, Pa.; J. H. Carstens, Detroit; John B. Murphy, Chicago, and Philemon E. Truesdale, Fall River, Mass.

Dr. John B. Murphy, Chicago, spoke on "Infections in the Pelvis from a General Surgeon's Point of View." Discussed by Drs. John B. Deaver, Philadelphia, E. Gustav Zinke, Cincinnati, and John B. Murphy, Chicago.

The Executive Committee was announced by the Chairman as follows: Drs. E. E. Montgomery, Philadelphia; Walter B. Dorsett, St. Louis, and C. S. Bacon, Chicago.

### WEDNESDAY, JUNE 18—AFTERNOON

Dr. William J. Mayo, Rochester, Minn., read a paper on "Cancer of the Stomach." Discussed by Dr. William L. Rodman, Philadelphia; John B. Deaver, Philadelphia; John A. Lyons, Chicago, and William J. Mayo, Rochester, Minn.

Dr. Rufus B. Hall, Cincinnati, read a paper on "Cancer of the Uterus: Some Points to Be Emphasized in the Early Diagnosis." This paper was discussed with the two succeeding papers.

Dr. Emil Ries, Chicago, read a paper on "Theoretical and Practical Foundations of a Radical Operation for Carcinoma of the Cervix."

Dr. J. F. Percy, Galesburg, Ill., read a paper on "Heat in the Treatment of Inoperable Cancer of the Vagina and Uterus: Method and Results."

These three papers were discussed by Drs. J. H. Carstens, Detroit; Walter B. Dorsett, St. Louis; C. W. Barrett, Chicago; G. Betton Massey, Philadelphia; William J. Mayo, Rochester, Minn.; John B. Deaver, Philadelphia; C. O. Thienhaus, Milwaukee, Wis.; John A. Lyons, Chicago; Bertha Van Hoosen, Chicago; Henry O. Marcy, Boston; Rufus B. Hall, Cincinnati, and J. F. Percy, Galesburg, Ill.

Dr. J. Shelton Horsley, Richmond, Va., read a paper on "Experimental Transplantation of Intestine After Resection of the Sigmoid, with Special Reference to Resection for Malignant Diseases of the Pelvis." Discussed by Drs. C. E. Ruth, Des Moines, Iowa; A. Goldspohn, Chicago, and J. Shelton Horsley, Richmond, Va.

### THURSDAY, JUNE 19—MORNING

The following officers were nominated and elected: Chairman, Dr. E. Gustav Zinke, Cincinnati; Vice-Chairman, Dr. A. E. Benjamin, Minneapolis; Secretary, Dr. Brooke M. Anspach, Philadelphia; Delegate, Dr. R. R. Smith, Grand Rapids, Mich.; Alternate, Dr. John G. Clark, Philadelphia.

Dr. Joseph B. DeLee, Chicago, read the "Report of Committee on the Question: Should the Puerperal Uterus be Emptied of Ovular Remains in the Presence of Infection, and if so, When?" Discussed by Drs. E. E. Montgomery, Philadelphia; J. C. Litzenberg, Minneapolis; Robert T. Frank, New York; R. S. Yarros, Chicago, and Joseph B. DeLee, Chicago.

Dr. George Gellhorn, St. Louis, read a paper on "Local and Spinal Anesthesia in Gynecology and Obstetrics." Discussed by Dr. A. E. Hertzler, Kansas City, Mo.

Dr. W. Wayne Babcock, Philadelphia, spoke on "Spinal Anesthesia in Gynecology, Obstetrics and Abdominal Surgery." Discussed by Dr. Fred J. Taussig, St. Louis.

Dr. J. Riddle Goffe, New York, read a paper on "Biochemical Factors in the Causation of Uterine Hemorrhage."

Dr. John B. Deaver, Philadelphia, read a paper on "Treatment of Hemorrhage from the Non-Pregnant Uterus."

These two papers were discussed by Drs. Lewis L. McMurtry, Louisville, Ky.; J. L. Rothrock, St. Paul; J. Riddle Goffe, New York, and John B. Deaver, Philadelphia.

Dr. R. C. Coffey, Portland, Ore., read a paper on "Intra-Abdominal Adhesions." Discussed by Drs. J. H. Jacobson, Toledo, Ohio; John B. Deaver, Philadelphia; Rufus B. Hall, Cincinnati; Cantrell; Henry Boxer, Birmingham, Ala., and R. C. Coffey, Portland, Ore.

THURSDAY, JUNE 19—AFTERNOON

Dr. Fred L. Adair, Minneapolis, read a paper on "Care of the Umbilical Stump: A Bacteriologic Study." Discussed by Drs. Charles S. Bacon, Chicago; N. S. Heaney, Chicago, and Fred L. Adair, Minneapolis.

Dr. Channing W. Barrett, Chicago, read a paper on "The Thyroid Gland and Its Degeneration in Relation to Obstetrics and Gynecology." Discussed by Drs. John N. Bell, Detroit; Mary Strong, Omaha, and Channing W. Barrett, Chicago.

Dr. Henry Schwarz, St. Louis, read a paper on "The Serodiagnosis of Pregnancy and Its Place in Practical Obstetrics." Discussed by Drs. Joseph B. DeLee, Chicago; Losee, Upper Red Hook, N. Y.; Chester M. Echols, Milwaukee, Wis.; N. S. Heaney, Chicago, and Henry Schwarz, St. Louis.

Dr. Charles S. Bacon, Chicago, read a paper on "The Essentials of Sanatorium Treatment of Tuberculous Gravidae and Puerperae and Their Children." Discussed by Drs. Walter J. Marcley, Minneapolis; Mary Strong, Omaha, and Charles S. Bacon, Chicago.

Dr. Alfred Baker Spalding, San Francisco, read a paper on "The Value of Abdominal Measurements in Pregnancy: A Statistical Study." Discussed by Drs. Frederick E. Leavitt, St. Paul; E. Gustav Zinke, Cincinnati, and Alfred Baker Spalding, San Francisco.

Dr. Simpson, the retiring Chairman, made a few remarks in appreciation of the cooperation of the members of the Section and in greeting to his successor, Dr. E. Gustav Zinke, to which Dr. Zinke replied.

On motion of Dr. Channing W. Barrett, Chicago, and Dr. Zinke a rising vote of thanks was given the retiring Chairman, Dr. Simpson, and the Secretary, Dr. Anspach, for their services in making the Section work so eminently successful in the present session.

Dr. Anspach moved a vote of thanks to the University of Minnesota and to the local Committee on Arrangements for all the help given in making the meeting successful.

---

## SECTION ON STOMATOLOGY

TUESDAY, JUNE 17—AFTERNOON

The Section was called to order by Dr. Virgil Loeb, St. Louis, Chairman.

Dr. Loeb appointed Dr. G. V. I. Brown, Milwaukee, Wis., to act as Secretary during the meeting, in the absence of Dr. Eugene S. Talbot.

Dr. Loeb appointed Drs. William C. Fisher, New York, and F. B. Moorehead, Chicago, as members of the Executive Committee.

The following were nominated for associate membership: Drs. George F. Jernigan, New York; Nelson T. Shields, New York; H. R. Raper, Indianapolis; William H. De Ford, Des Moines, Iowa; Daniel Cave, Los Angeles; George D. Graham, Honolulu, Hawaii, Army Dental Corps; A. T. Rasmussen, La Crosse, Wis., and Clarence J. Grieves, Baltimore.

Dr. T. L. Gilmer, Chicago, moved that the above-named men be recommended for membership. Seconded and carried.

Dr. Virgil Loeb, St. Louis, read the Chairman's Address on "Fields for Research in Oral Surgery." Discussed by Drs. F. B. Moorehead, Chicago; T. W. Brophy, Chicago; T. L. Gilmer, Chicago; William C. Fisher, New York; G. V. I. Brown, Milwaukee, Wis.; Nelson T. Shields, New York; C. H. Robinson, Wabasha, Minn.; William H. De Ford, Des Moines, Iowa, and Virgil Loeb, St. Louis.

Dr. E. W. Wooley, Winona, Minn., read a paper on "Social Ethics." No discussion.

The paper of Dr. Eugene S. Talbot, Chicago, on "Interstitial Gingivitis and Pyorrhea Alveolaris," was read by Dr. William C. Fisher, New York. No discussion.

The Chairman appointed the following Nominating Committee: Drs. T. L. Gilmer, Chicago; William H. De Ford, Des Moines, Iowa, and Thomas B. Hartzell, Minneapolis.

WEDNESDAY, JUNE 18—MORNING

Dr. H. F. McBeath, Milwaukee, Wis., read a paper on "The Correction of Impediments of Speech in Our Public Schools." Discussed by Mrs. Reid, Detroit, Mich., and Drs. Elmer L. Kenyon, Chicago; Thomas J. Heldt, Columbia, Mo.; T. W. Brophy, Chicago; A. T. Rasmussen, La Crosse, Wis., and H. F. McBeath, Milwaukee, Wis.

Dr. Thomas B. Hartzell, Minneapolis, read a paper on "The Responsibility of the Dentist and Physician in Regard to Mouth Infections and Their Relation to Constitutional Effects." Discussed by Drs. Joseph Head, Philadelphia; T. L. Gilmer, Chicago; F. B. Moorehead, Chicago; Nelson T. Shields, New York; William C. Fisher, New York; C. H. Oakman, Detroit; G. V. I. Brown, Milwaukee, Wis.; T. W. Brophy, Chicago; A. T. Rasmussen, La Crosse, Wis., and Thomas B. Hartzell, Minneapolis.

Dr. William C. Fisher, New York, read a paper on "Bachelor of Medicine: The Need of This New Degree." Discussed by Drs. F. B. Moorehead, Chicago; T. W. Brophy, Chicago, and William C. Fisher.

WEDNESDAY, JUNE 18—AFTERNOON

Dr. Nelson T. Shields, New York, read a paper on "The Etiology of Trifacial Neuralgia or Tic Douloureux, and Clinical Treatment." Discussed by Drs. G. V. I. Brown, Milwaukee, Wis.; A. H. Levings, Milwaukee, Wis.; T. W. Brophy, Chicago; Joseph Head, Philadelphia; C. H. Oakman, Detroit; F. B. Moorehead, Chicago; Thomas B. Hartzell, Minneapolis; L. W. Dean, Iowa City, Iowa; A. T. Rasmussen, La Crosse, Wis., and Nelson T. Shields, New York.

Dr. L. W. Dean, Iowa City, Iowa, read a paper on "A Method of Closing a Sinus Between the Antrum of Highmore and the Mouth." Discussed by Drs. T. L. Gilmer, Chicago; T. W. Brophy, Chicago; G. V. I. Brown, Milwaukee, Wis.; C. H. Oakman, Detroit, and L. W. Dean, Iowa City.

Dr. F. B. Moorehead, Chicago, read a paper on "Infective Cysts of the Jaws." Discussed by Drs. T. L. Gilmer, Chicago; William C. Fisher, New York; T. W. Brophy, Chicago; Thomas B. Hartzell, Minneapolis, and F. B. Moorehead, Chicago.

The following papers were read as a symposium:

Dr. Joseph Head, Philadelphia: "Treatment of Loose Teeth Due to Inflammatory Degeneration of the Gums and Alveolar Process."

Dr. Claude P. Brown, Philadelphia, Pa.: "Bacteriology of Pyorrhea Alveolaris."

Dr. A. H. Levings, Milwaukee, Wis.: "Bacteria of the Mouth."

These three papers were discussed by Drs. Thomas B. Hartzell, Minneapolies; F. B. Moorehead, Chicago; G. V. I. Brown, Milwaukee, Wis.; T. L. Gilmer, Chicago; C. H. Oakman, Detroit; L. Duncan Bulkley, New York; T. W. Brophy, Chicago; A. Parker Hitchens, Glenolden, Pa.; Nelson P. Shields, New York; William C. Fisher, New York; Joseph Head, Philadelphia, and Claude P. Brown, Philadelphia.

THURSDAY, JUNE 19—MORNING

Report of Nominating Committee made by Dr. T. L. Gilmer, Chicago: Chairman, Dr. William C. Fisher, New York; Vice-Chairman, Dr. F. B. Moorehead, Chicago; Secretary (two years), Dr. Eugene S. Talbot, Chicago; Delegate, Dr. G. V. I. Brown, Milwaukee, Wis.; Executive Committee: Drs. T. L. Gilmer, Chicago; S. L. McCurdy, Pittsburgh, Pa., and Virgil Loeb, St. Louis.

On motion, the Secretary cast the ballot which resulted in the election of the above-named.

Dr. Edward H. Baker, Chicago, read a paper on "The Relation of Mouth Disease to Bodily Health." Discussed by Drs. G. Betton Massey, Philadelphia, and Nelson P. Shields, New York.

The paper of Dr. Vida A. Latham, Chicago, on "The Pathology of Root Findings," was read by Dr. William C. Fisher, New York. Not discussed.

Dr. G. Betton Massey, Philadelphia, read a paper on "Cancer of the Mouth: The Relation of Dental and General Practitioners to Its Early Recognition and Successful Treatment." Discussed by Drs. G. V. I. Brown, Milwaukee, Wis.; Nelson P. Shields, New York; T. W. Brophy, Chicago; O. A. Strauss, Milwaukee, Wis.; C. H. Oakman, Detroit, and G. Betton Massey, Philadelphia.

Dr. G. V. I. Brown, Milwaukee, Wis., read a paper on "The Surgical Treatment of Postoperative Lip and Palate Defects." Discussed by Drs. C. H. Oakman, Detroit; T. W. Brophy, Chicago; O. A. Strauss, Milwaukee, Wis.; R. E. Farr, Minneapolis; A. T. Rasmussen, La Crosse, Wis., and G. V. I. Brown, Milwaukee, Wis.

Moved and seconded that a vote of thanks be extended to the Dental Department for the use of the room and accessories. Carried.

---

## SECTION ON NERVOUS AND MENTAL DISEASES

### TUESDAY, JUNE 17—AFTERNOON

The meeting was called to order in Folwell Hall, Room 311, at 2:25 p. m., by the vice-chairman, Dr. W. W. Graves, St. Louis.

Dr. Howell T. Pershing's Chairman's address on "Neurasthenia an Increased Susceptibility to Emotion." was read by Dr. C. Eugene Riggs, St. Paul. Discussed by Drs. A. A. Brill, New York; Joseph M. Aikin, Omaha; L. Harrison Mettler, Chicago; D'Orsay Hecht, Chicago, and Howell T. Pershing, Denver.

Dr. T. D. Crothers, Hartford, Conn , read a paper on "Premonitory Auras in Alcoholic Neuroses." Discussed by Drs. A. A. Brill, New York; Charles R. Ball, St. Paul, and T. D. Crothers, Hartford, Conn. .

Dr. D'Orsay Hecht, Chicago, read a paper on "Multiglandular Syndromes and the Nervous System, with Lantern-Slide Demonstration." Discussed by Drs. A. L. Skoog, Kansas City, Mo., and D'Orsay Hecht, Chicago.

Dr. Charles R. Ball, St. Paul, read a paper on "Diagnosis, Prognosis and Treatment of General Paresis." Discussed by Drs. C. Eugene Riggs, St. Paul; S. S. Glasscock, Kansas City, Kan.; Lawrence B. Pillsbury, Lincoln, Neb.; Albert E. Sterne, Indianapolis; A. L. Skoog, Kansas City, Mo.; George A. Moleen, Denver; E. E. Southard, Cambridge, Mass.; W. W. Graves, St. Louis, and Charles R. Ball, St. Paul.

Dr. H. D. Valin, Mankato, Minn., read a paper on "Pathologic Findings in Insanity; Illustrated with Lantern-Slides Showing Gross and Microscopic Lesions." Discussed by Drs. E. E. Southard, Cambridge, Mass., and H. D. Valin, Mankato, Minn.

### WEDNESDAY, JUNE 18—MORNING

Dr. S. P. Kramer, Cincinnati, read a paper on "Recent Advances Made in Study of the Circulation of Brain and Spinal Cord." Discussed by Dr. A. L. Skoog, Kansas City, Mo.

Dr. Julius Grinker, Chicago, read a paper on "A Tumor of the Hypophysis in Acromegaly; a Clinical and Post-Mortem Report, with Photomicrographs." No discussion.

Dr. L. Harrison Mettler, Chicago, read a paper on "Symptomatology of Multiple Sclerosis." Discussed by Drs. C. D. Camp, Ann Arbor, Mich.; Julius Grinker, Chicago; D. S. Booth, St. Louis; Charles W. Hitchcock, Detroit, and L. Harrison Mettler, Chicago.

Dr. C. D. Camp, Ann Arbor, Mich., read a paper entitled "Epilepsy and Paresis in Railway Engineers and Firemen." Discussed by Drs. C. Eugene Riggs, St. Paul; C. B. Woodson, St. Joseph, Mo.; D. S. Booth, St. Louis; L. Harrison Mettler, Chicago; W. Brown Ewing, Salt Lake; Sanger Brown, Chicago; Leo M. Crafts, Minneapolis; Lawrence B. Pillsbury, Lincoln, Neb.; Charles Gorst, Mendota, Wis.; Charles W. Hitchcock, Detroit; George A. Moleen, Denver, and C. D. Camp, who, in closing, offered the following resolution which was adopted:

That the Secretary be asked to communicate to the Council on Health and Public Instruction of the American Medical Association the fact that the Section believes it is highly dangerous that epileptics and paretics be employed in the operation of railroad trains, and that measures should be taken to prevent the employment of such persons.

The Chairman announced the appointment of the following members to act as committee on nominations: Drs. L. Harrison Mettler, Chicago; Charles R. Ball, St. Paul, and Ross Moore, Los Angeles.

### WEDNESDAY, JUNE 18—AFTERNOON

Dr. E. M. Hammes, St. Paul, read a paper on "Two Cases of Circulatory Disturbance of the Brain," by Drs. C. Eugene Riggs and E. M. Hammes, St. Paul. Discussed by Drs. Sanger Brown, Chicago; Charles R. Ball, St. Paul; H. E. Conley, Cannon Falls, Minn.; Ross Moore, Los Angeles; C. Eugene Riggs, St. Paul, and E. M. Hammes, St. Paul.

Dr. A. A. Brill, New York, read a paper on "The Conception of Homosexuality: Its Theories, Psychologic Mechanisms and Treatment." Discussed by Drs. D'Orsay Hecht, Chicago; Howell T. Pershing, Denver; Ross Moore, Los Angeles; Albert E. Sterne, Indianapolis, and A. A. Brill, New York.

Dr. W. W. Graves, St. Louis, read a paper on "Can Rabbits be Infected with Syphilis Directly from the Blood of Paretics? Observations on the Recognition of the Virus in the Later Periods of the Disease." Discussed by Drs. Charles R. Ball, St. Paul; Sanger Brown, Chicago, and W. W. Graves, St. Louis.

Dr. Albert E. Sterne, Indianapolis, read a paper on "Exudative Encephalitis." No discussion.

### THURSDAY, JUNE 19—MORNING

The following officers were elected: Chairman, W. W. Graves, St. Louis; Vice-Chairman, C. D. Camp, Ann Arbor, Mich.; Secretary (for two years), George A. Moleen, Denver; Delegate, C. Eugene Riggs, St. Paul; Alternate Delegate, E. E. Southard, Cambridge, Mass.

The Executive Committee then consisted of Drs. W. A. Jones, Minneapolis; Edward D. Fisher, New York, and Howell T. Pershing, Denver.

To fill vacancies on the Executive Committee caused by the absence of Drs. Jones and Fisher, the Chairman appointed Drs. C. Eugene Riggs, St. Paul., and E. E. Southard, Cambridge, Mass., to act for the session.

Dr. Ross Moore, Los Angeles, read a paper on "Further Notes on the Preneurasthenic and Preinsane Conditions." Discussed by Drs. C. Eugene Riggs, St. Paul; George H. Moody, San Antonio, Tex.; Philip Zenner, Cincinnati; G. Wilse Robinson, Kansas City, Mo.; L. Harrison Mettler, Chicago; W. W. Graves, St. Louis; Howell T. Pershing, Denver; C. R. Woodson, St. Joseph, Mo., and Ross Moore, Los Angeles.

Dr. Charles H. Frazier, Philadelphia, read a paper on "A Division of the Auditory Nerve for Persistent Tinnitus and Vertigo." No discussion.

Dr. G. Wilse Robinson, Kansas City, Mo., read a paper on "Occlusion of the Posterior Inferior Cerebellar Artery. Report of a Case." No discussion.

Dr. B. W. Sippey, Chicago, read a paper on "Demonstration of Lange's Goldsol Test of the Cerebrospinal Fluid." Discussed by Drs. C. Eugene Riggs, St. Paul; Ross Moore, Los Angeles; Peter Bassoe, Chicago; C. B. Woodson, St. Joseph, Mo.; A. L. Skoog, Kansas City, Mo.; Howell T. Pershing, Denver, and B. W. Sippey, Chicago.

Dr. C. Eugene Riggs, St. Paul, read a paper on "Nervous Phenomena in Pernicious Anemia." Discussed by Drs. George A. Moleen, Denver, and Howell T. Pershing, Denver.

Dr. Ross Moore, Los Angeles, moved that a committee be appointed by the Chairman of the Section on Nervous and Mental Diseases to report in one year as to methods by which the Section may be helpful in the question of the hygiene of childhood with reference to nervous and mental diseases. Motion seconded by Dr. T. D. Crothers, Hartford, Conn. Carried. The Chairman appointed Drs. Ross Moore, Los Angeles, and Philip Zenner, Cincinnati.

---

[SECTION MINUTES CONCLUDED NEXT WEEK.]

# JOURNALS INDEXED IN THE CURRENT MEDICAL LITERATURE DEPARTMENT JANUARY-JUNE, 1913

The following journals have been indexed in the Current Literature Department of THE JOURNAL during the past six months. Any foreign journal, except those starred, will be lent by THE JOURNAL to subscribers and members in the United States for a period not exceeding three days. Requests for periodicals should be addressed to the Library of the American Medical Association and six cents in stamps should be enclosed. This covers the average expense of mailing a journal. Domestic journals can be obtained by sending the approximate amount direct to the respective publishers. Thus most of the journals indexed are accessible to the general practitioner, no matter where he may be located.

American Journal of Anatomy. Bi-m. $5. 36th St. and Woodlawn Ave., Philadelphia.
American Journal of Diseases of Children. M. $3. American Medical Association, 535 Dearborn Ave., Chicago.
American Journal of Insanity. Q. $5. Johns Hopkins Press, Baltimore.
American Journal of the Medical Sciences. M. $5. Lea & Febiger, 706 Samsou St., Philadelphia.
American Journal of Obstetrics and Diseases of Women and Children. M. $5. Wood & Co., 51 5th Ave., New York City.
American Journal of Orthopedic Surgery. Q. $3. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia.
American Journal of Public Health. M. $2. 289 4th Ave., New York City.
Annales de Gynécologie et d'Obstétrique. M. 22 francs. Paris.
*Annales de l'Institut Pasteur. M. 20 francs. Paris.
Annales de Médecine et Chirurgie Infantiles. Semi-m. 12 francs. Paris.
Annals of Ophthalmology. Q. $4. Jones H. Parker, Publisher, Mermod-Jaccard Bldg., St. Louis.
Annals of Surgery. M. $5. J. B. Lippincott Co., 227 S. 6th St., Philadelphia.
Annals of Tropical Medicine and Parasitology. Q. $5. Liverpool.
*Arbeiten aus dem Neurologischen Institut. Irregular. Price varies. Vienna.
*Archiv für Gynäkologie. Irregular. Price varies. Berlin.
*Archiv für Kinderheilkunde. Irregular. 15 marks. Stuttgart.
*Archiv für Klinische Chirurgie. Irregular. Prices varies. Berlin.
Archiv für Verdauungs-Krankheiten. Bi-m. 24 marks. Berlin.
*Archives de Médecine des Enfants. M. 18 francs. Paris.
*Archives des Maladies de l'Appareil Digestif et de la Nutrition. M. 14 francs. Paris.
Archives des Maladies du Cœur, des Vaisseaux et du Sang. M. 17 francs. Paris.
Archives Générales de Chirurgie. M. 26 francs. Paris.
Archives Générales de Médecine. M. 18 francs. Paris.
*Archives Internationales de Chirurgie. Irregular. 30 francs. Ghent.
Archives Mensuelles d'Obstétrique et de Gynécologie. M. 25 francs. Paris.
Archives of Diagnosis. Q. $1. 250 W. 73d St., New York City.
Archives of Internal Medicine. M. $4. American Medical Association, 535 Dearborn Ave., Chicago.
Archives of Ophthalmology. Bi-m. $5. G. P. Putnam's Sons, 27 W. 23d St., New York City.
Archives of Pediatrics. M. $3. E. B. Treat & Co., 241 W. 23d St., New York City.
Australasian Medical Gazette. W. $5. Sydney.
*Beiträge zur Geburtshilfe und Gynaekologie. Irregular. Price varies. Leipsic.
Beiträge zur Klinik der Tuberculose. Irregular. 16 marks. Würzburg.
*Beiträge zur Klinischen Chirurgie. M. Price varies. Tübingen.
Berliner Klinische Wochenschrift. W. 24 marks. Berlin.
Boston Medical and Surgical Journal. W. $5. 101 Tremont St., Boston.
Brain: A Journal of Neurology. Irregular. $4. London.
Brazil Medico. W. 20 milries. Rio de Janeiro.
Bristol Medico-Chirurgical Journal. Bi-m. $3.
British Journal of Children's Diseases. M. $3. London.
British Medical Journal. W. $8.50. London.
Bulletin de l'Académie de Médecine. W. 20 francs. Paris.
Bulletin de la Société de Pédiatrie de Paris. M. 10 francs. Paris.
Bulletin of the American Academy of Medicine. Bi-m. $3. 52 N. 4th St., Easton, Pa.
Bulletin of the Johns Hopkins Hospital. M. $2. Baltimore.
Bulletin of the Lying-In Hospital of the City of New York. Irregular. $1. 23 E. 93d St., New York City.
Bulletin of the Manila Medical Society. M. $1. Manila.
Bulletin of the Medical and Chirurgical Faculty of Maryland. M. $0.25. 121 Cathedral St., Baltimore.
California State Journal of Medicine. M. $1. Butler Bldg., San Francisco.
Canadian Medical Association Journal. M. $5. Toronto.
Centralblatt für die Grenzgebiete der Medizin und Chirurgie. Irregular. 22 marks. Jena.
Cleveland Medical Journal. M. $2. 2318 Prospect Ave., Cleveland.
Clinical Journal. W. $4.25. London.
Colorado Medicine. M. $2. Metropolitan Bldg., Denver.
Correspondenz-Blatt für Schweizer Aerzte. Tri-m. 18 francs per year. Basel.
Delaware State Medical Journal. M. $1. 309 Shipley St., Wilmington, Del.
Deutsche Medizinische Wochenschrift. W. 32 marks. Berlin.
*Deutsche Zeitschrift für Chirurgie. M. Price varies. Leipsic.
*Deutsches Archiv für Klinische Medizin. Irregular. Price varies. Leipsic.
Dublin Journal of Medical Science. M. $5.
Edinburgh Medical Journal. M. $6.
Gazzetta degli Ospedali e delle Cliniche. Tri-w. 25 francs. Milan.
Glasgow Medical Journal. M. $5.
Grèce Médicale. Semi-m. 12 francs. Syra.
Hospitalstidende. W. 2.75 kronen. Copenhagen.
Hygiea. M. $5. Stockholm.
Illinois Medical Journal. M. $2. 522 Capitol Ave., Springfield, Ill.
Indian Medical Gazette. Bi-m. $5. Calcutta.
Jahrbuch für Kinderheilkunde. M. 36 marks. Berlin.
Journal de Chirurgie. M. 44 francs. Paris.
Journal de Médecine de Bordeaux. W. 15 francs.
Journal d'Urologie Médicale et Chirurgicale. M. 40 francs. Paris.
Journal of Abnormal Psychology. Bi-m. $4. R. G. Badger, 194 Boylston St., Boston.
Journal of the American Medical Association. W. $5. 535 Dearborn Ave., Chicago.
Journal of the Arkansas Medical Society. M. $1. 307 Southern Trust Bldg., Little Rock, Ark.
Journal of Biological Chemistry. M. $3. 2427 York Road, Baltimore.
Journal of Cutaneous Diseases. M. $5. Rebman Company, 1123 Broadway, New York City.
Journal of Experimental Medicine. M. $5. Rockefeller Institute for Medical Research, 66th St. and Avenue A, New York City.
Journal of Hygiene. Q. $5.50. London.
Journal of the Indiana State Medical Association. M. $2. 219 W. Wayne St., Fort Wayne, Ind.
Journal of Infectious Diseases. Q. $5. 57th St. and Greenwood Ave., Chicago.
Journal of Iowa State Medical Society. M. $2. Washington, Ia.
Journal of Kansas Medical Society. M. $2. 501 Husted Bldg., Kansas City, Kan.
Journal of Laryngology, Rhinology and Otology. M. $5. London.
Journal of Maine Medical Association. M. $2. Portland, Maine.
Journal of Medical Association of Georgia. M. $1. Harison Bldg., Augusta, Ga.
Journal of Medical Research. M. $4. 240 Longwood Ave., Boston.
Journal of Medical Society of New Jersey. M. $2. 252 Main St., Orange, N. J.
Journal of Michigan State Medical Society. M. $2. 24 W. Main St., Battle Creek, Mich.
Journal of Missouri State Medical Association. M. $2. 3525 Pine St., St. Louis.
Journal of Nervous and Mental Diseases. M. $5. 64 W. 56th St., New York City.
Journal of Obstetrics and Gynecology of the British Empire. M. $6.25. London.
Journal of Oklahoma State Medical Association. M. $1. Muskogee.
Journal of Ophthalmology and Oto-Laryngology. M. $2. 32 N. State St., Chicago.

W.—Weekly; M.—Monthly; Semi-m.—Semimonthly; Bi-m.—Bi-monthly; Q.—Quarterly. *Cannot be loaned.

Journal of Outdoor Life. M. $1. 289 Fourth Ave., New York.
Journal of Pathology and Bacteriology. Q. $5.50. Cambridge, Eng.
Journal of Pharmacology and Experimental Therapeutics. Bi-m. $5. 2427 York Road, Baltimore.
Journal of South Carolina Medical Association. M. $2. Charleston, S. C.
Journal of Tennessee State Medical Association. M. $2. 146 8th Ave., Nashville, Tenn.
Journal of Tropical Medicine and Hygiene. Semi-m. $5. London.
Journal-Lancet. Semi-m. $2. 839 Lumber St., Minneapolis.
Kentucky Medical Journal. Semi-m. $2. Atherton Bldg., Bowling Green, Ky.
Lancet. W. $8. London.
Laryngoscope. M. $3. 3858 Westminster Place, St. Louis.
Lyon Chirurgical. M. 25 francs.
Lyon Médical. W. 20 francs.
Maryland Medical Journal. M. $2. Professional Bldg., Baltimore.
Medical Press and Circular. W. $5. London.
Medical Record. W. $5. W. Wood & Co., 51 5th Ave., New York City.
Medizinische Klinik. W. 32 marks. Berlin.
Military Surgeon. M. $3.50. 716 Union Trust Bldg., Washington, D. C.
Mississippi Medical Monthly. M. $1. 506 First National Bank Bldg., Vicksburg, Miss.
Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie. Irregular. 25 marks. Jena.
*Monatsschrift für Geburtshülfe und Gynäkologie. M. 42 marks. Berlin.
*Monatsschrift für Kinderheilkunde. M. 20 marks. Leipsic.
Münchener Medizinische Wochenschrift. W. 32 marks. Munich.
New Mexico Medical Journal. M. $2. P. O. 23, Las Cruces, N. M.
New Orleans Medical and Surgical Journal. M. $2. Tulane Ave. and Liberty St., New Orleans.
New York Medical Journal. W. $5. A. R. Elliott Publishing Co., 66 W. Broadway, New York City.
New York State Journal of Medicine. 17 W. 43d St., New York City.
*Nordiskt Medicinisk Arkiv. Irregular. 30 marks. Stockholm.
Norsk Magazin for Lægevidenskaben. M. $5. Christiania.
Northwest Medicine. M. $2. Cobb Bldg., Seattle, Wash.
Ohio State Medical Journal. M. $2. 186 E. State St., Columbus, Ohio.
Old Dominion Journal of Medicine and Surgery. M. $2. 116 E. Franklin St., Richmond, Va.
Ophthalmic Record. M. $4. 7 W. Madison St., Chicago.
Opnthalmology. Q. $5. 604 Leary Bldg., Seattle, Wash.
Pennsylvania Medical Journal. M. $2. Athens, Pa.
Philippine Journal of Science. Irregular. $7. Manila, P. I.
Policlinico. W. 32 lire. Rome.
Practitioner. M. $6.50. London.
Presse Médicale. Semi-w. 15 francs. Paris.
Public Health Journal. M. $3. 43 Victoria St., Toronto.
Quarterly Journal of Medicine. $6.50. London.
Revista de Medicina y Cirugia. Semi-m. $4.50. Havana.
Revue de Chirurgie. M. 33 francs. Paris.
*Revue de Gynécologie. M. 30 francs. Paris.
*Revue de Médecine. M. 23 francs. Paris.
Revue Médicale de la Suisse Romande. M. 14 francs. Geneva.
Revue Mensuelle de Gynécologie, d'Obstétrique et de Pédiatrie. M. 12 francs. Paris.
Revue Pratique d'Obstétrique et de Gynécologie. M. 8 francs. Paris.
Riforma Medica. W. 35.50 lire. Naples.
St. Petersburger Medizinische Zeitschrift. Semi-m. 14 marks. St. Petersburg.
Sei-I-Kwai. M. $2. Tokyo.
Semaine Médicale. W. 15 francs. Paris.
Semana Médica. W. $5. Buenos Aires.
Siglo Medico. W. $4. Madrid.
Southern Medical Journal. M. $2. 905 Van Antwerp Bldg., Mobile, Ala.
Surgery, Gynecology and Obstetrics. M. $10. Surgical Publishing Co., 31 N. State St., Chicago.
Texas Medical Journal. M. $1. Austin, Texas.
Therapeutische Monatshefte. M. 12 marks. Berlin.
Therapie der Gegenwart. M. 14 marks. Berlin.
Ugeskrift for Læger. W. 20 kr. Copenhagen.
United States Naval Medical Bulletin. Q. $1. Washington, D. C.
Upsala Läkaroförenings Förhandlingar. Irregular. 10 kr.
Vermont Medical Monthly. M. $1. Burlington Medical Publishing Co., Burlington, Vt.
*Virchows Archiv für Pathologische Anatomie und Physiologie und für Klinische Medizin. M. 16 marks. Berlin.
Washington Medical Annals. Bi-m. $1. 2114 18th St., N.-W., Washington, D. C.
West Virginia Medical Journal. M. $1. Wheeling, W. Va.
Wiener Klinische Wochenschrift. W. 24 marks. Vienna.
Wisconsin Medical Journal. M. $2. Goldsmith Bldg., Milwaukee.
*Zeitschrift für Geburtshülfe und Gynaekologie. Irregular. Price varies. Stuttgart.
*Zeitschrift für Kinderheilkunde. Irregular. 18 marks. Berlin.
*Zeitschrift für Klinische Medizin. Irregular. 16 marks. Berlin.
*Zeitschrift für Urologie. M. 30 marks. Berlin.
Zentralblatt für Chirurgie. W. 30 marks. Leipsic.
Zentralblatt für Gynäkologie. W. 30 marks. Leipsic.
Zentralblatt für Innere Medizin. W. 30 marks. Leipsic.

W.—Weekly; M.—Monthly; Semi-m.— Semi-monthly; Bi-m.—Bi-monthly; Q.—Quarterly *Cannot be loaned.

# EXPLANATION OF THE USE OF THE INDEX

This is an index not only to the reading matter in THE JOURNAL, but also to original articles in the principal medical periodicals of this and other countries. The reading matter appearing in THE JOURNAL is distinguished by the use of **black-faced numerals.**

The letters used to explain in which department the matter indexed appears are as follows: "E," Editorial; "C," Correspondence; "T," Therapeutics; "Ml," Medicolegal; "P," Propaganda for Reform; "ME," Medical Economics; "ab," abstract; the star (*) indicates an "Original Article" in THE JOURNAL.

This is a subject index and one should, therefore, look for the chief word, with the following exceptions: "Deaths" and "Society Proceedings" are indexed under these titles at the end of the letters "D" and "S." Matter pertaining to the Association is indexed under "American Medical Association."

All matter is indexed under the most important word of the heading used in THE JOURNAL, and also under the subject heading. For instance, abscess of the brain will be found under "abscess," as well as under "brain." Such titles as "ocular manifestations, etc." have been indexed under "Eye." Cross references have been liberally used.

The figures in parentheses refer to the paragraph, the number following to the page in THE JOURNAL, for example:

ABDOMEN, phlegmon, ligneous, of wall of, *1039

This reference is to an original article in THE JOURNAL, as shown both by the star and by the black-faced numerals indicating the page.

ACID, tannic, action on urethra, **1656**

This reference, as indicated by the black-faced figures, is also in THE JOURNAL, and on turning to page 1656 we find an answer to a question in the Department of Queries and Minor Notes.

ABDOMEN, acute, in children, treatment, (1) **864**

In this reference, the (1) indicates that the article is in the Current Literature Department and the fact that the page number is in black-faced type shows that the article is abstracted and discussed in THE JOURNAL. Turning to page 864, we find (1) refers to an article by P. L. Mummery in the *British Journal of Children's Diseases*, February.

ABDOMEN, trauma, differential diagnosis in, (81) 1834

The fact that in this last reference the page is given in ordinary type indicates that only the title of the article is given. Turning to page 1834 we find that the numeral (81) refers to a paper on that subject by O. J. Fay which appeared in the *Journal of the Iowa State Medical Society*, May.

In the AUTHOR'S INDEX are the names of the authors of articles which have appeared in THE JOURNAL of the American Medical Association and of articles that have been listed from week to week in the Department of Current Medical Literature as having appeared in other journals. The black-faced numerals indicate that the article is in THE JOURNAL, either in full or in abstract. The star (*) preceding the page number, indicates an original article.

# SUBJECT INDEX


## A

ABBOTT method for correction of scoliosis, (79) 1671, (102) 1672
method for scoliosis, necessity for modifying technic, (49) 247, (28) 1191
ABDERHALDEN biologic test for cancer, (52) **1585,** (103) **1842**
serodiagnosis for dementia praecox, technic of, (63) **949, 1727**
work of, in organic synthesis, **1464**—E
ABDOMEN, acute, (129) 699, (40) 1400, (2) 1668
acute in children, diagnosis, (43) 1265 (8) **1836,** (28) 1838
acute, in children, treatment, (1) **864**
adhesions and kinks, (52) 1833
adhesions, developmental, abnormal, (24) 1837, (22) 1983
aneurysm of, operation by Colt's apparatus, (5) **1836**
bougie removed from, ten weeks after introduction per vaginam, (3) 396
calamities, (26) 1920
cancer, diagnosis of, possible errors in, and plea for exploratory laparotomy, **1574**—ab
case or two out of ordinary, (9) 158
contusions of, causing intestinal lesions, (139) 162
crisis, (59) 160
diagnosis of surgical conditions, some newer methods, (94) 1397
drainage, under various conditions of inflammation, (2) 555
forceps for work on, (161) 162
foreign bodies in, (12) 322
foreign bodies in neck or, undiagnosed, operative removal of, (56) 2070
gunshot wounds of, **237**-ab, (67) 949, ***955** (63) 1493
hematoma, developing during labor, (111) 1588
injuries, (29) 1492, (8) 1495
needles in, complication of hysterectomy, (23) 1033
omentum for plastic operations in, (96) 559
pain in infants, (23) **1583**
pain, recurrent, chronic, diagnosis of causes of, (34) 866
pendulous, surgical treatment, (37) 1741
phlegmon, ligneous, of wall of, ***1039, 1318**—C
Ptosis of: See Splanchnoptosis
rigidity, (110) 478, (42) 1670
rigidity under anesthesia, causes and avoidance of, (19) 1264
solidity and elasticity of, (71) 1193
ABDOMEN, suppurative conditions of upper, (88) 1835
Surgery: See also Laparotomies
surgery, advances in, (1) 157
surgery, diagnostic pitfalls in, (16) 695
surgery, increase of newer, due to increase in toxic disturbances, **72**—ab
surgery, oil in, (43) 166
surgical complications in, during typhoid, (124) 1836
surgical conditions of, their relation to life expectation, (60) 1262
surgical conditions of upper right quadrant of, (99) 1029
surgical diseases, acute, diagnosis and pathology of, (138) **85**
suturing, improved technic, (120) 1038
tampon, drainage of, indications for and results, (145) 870
trauma, differential diagnosis in, (81) 1834
tumors in children, (126) 952
tumors of wall, (75) 482
ulcers excised from anterior wall of, pathologic data from, (30) **1832**
visual inspection of conditions inside thorax and, (68) **249**
ABELEN'S reaction for salvarsan in urine, **1094**
ABORTION and sterility in relation to ovum, (31) 402
attempt to induce, in extrauterine pregnancy, (154) 92
attempt to induce, sudden reflex death, (38) 1984
case without history, dying declarations made after refusal of physician to treat, **1829**—Ml
criminal, (53) 404 (76) **1036**
criminal, admissibility of evidence to prove, **79**-Ml
criminal, campaign against, (134) 252
criminal, insufficient complaint and inadmissible evidence in alleged, **157**—Ml
febrile, (76) 482
febrile and septic, active measures in, (69) 1193
febrile, curetting in, advantages of, (72) 1113
moral and ethical aspects of, (9) **396**
perforation of uterus during treatment of, (93) **328**
therapeutic, from forensic standpoint, (57) 867
therapeutic, in mind disease, (103) 406
tubal, abdominal, mechanism of, (66) 482
tubal, hemorrhage after, toxicity of, (90) 868
ABORTION, tubal, polyneuritis of legs following local ischemia in legs and, (54) **1266**
ABSCESS: See also Cellulitis; Felon; Phlegmon
ABSCESS, bone and sinuses, tuberculous, tuberculin in, (75) **1493**
bone, chronic, (124) 478
brain, and sinus thrombosis, differential diagnosis between, treatment, (73) 242
brain, extradural, at apex of petrous bone, (24) 1583
brain, extradural, complicating frontal sinusitis, (108) 1328
brain, frontal lobe of, (63) 241
brain, metastatic, after suppuration of bronchial lymph-node, (81) 704
brain, of otitic origin based on study of twenty-four cases, (16) 81
brain, otogenic, (73) 1927
cerebellum, and afebrile sinus thrombosis complicating acute otitis media in adult, (87) 399
cerebellum, and labyrinthitis, differential diagnosis, (89) 84
cerebrum, idiopathic, (13) **2068**
cerebrum, originating in ear, (135) 706
cerebrum, symptomatology of, diagnosis and indications for surgical intervention, (2) 474
cervical, deep, treatment, (198) 1754
cervical, of aural origin, diagnosis and treatment, (11) 479
ear, middle, acute, (50) 477
ear, outer, treatment, (130) **329**
fallopian tube and ovary, tuberculous, (86) **783**
fixation, (45) 631
in omentum sac after necrosis of pancreas, (139) 1750
in Pott's disease, (63) **1498**
in pouch of Douglas, (116) 483
intramural, during puerperium, (74) 363
liver, abdominal and transpleural operative technic for, advantages of, (52) 1580
liver, amebic, emetin for, **917,** (61) **1111, 1896**
liver, modification of Rogers' method for, (26) **165**
pelvis, drainage in pyosalpinx and, **1485**—ab
pelvis, grape seeds in, (126) 1836
pelvis, rectum section for, in men, (55) **1666**
pneumococcal, of lung in children, (25) 1583
spleen, pneumococcus peritonitis, secondary, with, (116) 951
spontaneous, bacillus from, in rabbits and its relation to influenza bacillus, (30) **476**
ABSCESS, submaxillary, evacuation of, through mouth, (60) 1746
ureter, (133) 1836
ABSINTHE, prohibition of, in colonies, **63**
ABSORPTION and digestion in light of serology, (140) 707, (149) 1270
ABSTRACTS in current medical literature, duplication of, (64) **2071**
ABYSSINIAN tea, (49) 631
ACADÉMIE de MÉDECINE, future permanent secretary of, **1806**
ACADEMY of Medicine, work and needs of, (86) 477
ACANTHOSIS nigricans, (50) 1666
ACCIDENTS, household remedies for, (122) 1404
ski and coasting, (102) **1500**
street, of London, want of ambulance provision, **916**
ACETABULUM, protruding floor of, (84) **793**
ACETANILID, fear of patent medicine man that public will buy it under official name, **1466**—E
ACETONE, bedside tests for diacetic acid and, (48) 1034
bodies, acidosis with special reference to, (102) 1667
in urine, influence of sodium bicarbonate on, experimental research on, (125) 251
in urine of children, elimination of, (92) 1195
reaction in children, clinical availability of, (93) 1195
ACHONDROPLASIA, fetal, clinical picture, (100) 1500
fetal, familial, (148) 870
with radiogram and necropsy, (3) 238
ACHYLIA, gastrica, chronic, anemic states with, (187) 1272
pancreatic plus gastric, (101) 406
ACID, acetic, and acidosis, **1158**—E
aceto-acetic, tests for, including simple new test, (39) **1670**
acetyl-salicylic, (149) **252**
acetyl-salicylic and potassium citrate, compatibility of, **390**
acetyl-salicylic, technic of manufacture of, **689**
amino-, as culture medium for bacteria, (20) 2069
amino-, in urine in health and disease, (140) 1116, (187) 1753
amino-, metabolism of, intermediary, (97) 1327
Carbolic: See Phenol
carbonic, in alveolar air, clinical investigation of, (11) **1979**
cerebronic, (89) 1327
citric, to check coagulation in puerperal phlebitis, (51) **403**

ACID, corrosive, stomach injury from swallowing, (35) **1583**
cresotinic, therapeutic action of, (92) **319**
destroying yeasts, influence of certain, on lactic bacteria, **1961**—E
diacetic, and acetone, bedside tests for, (48) 1034
fatty, unsaturated, as neurolytic agent, (22) 1739
formic, formation and excretion of, conditions affecting, (40) 1665
hydrochloric, formatiou in stomach, seat of, **838**—E
hydrochloric, free, in stomach content, quantitative test for, (159) **1271**
hydrochloric, in gastric juice, **284**—E
hydrochloric, in gastric juice, behavior of, during kidney disease, (204) 874
hydrochloric, in pernicious anemia, (69) **404**
hydrochloric, secretion by stomach, influence of sodium chlorid on, (90) **477**—ab
hydroxy, from ketonic aldehyds, enzyme concerned with formation of, (81) 1028
Intoxication: See Acidosis
nucleinic, in progressive paralysis, (129) 251
osmic, trigeminal neuralgia treated by superficial injection of alcohol and, (71) 1666
oxalic, production and elimination of, (48) 1985
phosphoric, organic, of cotton-seed meal, (74) 161
picric, and oil of cloves preparation of catgut, (157) 162
pyrophosphoric, (69) **1028**
Salicylic: See also Salicylates
salicylic, action of, and chemically allied bodies in rheumatic fever, (8) **1264**
salicylic, local application to thorax in pnuemonia, (107) **794**
sulphuric, and copper sulphate poisoning, acute, blood findings in, (79) 792
sulphuric, caustic pastes, *434
sulphuric, dilute, carbuncles, boils, staphylococcic and streptococcic infections treated by internal administration of, (21) **1191**
tannic, action on urethra, **1656**
tannic, fermentation, (79, 80) 1327
thiocyanic, ferment-arresting action of, in respect to pepsin, (138) 252
uric, **465**
uric, and purin bodies in urine, determination of, (111) 1037
uric, calculi, (114) 1030
uric, chemical action of thorium X on, (54) 404, (72) 1035, (78) 1193
uric, diathesis, electricity in, (2) 694
uric, estimation, Ruhemann uricometer for, *44
uric, in blood, colorimetric method for determining, (78) 161, (56) **318**, (74) 1028
uric, in blood, determination of, (123) 329
uric, precipitation of, bacteriologic factor in, (33) 947
uric, reagent, Macallum and Folin's, composition of, **617**
uric, solubility of, and proportion of ethereal sulphates in urine, (148) 638
uric, test of, rapid, **1957**
yeast, nucleic, action of yeast on, (51) 318
ACIDOSIS, (110) 1030
and acetic acid, **1158**—E
diabetic, (159) **872**
diabetic, estimation of, (79) 704
diagnosis of, (47) 403
non-diabetic importance of, (31) 317
postoperative, (35) 317
respiration, types of, in health and, (184) 1753
Wassermann reaction in diabetes mellitus and its relation to, *1139
with special reference to acetone bodies, (102) 1667
ACNE, bacterins in, (68) 319
etiology and treatment, *582
ionic vaccine therapy in, (136) 243
prescription, method of compounding, **851**
vaccine, **1074**
vaccine therapy of, **390**
vulgaris, (65) 1742
ACOUSTIC nerve, affections of, curable, (106) 1328
ACRODERMATITIS perstans, dermatitis repens and infectious eczematoid dermatitis, possible interrelationship of, (37) **781**
ACROMEGALY developing after hysterectomy at 38, (82) 1586
hypophysis changes with, (60) 2071
in diabetes, nerve cells in isolated part of nervous portion of hypophysis-tumor in, new formation of, (2) **1663**
three cases, with one autopsy, (28) 1492
ACTINOMYCOSIS, appendix, (82) 1927
jaw, lower, (114) 1397
roentgenotherapy of, (146) **707**
ADAMS-STOKES DISEASE: See Heart-Block
ADDISON'S DISEASE, (106) 1749
acute, (63) **1586**
in boy of 10, (24) **866**
nervous and mental symptoms in, (13) 243
with severe abdominal symptoms, (62) 1922
ADELHOLZ WATERS, rubidium in, (73) 1586
ADENOIDECTOMY, dangers of, (33) 1325
mouth-breathing, persistent, following, (51) 696
ADENOIDS, (71) 477
ear complications from, (131) 478
follicular conjunctivitis and, (27) 861
operation for tonsils and lesson from case of, (137) 162
prevention of, (95) 1835
removal of, and enucleation of tonsils under gas anesthesia, (15) 1399
removing tonsils and, simple and satisfactory method for, (67) 1922
tonsillitis and, in relation to other diseases, (40) 477
tonsils and, (104) 698, (85) 1743
tonsils and, in children, cause of, and lymph-node extract for, (6) 2067
tonsils and, significance of, (61) 696
tonsils and, treated without operation, (5) 2067
tonsils and, treatment, (36) 1110
ADENOMA in intestines simulating stenosis of pylorus, (51) **1401**
liver, primary, simulating Hanot's hypertrophic liver cirrhosis, (11) 624
prostate, (101) 242
thyroid and prostate, growth centers of benign blastomata with special reference to, (45) 627
umbilicus, (91) 1037
ADENOMYOMA, uterus, (28) 631
uterus, pregnancy with, (121) 320
ADENOMYOMATOSIS, subserous, of small intestine, (168) 872
ADHESIONS, abdomen, and kink, (52) 1833
disturbances from, following pleurisy, (135) **1196**
intra-abdominal developmental, abnormal, (24) 1837, (22) 1983
pericardium, roentgenography of, (50) 631
pericecal and cecal, **1389**—ab
peritoneum, (24) **1109**
peritoneum, of insidious toxic group, (114) 1328
pleural, active respiration exercises to ward off, (96) **1930**
sigmoid, **150**—ab
ADIPOSITY and hypophysis cerebri tumors, (126) **91**—ab
ADRENALIN: See Epinephrin
ADRENALS, (156) 1502
and metabolism of fat, (99) 1403
changes in, in pregnancy and after castration, (71) 1747
cortex, development of, (62) 949
cystic disease of, (92) **869**
exposure of, to Roentgen rays, effect on blood-pressure, (150) 1198
hemorrhage in, in newborn infant, (109) 251
in health and disease, (170) **1272**
massage, effects on blood-pressure, *1777
origin of cyclic vomiting in children, (32) **1926**
origin of excess of cholesterin in blood, (60) 482
origin of periodical vomiting, (62) **1266**
physiopathology of, (139) 1338
tumors of kidney, testicle and, embryogenetic relationships of, **236**—ab
with anencephaly, (108) 251
ADULTERATION of liquors, (168) 1118
ADVANCE of Chicago drops nostrum advertising, **1801**—E
ADVERTISEMENTS, disguised, **1239**
ADVERTISING, clean, and Good Housekeeping, **291**—E
clean, slowness of medical journal to realize changed attitude of public toward, **602**—E
Clubs of America, Associated, **291**—E, **909**—E, **1646**—E
demand clean, **53**—E
fraudulent, and Birmingham Ledger, **1899**—P
fraudulent, and Druggists' Circular, **837**
fraudulent, and Meyer Brothers' Druggist, **838**
fraudulent, Detroit Saturday Night in line against, **1711**—E
fraudulent, in medical journals, **53**—E, **57**—E, **65**—P
fraudulent, laws prohibiting, **1482**—ME
fraudulent, "original article" and Jirch Diabetic Food Co., **1081**—E
lack of uniform action by medical press in, **213**—E
medical, **53**—E
medical, and Harburg Bill, **1711**—E
medical, Chinese drugs and, **1709**—E
medical, layman and the newspaper, **599**—E
medical, no compromise permissible in, **1361**—ab
medicinal articles, reform in, (129) 1196
misleading, **1174**—C
nostrum, Advance of Chicago drops, **1801**—E
nostrum, in medical journal and editorials in same journal, **1368**—E
nostrum, in newspapers, **671**—E
nostrum, in religious press, and American Medical Association, **1161**—E
patent medicines, **134**—P
pharmaceutical specialty house in, effrontery of, **380**
specialists on Pacific coast, **1809**—P
truth in, laws enacted in some states and considered by others, **1377**—P
Wiley's attitude on, **1646**—E
AEROGEN and anaerogen coliform organisms, biochemistry of symbiotic growth of, (6) **1031**
AFRICA, color problem in south, **1894**
AGALACTIA, contagious, in sheep and goats, (39) 866
AGE determination, roentgenographic, Rotch method of, (147) 479
limit of professorship in university, of Budapest, **1972**
of parents as factor in heredity, **616**
AGGLUTINATION and sedimentation and their bearing on water storage, (22) 786
non-pathogenic vibrios, properties and, (47) 1920
reaction and experimental immunity in typhoid, *1764
reduced, of typhoid bacilli in alkaline medium, (88) 1841
test, macroscopic, for detecting fowls that are harboring bact. pullorum, value of, (56) 1187
AGGLUTININS, behavior of opsonins and, in animals after castration or injection of extract of testicles, (141) 252
local, in diagnosis of tuberculosis, (53) 1332
AGGRESSINS, experimental research on, (164) 1675
AGRICULTURE, chemical imponderables in, (38) **246**
experiment stations and science, **1156**—E
AIR: See also Oxygen
AIR, bacteria in, enumerating, sand filtration method and bubbling method for, comparison between, (19) 1027
expired, toxins in, experimental research on, (168) 1271
fresh, and children, (1) 238
mercury refound in dust and, of rooms where mercury is handled, (167) 1198
oxygen poor, in anemia, (123) **560**
pressure, physiologic effects of altitude and, **1554**
swallowing in infants, cause of, (121) 407
we breathe, composition of, **288**—E
ALABAMA medical news, **214**, **292**, **839**, **1368**, **1801**
state board January report, **772**
ALASKAN natives, health of, **998**—E
ALBUMIN, alien, permeability of gastro-intestinal tract for, in sick infants, (115) 1404, (106) **1673**
containing preparations of iron, absorption of, (107) 406
determination, aid in diagnosis of kidney lesions, (93) 84
dextrorotatory, in organic nature, (83) 1189
in anaphylaxis, role of, (138) 707
in fever, metabolism of, (105) 1335
reaction in spinal fluid, effect of spinal cord compression on, (50) **324**
reaction in sputum, (79) **168**, **1481**, (54) **1493**
reaction in sputum for early diagnosis of tuberculosis, importance of, (45) **1584**
reaction in sputum in tuberculosis, critical study, *440
reaction in sputum of not much early diagnostic value, (213) 874
starch and fat-splitting ferment, excretion of, in infants, (97) 406
technic for removing, and determining residual nitrogen in organic fluids, (139) 1116
tests, comparative merits of, (118) **951**
tests, dissolved, for stomach cancer, (66) 1666
ALBUMINURIA, alkali in, (142) 1502
in infants, newborn, (73) 2071
induced, as test for latent nephritis, (120) **952**
is it likely to recur in successive pregnancies? (1) **1831**
life-insurance and, (3-5) 85
of pregnancy, eye symptoms in, important, (53) 160
of pregnancy, remote prognsois of, (36) **246**
of pregnancy, signification of, determining, (17) **1983**
orthostatic, (41) 318, (145) **1117**
orthostatic, and tuberculosis, (116) **1196**, (85) 1586
orthostatic, heart size and heart function in children showing, orthodiagraphic study, (39) **1832**
orthostatic, pathology of, (99) **950**
orthostatic, spine anomalies in, correction of, (138) 1270
quantitative determination of, reliability and comparative simplicity of Claudius' method and Pfeiffer's modification of Tsuchiya's method, (85) 1671
significance of, **421**—ab
transient, (147) 1198
ALBUMOSE, Bence-Jones', in urine, multiple myeloma associated with, (15) 1330
ALBUMOSURIA, myelomata, multiple, with numerous spontaneous fractures and, (14) 625
ALCOHOL, Benjamin Rush, pioneer investigator of effects of tobacco and, on man, (92) 1581
consumption, decreasing, **1472**
content of blood, (80) **704**
denatured, **850**
drunkenness and physiologic effect of, (32) 86
from standpoint of individual and society, (133) 91
in Austro-Hungarian army, **1722**
in fatigue, (95) 1037
in infectious diseases, **1651**
in surgical sterilization, (128) 870
inebriate in New Jersey, what can be done under existing conditions for, (78) 319
injection in gasserian ganglion for trifacial neuralgia, *1354, **1725**—C, (59) **1840**, **2061**
injection in neuralgia, (74) **1036**
injection in trifacial neuralgia treated by superficial injection of osmic acid and, (71) 1666
intestine absorption of, (49) **1741**
Methyl: See Methyl-Alcohol
morals and health of our soldiers, (42) **862**
nervous system and, (132) 91
poisoning, chronic, cirrhosis of liver after, experimental, (132) 560
therapeutic uses and limitations, (49) 1261, (115) 1923
toxemias from, (126) 1030
Wood: See Methyl-Alcohol
ALCOHOLISM: See also Inebriety
ALCOHOLISM, abstinence delirium in chronic, (104) 406
combined treatment, (29) 700
epileptoid states in, (112) 705
hereditary, is undeniable fact, (113) 1397
heredity and, (107) 785
homosexuality and, (129) 636

ALCOHOLISM in children apparently free from morbid heredity, (51) 944
insanity, (85) 319, **380**
mentality and, (134) 1836
syphilis and tuberculosis, (109) 1835
treatment, ***1933**
ALDEHYDS, ketonic, enzyme concerned with formation of hydroxy acids from, (81) 1028
toxicity of, **756**—E
ALEXIA, developmental, (72) 1262
ALIENISTS to meet, **1311**
ALIENS, charitable relief to, international conference on, **1009**
ALIMENTARY TRACT: See Gastro-Intestinal Tract
ALKALIES and hyperchlorhydria, (114) 478
calcium balance depends on intake of, (108) 705
in albuminuria, (142) 1502
ALKALINES, action of mineral waters and, (165) 1675
ALKALOIDS, poisonous, medicolegal test for, (77) 1036
ALKAPTONURIA, (19) 239
ALLERGY: See Anaphylaxis; Immunity
ALLYL sulphid in tuberculosis, (45) 1265
ALTITUDES, high, new blood formation at, (97) **1749**
high, physiologic study of effect of, (99) 1269
high, pulse at, (87) 1748
high, tuberculosis at, in Andes, experimental, (162) 708
physiologic effects of air pressure and, **1554**
ALTON surgeons' meeting, **843**
ALVEOLAR air, carbonic acid in, clinical investigation of, (11) **1979**
ALVEOLES, carbon-dioxid tension in, technic for determining, (51) 791
AMANITA-hemolysin and its antihemolysin, mode of union between, (37) 861
-toxin, (38) 861
AMAUROSIS, hysteric, syphilitic meningitis plus, (100) 793
AMBULANCE car, street railway, first, **1726**—C
corps and field hospital, evolution of, (89) 1189
dogs, **299**
service for accidents and other casualties in streets and public places in London, efficient, (40) 1265
AMEBA: See also Entameba
AMEBA, parasitic, and disease, (16) 239
parasitic and free-living, relation to dysentery, **1824**—ab
AMEBIASIS: See Dysentery, Amebic
AMERICA, medical impressions of, **286**—E, (137) **706**, (71) 949, (120) 1198
medical, seen with foreign eyes, Jaffe's reply to editorial on, **1975**—C
medical study tour to, in 1912, (102) **869**
safeguarding against disease, **759**
AMERICAN Academy of Medicine meeting, **1471**
Academy of Opthalmology and Otology meeting, **1006**
Association for Cancer Research, **2019**—ab
Association for Promoting Hygiene and Public Baths meets, **1717**
Association of Medical Examiners meet, **1649**
Association of Officials of Charity and Correction to meet, **1893**
Climatologic Association, **1717**
College of Surgeons, **1471, 1552**
Dermatological Association elects officers, **1552**
Gastro-Enterological Association meets, **1372**
Gynecological Society officers elected, **1733**—ab
Laryngological Association, **1717**
AMERICAN MEDICAL ASSOCIATION, Albany alumni at Minneapolis, **1804**
alumni to meet at Minneapolis, **1170, 1458, 1717**
amblyopias, toxic, **2004**
and its great work for profession, **77**—ab
as seen by Australian visitor, **610**—ab
auditor's report, **1991**
blindness, prevention of, report of committee on, **2003, 2006**
by-laws, **1993**
clinics at Minneapolis, **1010, 1459**
commercial exhibit, **1508**
Conference on Medical Education and Medical Legislation, **690**—ab, **774**—ab
constitution, amendments to, **2019**
Council on Health and Public Instruction, report of, **1999**
Council on Medical Education, report of, **2013**
Council on Pharmacy and Chemistry, **1989**
Davis memorial, **1990**
educational work of speakers' bureau, **1095**—ME
elections by Board of Trustees, **680**
entertainments, social, **1093, 1458**
excursions from Minneapolis, **460, 1506**
exhibit illustrating medicinal plant cultivation, **1558**
expert testimony, **2002**
golf club courtesies during Minneapolis session, **1655**
health, public, education among women, report of committee for, **2010**
hotels at Minneapolis, **764, 1170, 1314, 1504**
in session at Minneapolis, **1961**—E
index to the Journal, **2051**—E
Jacobi's address as president, **1962**
Judcial Council, report of, **1993**
local committee for next annual session at Minneapolis, **615, 1504**
medicolegal bureau, **2002**
meetings in University of Minnesota buildings and entertainments at club-houses on lakes at Minneapolis session, **680**
membership in, **762**
membership, uniform regulation of, report of committee on, **2012**
methyl alcohol, **2004, 2008**
Minneapolis by way of Northwestern line, **1313**
Minneapolis, city of, **1433**
Minneapolis Session, **1465**—E, **1889**—E, **2052**—E
Minneapolis Session, official call, **1430**
Minneapolis Session, special trains to, **535**
minutes of sixty-fourth annual Session, **1962**
Mumford's "Table Talk" on annual meeting and election of officers, **77**—ab, **222**—ab
non-affiliated organizations, meeting of, **1504**
ophthalmia neonatorum, bill for act entitled an act for prevention of, **2004**
organizations interested in public health to which invitation was sent, **2001**
Orthopedic Surgery Section, **65**
pictures of officers, **1889**—E
Porto Rico, Medical Association of, asks for membership in, **1965**
railway sanitation, committee on, **2002**
rates for round trips to Minneapolis, **1313**
registration at Minneapolis Session, **1457**
research, protecton of, report of committee for, **2009**
responsible for improvement in advertising pages of religious journals, **1161**—E
resuscitation from electric shock, report of committee on, **2009**
resuscitation from mine gases, committee on, **2002**
scientific exhibit for Minneapolis meeting, **1455, 1457**
secretaries of state societies, conference of, **1989**
secretaries, state, meeting, **1457**
Secretary's report, **1963**
section banquets, **1458**
Section on Gastro-Enterology and Proctology, proposed, **1965**
section programs, **1447**
speakers' bureau, **1999**
state board statistics for 1912, **1623**
Sunday, public health, **1457**
trachoma, report on, **2004, 2007**
transportation to Minneapolis, **1505**
trip to Glacier National Park, **1010**
Trustees, Board of, report of, **1966**
University of Minnesota greeting, **1443**
Vaughan, Victor, president elect, **2052**—E
vice-chairman of section committees, **1504**
vision, conservation of, plan for formation of state societies for, **2008**
visual standards for pilots, report of committee on, **2009**
vital statistics law, model, committee on revision of, **2002, 2012**
women physicians, banquet of, **1458**
work of Public Health Education Committee, relation to state and county society, (65) 160
AMERICAN medical colleges establish branches in China, **843**
medicine and nostrum prescribing, **1368**—E
Medico-Psychological Association meets, **1804**
Mine Safety Association and prevention of mine accidents, **1081**—E
Pediatric Society meeting in Washington, D. C., **1237, 1552**
Pharmaceutical Association to appoint council on patent medicines, suggestion for, **1547**—E
Physicians and Surgeons, Congress of, meeting in Washington, **1311, 1660**—ab
Society for Physicians' Study Travels, **66**—C, **457, 1095, 1372, 1560, 1717**
Society of Tropical Medicine meeting, Washington, D. C., **1237**
Surgical Association desires articles on fractures, **1655**—C
AMIDO-AZOTOLUOL and scarlet red, clinical value of, (70) 1402
AMMOCOETES branchiales, metamorphosis of endostyle of, (39) 1260
AMMONIA coefficient in pregnancy, 60 cases, (11) 1831
utilization of, in protein metabolism, (47) 1665
AMNESIA, post-apoplectic, (64) **1746**
AMNIOTIC membrane grafts, ***973**, (109) **1029**
membrane grafts, articles on, **1977**
sac, rupture of, at seventh month of pregnancy continuing to term, (85) 868
AMPULLA of Vater, cancer of, (56) **1332**
AMPUTATION, arm, to ensure movable stump after, (141) 1406
below knee instead of exarticulation, (135) 637
flaps, (93) 1396
for gangrene, technic for, (94) 559
leg, for gangrene in infant 11 days old, recovery, (25) 1191
leg, technic for, (157) 1502
special reference to lower extremities, (87) 945
AMUSEMENTS for growing children, suitable, (135) 1328
AMYLENE-CHLORAL solution, **1881**
AMYOTONIA congenita with autopsy, (2) 1576
ANACHLORHYDRIA with liver disease, (165) 1271
ANACIDITY, feces with hyperacidity and, (64) **325**
ANAEROBE and acute rhinitis, ***2033**
cultivating, improved technic for, (142) 870
ANAEROGEN and aerogen coliform organisms, biochemistry of symbiotic growth of, (6) **1031**
ANALGESIA: See Anesthesia
ANAPHYLATOXINS and endotoxins of typhoid bacillus, (33) **626**
bacterial, clinical importance of, (88) 950
influence of leukocytes on, (89) 1929
ANAPHYLAXIS: See also Immunity
ANAPHYLAXIS, (15) 780, (20) 1330, (58) 1580
albumin in, (138) 707
alimentary, to eggs, (33) 1034
and infectious diseases, **1058**—ab
blood in, **832**—E
burns, death from, due to, **289**—E
calcium in relation to, (34) **1106**
cosinophilia and, connection between, (78) 249
fever and, **1721**
following injection of diphtheria antitoxin, (5) 1031, (63) 1266
gastric juice and, (56) 948
immunity and diseases in relation to, (2) **624**
literature on, **770**
nature of, and relation to immunity, (57) **1188**
not due to toxic action of any special substance, (48) 1670
reaction, interrelations in streptococcus group with special reference to, (41) **1920**
reaction, is specificity of, dependent on chemical constitution of proteins or on their biologic relations? (38) **1921**
reaction of plain muscle in guinea-pig and, (35) **861**
research on, (44) **1985**
serum, (112) **1750**
to hen's eggs, bronchial asthma due to, (61) **399**
ANAPHYLAXIS to milk, (150) 1751
to quinin, (174) 1676
tuberculo-protein and tuberculin, (33) **1665**
tuberculo-protein, effect on subsequent infection with bacillus tuberculosis, (40) **398**
vaccination and local, ***569**
ANASTOMOSIS and fistula operation, combined for gangrenous hernia, (26) 700
arteriovenous, ***360**
arteriovenous, for threatened gangrene of foot, **2024**—ab
arteriovenous, in gangrene, three cases, (61) 166
blood-vessel, cannula forceps for, (41) 552
facio-hypoglossal, case of, (35) 1983
intestine, lateral, modification of Ferguson-Grant method, (104) 1262
liver and intestine, (85) **168**
ANATOMIC differences between infants and adults, **391**
ANEMIA and bone-marrow metastases in stomach cancer, (27) **788**
blood injection in, (125) **636**
blood regeneration in, (167) 1502
carbohydrate metabolism in, (117) 560
carbon monoxid may be cause of headaches and, **1883**—E
child of 7, roentgenotherapy effectual stimulant in simple, (50) 247
children, chlorotic type of, (50) 192
from hemorrhage, (86) 704
infants, newborn, iron in, (68) **1112**
infants of city, carbon monoxid poisoning cause of, (67) **1112**
Leishman: See also Kala-Azar; Leishmaniasis
Leishman, (98) 406
Leishman, in child in region north of Naples, (117) 951
Leishman, in Southern Italy, (74) **1113**
oxygen-poor air in, (123) **560**
pernicious, (84) 242, (93) 399, (56) 863, (59) 1107, (80) 1834, (62) 1986
pernicious, acquired hemolytic jaundice with, effect of splenectomy on, (167) 1271
pernicious, cryptogenetic, salvarsan in, (65) 1666
pernicious, family, ***176**
pernicious, hydrochloric acid in, (69) **404**
pernicious, idiopathic, origin of, (87) **1403**
pernicious, in rabbits, experimental production of, (40) 1981
pernicious, in tuberculosis, (51) 631
pernicious, salvarsan in, (7) 243, (7) 479
pernicious, thorium X in, (55) 404, (49) 944, (82) 1113
pernicious, tongue and mouth mucous membrane disturbances in, (103) 698
pernicious, treatment, (10) 1982
pernicious, with alcholuric jaundice, (14) 865
progressive, changes in red blood-corpuscles in, (165) 1198
respiration, inadequate in, means for improvement, (134) **1116**
splenic, (124) **952**
splenic, and hemolytic jaundice, (125) 560
splenic, and splenectomy, (4) 1264
splenic, pathology of, (109) 635
subcutaneous medication in, (97) 1397
treatment, (123) 251, **474**—ab
trypanosome, experimental, (21) 786
ANENCEPHALIA, (53) 1982
adrenals with, (108) 251
ANESTHESIA, abdomen rigidity under, causes and avoidance of, (19) 1264
artificial airway for, surgical, ***1858**
blocking gasserian ganglion, (84) **483**
blocking of nerves in leg, effectual and harmless, technic for, (64) **702**
blocking sciatic nerve, (103) **951**
blood-pressure before, during and after operations under local and general, **1737**—ab
chloroform, epinephrin in, (20) 1668
chloroform, in nose and throat surgery, (68) 628, (30) 861
cocain, complete laryngectomy under, (109) 1667
dentists' and general, **532**
ether administration, (155) 162
ether and chloroform, **1304**—E
ether, by drop or open method, (162) 163

ANESTHESIA, ether, given by drop method with closed inhaler, (96) 1835
ether, intratracheal, (97) **1263**
ether, intravenous, (108) 170, (61) 1580
ethyl chlorid, (13) 1495
ethyl chlorid, general, (100) **484**
ethyl chlorid, general, advantages and technic of, (113) 328
ethyl chlorid, of mental nerve, (107) 1842
extradural, chair for, (141) 637
extradural, for surgical and gynecologic operations, (126) **706**
extradural, operations under, preliminary report, (74) **628**
fractures reduced under local, (76) 2072
gas, enucleation of tonsils and removal of adenoids under, (15) 1399
general, (81) 628
general, by intramuscular injection of ether, (146) 1197
general, by intravenous injection of ether-salt solution, (99) 84
general, by intravenous route, (73) 628
general, examination of liver functioning before, importance of, (114) **1269**
general, in cataract work, (72) 242
general, twilight sleep in, (70) 1193
general, with magnesium sulphate, mechanism of, (59) 2071
heart strain during, severe, danger and prevention of, ***1273**
hedonal, (54) 87
hedonal, in children, (3) 479
hyoscin-morphin, for alcohol injection in neuralgia, (26) 1330
in Philippine General Hospital, experiences in, (8) 1394
infiltration, (156) 1118
insufflation, Meltzer's, in respiratory paralysis during operations on brain, advantages of, (52) **1927**
insufflation, resection of wall of thorax under, (87) 1037
intrapharyngeal insufflation, ether vaporizer for use in, technic of, ***892**
intratracheal, emphysema, subcutaneous, extensive, following, (90) 783
intratracheal, in experimental work, (153) 162
intratracheal insufflation, (8) **316**
intratracheal insufflation, literature on, **390**
intratracheal insufflation, modified technic, (114) 951
intratracheal insufflation outfit, new and inexpensive, ***826**
intravenous, (103) **705**, (106) 1108, (74) 1402
intravenous, experiences with, (49) **166**, (92) 783
intravenous, for operation on hand and foot, (48) **166**
isopral, intravenous, disadvantages of, (57) 1926
local, (129) 91, (11) 243
local and general, (107) 1667
local, and goiter operations, (166) 163
local, and nerve blocking, (50) 1839
local, by aid of electricity, (145) **1338**
local, for appendicectomy, (137) 1197
local, for extraction of teeth, improved technic for, (59) 1746
local, for joint operations, (150) **1270**
local, for operations on rectum, (74) 83
local, for operations on sternum, (88) 1194
local, for operations on stomach, (96) **484**
local, for practical use in hospitals, (50) 166
local, for reduction of fractures and dislocations, (131) 560
local, herniotomy under, (117) 162
local, in general surgery, (77) 1743
local, in minor gynecology, (98) 1835
local, in ophthalmology, otorhinology and some branches of major surgery, (92) 242
local, ligation of superior thyroid for goiter under, (107) 1189
local, operations on ears under, (52) 1839
local, paravertebral, (71) 1840
local, prostatectomy under, **1488**—ab
local, removal of brain tumor under, (115) 1269
ANESTHESIA, local, technic for, (120) **91**—ab, (132) 330
local, technic for superficial nerves in relation to, (132) 1501
local, thyroid removed under, (3) 1031
mixed, (110) 1037, (127) 1405
nitrous oxid gas, essence of orange ether and sequestration in, for operations in upright position, (72) 1922
nitrous oxid-oxygen, (86) 242, (127) 401, (71, 72) 783, (58) 1262
nitrous oxid-oxygen, advantages and disadvantages of, from surgical viewpoint, (86) 242
nitrous oxid-oxygen and ether vapor, improved technic of, (72) 83
nitrous oxid-oxygen, for dentistry and surgical purposes, (8) 164
obstetric, (104) 161
of brachial plexus, paralysis of diaphragm after, (136) 1197
of brachial plexus, supraclavicular, (9) **945**
orange-ether, essence of, (106) 1397
oxygen as adjuvant in general, (40) 1110
present day method of, (47) 1107
quinin and urea hydrochlorid as local, in surgery of rectum and anus, (132) 1836
scopolamin in, danger of, (112) **1588**
scopolamin-pantopon, unreliability and by-effects of, (157) 1271
shock during, (10) 1923
spelling of, **1977**
spinal, (117) 85, **315**—ab, (87) 406, (157) **1118**
spinal, anatomic predisposition to paralysis of sixth nerve as complication of, (158) 708
spinal, and belt constriction, fatalities after, (133) **870**
spinal, dangers and disadvantages of, **1915**—ab
spinal, death from, ***442**
spinal, development and present status of method, 1,065 cases, (28) 1496
spinal, in gynecology, (97) 1835
spinal, stovain strychnin, (84) 1499
spinal, technic for, (99) **483**
spinal, tropacocain, symptoms suggesting heart block after, (98) 1269
technic of, (57) 1666
Trendelenburg position and, ***1273**
vapor, advantages of, (61) 1262
ANESTHETIC action of cinchona alkaloids on cornea, (81) 1113
for laparotomy, selection of, (12) **396**—ab
general, effect on composition of blood, (147) 1116
paraldehyd as, (9) **316**—ab
vapors, warming, (156) 162, (52) 862
ANESTHETISTS, expert, plea for more, (101) 1189
ANESTHOL, **616**
ANEURYSM, abdominal aorta, (135) **1674**
abdominal aorta, roentgenoscopy in diagnosis of, value of, (119) 1264
abdominal, operated on by Colt's apparatus, (5) **1836**
aorta, diagnosis of, (50) **1401**
aorta, fistula between bronchus and esophagus with, (89) 1114
aorta, hemoptysis after perforation of, (62) **1840**
arteriovenous, importance of veins with, experiemntal research on, (65) 702
carotid artery, (49) 357
cirsoid, of hand, (73) **1666**
femoral, traumatic, cured by Matas' method of endo-aneurysmorrhaphy, (40) 81
industrial, in file-grinders, (87) 1499
multiple, in lead poisoning, chronic, (16) 1668
of artery in brain, perforation of, diagnosis, (163) 562
subclavian, hilateral, (43) 1326
thoracic, (34) 1265, (23) 1330, (15) 1582
thoracic aorta, diagnosis, (113) **162**
thoracic aorta, symptomatology, diagnosis and treatment, (26) 1027
treatment, (210) 1754
tuberculous, of right common iliac artery, ***1413**
ANGINA and scarlet fever, (81) **406**
pectoris, **281**—T, (14) 1264
pectoris, tobacco, **1473**, (30) 1583
Vincent's: See Vincent's Angina
ANGIOMA, larynx, chronic laryngitis in relation to, (2) 550
peripheral nervous system, (67) 702
placenta, (95) 328
ANGLO-AMERICAN Medical Association meet, **1552**
ANILIN-DYE workers, tumors of genito-urinary tract in, **206**—E, (153) **1675**
ANIMAL as converter of plant nutriments into human foodstuffs, **904**—E
calorimetry, (52) **318**
diagnostic inoculation of, (112) 406, (144) **561, 927**
domestic, and public health, (77) 1982
domestic, pathologic dangers to, from contaminated water, (35) 695
experimentation, justification of, (31) 1260
experimentation, medical profession and public opinion, (151) **243**
lime requirements of, influence of function on, (70) 1028
research, operating table for use in, (16) 1104
tissues, diastase and glycogen of, (48) 318
tissues, lipase and fat of, (47) **318**
tissues, oxygen in, localization of, (104) 1500
ANION treatment, bactericidal action of, (158) 871
ANKLE, ankylosis, treatment, (57) 948
fracture, (100) 90, (37) **947**
fracture, double, outcome of, (100) 705
fracture, pseudarthrosis after, (57) 166
injuries at or near, (49, 53) 87
outward bending of, and flat-foot, causes of, (98) 1114
resection of, lengthwise incision for, (93) 483
ANKYLOSIS, ankle, treatment, (57) 948
bony, of joints, restoring mobility after, (144) 479
elbow, treatment of, (161) 1752
infected knee-joint with drainage without subsequent, (131) 242
interphalangeal articulations, inherited, congenital, (78) 1333
jaw, (32) **947**
joints, bony, restoring mobility after, (82) **1922**
spine, (78) 553
vertebrae, hip and shoulder joints, (87) **1987**
ANKYLOSTOMIASIS: See Uncinariasis
ANOPHELINES, color marking and other variable characters of, and systematic and phylogenetic grouping of species, (4) 1397
species of, in transmission of human malaria, **1822**—ab
ANOREXIA, (135) **1116**
nervosa, clinical and laboratory study, (106) 1835
psychic, at puberty, (92) **1334**
ANTARCTIC expedition, national, 1910, career of Dr. Wilson of, **760**
ANTHRAX bacillus, conveyance of, in clothes, **1311**
Bradford, investigation board, **1008**
cutaneous, (105) 1397
external, treatment, (108) 406
internal, and workmen's compensation, (99) 1195
ANTIANAPHYLAXIS in research on toxicity in urine in acute infectious diseases, (78) 326
ANTIBODIES, experimental production of, in cattle, (88) 1672
for ricin, (50) 1670
in tuberculosis, importance of, (122) 560, (119) 1501
in tuberculosis, in cattle, production of, **1801**—E
isolated, in cerebrospinal fluid, (26) **475**
ANTICUS antagonistic reflex, tibialis, (90) **1748**
ANTIDIPHTHERITIC globulins and serum antidiphthericum, **1074**
ANTIFREEZING mixtures for automobiles, **147**
ANTIGEN, attempt to separate from nucleoprotein of plague bacillus by filtration through gelatin, (21) 1744
ANTIGONOCOCCUS serum, **1227**
ANTIHEMOLYSIN, union between amanita-hemolysin and its, mode of, (37) 861
ANTIKAMNIA, **1172**—P, **1477**—P
Chemical Company and Hurburgh bill, **1711**—E
ANTILEUKOCYTOLYSINS and leukocytolysins, origin of, (35) 789
ANTIMENINGITIS serum, subdural injection in cerebrospinal epidemic meningitis, accidents following, ***1937**
ANTIMENINGOCOCCUS serum, **1074**
serum in gonorrheal urethritis, (93) 89, (55) **247**
ANTIMERISTEM-SCHMIDT for cancer, **766**—P, **1244**—P
ANTIMONY in spirochete and trypanosome disease, (86) 1113
salts, insoluble, in small doses effectual in trypanosome discases, (60) 1840
ANTINARCOTIC bill introduced in Congress, **310**—ME
ANTIPYRETICS, analgesics and hypnotics, **610**—ab
ANTISEPTICS in eyes, abuse of, (166) 1502
ANTISTAPHYLOCOCCUS serum, polyvalent, potent, preparation and employment of, ***1070**
ANTISTREPTOCOCCUS serum, **1227**
serum used locally in vaccinal ulcers, (7) **940**
ANTITOXIN administration, (33) **398**
diphtheria,, (139) 560, (98) 635, (65) 1266, (123) **1843**
diphtheria, anaphylaxis following injection of, (5) 1031, (63) 1266
diphtheria, immunizing doses of, value of, **147**
diphtheria, in epidemic cerebrospinal meningitis, (160) 1675
diphtheria, intravenous dosage of, experimental research on, (102) **1749**
diphtheria, no anaphylaxis to, (112) 1750
diphtheria, refound in serum and proper dosage, (84) 1037
in blood of diphtheria patients after serotherapy, (76) 326
in nervous phenomena of diphtheria, (111) 705
large doses of, given early, means of preventing larynx stenosis, (45) **862**
ANTITRYPSIN content of blood with pregnancy and cancer, (174) 562
ANTIVIVISECTION legislation, history, aims and menace, ***1511**
ANTIVIVISECTIONISTS lose suit for libel, **1718**
ANTRUM, maxillary, suppuration of, treatment, (101) 1581
ANURIA, hysteric, ***826**
ANUS, fistula in, (5) 396
imperforate, three cases, (72) 1189
pruritus of, (95) 1923
quinin and urea hydrochlorid as local anesthetic in surgery of rectum, (132) 1836
surgery of rectum and, (27) 86
tuberculosis, surgical, of colon, rectum and, (44) 480
AORTA, abdominal, aneurysm of, (135) **1674**
abdominal, aneurysm of, roentgenoscopy in diagnosis of, value of, (119) 1264
abdominal, controlling postpartum hemorrhage by manual compression of, method of, (145) 162
abnormally narrow, postoperative fatalities from, (65) **1986**
aneurysm, diagnosis, (50) **1401**
aneurysm, fistula between bronchus and esophagus, with, (89) 1114
aneurysms, hemoptysis after perforation of, (62) **1840**
calcification of esophagus obstruction due to, ***801**
compression, effects on circulation, (57) 1326
insufficiency, (181) 488
regurgitation, diastolic pressure in, determination of, (10) **1979**
stenosis, congenital, (195) 488
syphilitic disease of, (82) **1194**, (109) 1269 (129) 1270
syphilitic disease of, diagnosis and treatment, (18) **396**
thoracic, aneurysm of, diagnosis, (113) **162**
thoracic, aneurysm of, symptomatology, diagnosis and treatment, (26) 1027
APHASIA, (126) 242
complex, and parietal syndrome with necropsy, (53) 1192
localization of lesion, (1) **1258**
motor, subcortical and cortical, unreliability of alleged test for differentiating, (65) 1746
total, case of, (54) 1746

APHASIA, transient, from malaria, (128) 407
APHTHONGIA, (67) **628**
APNEA and carbon dioxid, **999**—E
APONEUROSIS, palmar, retraction of, thyroid treatment effectual in, (33) 700
APOPLEXY; See Brain, Hemorrhage
APPARATUS: See also Instrument.
APPARATUS, aspiration, continuous, (51) 398
ball-valve, for administration of salvarsan, (50) 1028
bed and emergency cot, combined, ***122**
bottle-holder for feeding babies, new, ***1535**
Colt's, abdominal aneurysm operated on by, (5) **1836**
douche-can and sterilizer, combination, portable, ***279**
drainage, suprapubic, new, ***514**
electric headlight, cheap and efficient, (132) 242
ether pad and cone, new, ***1619**
ether-vaporizer, ***892**
extension, for hip-joint disease, (100) 84
field sterilizer, rough and ready, (32) 1669
for artificial respiration in emergencies, ***1407**
for collection of urine from female babies, ***2045**
for exercising back in scoliosis, (70) 791
for injection and lavage of pelves of kidneys and ureters, ***184**
for obtaining blood from vein or heart of animal, (159) 479
for use in blood cultures, new, ***649**
gravity and syringe method for intravenous injection of salvarsan, combined, ***824**
illuminating operating-room, improved, ***1846**
illuminator, oblique, improved, (66) 1396
inhalation treatment, new, (87) **697**
intratracheal insufflation anesthesia outfit, ***826**
intubation tubes for larynx stenosis, specially devised, (136) 1030
Kuhn's aspiration mask, (66) **632**
medical, and patents, **1239**
obstetric rubber dilating bag, new, (105) **1263**
operating-table for rhinologists, ***1951**
orthopedie table in fracture, ***1850**
pipet filling, ***663**
pulmotor, for artificial respiration on asphyxiated newborn infant, (11) 694
rented instead of sold outright, (150) **871**
Roentgen-ray generator, improved, (95) 1189
salvarsan administration, new and simple, ***1782**
salvarsan, intravenous injection of, (103) 478
scoliosometer for measurement of scoliosis, (42) **1497**
shelf for rectum and vaginal operations, ***1537**
somnoform inhaler, new, (6) 1668
suction hand-valve for clearing operative field, ***897**
test, for hearing, (101) 1269
urinal, retention, after cystostomy, (65) 1671
APPENDECTOMY and herniotomy by inguinal canal, (96) **90**
early, necessity for, (119) 1404
in herniotomy, (45) 246
local anesthesia for, (137) 1197
subserosa, (121) 1038, (104) 1588
technic of, (62) 166, (136) 637
APPENDICITIS, (43) 318, (44) 477, (121) 1030, (51) 1493
acute, angulation of terminal ileum, acute, cause of intestine obstruction in, (34) **1741**
acute, modern treatment, (100) 478, (44) 552
Bastedo's sign, (36) **1265**
bearing of sex on operation in, (27) 1033
blood-borne origin, (39) 557
blood-count in, (137) **1751**
Blumberg's sign in, **616**
castor oil in, (125) **1196**
cellulitis of obscure clinical and bacteriologic nature complicating, fatal case, (11) 1668
children, very acute cases, (17) 1577
chronic, (24) **1186**, (106) **1335**
chronic, and disease of ovaries, (41) **1331**
APPENDICITIS, chronic, and female pelvic organs, (130) 485
chronic, in children, (37) 1191
chronic, secretory activity of stomach in, with gastric symptoms, (30) **245**
conditions simulating, (5) 1923
diagnosis of, by referred pain in epigastrium from pressure over appendix, ***350**, (37) 1583
diagnosis of pneumonia and, (86) 1189
diagnosis of, pre-operative, new method by dorsal examination, (10) **322**
foreign bodies and, (51) 477 (71) 1188
gangrene of ileum complicating, (36) 81
gangrenous, unusual histories, (5) 555
gynecologic disease and, (164) **1198**
helminths causing, (74) **1499**
hemorrhage with, tardy, (94) 1500
immediate operation, plea for, (4) 864, (21) **865**, (31) 1033
in infant sixteen days old with appendix in inguinal hernial sac, (37) 81
in Prussia in 1911, **609**
in scarlet fever, (86) **1334**
lime water as probable cause of, (81) 783
liver in, (56) 241
medical treatment, (56) 1107
movable kidney with or simulating chronic, (61) 558
mucous colitis and membranous pericolitis, corelation of, **149**—ab
origin of, and function of appendix, (5) 864
overeating cause of acute, (88) **84**
oxyuris causing, (137) 870 (130) **1750**
paratyphoid, (53) 1670, (99) 1672
pathogenesis of, (67) **326**
peritonitis due to, from bacteriologic standpoint, (52) 166
peritonitis due to, treatment, (65) 791
postoperative complications, (53) 1028
pregnancy and, (10) 1831
retrocecal, **150**—ab, ***1285**
sacral kidney simulating acute, (83) 83
spontaneous healing of, (101) 250
suppurative, (57) 1028, (53) 1926
suppurative, acute, tetany in, in adult, (19) **1668**
surgical aspect of, (52) 1261
thrombosis and embolism after operations for, (96) **869**
traumatic, (151) 330
tuberculous mesenteric lymph-nodes simulating, (30, 31) **239**
with symptoms of diseases of urinary tract, (42) 318
women and, (81) 1927
APPENDICOSTOMY instead of colostomy for obstruction due to irremovable cancer of rectum and colon, (3) **555**
multiple applications of, (46) 1331
APPENDIX, actinomycosis of, (82) 1927
as substitute for bile-duct, (131) 1501
cancer, (28) 402, (100) 559, (56) **1927**
cancer, lipoid content of, (82) 792
changes in general infection and peritonitis, (168) 488
cysts, (33) 86
excisor, (16) 1980
exclusion, (131) 252
exclusion, disadvantages of, (132) **1337**
female genitals and, (65) 1927
function of, and origin of appendicitis, (5) 864
functional nature of cecum and, (17) 86
gangrene of coil of small intestine and, operation, recovery, (4) 555
in hernia, incarcerated, (38) 2069
in indigestion, (21) 551
in inguinal hernial sac in appendicitis in infant sixteen days old, (37) 81
inflamed, distention of, intermittent, eleven cases, (91) 1500
mucocele, removal, (70) 1107
palpation, (61) 1035
present knowledge of, (54) 1326
pseudomyxoma in peritoneum involving ovaries and, (106) 1269
removal of, when reasonably possible, should be the rule, (23) 1185
retroperitoneal rupture of, with extravasation of pus into and gangrene of entire thigh, ***1782**
APPENDIX roentgenoscopy, (79) 1586
roentgenoscopy shows it actively movable, (127) 1501
stump, self-invaginating hemostatic stitch for, (50) **1580**
suture, purse-string for covering stump of, simple method of introducing, ***29**
suture, self-inverting, for stump of, (136) 321
tuberculosis, (45) 1926
APRAXIA, status of (59) 1188, (25) 1395
ARGON, (112) 794
ARGYLL Robertson pupil becoming normal after mercury in salvarsan, ***664**
sign in non-syphilitic disease, (104) 90
ARHYTHMIA, **594**—T, (68) 1834
complex, (43) 324
differentiation and importance of, (91) 1334
perpetual, sudden death in, (40) 1191
ARIZONA medical news, **1801**
state board January report, **930**
state board October report, **468**
ARKANSAS Eclectic May and November reports, **154**
graduates of Eclectic Medical University of Kansas City go for license to, **1887**—E
medical news, **214, 292, 756, 839, 911, 1083, 1234, 1801, 1889**
state board November report, **469**
ARM, amputation of, to ensure movable stump after, (141) 1406
and shoulder paralysis of poliomyelitis, (67) 1580
circulation in, (2) 1738
phlegmon on, technic for treatment, (147) **486**
symmetrical area of purpura on left and zona on right, (83) 89
ARMY families, infant hygiene in, **382**.
list, medical examination of men on, **844**
medical school commencement, **1893**
medical service in Africa, **534**
medical students entering, scholarships for, **1896**
sanitary organization of, in India in war, (18) 1033
United States, medical department of, in Civil War, (111) 242, (92) 478
United States medical department of, preparedness of, in field medical supplies, (94) 478
United States Medical Reserve Corps, N. Y. division, (91) 1189
United States, typhoid vaccination in, **1167**
venereal diseases in, **213**—E
ARNETH'S method in lung tuberculosis, results, (3) 1743
ARSENIC, absorption of, following intramuscular injections of salvarsan and neosalvarsan, (53) **241**
acute pneumonia during treatment with, (10) **865**
eosinophilia under treatment with, (122) 1673
hypersusceptibility to, (76) 404, (123) 870
in cerebrospinal fluid, examination following salvarsan administration, (69) **241**
in kala-azar, (22) 1669
lipoid compounds of, (160) 487
poisoning after salvarsan, (137) 485
poisoning during treatment of syphilis, (90) 406
poisoning, evidences of, **1710**—E, **1901**—C
poisoning from wall paint, (118) **1931**
therapy, (59) 627
ARTERIES, active participation in blood circulation by, (121) 1501
aneurysm of, in brain, perforation of, diagnosis, (163) 562
axillary, circular resection and suture of, for transverse laceration by fracture dislocation of anatomic neck of humerus, (143) 162
carotid, aneurysm of, (49) 1557
carotid, internal, anomalous, (42) 1492
carotid, internal, anomalous, its clinical significance in tonsil operations, ***172**
coronary sclerosis of, **203**—T
femoral and brachial, suture of, (67) 1402
femoral disposition of sciatic nerve and, anatomic considerations of, (23) 1191
functional disease of, (49) 791
ARTERIES, gastroduodenal, hemorrhage from erosion of, by duodenal ulcers, **151**—ab, (31) 1832
grafting, (54) 557
hyaloid, persistent, ***173**
iliac, changes in, in syphilis, (163) 872
iliac tuberculous aneurysm of right common, ***1413**
ligation of, effect on nitrogen balance, (44) 1741
meningeal, middle, traumatic rupture of, without skull fracture, (3) 1418
mesenteric, embolism of, temporary, ***513**
process of repair in, (196) 873
pulmonary, influence of contents of, on experimental lung tuberculosis, (30) **1980**
pulmonary, surgery of, **2024**—ab
renal arteriosclerosis of, (82) **1841**
renal, excretion of nitrogen subsequent to ligation of successive branches of, (45) **1665**
resistance to suppurative processes, (148) 1198
surviving, action of histamin on, (39) 861
suture of, in infected wound, successful, (151) **1270**
tuberculosis of large, ***1413**
ARTERIORRHAPHY, (9) 1031
ARTERIOSCLEROSIS, (94) 698, (37) 1579, (53) **1839**
clinical observations, (27) 1492
etiology and pathology, (95) 698
experimental, (25) **946**
fundus, oculi, signs of, early, (13) 1739
heart in, (70) 1666
high blood-pressure and, (73) 1327
kidney arteries, (82) **1841**
not disease of old age alone, (21) 1395
physiologic methods in treatment, (118) **400**
premature, (77) 319
prevention of heart disease and, in healthy individuals past middle life, ***803**
probably not an important factor in etiology and prognosis of involution psychoses, (47) 81
stasis reaction in, (78) **1402**
stomach, (172) **1272**
treatment, **1913**—ab
ARTERIOVENOUS anastomosis, ***360**
anastomosis for threatened gangrene of foot, **2024**—ab
aneurysm, importance of veins with, experimental research on, (65) 702
ARTERITIS obliterans, non-syphilitic, (28) 556
ARTHRALGIA, epinephrin in neuralgia and, (97) **1335**
ARTHRITIS: See also Gout; Joint Diseases; Rheumatism
ARTHRITIS, acute, among negro laborers on Canal Zone, 100 cases, ***1065**
and splanchnoptosis, relationships between, (8) 940 (49) 1028, (20) 1105
autogenous vaccine therapy in epidemic of tonsillitis and acute, **1813**
chronic, and tuberculous rheumatism, (53) **1401**
chronic, therapeutic evidence of incidence of streptococcal infection, (6) 1982
classification of, (127) **321**
deformans, (143) **561**
deformans, certain types of, management of, **858**—ab
deformans due to necrosis of cartilage, (53) 948
deformans, radium in, **2061**
deformans, serodiagnosis for streptococcus, gonococcus and other bacteria in infective, ***1208**
gonorrheal, in arthritic subjects, (88) 477
gonorrheal, meningococcus serotherapy of, (36) **1984**
gonorrheal, vaccine in, (175) 1272
hemophilic, simulating osteomyelitis, (64) 1266, (41) 1400
hip-joint, traumatic, crippling, function-restoring operation in, cheilotomy, (5) **1743**, (6) 1836
ileocolostomy for, legality of (11) **1032**
in seamen, chronic, some forms of, (13) 1082
purulent, in infants, (133) **1590**
rheumatoid, (39) 240, (9) 864, (1) **1494**
rheumatoid, etiology of, (25) **1984**
rheumatoid, in children, (16) 1330
rheumatoid, vaccine therapy of, (26) 1983

ARTHRITIS, streptococcus, in rabbits, experimental, (40) **1921**
ARTHRODESIS, indications for, (89) 1194
of hip joint, (71) 1586
ARTHROPLASTY, (26) **1832**
ARTHROSYNOVITIS, chronic, hysteric joint affection simulating, (145) 638
ARTICULATIONS produced experimentally in fracture of bones, (48) **1497**
ASCARIS LUMBRICOIDES as complication of surgical operation, ***1953**
of bile passages simulating cholelithiasis in elderly, (137) 1501
ASCITES, autoserotherapy of liver cirrhosis with, (57) **1402**
condom for draining, (130) **637**
drainage of, into saphenous vein, (69) **1333,** 1559
drained permanently through silver tube into subcutaneous tissue, (182) 563
fetal, labor, difficult, due to, (26) 1837
in cirrhosis of liver, tuberculous nature of, (62) 248), (83) **558**
nephritis with bilateral hydrothorax, general edema and, in secondary syphilis, (18) 1330
precipitation of fibrinogen in fluid, differentiates it from cyst content, (108) 328
pseudochylous, (5) 629
spleen enlargement, chronic, with cirrhosis of liver and, (124) **952**
ASELLIUS and discovery of lymph circulation, (40) 782
ASEXUALIZATION: See Castration; Sterilization, Unfit; Vasectomy; Vasostomy
ASKLEPIOS, sacrifice to, (24) 317
ASPERGILLUS NIGER and fumigatus, sporulation of, (29) 1926
pharynx infection by, ***900**
ASPHYXIA, insufflation of air, systematic, as first aid in, technic for, (130) 1405
Neonatorum: See Infant, Asphyxia of Newborn
pallida, (11) 864
ASPIDOSPERMIN, **69**
ASPIRATION, continuous, apparatus for, (51) 398
mask, Kuhn's, (66) **632**
mask, Kuhn's, simple substitute for, **768—C**
ASPIRIN: See Acid, Acetyl-Salicylic
ASSASSINS, American, prospective, prevention, (47) 1395
ASSOCIATED Advertising Club of America, clean advertising and power for good of, **291—E, 909—E**
Advertising Clubs of America, Dr. Wiley commends, **1646—E**
ASSOCIATION of American Medical Colleges, annual meeting of, **391, 858**
of American Medical Colleges wants to add one more year to course in medicine, **854**
of Surgeons of Army and Navy of Confederacy, **1893**
ASTHENIA, general, and diabetes, (36) **2070**
ASTHMA, (127) **706,** (67) **791**
and tuberculosis in children, (34) 1034
bronchial, (88) 697
bronchial, due to hypersusceptibility to hens' eggs, (61) **399**
chronic, in rachitis, (148) 1270
endobronchial treatment of bronchitis and, (135) **408**
epinephrin in, (50) 944
heart, (9) 699
nose treatment in, clinical results, (62) **1326**
salvarsan in, (104) 1189
ASTIGMATISM, lenses to correct, simple method and equipment for determining, (2) 780
regular, diagram for teaching varieties of, ***1538**
ASTRAGALUS, pure dislocation of articulation of, with scaphoid bone, twelfth case on record, (106) 705
ASYLUM wanted for one demented, **1246**
ASYSTOLE, Karell's milk cure in, (130) 407
toxemia with, (82) 1499
ATAXIA, LOCOMOTOR: See Tabes Dorsalis
ATELIOSIS and progeria, (15) 699
ATHEROMA and heredity, (89) 950
of uterus blood-vessels, metrorrhagia due to, (19) **695**
ATHEROSCLEROSIS, gastro-intestinal, experimental, (168) 1753
of atrioventricular valves, (123) 1270
ATHETOSIS, associated movements in, (197) 563
ATHLETICS and dilatation of heart, (207) 874
Bavarian research on effects of, **917**
college, in after-life, **300**
competitive, **603—ab**
competitive, and heart, (115) 705
competitive, and physician's responsibility, (216) 564
for girls, **77—ab**
health and, **446—E, 769—C**
health in navy and, **131—E**
over-exertion of heart in, chronic, prognosis of, (132) **1844**
stimulants and, (85) 1402
ATMOSPHERE, general sanitary influence of, (196) 563
influence on general health, (150) 1406
ATOPHAN, composition of, **1320**
ATOXYL, parasite-attracting action of neosalvarsan and, (168) 562
ATROPHY, optic nerve, familial, (135) 952
progressive, of spinal muscles, spinal cord changes with, (90) 1672
prostate, (152) **1674**
ATROPIN, efficacy of, in tinnitus, (125) 91
in stomach disease, (125) **1843**
pilocarpin or epinephrin tests for autonomic nervous system in children, (121) 1931
poisoning, mental symptoms in, unusual duration of, (33) 1028
why blood annuls toxic action of, (178) **1753**
AUBERGIER'S lactucarium, **538—P**
AURICLE fibrillation, (6) **164, 665—T**
fibrillation, automatic movements of ventricles with, (42) 1746
in mitral stenosis, (12) 1108
tumor of left, primary, pulsation in esophagus and in jugular vein in, (71) 1267
AUSCULTATION and percussion, principles of, (26) 1109
dorsal, of heart and blood-vessels, (123) **636**
of pathologic changes in lungs, early, ***2027**
plexímeter, (54) 324
AUSTRALIA, nostrums in, **844**
AUSTRIAN investigation of commercial digitalis preparations, **143—P**
sanitary preparations in event of war, **918**
AUTOGENOUS Vaccine: See Vaccine, Autogenous
AUTO-INTOXICATION and eye, (139) 322
and psychoses, methods of treatment, (119) 85
books on, **1095**
farinaceous diet and, **1378—C**
Intestinal: See Intestine, Intoxication
uveal tract, diseases due to, (16) 1395
AUTOLYSATES, fetal, for cancer, Fichera's method of preparing, **228**
of skin of animals yielding vaccine, immunizing action of, (144) 92
AUTOLYSIS, (30) 1330
bacteria, different comparative resistance to, (36) 1330
cancer treated by, **228**
of coli communis bacillus, (31) 1330
AUTOMATISM, (29) 1400
AUTOMOBILES, antifreezing mixtures for, **147**
AUTOPSY: See Necropsy
AUTOSEROTHERAPY, (113) **1269**
in liver cirrhosis with ascites, (57) **1402**
in serofibrinous pleurisy, ***962**
AUTOTHERAPY, (90) 84, (125) 162
in acute articular rheumatism, (12) 940
AUTOVACCINE THERAPY in flaring up of old urethritis during influenza, (64) 558
of furunculosis in infants, (156) **872**
AVIATION and human body, **371—E**
AXILLAE, cancer affecting both breasts and, recurrent, extensive, complete eradication, (22) 244
temperature in rectum and, comparison of, (47) **2070**
AXIS cylinders, degeneration and regeneration of, in vitro, (37) **626**

**B**

BABCOCK subcutaneous extraction method of treating varicose ulcers, (136) 1844
BACCELLI, honors for Freund and, **297**
BACILLURIA and pyuria, (70) 88
BACILLUS abortion in cow's milk, (35) 1981
abortion, maintenance of virulence by, (39) 1920
abortion, persistence of, in tissues of inoculated animals, (34) 1981
acid-fast, in blood-stream, ***995,** (174) 1272, (141) **1338**
anaerobic, curved, motile, in uterus discharges, (38) **1106**
anthrax, conveyance of, in clothes, **1311**
Bordet-Gengou, in relation to lesion of whooping cough, (49) **1187**
Carriers: See Carriers, Bacillus
causing multiform erythema, (122) 1749
coli vaccine, **1074, 1461**
colon communis, absorption of oxygen by growing cultures of B. welchii and, (73) 161
colon communis, autolysis of, (31) 1330
colon communis, in blood, (35) 86
colon communis, infection of kidney, (60) 1922
colon communis, infection of urinary organs, experimental, (141) 1750
colon communis, infections with, in women, and herpes of face and mouth, relation between, **1234—E**
colon communis, inhibitive action of bile on, (36) **1920**
colon communis, isolation of, (17) **1027**
colon communis, peritonitis due to infection with, fatal, ***1297**
colon communis, puerperal, invasion of blood, (132) 252
colon communis, suppurative bladder disease, (88) 1333
diphtheria, cultivation of, improved technic for, (50) 2070
diphtheria, in secretions of nose and throat in infants with nutritional disturbances, (111) **1269**
diphtheria, in urine, (77) **327,** (144) **871**
diphtheria, staining technic for, (90) 1268
diphtheria, tumors due to, (94) 1403
dysentery, laboratory notes on, (29) 552, (101) 1397
from spontaneous abscesses in rabbits and its relation to influenza bacillus, (30) **476**
fusiform, associated with various pathologic processes, (40) **1106**
fusiform, isolation and cultivation, (41) 1106
gram-negative, nasal catarrh, acute, due to, (24) 244
lactic acid, action on percentage of glucose in urine in diabetics, (87) **477**
leprosy, bacteriolytic differentiation of, (136) 1270
leprosy, cultivation and differentiation from other acid-fast species, (39) **1981**
leprosy, in blood, (107) 869
necrosis, experimental study of, (51) 1670
paratyphoid, not producing gas, (106) 869
plague, avirulent, mixed with agar, immunization of guinea-pigs by vaccination with, (110) 84
plague, infection of guinea-pigs, monkeys and rats with doses of, ranging from one bacillus upward, (111) **84**
plague, inoculated into body cavity, susceptibility of cockroaches to, (113) 1836
prodigiosum, infection in man by, (17) 699
proteus group, isolated from case of septicemia, (14) **2068**
pseudodiphtheria, in middle-ear disease, (45) 790
pyocyancus, septicemia, acute, due to, (1) **1329,** (11) 1923
pyocyaneus, general infection from, (75) 404
pyocyaneus vaccine, **1074**
suipesticus, typhoid-like disease in rabbits caused by, clinical course and prophylactic vaccination, (33) 1981
tubercle, a synthetic product, **675—E**
tubercle, and pleurisy, (31) 86
BACILLUS, tubercle, attenuated, and fluctuation in virulence, (39) **246**
tubercle, attenuated, in tuberculosis treated with sodium fluorid, (45) **1497**
tubercle, attenuated, prophylaxis with, (77) **703**
tubercle, bacteriologic examination of sputum for, (8) 1668
tubercle, behavior of, toward fat-dyes, (45) 1106
tubercle, biology of, (36) **1981**
tubercle, bovine, significance of, to man, **1167,** (78) **1267,** (77) 1402
tubercle, branched forms of, and immunity to tuberculosis, ***993, 1002—E**
tubercle, branched forms of, in treatment of human tuberculosis, ***1294**
tubercle, double infection with human and bovine types of, ***202**
tubercle, effect of hypersensitiveness to tuberculo-protein on subsequent infection with, (40) **398**
tubercle, fat in, origin of, **290—E**
tubercle, human, in milk of vaccinated cow, (19) **787**
tubercle, in apparently sound tissues, latent "lymphoid" stage of, (134) 1406
tubercle, in bile and prophylaxis of tuberculosis, (87) **634**
tubercle, in blood, (107) **1038,** (126) 1116, (113) **1673,** (110) **1750,** (196) **1754,** (93) **1988**
tubercle, in blood, finding of, ***995**
tubercle, in blood in surgical tuberculosis, (105) **705**
tubercle, in blood, none found in fifteen tuberculosis patients examined, (69) 1671
tubercle, in blood of non-tuberculous, (75) **326**
tubercle, in blood-vessels, fate of, (194) 563
tubercle, in dust, determination of, (74) **1267**
tubercle, in heart, (112) 251
tubercle, in sputum, changes of shape of, (93) 1334
tubercle, in sputum, concentration method for detecting, (129) 85
tubercle, in sputum, phagocytosis of, influence of iodid medication on, (91) **1114**
tubercle, in urine with tuberculosis of testicle, (88) 1268
tubercle, living and dead, relative value of, and of their endotoxins in solution in active immunization against tuberculosis, (50) 1107
tubercle, living, can they be patented? (167) 487
tubercle, microscopic study, technic for, (86) **1195**
tubercle, organism and, relations between, (118) 560
tubercle, portals of entry and spread of, (24) 480
tubercle, portals of entry of, especially in children, (3) 699
tubercle, spores in, chemical conditions favoring production of, (61) **627**
tubercle, virulence of, and persistence in circulation, (20) **158**
tubercle, vital staining of, experiments in, (33) **476**
typhoid, agglutinability of, induced variations in, ***1141**
typhoid, anaphylatoxins and endotoxins of, (33) **626**
typhoid, cultivation of, from spot in luetic typhoid subject after fastigium, (19) 944
typhoid found in tubo-ovarian abscess, (86) **784**
typhoid, gaseous products of fermentations of dextrose by B. coli communis, B. welchii and, (72) 161
typhoid, hyperleukocytosis following injection of, specific and extreme, in immunized rabbits, ***1950**
typhoid, in alkaline medium, reduced agglutination of, (88) 1841
typhoid, meningitis in infant due to, (54) 1187
typhoid, on tonsils, (84) **1195**
typhoid, toxic split products of, (45) **1261**
BACK, muscle weakness in, hygiene of, (157) **872**
weak or painful, anatomic explanation of many cases of leg paralyses and, (17) 475, (1) 859
BACKACHE and joint strain, (40) 160
BACKWARDNESS: See also Feeble-Minded

BACKWARDNESS in children, defective eyesight in relation to, (79) 477, *1059
BACTERIA, amino-acids as culture medium for, (20) 2069
cultivation of, certain technic for, (144) 408
different comparative resistance to autolysis, (36) 1330
gas metabolism of, (72) 161
in air, enumerating, sand filtration method and bubbling method for, comparison between, (19) 1027
in gasserian ganglion, herpes of brow with, (68) 1840
in water, method of counting, (34) 1984
infection due to, ethylhydrocuprein in experimental, (121) 484
lactic, influence of certain acid-destroying yeasts on, 1961—E
pasteurization, efficient, survived by certain, 1462—E
pathogenic, sale of, and crime, 1555
pathogenicity and virulence of, (31) 631
permeability of intestine wall for, and protecting action of omentum, (155) 1502
ptomain producing, in human intestinal flora, (22) 946
pullorum, macroscopic agglutination test for detecting fowls that are harboring, value of, (56) 1187
pullorum, outbreak of acute disease in adult fowls due to, (55) 1187
races of, effect of size of population on rate of selection of new, (25) 401
saprophytic, in hog, pathogenic for man, (81) 326
BACTERIAL count, 37°, (28) 695
extracts, digestive, in gonorrhea and other infections, *1061
metabolism and internal medicine, (12) 1980
therapy and bacteriology of kidney calculus and its sequels, *1213
therapy, use and abuse of, *489
BACTERIN: See Vaccine, Bacterial
BACTERIOLOGISTS, American, Society of, annual meeting, 218
and serologists at seat of war, 61
BACTERIOLOGY and pathology, year's progress in, (32) 552
and vaccine therapy of distemper in horses, (21) 1578
ear, (70) 1396
paratyphoid fever epidemic, (28) 781
BACTERIOLYSIN, leukocytic, and body fluids, (41) 1261
BACTERIOLYSIS, inhibiting action of carbon dioxid on hemolysis and, (41) 866
BAG, obstetric rubber dilating, new, (105) 1263
BAKER, A, J., swindler who operates through medical profession, 1717
arrested, 1893
BAKER'S itch, cause and treatment, 541
BALANITIS, gangrenous, (61) 404, *1769
BALDNESS and stiff hat, 1233—E
BALKAN War, cholera at seat of, (96) 950, (144) 1270
lessons of, 1311
news from seat of, (171) 872, (60) 1111, (58) 1266, (137) 1270, (121) 1336, (124) 1501, (29) 1583, (73) 1671, (140) 1674, (45) 1746, (72) 1840, (95) 1841, (116) 1931, (20) 2071
surgical notes, 139
wounds in, more serious than at first supposed, 1552
BALNEOTHERAPY: See also Baths; Hydrotherapy
BALNEOTHERAPY in heart disease, (85) 1841
in kidney disease, (127) 636
BALSAM of Peru, historical note, (16) 1923
BANANA a fruit in sterile package, 209—E
BANNERMAN'S intravenous solution, 1724—P
BANTI'S DISEASE; See Anemia, Splenic
BARBERS, incorporation of surgeons and, (9) 164
BARDENHEUER'S technic versus Steinmann's nail technic for extension in fracture, (100) 1114
BARIUM sulphate, commercial, efficiency of, in roentgenography, 389
BARRACKS, effect of overcrowding in, on tuberculosis among Gurkhas, (19) 1033
BASEDOW'S DISEASE: See Goiter, Exophthalmic
BASS and JOHN'S method for cultivation of malarial plasmodia, importance of, (74) 167
method of cultivation of benign tertian malarial parasites in vitro, (8) 1398
method of cultivation of malarial parasites in vitro, (5) 401, (85) 1987
BASTEDO'S sign, symptom of chronic appendicitis, (36) 1265
BATHS: See also Balneotherapy; Hydrotherapy
BATHS, carbonated, (118) 1030
physiology of, (18) 323
BAVARIAN research on effects of athletics, 917
BEARD growth and congenital hematoporphyrinuria in women, (64) 1840
BEAUTY doctoring, (84) 477
BED and emergency cot, combined, *122
BEDBUG, 1885—E
destruction of cockroaches and, 1902
resistance of, to various reagents, powders, liquids and gases, (1) 401
BEEBE'S thyroid serum, 1016
BEHRING'S vaccination against diphtheria, (45) 1839, 1896, 2051—E
BELL system creates health department, 457
BELLADONNA, (57) 1262
BELT constriction and spinal anesthesia, fatalities after, (133) 870
BENCE-JONES albumose in urine, multiple myeloma associated with, (15) 1330
proteinuria, (21) 946
protcinuria in conditions other than myelomatosis, instance associated with metastatic cancer, (33) 159
BENDER hygienic laboratory, (2) 1918
BENZIN and iodin methods of skin sterilization in emergency work, (42) 1028
skin corrosion from, (69) 949
sterilization of skin with, hematuria five to ten days after, (96) 1749
BENZOL in leukemia, (128) 251, *495, (118) 636, (145) 707, (160) 872, (65) 949, (132) 1038, (142, 143) 1270, 1575—ab, (65) 1586, (134) 1674
BERIBERI, (93, 94) 554, (58) 1395
blood-vessels in, (24) 165
cause, 274—ab, (159) 1752
cause and nature of, experimental study, (50) 1111, 1823—ab
in Europe, (128) 1405
infantile, (16) 244
infantile, in Philippines, (27) 1665
milk of women with, action on frog's heart, (56) 82
studies on, (7) 1582
BERLIN first-aid service, changes in, 761
letter, 63, 141, 221, 299, 381, 459, 532, 679, 761, 844, 917, 1010, 1088, 1167, 1239, 1312, 1374, 1473, 1553, 1650, 1720, 1806, 1896, 1971
medical expert member of city council, 1088
Medical Society, home for, 1088
Medical Society, non-medical women at, 141
municipal housing bureau in, establishment of, 609
BESREDKA'S method of vaccination, (22) 1744
BEZOAR as charm against disease, 1504—ab
BIBLIOGRAPHY, psychology of blunders in, (133) 1406
style in, in medical literature, (91) 477
BICYCLE devised for stiff knee, (110) 635
BILE, (49) 1034
absent from intestines, metabolism of children with, (5) 1576
analysis of human, quantitative chemical, (87) 1327
-duct, appendix as substitute for, (131) 1501
-duct, common, and hepatic, angulation of junction of, after cholecystostomy simulating common duct obstruction, (16) 625
-duct, common, draining of, into duodenum, and systematic dilatation of duodenal papilla and, (184) 563
-duct, common, functional and anatomic regeneration of, after introduction of T tube, (99) 1500
BILE-DUCT, common, gall-bladder calculus in, technic for removing, (153) 1198
-duct, common, gall-bladder calculus lodged in, diagnosis, *171
-duct, common, surgery of, (139) 870
-duct, dilatation of, congenital, (75) 867
-duct, fat and nitrogen metabolism in congenital absence of, (6) 238
-duct, gall-bladder calculus obstruction of common, (48) 2070
-duct, growths in gall-bladder and, (31) 1983
-duct, stenosis of, in newborn infants, (95) 406
-duct, surgery of gall-bladder and, technic, (66) 1834
elements in blood, various conditions in which they are found, (43) 789
feeding of, lost in fistula, (86) 169
hernia, (62) 1586
influence on putrefaction in intestines, (49) 1497
inhibitive action of, on bacillus colon communis, (36) 1920
mediums, Stokes', for sending cultures to laboratories, experiences with, (29) 695
peritonitis, (49) 1585
peritonitis without perforation of biliary tract, (73) 249, (59) 325
toxicity of, (28) 551
tract, ascaridiasis of, simulating cholelithiasis in elderly, (137) 1501
tract drainage, (48) 477
tract, pathologic conditions of, treatment, (147) 1030
tract, surgery of, (38) 477, (15) 1324
tuberculosis bacilli in, and prophylaxis of tuberculosis, (87) 634
white, (136) 1750
BILHARZIASIS, (143) 330, (33) 1264
lesions of, (32) 402
urethra calculus in, (145) 1674
BIOLOGY, general, questions of, (128) 1038
of soul, (162) 1118
universal, (182) 1272
BIOSOL, 767—P
BIRMINGHAM Ledger and fraudulent advertising, 1899—P
BIRTH, causes of, (35) 159
-mark: See Nevus Maternus
-rate, declining, (72) 249
-rate, declining, and means to combat it, (105) 90
-rate, declining, causes of, (111) 869
-rate declining, in Berlin, 459
-rate, failing, eugenics and heredity, (38) 1400
-rate, reduction in Prussia, official investigation of, 300
ratio of sexes at, 1902
registration, improved, petition for, 1239
registration, practical value of, 910—E
BISHOP'S antitoxin hypothesis, inadequacy of, to explain symptomatology in morphin addiction, 688—C
BISMUTH, appendicitis in relation to, (71) 1188
meal, considerations of, (48) 631
paste, (43) 1493
paste, Beck's petrolatum as substitute for, 1488—ab
paste, Beck's substitute for, (86) 483
paste in chronic suppurations, (99) 1108
paste in ear and nose, (101) 399
salts, insoluble, antacid properties of, 1175
salts used in mediums to detect formation of sulphur bodies of bacterial origin, (8) 1184
BLACKWATER FEVER, (129) 1030
clinical study in Korenko, Formosa, (49) 1111
Leishman's chrome-cells in, origin and significance of, (15) 244, (24) 787
protozoa-like structures in blood in, (36) 1745
suppression in, treatment, (17) 1837
BLADDER, calculi in large diverticulum of, eight, (62) 1671
calculus, cystoscopy with, (43) 1400
calculus, Egyptian, histology of, (112) 1404
calculus formed in, around thermometer, (65) 558
calculus in children, surgical treatment, (88) 945
calculus in diabetes, (84) 1841
BLADDER calculus, lithotripsy for, advantages of, (90) 1988
cancer, high-frequency current for, (130) 320
cancer of syncytial structure in young man, (151) 1674
case, reflections suggested by, (3) 1923
coli communis bacillus suppurative disease of, (88) 1333
contracture of neck of, *257
diabetes mellitus with disease of, pneumaturia and apparent subsidence of glycosuria in, (149) 1674
diseases, diagnosis and treatment, (68) 1493
diverticulum in, (95) 1500
double vagina, vulva and, with successive full-time pregnancy and labor in each uterus, (11) 946
exclusion, operation of, necessity and expediency, 2065—ab
exstrophy, improved methods for correcting, (55) 701
fissure, (40) 701
fistulas, urinals for, (71) 791
formation of cecum, (130) 252
fundus of, *1765, 2060—C
gas embolism from injection of air into, fatal, (42) 701
gauze sponge removed from, another from vagina, months after a Duehrssen operation for uterus prolapse, *1879
hairs apparently growing in, (186) 873
hernia, (95) 484, (160) 1118, (68) 1927
high frequency current for operation on, (109) 1037
inflammation of neck of, (143) 1674
irrigation of urethra and, (88) 1262
male, changes in form and position from infancy to old age, (74) 1327
operations, intravesical technic for, advantages of, (107) 1930
papillomata of urinary, benign, with Oudin high-frequency current introduced through catheterizing cystoscope for, (76) 628
paralysis and sudden death in pneumonia, (67) 1746
paralysis in poliomyelitis, (139) 330
prolapse, treatment, (64) 783
prostatectomy-suspension of, (22) 1105
rupture from contusion, recovery after suture, (103) 1114
suppuration around, diffuse, (38) 701
suture of, after high incision for calculi, immediate, (106) 407
syphilis, (148) 1674
tuberculosis, (127) 1589
tuberculosis, exclusion of, (87) 1333
tumors, early recognition of, (17) 860
tumors, fulguration in, (14) 1395
tumors in workers with anilin dyes, (153) 1675
tumors, recent cases at Massachusetts General Hospital, special reference to operative technic, (18) 860
tumors; roentgenoscopy of, (100) 1262
ulcer, *419
ulcer, callous, pathology and treatment, (118) 1328
ulcer, syphilitic, *1943
weakness of, in women, treatment, (107) 1115
BLASTOMA, benign, growth centers of, special reference to thyroid and prostate adenomata, (45) 627
in eel, (170) 488
BLASTOMYCETES in conjunctivitis resembling trachoma, (80) 326
BLASTOMYCOSIS, clinical resemblance of syphilis and, to sporotrichosis, occasional, *115
BLIND children, training of, (78) 477
is right eye blind in hydrophobia, 1320
operation bestowing vision on child born, (69) 1266
BLINDNESS: See also Ophthalmia Neonatorum
BLINDNESS and ophthalmia neonatorum, (141) 478
due to intra-ocular disease, (138) 162
heredity of, (77) 477
in later life, prophylactic measures for, (69) 697
methyl-alcohol, *1762
prevention of, (76) 477
prevention of, report of committee on, 2003
real, monocular, sudden, recovery, (19) 941
scarlatinal uremia with, (54) 631
trachoma in relation to, (137) 478
BLOOD: See also Hemoglobin; Leukocytes

BLOOD, acid-fast bacilli in, (174) 1272, (141) **1338**
action of pneumococcus on, (30) 1578
alcohol content of, (80) **704**
amount expelled from heart at each beat, (108) 1749
analysis of tissue and protein metabolism from standpoint of, (31) 626
and bone marrow changes in infantile scorbutus, (57) 1498
and heart action in healthy children, (70) 2071
anesthetics, effect of, on composition of, (147) 1116
antitoxin in, in diphtheria patients after serotherapy, (76) 326
antitrypsin content of, with pregnancy and cancer, (174) 562
apparatus for, obtaining, from vein or heart of animal, (159) 479
appendicitis of blood-borne origin, (39) 557
bacillus coli communis in, (35) 86
benzol in diseases of, (118) 636
bile elements in, conditions in which they are found, (43) **789**
biology of, (76) 168
calcium salts abstracted by fetus from mother's, cause of rapid progress of tuberculosis, (6) 1831
carbon monoxid in, demonstration of, (185) 1272
catalase content of liver and, with mouse cancer, (124) 91
catalase in malignant tumors, (56) 1395
-Cells, White: See Leukocytes
changes in eclampsia and pregnancy kidney, importance for treatment, (86) **868**
changes in sympathetic ophthalmia, (31) 943
chlorid content of, on different diets, (80) 1671
cholesterin content of, variations in, under typhoid vaccination, (70) 1267
cholesterin excess in, adrenal origin of, (60) 482
cholesterin in, in various diseases, (98) 1403
circulation, active participation in, by arteries, (121) 1501
circulation, rival claims to the discovery, ***814**
-clot, value in operations for acute and chronic mastoiditis, (66) 477
coagulability, test of, (157) **562**
coagulation, (86) 327
coagulation, influence of gelatin on, (110) **1115**
coagulation, platelets in, (62) 632
coagulation time of, books giving technic for determining, **769**
coagulation time of, clinical study, (8) 1258
coagulation time of, in infants and children, (2) 238
coagulation time of, simple method for determining, (122) 407
coccus-like bodies or marginal points in, are merely shreds of broken down red corpuscles, (84) 2072
colloidal copper, action of, on, (77) 867
-corpuscle, red, changes in, in progressive anemia, (165) 1198
-corpuscle, red, count, high, significance of, (149) 1030
-corpuscle, red, extracellular relation of malaria parasite to, (27) **942**
-corpuscle, red, fragility of, (84) 89, (31) 556
-corpuscle, red, influence of venesection and subperitoneal injections of blood on, experimental study, (116) 560
-corpuscle, red, pathology of, **473**—ab
-corpuscle, red, resisting powers of, not reduced in tuberculosis, (65) 1840
-corpuscle, red, Rouleaux formation by human, cause of, (17) **786**
-Corpuscle, White: See Leukocytes
-count, differential, (118) 1673
-count, differential, in dengue, (15) 1033
-count in appendicitis, (137) **1751**
-count, influence of radium on blood-pressure and, (152) 1502
-count, technic for, (84) 704
cryoscopy for determining kidney function, practical value of, ***188**
cultures, apparatus for use in, new, ***649**
cultures from sputum and, in lobar pneumonia, (22) **941**
BLOOD cytology, in passive immunity, (8) 243
diseases, (173) 1272
eclampsia an intoxication from excess of syncytium nuclei in, (174) **872**
effusion of, in spinal cord from indirect trauma, (140) 330
enzymes of, protective, as means of extracorporeal diagnosis, (89) 1396
examination, technic for, (134) 870, (98) 1929
findings in diphtheria, necropsy, (186) 1753
formation of new, at high altitudes, (97) **1749**
goiter with blood-picture, (49) 1839
in acute sulphuric acid and copper sulphate poisoning, (79) 792
in anaphylactic shock, **832**—E
in articular rheumatism, chorea, endocarditis and pseudochorea, (110) 705
in cancer with bone metastases, (27) 1109
in chicken pox, (187) 488
in croupous pneumonia, (111) 1030
in diphtheria, toxin in, (126) **1932**
in feces, tests for, (100) 1334
in lymphatic leukemia, (114) 560
in pellagra, (10) **1259**
in spinal fluid, (128) **706**
in tuberculosis, (74) **703**
in variola and vaccinia, (134) **560**
infection through mucous channels and, as alternative routes, (9) **1329**
injection in anemia, (125) **636**
interreactions in, from men and women, (87) **89**
intersexual reactions of, in horse, (41) 1926
iron in, (32) **556**
lepra bacillus in, (167) 869
loss at labor, safe limit of, (132) **1932**
loss, how much is compatible with survival in human being, **1886**
manganese, does it occur in? **674**—E
manganese normally in, (43) **866**
melena neonatorum cured by intramuscular injection of defibrinated human, (109) 1930
menstrual, why it does not coagulate, (102) 406
mercury index of, (58) **632**
methyl alcohol and, **1466**-E
nitrogenous bodies in, in cachectic infants, (51) 247
normal, constituents and methods of examination, **473**—ab
occult, chemical tests for, (78) 1327
occult, in feces, amebiasis and results of tests for determining, (91) **399**
occult, in gastro-intestinal tract, (67) **1036**
osteomyelitis, blood-borne, experimental research on, (78) **1840**
phosphorus content of, in normal and parathyroidectomized dogs, (43) 1665
platelet count, causes of, variation in, (23) 396
pneumococci do not proliferate in, in pneumonia, (25) 1926
-pressure, (114) 1116
-pressure after exercise as guide for estimation of labor capacity, (76) 792
-pressure and apoplexy, (86) 1262
-pressure and prognosis in laparotomies, **1737**—ab
-pressure and pulse in children between 6 and 14, (168) 1198
-pressure and pulse-rate in croupous pneumonia, value of studying, (103) 1397
-pressure, arterial and venous, effect of change of posture, without active muscular exertion, on, (2) **1979**
-pressure before, during and after operations under local and general anesthesia, **1737**—ab
-pressure, clinical significance of, (42) 1111 (85) 1262
-pressure, control by drugs, (94) 945
-pressure determination, (2) 163
-pressure during digestion, (43) **1191**
-pressure, effect of adrenal massage on, ***1777**
-pressure, effect of exposure of adrenals to Roentgen rays, (150) **1198**
-pressure, effect of strong purging on heart and, ***436**
-pressure findings, necessity for identical conditions in comparing, (56) 1497
BLOOD-PRESSURE, high: See also Hypertension
-pressure, high, and arteriosclerosis, (73) 1327
-pressure, high, and kidney disease, (88) **1403**
-pressure, high, and sugar content of blood, (81) 633
-pressure, high, arterial, (7) 1258
-pressure, high, general treatment, (4) **694**
-pressure, high, high-frequency current in, (3) 694
-pressure, high, in cardiorenal cases, management of, (131) 401
-pressure, high, in pregnancy, (35) **245**
-pressure, high, of functional or organic origin, (60) **248**
-pressure, high, permanently, sources of, (103) **635**
-pressure, high, restriction of intake of fluids in management of, (83) 1499
-pressure, high, treatment of confirmed cases of, (35) 1745
-pressure in children, (35) 1034
-pressure in diphtheria, (92) 1037
-pressure in venous system, rise of, during physical effort as functional test of heart, (83) 249
-pressure in chronic illness, (99) 161
-pressure in relation to viscosity, (50) 791
-pressure, influence of radium on blood-count and, (152) 1502
-pressure, minimal, as standard unit, estimation of, (52) 1332
-pressure readings, auscultatory method of, (98) 399
-pressure, reflex influences from gastro-intestinal tract on, (89) 1672
-pressure, systolic, determinations by various methods, accuracy of, and clinical use of diastolic pressure, (120) 1328
-pressure technic, (158) **1752**
-pressure technic, auscultatory, instrument for teaching, new, ***279**
-pressure, thyroid, influence on, (35) 1838
producing organs, disease of, (82) 1037
puerperal colon communis bacillus invasion of, (132) 252
purin bases in, (135) 92
regeneration in anemia, (167) 1502
relationship of animals as displayed in composition of serum proteins, (75) 161
serum, chemistry of, (44) **1261**
serum, human, for hemophilia, ***44**
serum, human, normal, in hemorrhagic diseases of infants and children, (106) 399
serum in syphilis, tabes and general paralysis, hemolytic properties of, (102) 1269
serum, lecithin, cholesterin and cholesterin esters in, (76) 703
serum, method of separating, **1381**
serum, pathology and reactions, **473**—ab
serums precipitated, for hemorrhage, (129) 242
skin diseases of blood-borne origin, pathogenesis of, (159) 1198
study of, (94) 1988
sugar content of, (96) **1672**
sugar content of, and abnormally high blood-pressure, (81) 633
sugar content of, and heat production, (41) 1984
sugar content of human, **1228**—E
sugar content of, in exophthalmic goiter, (103) 559
sugar in, during fever, (114) 1501
sugar in, in diabetes, (93) 1403
sugar in, technic of examination for, **1480**
-supply of brain, action of heat stimuli applied to skin on, (45) 2070
-supply of uterus, influence of extrauterine pregnancy on, **1736**—ab
-supply of uterus, influence of myomas on, special reference to abnormal uterine bleeding, (85) **783**
-tests for identification of human, **390**
-tests for pregnancy, **309**, (88) **1396**
-tests, quantitative, (91) 1403
transfusion, (91) **89**—ab, (32) 317
transfusion after obstetric hemorrhage, (34) **245**
transfusion direct, (98) **250**—ab
transfusion in ruptured tubal pregnancy, (13) 860
transfusion, selection of donor for, **229**
transfusion, simple method of, ***435**
BLOOD transfusion with cannula, simplified, ***1284**
traumatic extravasation of, in joints and pleura, behavior of, (145) 561
tuberculosis bacilli in, (194) 563, ***995**, (107) **1038**, (126) 1116, (113) **1673**, (110) **1750**; (196) **1754**, (93) **1988**
tuberculosis bacilli in, in nontuberculous, (75) **326**
tuberculosis bacilli in, in surgical tuberculosis, (105) **705**
tuberculosis bacilli in, none found in fifteen tuberculosis patients examined, (69) 1671
urea in urine and, constant ratio between, (42) **1400**
urea index in, (55) **324**
uric acid in, determination of, (56) **318**, (123) 329
venous, sequestration of, influence on pulse in heart disease, (76) **1194**
-vessels, action of iodin on, (100) **170**
-vessel anastomosis, cannula-forceps for, (41) 552
-vessels, closure of, after labor, (173) 562
-vessels, destruction of epinephrin and constrictor substances of serum by oxygenation in walls of, (96) 319
-vessels, dorsal auscultation of heart and, (123) **636**
-vessels, electric registration of movements of walls of, with pulse, (154) 708
-vessels, excessive functioning of viscera and morbid conditions of corresponding, connection between, experimental study, (71) 1113
-vessels, eye diseases and, (139) **243**
-vessels, grafting, **1474**
-vessels in beriberi, (24) 165
-vessels lesions in diabetes, (51) 1985
-vessel lesions, ulcer of stomach and, in relation to, (1) **1979**
-vessels, mesentery, obstruction of, experimental and clinical study of, (153) 1502
-vessels, nerve lesion in certain pathologic conditions of, indications of, (21) 1983
-vessels, occlusion of large, with strip of tendon fiber, (99) **793**
-vessels, peripheral, effect of general contraction of, on mouse cancers, (18) **1495**
-vessels, peripheral stasis, (27) **1838**
-vessels, pituitrin diuresis and, (56) 1922
-vessels, retina, central, effect of chronic glaucoma on, (35) 1028
-vessels, spleen, disease of, (172) 488
-vessels, surgery, (42) 789
-vessels, suture, (97) 559
-vessels, suture, technic for, (124) **329**, (130) 870
-vessels, suturing of, instrument as aid in, (76) 633
-vessels, transposition of large, (159) 1675
-vessels, uterus, atheroma of, metrorrhagia due to, (19) **695**
viscosity, (44) 1746
viscosity in exophthalmic goiter, (104) 559
viscosity in relation to arterial tension during pregnancy and puerperium, (88) 89
viscosity reduced in spontaneous gangrene, (113) **1404**
waste products in, **2050**—E
why it annuls toxic action of atropin, (178) **1753**
BLOTTING-PAPER test for acidity of gastric juice, (63) **1035**, (85) 1037, (143) 1338, (85) 1747
BLUMBERG'S sign in appendicitis, **616**
BOARD of examiners, writ of prohibition cannot be employed against, **1830**—M1
of Health: See Health, Board of
BOILS, dilute sulphric acid administered internally for, (21) **1191**
BOLUS ALBA in sterilization of hands, (143) 1406, (51) 1585
BOMBAY presidency, radio-activity of some wells and thermal springs in Baroda state and, (22) 323
BOND gluten diabetic flour, **923**—P
BONE abscesses and sinuses, tuberculous, tuberculin in, (75) **1493**
abscesses, chronic, (124) 478
and muscle dystrophy, dwarf growth from, (74) 867
chisel resection of, (142) 485
clamp and bone plates, ***1698**
conduction of sound with normal hearing, (111) 635
cysts in long, solitary, (136) 1932

BONE, fractures of, articulations produced experimentally in, (48) **1497**
fractures of, in face, typical, (113) 869
fractures of long, (83) 1262
fractures of long, operative treatment, (42) 240, (53) **627**
grafting of muscle and, **1473**
grafting without periosteum, **1900**—C
grafts, (194) 873
grafts and transplantation, (109) 1263
growth and spinal bone transplant, experimental study of, ***1044**
hemorrhage from, arrest by plugging with soft tissues, (15) **1105**
leukocyte count in osteomyelitis and tuberculosis of, in children, diagnostic significance of, (19) **1492**
marrow and blood changes in infantile scorbutus, (57) 1498
marrow, chicken, growth of, in vitro, its bearing on hematogenesis in adult life, (50) **241**
marrow metastases and anemia in stomach cancer, (27) **788**
marrow, puncture of, in diagnosis, value of, (115) 560
metastases, blood in cancer with, (27) 1109
negative pressure in, long, in dog, (127) 485
or periosteum flap for gap in skull or dura, (83) 168
osteomyelitis of long, localized, (13) **1577**
-plates, Lane, in seventy-six operations, (23) **551**
-plating, dont's in, (85) 477
-plating in irreducible fracture of clavicle, (30) 81
-plating, method of, ***1698**
reflexes, diagnostic importance, (64) **404**
reformation of, after resection, (17) 1330
regeneration, (82) **483**
regeneration, growth and death of, ***983**
sarcoma of long, surgical treatment, (57) **88**
-saws, circular, two new, ***1285**
sunlight in disease of, **1916**—ab
syphilis of joints and, in children, (27) 1496
tibial, transplantation in postoperative mastoid wound, (49) **862**
transplantable tumor of fowl producing cartilage and, (46) **1261**
transplantation, nose entirely restored by rhinoplasty and, ***728**
transplantation, osteomyelitis with, ***2030**
tuberculosis and trauma, **1917**—ab
tuberculosis of joint and, (118) **329**, (41) 480, (89) **1988**
tuberculosis of joint and, experimental study, (30) **942**
tuberculosis of joint and, in children, types of organism in series of, (3) **1494**
tuberculosis of joint and modern treatment, (69) 482
tuberculosis of joint and, special institutions for treatment and care of, necessity for, (43) 2070
tumors, (53) 1833
tumors of thyroid origin, (95) **869**
BOOKS, medical, as evidence, **1731**—Ml
medical, new, committee to pass on, suggestion for, **1901**—C
medical, plea for uniform size of, (64) **2071**
needed by Dayton physicians to replace those destroyed by flood, **1800**—E, **1810**—C
BORDET-GENGOU bacillus in relation to lesion of whooping-cough, (49) **1187**
BOTANY and medicine, **374**—E
BOTRYOMYCOSIS, liver, human, (41) 1832
BOTTLE exercise for lungs, **459**, (56) **631**
holder for feeding babies, new, ***1535**
BOTULISMUS poisoning, (129) 706
BOUGIE in abdomen removed ten weeks after introduction per vaginam, (3) 396
BOUILLON culture of staphylococcus pyogenes aureus in diphtheria convalescents and bacillus carriers, use of, (58) **783**
BOWEL: See Intestine
BRACHIAL PLEXUS, blocking the, (92) 1672
BRACHIAL PLEXUS, injury of nerves from blocking, (77) **2072**
neuritis and polyneuritis following pneumonia, (91) **704**
neuritis, symmetric, primary, as symptom of tardy syphilis, (114) 407
paralysis of diaphragm after anesthesia of, (136) 1197
paralysis of phrenic nerve after blocking of, (156) **1675**
supraclavicular anesthetization of, (9) **945**
BRADFORD anthrax investigation board, **1008**
BRADYCARDIA due to liver injury, (135) **1501**
of lead colic, (78) **867**
BRAIN: See also Cerebellum; Cerebrum; Dura Mater; Hypothesis Cerebri; Pineal Gland; Skull
BRAIN abscess and sinus thrombosis, differential diagnosis between, treatment, (73) 242
abscess, extradural, complicating frontal sinusitis, (108) 1328
abscess in frontal lobe, (63) 241
abscess, metastatic, after suppuration of bronchial lymph-node, (81) 704
abscess of otitic origin based on study of twenty-four cases, (16) 81
abscess, otogenic, (73) 1927
aneurysm of artery in, perforation of, diagnosis, (163) 562
blood-supply of, action of heat stimuli applied to skin on, (45) 2070
bullet passes through, without apparent injury, (102) 1114
cerebrocerebellar, diplegia of, infantile, (1) **2066**
chemical research on, **597**—E
development, morphologic changes in nose and face due to, (7) 81
endothelioma of frontal region of, large, (5) **1663**
epidermoid cholesteatoma of, (118) 1270
forms of mind disease in cases with no gross lesions in, at autopsy, (17) 551
functioning of, (165) 1502
glioma in frontal lobe, large, (46) 1926
hemorrhage, and blood-pressure, (86) 1262
hemorrhage, diagnosis by rachicentesis, (47) **1741**
in catatonic hirntod, (3) **1663**
in training muscles, participation of, (57) 632
lesions, localization of, advances in, (28) 1105
lesions, nodular hyperplasia of liver associated with, (127) 1270
Meltzer's insufflation anesthesia in respiratory paralysis during operations on, (52) **1926**
normal-looking, in insane subjects, series of, (4) **1663**
of albino rat compared at birth with that of fetal pig, (90) 1327
operations on, neurologic indications for, (151) 486
sarcoma of left frontal lobe, ***30**
spirochaeta pallida in, in general paralysis, (143) **626**, **1002**—E, (61) **1188**, **1650**
sulphatid of, (54) 318
surgery, (29) 86, (16) 323
syphilis, recovery after use of salvarsan, ***1296**
tumor, (163) 487 ***1280**
tumor, after history, ***1418**
tumor, cerebellopontine angle, (52) 1746, (140) 1750
tumor, cerebellopontine angle, diagnosed and located three years before death, (76) 1396
tumor, colloid, of third ventricle, death due to, (18) **479**
tumor, eye disturbances with, (117) 794
tumor, gaping of sutures of skull from, (76) 867
tumor, growth and survival period of, records of 500 cases, special reference to pathology of gliomata, (9) 629
tumor of base of, immediately behind hypophysis cerebri, **1023**—ab
tumor, opening up fourth ventricle and resection of vermiform process for, (78) **1113**
tumor, operation, autopsy findings, (38) 398
tumor, removal of, under local anesthesia, (115) 1269
BRASS founder's ague, industrial brass poisoning, (9) 1738
BREAD, **50**—E
clean delivery of, **844**
digestible, and newspaper fakes, **521**—E, **1379**—C
fresh, forty hours old, **1712**—E
fresh vs. stale, (2) 629
from bolted flour and from entire wheat flour, **925**—C
supply, diphtheria epidemic traced to, **380**, (56) 1266
wrapping of, validity of statute and board of health rule as to, **1490**—Ml
BREAST cancer, (71) 1922
cancer affecting both axillae and, recurrent, extensive, complete eradication, (22) 244
cancer, clinical diagnosis, (96) 242
cancer, 534 operations for, ***795**
cancer, potential, (10) **158**
cancer, recurrent, local, problem in, **1252**—ab, (52) 1982
cancer, roentgenotherapy in inoperable primary, (67) 1493
cancer, secondary growths in, (11) 322
cancer, skin-grafting operation for, developments in, ***416**
care of, during pregnancy and lactation, (15) 396, (102) 1029
fibro-adenoma of male, (12) 86
hypertrophy, (177) **1676**
internal secretion? (100) 950
Nipple: See Nipple
Nursing: See Infant, Breast Feeding
plastic operations on, (72) **703**
roentgenotherapy of, cancers and myomas of genitals and, (87) 1841
sarcoma in male, (142) 330
secretions of ovary and, internal, interrelations between, (124) **706**
secretory activity in, independently of pregnancy, (10) 164
supernumerary, (99) 406
surgical importance of, (125) **1836**
swelling in, differential diagnosis, (47) 631
tuberculosis, (15) 625
tumors in men, (56) **1985**
tumors, malignant, diagnosis and removal, (49) 477
tumors, non-malignant, (63) 632
tumors, special reference to cancer, (17) 239
BREATH, expired, organic matter in, its inhibiting power on oxidizing ferments, (34) **626**
BREATHING, abnormal, and malocclusion, (42) 696
exercises by means of a bottle, **459**, (56) **631**
BREECH, delivery by, technic, (14) 1324
presentation, causes and management of, (176) **873**
BREITENBUSH Hot Springs, report on, **1543**—E
BRILL'S DISEASE: See also Typhus Fever
BRILL'S DISEASE, (31) 781
in Michael Reese Hospital, (55) 398
BRINE-SOLUBLE compound in cheese, composition and properties of, (85) 1327
BRITISH government committee on nostrums, **1238**
government inquiry into sale of nostrums, **1970**
Guiana, sanitation at, (7) 1397
Journal of Surgery, **1372**
Medical Association and national insurance act, **760**
Medical Association, annual meeting, **1805**
Medical Association releases physicians from pledge in regard to national insurance act, **458**
medical practice act, **1903**
scientific journal, nonsense in leading article on nutrition in, **1642**—E
BRISTOL medical library, (14) 401
BROAD LIGAMENT, puerperal lesions in uterus adnexa and, (103) 90
temporary sterilization of women by walling off ovary with, (92) **1748**
BROMIDS, dosage of, in water, (35) 700
in epilepsy, (119) 329
BROMIN in genuine epilepsy, pharmacologic basis for, (80) 1037
ions, pharmacologic action of, on metabolism of purins, (101) 170
BRONCHITIS, acute, traumatic, (107) **484**
capillary, (123) 1328
chronic, and emphysema, (88) 1587
BRONCHITIS, endobronchial treatment of asthma and, (135) **408**
herpes zoster complicating pneumonia or, (147) 1502
restricting intake of fluids in, (65) 404
vaccine therapy in chronic, (8) 945
BRONCHOMYCOSIS, (28) 1400
BRONCHOPNEUMONIA: See also Bronchitis
BRONCHOPNEUMONIA, (123) 1328
BRONCHOSCOPY and esophagoscopy, (38) 1492
upper, for nail occluding third bronchial ramus, recovery, (135) 1030
upper, probable tumor of lung diagnosed by, (41) 943
BRONCHOSTENOSIS, diagnosis, (118) 870
BRONCHUS, cancer of larger, primary, (22) 1259
dysenteric abscess of liver perforating into, (61) **1111**
dyspnea from spasmodic contracture of musculature of, in spasmophilic diathesis, (131) **1196**, (120) **1931**
fistula between esophagus and, with aortic aneurysm, (89) 1114
foreign body in, (83) 1667
importance of, from mechanical standpoint, (122) 1115
lymph-nodes, enlarged, diagnosis, (1) **80**, (99) **250**
lymph-nodes, suppuration of, metastatic abscess in brain after, (81) 704
pin embedded in, extraction of, (51) 1746
BROWN modification of Hodgen's splint, for fractures, **1248**—ab
BROWNIAN movements are due to microorganisms, (154) 1198
BRUSSON gluten bread, **922**—P
BUDAPEST letter, **761**, **1089**, **1972**
BULGARIAN yoghurt, history of, its predecessors in antiquity, (186) 488
BULLET, extraction of, under roentgenoscopy, improved technic for, (103) 1588
passes through brain without apparent injury, (102) 1114
Wound: See Wound, Gunshot
BULLETINS, county society, (66) 398
medical, University of Missouri, **760**
BUREAU of Medicine and Surgery, organization and finances of, (150) 479
BURNAM'S test for formaldehyd in urine, ***662**, (32) **1740**
BURNS, (87) **483**
anaphylaxis, cause of death from, **289**—E
eyeball, due to caustic contents of golf-ball, ***1297**
grafts of preserved amniotic membrane, ***973**
open treatment for, **617**
Roentgen-ray, (115) 328, (93) **869**
BURSITIS, subdeltoid, traumatic, acute, ***1224**
BURTON, his forceps and his foes, (10) 946, (20) 1033
BUTTERMILK, method of making, **1015**—C, **1244**—C
BUTTON in gastro-enterostomy, advantages of, (68) 702

C

CABOT'S findings and Croftan's criticisms of pitfalls in diagnosis, **386**—C, **464**—C
CAFFEIN, actions of, (79) 697
CAISSON DISEASE, (77) 1580
acute effects on aeropathy, (12) **1259**
late manifestations of, (13) 1258
CALCIFICATION in subcutaneous tissue, multiple, (1) **1189**
CALCIUM, anaphylaxis in relation to, (34) **1106**
and phosphorus metabolism in two boys, (65) 2071
balance, dependence of, on intake of alkali, (108) 705
caseinate, basic, and paracaseinate, preparation and composition of, (82) 1327
chlorid, salt perfusion of respiratory center in frogs and effect of potassium chlorid and, (57) 1922
excretion, excessive, through feces in infantilism, causes of, (48) 240
for growth, importance of, (112) 1501
glycerophosphate, **45**
hypochlorites in water purification, **211**—E, **466**, (60) 1107, **1480**
in therapeutics, (112) 1673
inorganic metabolism in pneumonia with special reference to magnesium and, (52) **241**

CALCIUM metabolism and etiology of rachitis, (101) **1403**
metabolism and tuberculosis, (98) 1749
metabolism of nitrogen, fat and, in infants, (70) 1986
metastasis and calcium gout, (78) **633**
retention by swine, effect of high magnesium intake on, (71) 1028
salts abstracted from mother's blood by fetus, cause of rapid progress in tuberculosis, (6) 1831
CALCULUS formed in bladder around thermometer, (65) 558
Gall Bladder: See Gall Bladder, Calculus; Cholelithiasis
in common duct of liver, (86) 1107
intestinal (6) 1743
Kidney: See Kidney Calculus; Nephrolithiasis
pancreas, (137) 1406
seminal, simulating nephrolithiasis, (98) 1262
Ureter: See Ureter, Calculus; Urolithiasis
urethra and periurethral, (72) 944
urethra, in bilharziasis, (145) 1674
uric acid, (114) 1030
vesical, (64) 1580
CALENDAR, shall it be reformed? **291**—E
CALIFORNIA medical news, **375, 454, 526, 839, 1083, 1368, 1467, 1647, 1802, 1967**
state board April report, **1825**
state board December report, **620**
taking the cure in, (94) 1494
CALOMEL ointment in venereal prophylaxis, ***1610**
CALORIMETRY, animal, (52) **318**
CAMMIDGE Reaction: See Reaction, Cammidge
CAMPHOR in experimental bacterial infection, (85) **1929**
in pneumonia, (98) **1672**
intravenous injection of saturated solution of, in pneumonia, benefit from, (122) 1501
poisoning, (149) **330**
therapeutic value of, (9) **624**
CAMPHORATED OIL: See Oil, Camphorated
CANADA medical news, **1471**
CANADIAN Public Health Association, **1472**
CANAL ZONE, acute arthritis, among negro laborers on, 100 cases, ***1065**
disease prevention in, **610**—ab
health in, obtained at cost of one cent a day for each citizen, **1082**—E
Medical Association of, meeting of, **1311**
practice of medicine in, (82) 629 ***806**
sanitation in, **852, *953,** (7) 1397
sanitation in, and sanitation in tropics generally, **1569**—ab
CANCER: See also Tumor, Malignant
CANCER, (85) 242, **1102**—ab, (39) 1579
abdomen, diagnosis of, possible errors in, and plea for exploratory laparotomy, **1574**—ab
action of intravenous injections of various substances in animal and human, **2022**—ab
ampulla of Vater, (56) **1332**
animal, intravenous injections of various substances in, ***1857**
antimeristem-Schmidt serum for, **766**—P, **1244**—P
antitrypsin content of blood with pregnancy and, (174) 562
appendix, (28) 402, (100) 559, (56) **1927**
appendix, lipoid content of, (82) 792
autolysis in, **228**
bladder, high-frequency current for, (130) 320
bladder, of syncytial structure in young man, (151) 1674
blood in, with bone metastases, (27) 1109
breast, (71) 1922
breast and axillae, recurrent, extensive, complete eradication, (22) 244
breast and genital roentgenotherapy of myomas and, (87) 1841
breast, clinical diagnosis, (96) 242
breast, 534 operations on, ***795**
breast, potential, (10) **158**
breast, recurrent, local, problem in, **1252**—ab, (52) 1982
CANCER, breast, roentgenotherapy in inoperable primary, (67) 1493
breast, secondary growths in, (11) 322
breast, skin-grafting operation for, developments in, ***416**
breast tumors with special reference to, (17) 239
bronchus, primary, (22) 1259
campaign against, **299**
cecum, diagnosis, (34) 1187
cells and normal cells, comparative studies on, (20) **1578**
cells, development of, (152) 92
chemical treatment, (84) 327
coagulation by electricity as adjuvant in operative treatment of, (77) **1193**
Coley's fluid in, **228**
colloid copper in, (35) 1496
colon, (6) 864
deported tissue cells as possible source of, (113) 90
diagnosis, early, importance of, (133) 401
diagnosis, peptolytic power of gastric juice and saliva in reference to, (19) **158**
educating American women concerning, best methods, **1738**—ab
educaton of people in what to do in early cases of, **2020**—ab
embryonal cells cause of, (122) **636**
eosinophilia, intense, in lymphogranuloma and, (169) 562
epiphanin and meiostagmin reactions in diagnosis of, (46) **1921**
esophagus, early diagnosis, with new technic of Roetgen-ray examination, ***1283**
esophagus, from standpoint of intrathoracic surgery, (142) 162, (43) **948**
esophagus, method of treating, (21) 1664
esophagus resected in thoracic portion for, successful, **1252**—ab, ***1533**
esophagus, surgical treatment, (60) 1742
etiologic factor in, its possible influence on treatment, (14) **1980**
etiology, newer ideas on, (88) **783,** (41) **1579**
excision, early, can number of cures be increased by, **2019**—ab
fallopian tube, (39) **1745**
ferments, recent experimental work with, (114) 1923
fetal autolysates for, Fichera's method of preparing, **228**
fibromatosis of stomach in relation to ulcer and, **2022**—ab
genital, primary, multiple, in women, (74) 1747
genito-urinary tract of workers on synthetic dyes, (65) **632**
grafting and traumatic dissemination of, in operations for malignant tumors, ***512**
heart sign in, experience of, (2) **2067**
hospital, roetgenotherapeutic department at, **916**
hyperplastic hypophysis, (94) 1667
hypothesis as to origin and prevention of, (118) 1264
in cardia, transpleural resection of, successful, (101) 1500
in mice, inheritability and incidence of, **2020**—ab
increase of, appalling, **1894**
induced in rats by feeding with nematodes, (94) 1748, (130) **1844**
induced in rats by feeding with parasites of cockroaches, (52) **948**
Information Committee, **1103**—ab
inhibition of hemolysis by serum of individuals with, (48) **627**
inoculability of, **1173**—C
inoperable, treatment, (25) 631, (132) 870, (83) **1113,** (44) 1670
inoperable, treatment of, or after operations, (79) **1267**
intestine, early diagnosis, (82) 1494
intestine, lower, palliative operations for, (56) 1192
irritation and, **188**—ab
jaw, upper, removal of, technic for, (34) 2069
jejunum and ileum, (142) **1338**
kidney, transplantable, of white rat, (20) **787**
larynx, laryngectomy for, (80) 399
liability to, may be considered as result of injuries, **235**—Ml
lip, lower, surgical treatment, (118) 478
CANCER, liver in male infant of seven months, (73) 1333
liver, mineral elements in, (59) 867
liver or pancreas, (42) 631
lung, (50) 782, (61) **2071**
menace of, **1735**—ab
menopause hemorrhages and prophylaxis of, (143) **637**
mesothorium rays and Roentgen rays in, **1972**
metals in, (80) 1402
metastatic, Benee-Jones proteinuria associated with, (33) 159
metastatic, in skin, (183) **1753**
mortality from, in Prussia, (53) 1985
mouse, catalase content of liver and blood with, (124) 91
mouse, effect of general contraction of peripheral blood-vessels on, (18) **1495**
mouse, group of mice with exceptional resistance to, (52) 1187
mouse, no appreciable influence from mercury on growth of, (136) 1674
nose and accessory cavities, nine operative cases, (71) 1927
Odin's alleged discovery of germ of, **463**—P
operations for, how can we improve results? (87) 783
pain and, **259**—ab
papilla of Vater, (12) 1104
present status of, (110) 1263
prevalence and mortality of, **67**—C
prevention and cure of, (59) 1742, (26) **2067**
problem, (77) 633, **1250**—ab, (81) 1494
prophylaxis of, (167) **562**
public education in, **1912**—ab
radiotherapy of, (76) 249, (170) 872, (132) 1116, (144) **1197**
radiotherapy of, superficial, ***1694**
rectum, (70) 867, (51) **1265,** (140) 1406
rectum and colon, irremovable, appendicostomy instead of colostomy for obstruction due to, (3) **555**
rectum, combined operation for, (55) **1192**
rectum, diagnosis and treatment, (14) 630
rectum, intramural spread of, (3) **1108**
rectum, two patients surviving many years with, simple and successful method of dressing inguinal anus, ***1418**
report of four years' work on, (22) 1395
Research, American Association for, **2019**—ab
research institute, **1911**—ab
roentgenotherapy, about eye, (46) 1580
Russian Uterine Cancer Commission, report of, (117) 1038
Salkowski and Kojo urine test for, diagnosis of, (80) 1499
serodiagnosis of, (122) 484, (69) 867, (120) **1116,** (52) **1585,** (86, 97) 1588, (56) **1839,** (103) **1842,** (31) 2069
sigmoid flexure and ampulla of rectum, diagnosis of, early, (75) **949**
Skin: See Epithelioma
skin reaction, (34) **159**
society to fight, **1969**
statistics, **1912**—ab, **2021**—ab
stomach, (65) 783, (81) 1743
stomach, analysis of 200 cases, (11) **1190**
stomach and duodenum, gastric juice in, (19) **1924**
stomach, bone-marrow metastases and anemia in, (27) **788**
stomach, bound chlorin in gastric juice with, (92) 1403
stomach, cerebral syphilis in previously latent, simulated by metastasis in spine and meninges, (41) 557
stomach, clinical and post-mortem findings in, discrepancy between, (151) 1329
stomach, combined with tuberculosis of, partial gastrectomy performed in, (5) **1738**
stomach, diagnosis, early, (72) 1580, (2, 69) **1982**
stomach, dissolved albumin test for, (66) 1666
stomach, hemophilia developing in course of, (45) 324
stomach, operative treatment, (46) **1192**
stomach, roentgenotherapy of, extensive exposure for, (153) **1751**
CANCER, stomach, tryptophan test for, unreliability of, (139) 252, **907**—E
stomach ulcer and, epigastric hernia with, frequency of, (34) 700
stomach ulcer as a frequent precursor of, (29) 244, (15) **1919,** (8) 2066
surgical pathology of, **1251**—ab
surgical treatment, general principles, **1251**—ab
testicle, (185) 488, (41) 402
thyroid, (61) 1927
thyroid, effects of iodin in, (19) 1259
tongue, (18) 1264, (14) **1399**
tongue, under age of thirty, (85) **1500**
treatment, literature on, **228**
urethra, (188) 873
uterus, (125) 242, (62) 1742
uterus, abdominal radical operation for, (91, 92, 93) **1262,** (99) **1263**
uterus, after menopause, (91) 868
uterus, campaign against, (77) **168,** (126) 251
uterus cervix, cautery in radical treatment, (94) **1263**
uterus cervix, curability of, (54) 552
uterus cervix, cystoscopy in determining operability of, (33) **788,** (52) **1111**
uterus cervix, extended vaginal operation for, (95) 1262
uterus cervix, laparotomy for, (52) 782
uterus cervix, operation for, care of wound, (186) 563
uterus cervix, Wertheim operation for, results after, (96) **1263**
uterus, exotic flora of, in relation to fibroids and, (1) 699
uterus, in non-pregnant and pregnant women, (89) 697
uterus, mortality from, how may we reduce? ***968**
uterus, operative indications with, (40) 1926
uterus, roentgenotherapy of, (140) **92**
uterus stump, (192) **1754**
uterus, tardy recurrence of, (65) **1498**
uterus, urinary apparatus as guide to operability of, information to be derived from, (90) 1500
vagina, primary, (58) **1111**
vanadium selenium in, (97) 399
vulva, (179) 873
worry and, **741**—ab
CANNED goods, new rule announced for, **1660**—Ml
CANNULA for blood-transfusion, ***1284**
forceps, for blood-vessel antastomosis, (41) 552
CANTHARIDIN poisoning, experimental, kidney lesion of, (25) 1578
CAPPARIS tweediana eich, chemical study of South American plant, (155) 92
CARBOHYDRATE, double function of fats and, in nutrition, nutritive properties of, **548**—ab, (92) **629**
hypophysis in metabolism of, (59) **696**
in diabetes, ***1410,** (91) 1672
metabolism, disturbances of, in pregnancy and eclampsia, (105) **1269**
metabolism in anemia, (117) 560
metabolism, liver, pancreas and, (80) 1113
CARBON dioxid and apnea, **999**—E
dioxid and circulation, **451**—E
dioxid and malaria, (156) **708**
dioxid eliminated with lung emphysema, proportion of, (126) 560
dioxid, inhibiting action of, on hemolysis and bacteriolysis, (41) 866
dioxid, nevus maternus removed by, **1813**
dioxid, passage of, from mother to fetus, (56) 867
dioxid snow, cauterization with, technic for, (32) 1583
dioxid, solid, in nevus, (48) 160
dioxid tension in alveoles, technic for determining, (51) 791
monoxid in blood, demonstration of, (185) 1272
monoxid may be cause of headaches and anemia, **1883**—E
monoxid poisoning, ***737**
monoxid poisoning cause of anemia in city infants, (67) **1112**
monoxid poisoning of woman eight months pregnant and of fetus, (56) 1111
CARBONATED beverages, regulation of manufacture and sale of, **63**

CARBUNCLES, colloid mercury for, (13) 555
dilute sulphuric acid administered internally for, (21) **1191**
CARCINOMA: See Cancer
CARDIOLYSIS, (1) 243, (7) 1982
in certain affections of heart, **316**—ab
in mediastinopericarditis, (15) 239
CARDIORENAL Diseases; See Heart and Kidney
CARDIOSPASM and iodiopathic dilatation of esophagus, (48) 862
CARDIOVASCULAR and renal disease, **518**—T
disease, diet in, (53) **1497**
disease in children, (43) 557
disturbance and skin diseases, (15) 1923
disturbance, Karell's method of treating, (115) **1501**
CARDS for case records, **1248**
CARIES, dental, a streptomycosis, (86) 793
dental, and general pathology, (54) 1034
dental, and school inspection, (57) 696
CARNEGIE, Vanderbilt University receives one million dollars from, **1801**—E
CAROTID artery, aneurysm of, (49) 557
artery, internal, anomalous, (42) 1492
artery, internal, anomalous, clinical significance in tonsil operations, ***172**
artery, ligation of, (77) 1333
artery, occlusion of common, by metal band, (14) 1032
gland, (115) 951
gland, tumor of, (108) **484**, (121) **1843**
region, anatomy of, (53) 557
CARPUS, dislocation of, (117) 1589
dislocation of radius and, complete, dorsal, traumatic, (85) 1396
CARREL, Alexis, work of, **540**, (53) 631
articles on preservation of living tissues outside organism, **1560**
solution, formula of, **1977**
CARRIERS, bacillus, bouillon culture of staphylococcus pyogenes aureus in diphtheria convalescents and, (58) **782**
diphtheria, (5) 1918
diphtheria, staphylococcus-spray treatment of, **1544**—E, ***1876**, (23) **1919**
disease, common house roach as, (33) 695
infection, early reference to, **1547**—E
poliomyelitis virus found in nose secretion of, ***1611**
typhoid, ***183**, **222**—ab, (54) 477, (80) **634**, (171) 1676
typhoid, chronic, surgical method of clearing up, ***1293**
typhoid, prize for means to cure, **1804**
CARTILAGE, family of dwarfs from defective development of, (58) 1193
necrosis of, arthritis deformans due to, (53) 948
rib, transplantation into pedunculated skin flaps, (34) **1325**
semilunar, of knee-joint, injuries to, (14) 1495
transplantable tumor of fowl producing bone and, (46) **1261**
transplantation of piece of, into septum to prevent perforation after submucous resection, (82) 399
CARTOONS, health, using without credit, **1245**—C
CARUNCLE, urethra, large, in girl of nine, ***1281**
CASE-record and history blanks or cards, request for, **689**
CASEIN, ash-free, and paracasein, method of preparing, (81) 1327
curds in feces of infants, pathogenesis of, (3) 2066
dried artificially, preliminary investigation, (36) **1741**
fever-producing property of, (101) 1037
molecules and molecular weights of paracasein and, valency of, (84) 1327
CASEINATES and paracaseinates, unsaturated or acid, preparation and composition of, (83) 1327
CASS County Medical Society, history of, (103) 1835
CASTOR OIL an oxytocic? **1481**
CASTOR OIL, how to give, **1174**, **1320**
in appendicitis, (125) **1196**
CASTRATION: See also Asexualization; Sterilization, Unfit; Vasotomy
CASTRATION, adrenals, changes in, in pregnancy and after, (71) 1747
behavior of opsonins and agglutinins in animals after injection of extract of testicles or (141) 252
hypothesis cerebri during pregnancy and after, in women and animals, (73) 482
resistance to strychnin after, increased experimental, (94) **169**
CASTS of feet rapid and accurate method of taking, **1916**—ab
CATALASE content of liver and blood with mouse cancer, (124) 91
CATALOGUE, international, of incunabula, proposed, **1989**—E
CATAPHORESIS, therapeutic, for infectious cornea processes, special advantages of, (58) 1586
CATARACT and Smith operation, (64) 1396, (62) 160
dionin in, **69**
extraction in capsule operation, another view of, (13) 1664
extraction, large incision in, (87) 1580
extraction, 150 consecutive cases, (7) 629
intracapsular operation for, after method of Stancleanu, (99) 1923
Krönlein operation for, simplification of, (84) 1580
operation, (32) 2067
operations, capsule after, method of dealing with, (83) 1580
operations, control of eye in, (26) 1669
operations, death after, (15) 1739
operations, intracapsular, from viewpoint of assistant, (71) 1396
operations, lens extraction in capsule in, (27) 1669
polariscope findings in, (77) 1586
senile, chemistry of, (31) 397
work, general anesthesia in, (72) 242
CATARRH, chronic, from enlarged tonsils, (115) 407
deafness due to, prevalence of, economic consideration of, (115) 1328
nasal, acute, due to gram-negative bacillus resembling "distemper" group of organisms, (24) 244
CATASTROPHE, ultimate, **1241**—ab
CATGUT, (126) 870
iodized, method for preparing, articles on, **1175**
picric acid and oil of cloves preparation of, (157) 162
sterilization of, **1904**
CATHA edulis, pharmacologic action of, and its alkaloids, (62) 1188
CATHARTICS in surgery, (69) 1107
CATHETER, duodenal, findings with, in infants, (95) **1114**
CATHETERIZATION, retrograde, in ruptures of urethra, (52) 696
ureters under direct visual inspection, (39) 166, (45) 701
with carbon dioxid snow, technic for, (32) 1583
CATTLE, tuberculosis antibodies produced in, **1801**—E
vaccination of, against tuberculosis, (34) 1330
CAUDA EQUINA, nerves, disease of, peculiar and undescribed, **1819**—ab
tumors of conus and, **1909**—ab
CAULS, pseudoperitoneal, of colon, **237**—ab
CAUSTIC pastes, sulphuric acid, ***434**
CAUTERY, conical cornea treated by actual, (34) 1028
in cancer of cervix uterus, radical treatment, (94) **1263**
CECOTOMY for removal of hairpin impacted in ascending colon, (20) 479
CECUM adhesions, **1389**—ab
atony of, (24) **1027**
bladder formation out of, (130) 252
cancer, diagnosis, (34) 1187
digestive troubles due to disease of, **1473**
dilatation and inflammation around ascending colon, disturbance from, (18) 2069
functional nature of appendix and, (17) 86
inflammation, primary, (76) 1927
mobile, Lane's kink and Jackson's membrane, etiology of, (78) **1396**
CECUM, movable, and perieccal membrane, **148**—ab
pathologic conditions of terminal ileum and, symptoms and diagnosis, (153) 1031
torsion, operative treatment, (65) 482
tubercuIous ulcer of ileum and, (33) 1106
ulcerations and perforations of small intestine and, from postoperative intestinal infection, (54) 867
volvulus of, intestinal obstruction, acute, due to, (25) **556**
CELIAC affection, (11) **1582**
CELIOTOMY and splenectomy in floating spleen with twisted pedicle, (7) **158**
CELLS, chemistry of, (49) 1985, (88) 1929, (26) 2069
embryonal, cause of cancer, (122) **636**
protoplasm of, (108) 794
reaction in rats, (145) 1270
CELLOIDIN paraffin method for embedding and handling tissue, (64) **1262**
sections, rapid method for, ***363**
CELLULITIS, appendicitis complicated by spreading, of obscure clinical and bacteriologic nature, fatal case, (11) 1668
orbit, (71) 1493
pelvis, (75) 1327, (4) 1923
pelvis, following Wertheim's operation, (56) **247**
CENTENARIANS and nonagenarians, (111) 698
CENTRAL America no longer a menace, **1471**
CEREBELLUM: See also Brain
CEREBELLUM abscess and afebrile sinus thrombosis complicating acute otitis media in adult, (87) 399
abscess and labyrinthitis, differential diagnosis, (89) 84
comparative anatomy, topography and function of, (86) 1672
glia cysts, (117) 483
localization in cortex of, (113) 407
removal of, in congenital occipital hydrencephalocele, (65) **1193**
topography (80) 1113
tumor, (4) **163**
tumor, (glioma), operation, recovery, (51) 1921
tumor, operation for, (69) 249
CEREBROSPINAL FLUID, (37) **1331**
albumin reaction in, effect of spinal cord compression on, (50) **324**
analysis of 426, from pathologic conditions, ***811**
arsenic in, examination of, following administration of salvarsan, (69) **241**
blood in, (128) **706**—ab
composition of, (74) 558
disease of meninges, (92) 1500
in latent syphilis and under salvarsan, (117) 1269
in syphilis, (56) 1746
isolated antibody in, (26) **475**
serodiagnosis of syphilis applied to, (114) 1335
spirochaeta pallida in, demonstration of, ***108**
technic for examination, (191) 563
yellow, (148) 561
CEREBRUM: See also Brain
CEREBRUM abscess, idiopathic, (13) **2068**
abscess originating in ear, (135) 706
abscess, symptomatology of, diagnosis and indications for surgical intervention, (2) 474
Hemorrhage: See Brain, Hemorrhage
lesions, prolonged pregnancy in relation to feeblemindedness and, (15) 158
localization of lesion, from ophthalmic standpoint, (62) 783
surgery, (142) 1329
symptoms in child of ten years, unusual, (76) 1580
symptoms under salvarsan, (124) 1673
syphilis, (107) **1500**
syphilis, prognosis and therapy of, ***1852**
tumor and hemorrhages, localization and removal of, consecutive displacement of cerebral hemisphere in, (22) 1324
tumor causing pseudo-eclampsia, (29) **1745**
tumor, hemiplegia gradually developing, due to, (54) 1107, (140) 1329
CEREBRUM tumor, subcortical, tuberculous in nature, operation, recovery, (29) 1109
ventricles, air in, following fracture of skull, **1024**—ab
CERTIFICATE, holder of, failing to have it recorded, **1182**—Ml
revocation, summary annulment of, reversed, **1490**—Ml
unlawfully practicing medicine without, court affirms conviction of, **1908**—Ml
CERVICAL RIBS and operative measure to prevent recurrence of symptoms, (103) **1263**
excision of, technic of, (19) 1583
CESAREAN SECTION, (2, 3) **158**, (8) 694, (8) **1032**, (18) 1185, **1390**—ab, (128) 1836, (24) 2067
abdominal, (170) 562 (126) 1673
abdominal, in eclampsia, (32) **1186**
abdominal, in eclampsia and central placenta praevia, (64) **944**
abdominal, indications for, (76) 1327
abdominal, indications for, with technic of operation and analysis of 352 cases, (77) 1107
and panhysterectomy in elephantiasis of vulva, (14) 479
and Porro cesarean section (40) 240
extraperitoneal, (61) 791
extraperitoneal, suprasymphyseal, advantages of, in clean as well as presumably infected cases, (19) 1185
gastrectasis following, (4) **158**
in achondroplastic dwarf, (9) 694
in double uterus and double vagina, (27) **1186**
in eclampsia, placenta praevia, pernicious vomiting and in hemorrhage due to premature separation of placenta, (86) 1834
in placenta praevia, (16) 556, (20) 1185, (33) 1187
intestine obstruction following, (32) 787
on infected uterus, (91) **169**, (73) 1113
post-mortem, pre-eclamptic coma with, living child, (15) 479
rarer indications for operations, (16) 1982
scar, rupture of gravid uterus in, (126) 1673
sterility the rule after, (135) **330**, (62) **1402**
technic, (78) 2072
ventrosuspension of uterus, indication for, (127) 242
CHAIR for extradural anesthesia, (141) 637
CHALAZION, (37) 631
CHANCRE, double, and gonorrhea with confrontation, (95) 161
CHANCROIDS, cocain for, (40) 1492
CHARITIES, municipal, of Philadelphia, **1082**—E
CHARITY, employer furnishing treatment out of, **313**—Ml
medical, abuse of, **140**
CHARTS, graphic feeding, method for calculating milk percentages and caloric values (44) 81
graphic, method of studying and teaching principles of infant feeding, (2) 80
leukocyte count, differential, new, ***1516**
CHASTITY, examination may be basis of opinion as to, but not veracity, **545**—Ml
CHAUFFEURS, vision tests for, (168) 1675
CHEEK, autoplastic restoration of, (55) **1266**
defect, plastic operation for repair of, (81) **944**, (9) **1105**, (104) 1114, (97) 1841
CHEESE, brine-soluble compound in composition and properties of, (85) 1327
CHEILOTOMY, function-restoring operation in crimpling traumatic arthritis of hip-joint, (5) **1743**, (6) 1836
CHELYDRA serpentina, development of prootic head somites and eye muscle in, (4) 474
CHEMICALS, serodiagnosis simulated by, (154) 1751
CHEMICO-PHYSICAL laboratory, report of, (13) 630
CHEMISTRY, International Institute of, proposed by Ostwald and opposed by chemical houses, **1229**—E
new, and new materia medica, (78) **628**
notes on, (173) 1676

CHEMOTHERAPY, pneumococcus infections, **447**—E
typhoid, **1364**—E
CHEST; See Thorax
CHIARI, Professer, jubilee of, **918**
CHICKEN-POX and herpes zoster, (70) 249
blood-picture in, (187) 488
in adults, (85) **1113**, (61) **1986**
CHILBLAINS, (41) **160**
CHILD labor and Louisiana, **1169**—ab
labor and oysters in Mississippi, **1344**—ab
labor conference, **606**
labor day, **139**
unborn, rights of, **1386**—Ml
welfare, (82) 1743
welfare, Peoria conference on, **755**—E
CHILDBEARING: See Childbirth; Labor
CHILDREN, abdomen, acute, diagnosis, (43) 1265, (8) **1836**, (28) 1838
abdomen, acute, treatment, (1) **864**
abdomen, tumors in, (126) 952
acetone in urine in, elimination of, (92) 1195
acetone reaction in, clinical availability of, (93) 1195
adenoids and enlarged tonsils in, lymph-node extract for, cause of, (6) 2067
alcoholism in, apparently free from morbid heredity, (51) 944
amusements for growing, suitable, (135) 1328
anemia in, chlorotic type of, (50) 1192
anemia in, roentgenotherapy, effectual stimulant in simple (50) 247
appendicitis, acute cases, in, (17) 1577
appendicitis, chronic, in, (37) 1191
arthritis, rheumatoid, in (16) 1330
atypical, (128) 1328
atypical, in Dr. Groszmann's school from standpoint of neurologist, (83) 477
backward, eyestrain and, (79) 477 *1059
bladder calculus in, surgical treatment, (88) 945
blind, training of, (78) 477
blood and heart action in healthy, (70) 2071
blood, coagulation time of, (2) 238
blood-pressure in, (35) 1034
bow-legs in small, (23) **700**
cardiovascular disease in, (43) 557
cerebrum symptoms in, unusual, (76) 1580
chyle cysts in, (54) 1926
cinematographs and influence on, (176) 1676
colitis, acute, in, (49) 1192, (58) **1498**
colitis, acute, in adults and, comparison of, (52) 1497
colloidal silver in treatment of, (78) 558
common symptoms in, significance of, (22) **700**
conservation of, teaching of social ethics and its relation to, (24) 1492
convalescing, (53) **1395**
convulsions in, treatment, (96) **1403**
crippled, **1007**
crippled, in English public schools, (112) 478
crippled, in relation to community from orthopedic standpoint, (74) 477
crippled, Marine Hospital at Berck-Sur-Mer principally for, (38) 239
crippled, need for state care of, and advantages of system, (101) 1835
crippled, special schools for, (75) 477
cystic polypus in nasal pharynx of, (67) 1666
deaf, (68) 477
deaf, early home treatment, (35) 943
development of, prematurely born, (145) **1751**
devitalized, revitalizing, (15) 1026
diabetes in infants and, (42) **1326**
diagnosis in, (83) 1743
diarrhea in, treatment, (101) 161
digestive disturbances in, ipecac in, (67) **1499**
diseases of, (16) 630
diseases of, recent literature on, (24) 700
dysentery, flagellate, in, (2) 864
dyspepsia, intestinal, in, (26) **1033**
eczema of face in, pathogenesis and therapy of, (15) 1664
empyema and pneumonia in, (44) 1265
CHILDREN, enuresis in, (30) **402**
epithelioma of nipple in girl of 11, primary, (11) **2068**
eye, common diseases of, from standpoint of general practitioner, (100) 161
eye-strain in, (107) 399, (82) 945
eye-strain in, special reference to chorea, (85) 161
fatigue resistance in, (45) 557
feebleminded, general consideration and classification of, (73) 477
feebleminded, literature on, **1245**
feebleminded, medical gymnastics as prelude to physical education in, (17) 1924
feebleminded, plea for, (22) 2067
feebleminded, school, (11) 780, (31) 1106
fevers of obscure origin in, **1387**—ab
flies and sick, (73) **1987**
food requirements of, (10) 1264
foreign body, nail swallowed by child, (69) **1580**
formalin excretion in urine of infants, and taking hexamethylenamin, factors which influence, (33) **1260**
fractures of lower end of tibia in, (87) 558
fractures of navicular bone in, (61) 702
fresh air and, (1) 238
gastro-intestinal disturbance in, due to constipation, (66) 160
gigantism in, conditions resembling, (119) 407
gonorrheal vulvovaginitis in, cause of persistence of, (8) 238
growth of, standards for, and state of nourishment, (169) 1753
heart beats, premature, arising in articuloventricular bundle of child, (3) **1738**
heart, healthy, in, some manifestations taken as indications for treatment, (9) 243
heart size and heart function in, showing orthostatic albuminuria, orthodiagraphic study, (39) **1832**
hedonal anesthesia in, (3) 479
helminthiasis in, (3) **80**
helminths in, causing toxic nephritis, (137) 252
helminths in, prevalence of, at Rio de Janeiro, (44) 557
hemorrhagic conditions in, pathology, etiology and treatment, (17) 1664
hemorrhagic diseases of, normal human blood serum in, (106) 399
hernia in, treatment, (82) **1029**
hospital, medical school and the public, (23) 860
hydrocephalus, internal, in operative treatment, (78) **482**
hygiene, (71) 628
hygiene and clinical medicine for diseases of, chair of, **917**
hygiene, instruction in, (95) 399
hyperpyrexia in rectum in, (104) 1037
hysteric phobia in, treatment, (12) 1398
infantile scorbutus in school, (52) **791**
infection of, relation to adult lung tuberculosis, (60) 1666
infectious diseases in, unusual complications of, (6) 940
inguinal hernia in, treatment, (88) **864**
intestine diseases of, (129) 478
jaundice in, (10) **1398**
kala-azar in, (103) **170**
kidney calculus in, (7) 555
laparotomies on, (66) **1928**
Leishman anemia in, in region north of Naples, (117) 951
leukemia, lymphatic, acute, in, (7) 238
leukemia, myeloid in, with blood-picture of so-called megaloblastic degeneration, (21) 479
leukocytes in healthy, and at different ages, (77) 482
lymph-nodes, cervical, in, (103) 242
marasmic, metabolism of, (171) 1753
massage in various disorders of, value of, (9) **1258**
meningitis, epidemic type of, in those under two, *1755
meningitis in, curable, (46) 557
mesentery chyle cysts, multiple, in, volvulus and perforation, (144) 330
metabolism of more active, (129) 1337
metabolism of, with complete absence of bile from intestines, (5) **1576**
CHILDREN, myxedema, congenital, in, thyroid grafted into spleen or tibia in, (121) **1405**
nephritis, acute, primary and secondary, proctoclysis as curative and prophylactic agent in, (152) **243**
nephrosis, chronic, (107) **705**
nervous system, autonomic, in, atropin, pilocarpin or epinephrin tests for, (121) 1931
nervousness in, prevention of, (165) 163, (38) 696
neuritis, multiple, (79) 1262
nose, accessory sinuses in, inflammatory affections of, (37) **696**
opiates used in, (105) 1037
osteomyelitis and tuberculosis of bones in, leukocyte count in, diagnostic significance of, (19) **1492**
paralysis, general, (88) 558
paralysis of eye muscles (160) **92**
paralysis, spastic, treatment, (103) **1672**
pneumococcal abscess of lung in, (25) 1583
pneumococcus infection of lungs in, chronic, (4) 2067
pneumonia in, (36) **1926**
polyarthritis, chronic, with enlargement of spleen and fever (84) 406
pseudoglioma in, (90) 1581
psychasthenia in, management of, treatment, (104) 629
psychogenic disorders in, (37) 1665
psychotherapy for, (130) **1196**
public health and, (66) 553
pulse and blood-pressure in, between 6 and 14 years, (168) 1198
respiration in, influence of artificial pneumothorax on mechanism of, (103) 1335
respiration in, relation to and influence of normal and abnormal dental arches on, (39) 696
rheumatic orchitis, acute, associated with erythema nodosum and acute torticollis in child of 2, *1608
rheumatism in, (21) 700, (59) 1028, (23) 1264
School: See also School, Medical Inspection of
school, cleanliness of hands among, **382**
school diseases, *409
school, health of, **380, 1166**
school, hygiene of hearing for, (172) 1676
School, Medical Inspection of: See Schools, Medical Inspection of
school, pathology of, (77) **1113**
scrofulous, after-treatment, (164) 487
seaside sanatorium for, (122) 1336
shoulder-joint subluxation in infants and, (31) 1745
skin reaction to tuberculin in, (16) **401**
syphilis, (86) 1743
syphilis of bones and joints in, (27) 1426
syphilis of nervous system in, (22) 86
talipes in young, treatment, (15) 865
temperature of, (119) **870**
therapeutics of diseases of infants and, (50) 1261
tobacco chewing and snuff habits among, **1561**—ab
tuberculin, reaction to human and bovine, in, (177) **1753**
tuberculosis (51) **481**—ab, (212) 564, (85) 1195, (139) 1502
tuberculosis and asthma in, (34) 1034
tuberculosis bacillus in, portals of entry of, (3) 699
tuberculosis, bacteriology of, (217) 564
tuberculosis, diagnosis, (125) 699
tuberculosis, latent, in, and adult tuberculosis, (82) 161
tuberculosis, lung, remineralization in, (59) 1498
tuberculosis, modern combat against, (51) 87
tuberculosis of bone and joint, types of organism in series of, (3) **1494**
tuberculosis of hilas, roentgenoscopy of, (98) 950
tuberculosis of kidney, (42) 1034
tuberculosis of knee, treatment, (113) 483
tuberculosis, on Mediterranean coast, treatment, (26) **1191**
tuberculosis, pathology of, (17) 1583
tuberculosis, Roentgen rays in diagnosis of, (37) 86
tuberculosis, Rosenbach's tuberculin in, (174) 1753
tuberculosis, surgical, in, reaction to tuberculin from bovine tubercle bacilli in, (92) **1988**
CHILDREN, tuberculosis, thoracic lymph-node, diagnosis of, (84) 1743
tuberculosis, tuberculin in diagnosis of, (110) 1196
tuberculous mediastinal lymph-nodes in, (197) **873**
tuberculous puerperae and their, what should be done with, (84) 697
typhoid medication in, (72) 1493
typhoid vaccination, *344
typhus, (79) 482
urinary infections in infants and, (14) **1577**
urticaria in, coming to Sydney, (12) 1668
Vincent's angina, (84) 399
vision, defective, (91) 84
vision of school, testing, (129) 1405
vomica in, (29) 1191
vomiting, cyclic, in, adrenal origin of, (32) **1926**
vulvovaginitis, (8) 238, (4) **1104**
well-fed, (23) 1980
CHILLS at irregular intervals usually pronounced of malarial origin, (43) 1028
CHINA, American medical colleges establish branches in, **843**
health of Europeans in, in relation to climate and other factors, (14) 1191
Medical Missionary Assoeiation, **1820**—ab
CHINESE drugs and medical advertising, **1709**—E
medicine in America, (54) 1028
CHINOSOL, composition of, **1381**
CHIROPRACTOR, law violated by, **1181**—Ml
violation of statute, **1021**—Ml
CHLORETONE in epilepsy, (1) 629
overdosage, (23) 1983
CHLORIDS, content of blood on different diets, (80) 1671
diabetes a sign of intoxication with, (60) **1402**
in simple polyuria, elimination of, and influence of sodium bicarbonate, (58) 1402
CHLORIN, bound, in gastric juice, especially with stomach cancer, (92) 1403
CHLOROFORM and ether in anesthesia, **1304**—E
anesthesia, epinephrin in, (20) 1668
anesthesia in nose and throat surgery, (68) 628, (30) 861
CHLOROMA, atypical, (45) 1191
CHOKED DISK, (128) 560
decompressive measures with (135) 870
CHOLECYSTECTOMY from back forward, (48) **1401**
immediate, in acute gall-stone cholecystitis, (58) **325**
CHOLECYSTITIS and cholelithiasis associated with pregnancy, (28) **1665**
and ulcer of duodenum, diagnosis, (110) 1189
gall-stone, cholecystectomy in acute, (58) **325**
paratyphoid, (49) **552**
pellagra complicated by, (22) 475
perforative, acute, complicated by general peritonitis, (83) 1396
CHOLECYSTOTOMY, angulation of junction of hepatic and common ducts after, simulating common duct obstruction, (16) **625**
CHOLEDOCHODUODENOSTOMY, (63) 1333
CHOLELITHIASIS: See also Gall-Bladder Calculus
CHOLELITHIASIS, (37) 477, (32, 33) 1110
and cholecystitis associated with pregnancy, (28) **1665**
diet in, **1651**
in Japan, (51) **1927**
medical treatment, **1915**—ab
prognosis in, (92) 84
surgical treatment of pancreatitis and, (132) 401
CHOLERA, action of ultraviolet rays on plague and, germs, (140) 1338
agglutinating serum, **1461**
and smallpox among Turkish refugees, **222**
at Mecca, **219**
at seat of Balkan War, (96) 950, (144) 1270
bacteriologic diagnosis of (72) 791
bacteriology of, (24) **1984**
germs, vitality of, in contact with acids, (151) 1198
hog, felon from infection with, (47) 866
hog, virus of, (29, 35) 475, (43) 1106
immunization by mouth against experimental, (145) 1197

CHOLERA in India, recent research on, (11) 699
mission and Red Cross missions return from Bulgaria, **222**
serum, hog, virulent salt solution as virus in manufacturing, (37) 1920
transfusion and permanganate in, (67) **167**
CHOLESTEATOMA, epidermoid, of brain, (118) 1270
of ear, (20) 81
CHOLESTERIN esters and lecithin in blood-serum, (76) 703
excess in blood, adrenal origin of, (60) 482
in blood in various diseases, (98) 1403
in blood, variations in, under vaccination against typhoid, (70) 1267
in paroxysmal hemoglobinuria, (98) **1037**
influence of lecithin and, on growth of tumors, (28) **942**
influence of saponin and, on action of enzymes, (169) 1198
metabolism, (86) 1929
CHLOESTERINEMIA, experimental, (113) 1749
CHOLIN, modification of glycogen in liver after intravenous injection of, (122) 952
CHOLOGEN treatment for gall-stones, **383**—P
CHONDRITIS, suppurating, following operation for encapsulated, perforated stomach ulcer, (130) 1589
CHONDRODYSTROPHIA: See Achondroplasia
CHONDROMA: See Enchondroma
CHONDROSARCOMA, extreme malignancy of, (77) 88
CHONDROTOMY for emphysema, efficacy of, (54) 2070
CHORDOMAS, (171) 488
CHOREA, (76) 863
blood-picture in, (110) 705
eye strain in children with special reference to, (85) 161
Huntington's heredity in, **1911**—ab
magnesium sulphate in, (166) 1271
nose as source of infection in, (68) 1986
of heart, (40) **789**
salvarsan in, (46) **247**
Sydenham's treatment, **1009**
syphilitic origin of, **63**
CHORIO-EPITHELIOMA: See Deciduoma Malignum
CHORIOID, atrophy of, unusual, (81) 553
CHORIONIC villi in uterus wall eighteen years after last pregnancy, (16) **1185**
CHRISTIAN SCIENCE, a protest, (127) 1264
CHRISTIANIA, campaign against tuberculosis in, (133) 1932
CHROMOSOMES in man, (8) **1919**
CHROMO-URETEROSCOPIES with indigocarmin as functional kidney test, results of 200, *185
CHURCHES, social service adopted by, program of, **1001**—E
CHYLE cysts in children, (54) 1926
cysts, mesentery, multiple, in girl of 7, volvulus and perforation, (144) 330
CHYME, examination of, in diseases of gastro-intestinal canal, (98) 1189
CICATRIX, hydatid in lung and in, (3) 1264
CIGARET and tobacco, **617**
CINCHONA ALKALOID, amorphous, in malaria, value of, (19) 1330
anesthetic action of, on cornea, (81) 1113
CINEMATOGRAPH exhibitions, psychology of, (200) **874**
heart action, (102) 250, (124) 1749
influence on children, (176) 1676
of stomach, simplified, (108) 1037
show as health problem, **1234**—E
show, regulation of, **459**
stomach movements, pathologic, (78) 792
tuberculosis in, (76) 242
CIRCULATION, action of therapeutic exercises on, (63) 2071
and carbon dioxid, **451**—E
blood, active participation of arteries in, (121) 1501
blood in lungs, (86) 633
collateral veins in, (60) **325**
comparative physiology of, (161) 708
coronary, action of epinephrin on, (27) **2069**
cutaneous, main regulation of heat loss by control of nervous system over sweat-glands, **1794**—E
disturbances from sudden contraction of vagus nerve, (57) **702**
CIRCULATION, disturbances of, physical measures for, **1553**
disturbances of, therapeutic measures in, various, **1554**
in arm of man, (2) 1738
in collapsed lung, (80) 249
in lungs as influenced by differential pressure, (85) 704
physical laws regulating, (162) 1752
respiration and, **1542**—E, (43) **1833**
CIRCUMCISION, leg, for varicose ulcer, (40) **1838**
CIRRHOSIS, Liver: See Liver, Cirrhosis
CISTERNA magna, drainage of, in meningitis, (1) **940**
CITRUS fruits, immature, validity of law prohibiting shipment of, **1323**—MI
juices, chemical reactions of, in body, **1381**
CIVILIZATION levels, different, in modern society, (25) 159
CLAIM, acceptance of warrant for, precludes recovery of balance, **2064**—MI
CLAMP, lid, hemostatic, U-shaped, (85) 945
pile, for hemorrhoids, (89) 319
tonsil, new, *2044
umbilical cord, (137) 321
CLAUDIUS' method and Pfeiffer's modification of Tsuchiya's method for quantitative determination of albumin in urine (85) 1671
CLAVICLE, dislocation, (60) 166
fracture, irreducible, bone plating in, (30) 81
fractured, splint for, (26) **781**
restoration of, (106) 1114
CLAW-FOOT, how to relieve it, (131) **321**
CLEFT PALATE, (62) 1580
and harelip, treatment, (64) 791
operative treatment, (49) 398
CLIMATE, health of Europeans in China in relation to, and other factors, (14) 1191
health of Europeans in Uganda and East Africa influenced by, and other factors, (35) 1669
hot, regulation of heat of body in, **1794**—E
tuberculosis and, (128) 85, (123) **1836**
vs. sanitation, (58) 863
CLIMACTERIC: See Menopause
CLINICAL reports, fallacy, **1243**—P
CLINICS, municipal, of San Francisco, (107) 1029
of Europe, some, (21) 780, (22) 1919
of Vienna, changes in organization of, **1721**
CLITORIS, melanosarcomas of, (75) 1747
CLOSET-cans, sanitary, in prevention of typhoid infection, **308**—C
dry, (111) 1923
CLOTHING, brushing of, and tuberculosis, **1805**
hygienic qualities and physical action of fabrics for, (78) 242
in tropics, **370**—E
CLUB-FOOT: See Talipes
COAL-TAR disinfectants, toxicity studies with, (30) **695**
COBRA Venom Reaction: See Reaction, Cobra Venom
COCAINE anesthesia, complete laryngectomy under, (109) 1667
for chancroids, (40) 1492
habit, prevalence of, **1363**—E
injection into perineal tissue as head emerges, (92) 950
poisoning, (24) 401
COCCACEAE in collection of museum of natural history, systematic study of, (44) 1920
COCILLANA compound, syrup of, **526**—E, **537**—P
COCKROACHES, cancer induced in rats by feeding with parasites of, (52) **948**
destruction of bedbugs and, **1902**
house, as carrier of disease, (33) 695
parasites and rat tumor, establishment of casual relation between, **1077**—E
susceptibility of, to plague bacilli inoculated into body cavity, (113) 1836
COD-LIVER OIL, amount of, in various preparations, **1093**—P
for feeding marasmatic infant, topical use of, (82) 319
COFFEE, substitutes for, **390**, (115) 1038, **1094**
COLD, gangrene of feet from exposure to, (155) **1675**
hyperemia, active, following local exposure to, (4) 1979
vasomotor reflexes elicited by heat and, from regions devoid of temperature sensibility, (36, 37) 1832
COLDS: See also Rhinitis
COLDS, common, and catarrh, bacteriology of, (64) **1982**
common, and vaccine therapy, (13) **1980**
in head, (20) 1837
COLEY'S fluid, cancer treated by, **228**
COLITIS, acute, in children, (49) 1192, (58) **1498**
acute, in children and adults, comparison of, (52) 1497
infectious, acute, in adults, (48) 1192
membranous, rhizotomy for, (58) **167**
mucous, appendicitis and membranous pericolitis, corelation of, **149**—ab
mucous, fever with, (118) 1749
ulcerative, (114) **705**
COLLARGOL in treatment of children, (78) 558
roentgenography of seminal ducts and vas deferens by injecting, *800
COLLEGES, American Medical, establish branches in China, **843**
athletics in after-life, **300**—ab
medical, American standard for entrance to, **1003**—E
medical, at Richmond, Va., and Memphis, Tenn., merge, **214**—E
medical, classification of, **690**—ab
medical, inferior, attempt to organize, **1565**
medical, instruction in hygiene in, and training of health officers, *1199
medical, of United States, **212**—E
medical, of United States, first fifteen, **1318**
medical, of United States, third classification of, **231**
medical, organization, **932**—ab
medical, what state should expect of its, (75) 1834
COLLOID-CHEMICAL theory, invalidity of, in nephritis and edema, *345
theory of water absorption by protoplasm, *348
COLLOIDS in living tissues, (178) 1272
COLLYRIUM—Wyeth's, **1557**—P
COLOCYNTH poisoning, (15) 2068
COLON, cancer, (6) 864
cancer of rectum and, irremovable, appendicostomy instead of colostomy for obstruction due to, (3) **555**
dilatation, congenital development and prevention of, (96) 1114
displacements, (35) 81
diverticulitis, **364**—T
extirpation of, experimental anatomic and physiologic observations bearing on, total, **73**—ab
hairpin impacted in ascending, cecotomy for removal, (20) 479
inflammation around ascending, and dilatation of cecum, disturbance from, (18) 2069
irrigation, roentgenoscopy during, (85) **793**
M-shaped, (4) 1258
pseudoperitoneal cauls of, **237**—ab
resection of one-third of, for irreducible intussusception in infant five days old, (33) 1832
resection of stomach and, simultaneous, (44) 1926
resection, technic for, (139) 408
roentgenoscopy of, functioning, (102) 1588
stasis, ileosigmoidostomy for, (22) **695**
tuberculosis, (71) **1671**
tuberculosis, surgical, of rectum, anal canal and, (44) 480
COLOPTOSIS and gastroptosis transversa as seen from post-mortem examinations, (81) 1922
COLOR blindness, (149) 479
in animal kingdom, distribution of, (113) 794
perceptive organs, rods as, (37) 1028
problem in nursing in South Africa, **1894**
sense and emotion of sex, (2) 85, (70) 399
sense of bees, (161) 562
COLORADO medical news, **292, 1083, 1368, 1548, 1967**
method for examination and care of public school children, (10) 780, (67) 863
state board April report, **1728**
state board January report, **930**
COLOSTOMY, appendicostomy instead of, for obstruction due to irremovable cancer of rectum and colon, (3) **555**
COLOSTOMY, transverse, as operation of election, (2) **1836**
COLOSTRUM as nutriment, (67) 2071
COLT'S apparatus, abdominal aneurysm operated on by, (5) **1836**
COMA in diabetes, (74, 75) **633**, (109) **1673**
COMMISSION on End-Results of fractures of Femur, report, (153) **243**
COMMITTEE to pass on new medical books, suggestion for, **1901**—C
COMMUNICATIONS between patient and physician, confidential, (120) 242
COMPENSATIONS of illness, (58) 1666
COMPLEMENT Binding: See Serodiagnosis
COMPLEMENT Fixation: See Serodiagnosis
COMPLEMENT, origin of, **1960**—E
COMPRESSED-AIR apparatus for pressure massage in hospitals, (134) **1501**
CONCEPTION, portio vaginalis of uterus in relation to, (41) 324
CONDON for draining ascites, (130) **637**
CONDYLOMATA, cultivation of treponema calligyrum from, (54) **241**
CONFEDERACY, Association of Surgeons of Army and Navy of, **1893**
CONFINEMENT to house, not an illness, **544**—MI
CONJUNCTIVA diseases with trachoma bodies, clinical course of, (29) 397
foreign bodies in cornea and, removal of, (26) 1496
herpes iris of, (12) 1664
sclerae, trachomatous changes of plica semilunaris conjunctivae and, clinical and pathologic histologic study, (23) 165
CONJUNCTIVITIS, blastomycetes in, resembling trachoma, (80) 326
epidemic, investigation of cause, (22) 165
follicular, and adenoids, (27) 861
gonorrheal, aborted by two per cent. solution of nitrate of silver, (91) 1494
Parinaud's, etiology of, (38) 1028
phlyctenular, etiology and treatments, (150) 243
swimming-tank, (79) **634**
vernal, (78) 697
CONNECTICUT Agricultural Experimental Station, work of, in maintaining high standard of food products, **132**—E
eclectic November report, **79**
homeopathic November report, **79**
medical news, **58, 135, 214, 1083, 1802**
state board homeopathic March report, **1322**
state board March report, **1254**
state board November report, **78**
CONSERVATION of human life, or preventive medicine, (78) 1743
public, of human lives, (67) 319
CONSTIPATION: See also Obstipation
CONSTIPATION, (95) 1494, (69) 1922
chronic, (24) 1740
chronic, treatment, (8) 1329
diet in, (47) 1833
gastro-intestinal disturbance in children due to, (66) 160
habitual, (127) **91**, (63) 696
medical standpoint, (18) 475
morphin and, **1711**—E
petrolatum in, **1320**
spastic, chronic, serious consequences of, (179) 488
surgical treatment, (19) 475
wheat grains roasted in diet for, (129) 1116
CONSTITUTIONAL diseases, **1806**
CONSULTATIONS, (62) 1666
CONSUMPTION: See Tuberculosis, Lung
CONTAGIOUS DISEASES among American Indians, **1814**—ab
in infant wards, prophylaxis of, (61) **867**
CONTRACT Practice: See Practice, Contract
CONTRACTION, volitional, of tensor tympani muscle, (51) 2070
CONTRACTURE, ischemic, resection of wrist bones for, (136) **1501**
spastic, neuroplasty in, (9) 1491
spastic, prevention and treatment, (154) **486**
CONUS, tumors of cauda equina and, giant, **1909**—ab
CONVULSIONS in children, treatment, (96) **1403**
in infants, diet for, (1) 1103
in infants, etiology of, (41) 81

CONVULSIONS, suppression of, in eclampsia, (41) **86**
COOPERATIVE association, medical, **619**—ab
COPAIBA exanthem after use of, (69) 1840
COPPER colloid, action of, on blood, (77) 867
colloid in cancer, (35) 1496
effect on experimental tuberculosis, *887
in external tuberculosis, (91) 1268
mining company, information concerning, **1016**
sulphate and sulphuric acid poisoning, acute, blood findings in, (79) 792
sulphate test for urobilin, (86) 1037
COPRA itch, (18) 244
CORIAMYRTIN, pharmacologic action of, (95) 319
CORNEA, anesthetic action of cinchona alkaloids on, (81) 1113
calcareous degeneration of lens capsule and, (27) 397
conical, actual cautery in, (34) 1028
degeneration, (53) 791
dislocation of lens and perforation of, (57) 241
dystrophia epithelialis, (74) 1396
foreign bodies in conjunctiva and, removal of, (26) 1496
foreign bodies in, treatment, (63) 83
injuries, traumatic, (36) 1187
staphyloma of, peribulbar implantation cyst after removal of, (26) 397
tattooing of, by piece of lead from copying pencil, accidental, (91) 1581
therapeutic cataphoresis for infectious processes of, special advantages of, (58) 1586
ulcer, (100, 108) 785
ulcer, hypopyon, treatment, (65) 1982
CORNUTOL, vacules, **45**
CORONARY circulation, action of epinephrin on, (27) **2069**
CORONER, ancient office of, (34) 1665
office of, **1644**—E
CORPUS callosum, effect of puncture of, on eye, (75) 249
callosum, puncture of, (5) **2066**
luteum and pregnancy, (47) 1985
luteum, effects of secretion of ovary and, (98) 328
luteum, lipins of ovary and, (61) **319**
luteum, pigment of, **1078**—E
luteum, production and menstruation, time relations between, (138) 637
CORWIN'S tonsil hemostat, (113) 1328
COST-OF-LIVING and prevention of disease, *1757
high, and cost of good living, **134**—E
COT, emergency, and bed, combined, *122
COTTON mill and tuberculosis, (71) 1227
seed meal intoxication, (69) **1028**
seed meal, organic phosphoric acid of, (74) 161
COUDREY found guilty in federal courts, **1161**—E
COUGH, common cause of, (76) **88**
nose and throat reflexes causing, (28) 861
tracheal, (154) 871
COUNCIL ON PHARMACY AND CHEMISTRY, constructive work of, **58**—E
supporting, **613**—P
COUNTRY, better health conditions for, how obtained, (124) 1328
healthfulness of, and yet a field for young physician, **1233**—E
COUNTY boards of health, (58) 1834
medical society, work and aims of, (83) 1107
society bulletin, (66) 398
COUTANT fraudulent deafness cure, **303**—P
COXA VARA with spontaneous recovery from deformity, (34) 1260
CRAMPS, professional, multiple, in a psychasthenic, (43) 782
CRANIUM, hemorrhage of, in newborn infant, (84) **868**
hemorrhage within, **1248**—ab
injury and spinal lesion, (63) 398
operation on posterior fossa of, (41) **947**
tumor after decompression, localization of, (122) 1264
CRAWFORD, Jane, grave of, first subject of ovariotomy, **67**—C, **228**—E
CREATIN content of muscle under normal conditions, relation to urinary creatinin, (29) 626
elimination of creatinin and, in urine of parturients, (71) 482
estimation of creatinin and, in diabetic urines, (73) **1029**
in urine, **1302**—E
CREATININ, elimination of creatin and, in urine of parturients, (71) 482
estimation of creatin and, in diabetic urines, (73) **1029**
CRETINISM, experimental, morphologic studies in, (15) 2066
in Austria, (80) 168
CRIME and epilepsy, the cost, (92) 697
cause and prevention, (132) 85
operation for prevention of procreation as part of penalty for, **779**—Ml
retardation and constitutional inferiority in connection with education and, (37) 552
CRIMINAL insane, (40) 2070
physique, *1351
responsibility, attenuated, (38) 789
sterilization of, (97) 84, (62) 1834
tendencies, surgery for, **368**—E
use of pathogenic bacteria, **1555**
CRIPPLED CHILDREN discussed, **1007**
in English public schools, (112) 478
in relation to community from orthopedic standpoint, (74) 477
industrial training for, in Russia, (92) 161
Marine Hospital at Berck-Sur-Mer principally for, (38) 239
school for, in Cleveland, management, maintenance and efficiency of, (12) 780
special schools for, (75) 477
CROFTAN'S criticisms and Cabot's findings of pitfalls in diagnosis, **386**—C, **464**—C
CROSSED-HANDS maneuver to aid delivery, (134) **1337**
CROTALIN in epilepsy, **850**, **1001**—E, **1246**, (73) 1262, **1811**—C
in epilepsy and nerve diseases, (94) 399
in lung tuberculosis and in epilepsy, action and administration of, (84) 1189
CRYING in infant, diagnostic importance of manner of, (30) 1191
CRYPTORCHIDISM, **1319**
CUDBEAR, tincture of, **147**
CUNNINGHAM mail-order school, **1243**—P
CURE and kur, **1308**—E
CURET for bridge in radical mastoid, (112) 1328
uterus, use and abuse of, (101) 1108
CURETTAGE, contra-indications to, (49) **1395**
of pharynx in adults, (25) 861
CYANOSIS, stasis, hemorrhages in, (99) 705
stasis, traumatic, (213) 564
CYCLOPHORIA, static, (20) 1191
CYST and fistula in neck, (45) **948**
appendix, (33) 86
bone, long, solitary, (136) 1932
branchial, suppurating, (5) 1494
chyle, in children, (54) 1926
chyle, mesentery, multiple, in girl of 7, volvulus and perforation, (144) 330
connected with hernia sacs, etiology of, (19) **1191**
Dermoid: See Dermoid, Cyst
epidermoid, pelvis of, unusual symptoms with, (108) 951
glia, cerebellar, (117) 483
kidneys both studded with, (41) 1034
liver, non-parasitic, (16) 1582
liver, solitary, **152**—ab
mesentery, (81) 558
neck, of congenital origin, (9) 1744
of entameba tetragena, (17) **396**
omentum, (25) 1185
ovary, differential diagnosis, (157) 708
ovary, etiology, pathology and treatment, relation to child-bearing, (128) 320
ovary, gelatinous, pseudomyxoma of peritoneum arising from perforation of, (34) 86
ovary, surgery for, conservative, disadvantages of, (42) 1926
ovary, with twisted pedicle, (111) 1835
pancreas, **237**—ab, (18) 946
pancreas encircled by, (110) 1404
pancreas, with acute symptoms, (19) 946
CYST, peribulbar implantation, after removal of staphyloma of cornea, (26) 397
spleen, (29) 1832
tuberculous, originating in pancreas, (125) 321
CYSTITIS, chronic, and retention of urine, drainage for, beneficial effect on damaged kidneys, (31) 1400
chronic, in female, management of, (10) 1577
nascent iodin fumes in, (67) 558
polyp growth in, (91) 483
rebellious, treatment, (79) **1929**
tuberculous, in elderly, (68) **558**
CYSTOMA, multilocular, of lower jaw, **1248**—ab
CYSTOPEXY, (161) 1675
CYSTOSARCOMA, stomach, primary, (136) 1337
CYSTOSCOPE as aid in surgical diagnosis, (122) 85, (35) 1492
immobilizing device for, (46) 1460
in determining operability of cancer of uterus cervix, (33) **788**, (52) **1111**
in diagnosis of kidney tuberculosis, value of, (77) 864
limitations of, (2) 316
Nitze, diagnosis of ureter calculus by wax-tipped whalebone filiform bougie used with, (158) 162
what does it reveal? (75) 1189
with calculi in bladder, (43) 1400
CYSTOSTOMY, retention urinal after, (65) 1671
suprapubic, (94) 1189
CYSTOTOMY, suprapubic, (74) 1189

D

DACRYOCYSTITIS, acute, treatment, *727
chronic, extirpation of lacrimal sac in, (26) 861
DAISY headache powders and John Lawson, **1466**—E
DAMAGES of four hundred dollars imposed on Paris Medical School, **1895**
physician visiting patient without her consent has to pay, **1893**
traumatic neurosis dragging through 18 years' litigation for damages, (57) **1986**
DARIER'S disease: See Keratosis Follicularis
DARTMOUTH, voluntary curtailment of medical course by, **1547**—E
DAVID Sassoon Hospital, Poona, surgery at, (20) 323
DAVISON operation for undescended testicle, (66) 944
DAYTON flood sufferers, medical books for, **1800**—E, **1810**—C.
DEAFMUTISM, cause, prevention and cure, (137) 1030
prevention of, (8) 81
DEAFNESS, (69) 477
catarrhal, prevalence of, its economic consideration, (115) 1328
congenital, sporadic, and deafness from syphilis, (15) 786, (13) 1190
congenital, traumatic and toxic causes, (129) 162
Coutant's cure for, **303**—P
due to diathetic and constitutional conditions, (128) 162
due to middle ear disease, (127) 162
in children, (68) 477
in children, early home treatment, (35) 943
of Barany type, recovery of hearing after nearly a year of, (142) **707**
otosclerosis cause of, (130) 162
progressive, systemic factors in etiology, (118) 242, (54) 1262
quinin, dose of, followed by total, (80) 1922
salvarsan cause of, *742
DEATH certificates and osteopaths in New York, **1717**
certificates, duration of disease stated on, for classifying causes of death, (21) 1831
rate, lowest, on record, **916**
sudden, (166) **1118**
DECIDUOMA MALIGNUM, (54) **1192**, (80) **1396**
cases at university maternity, (22) **1185**
of retained testis with multiple metastatic growths, (30) 1838
specimen of, still in uterus, (38) 1745
DECOMPRESSION, intracranial tumor after, localization of, (122) 1264
new operation for, (121) **162**
sclera, in intra-ocular tension, (30) 781
DECOMPRESSION, spinal, for meningomyelitis, **1392**—ab
DEFECATION, action of opiates on, mechanism of, (102) 328
DEFECTS, physical, and penal discipline, (132) 699
DEGENERACY: See also Abnormality; Backwardness; Feebleminded; Idiots; Imbeciles
DEGENERATES, pathology and treatment, (30) 2069
De GIAXA'S tuberculin, local action of, (128) 1932
DEJERINE-KLUMPKE, Madame, knighthood in legion of honor conferred on, **608**
DELAWARE medical news, **1967**
state board December report, **312**
DELINQUENT, defective, (4) 1918
sterilization of, (62) 1834
DELIRIUM, abstinence, in chronic alcoholism, (104) 406
drugs causing, diagnosis of, (59) 1982
DELIVERY: See Labor
DELUSIONS, somatic, somatic sources of, (68) 399
DEMENTIA PRAECOX, (70) 241, (94) 1037
Abderhalden's technic of serodiagnosis, (63) **949**, **1727**
ductless glands examined in eight cases of, (31) **861**
law should not allow patient suffering with, to be at large, **920**—ab
serodifferentiation of progressive paralysis and, (135) 560
some suggestions for general practitioner, (80) 1667
symptomatology and prognosis in, essential features of, (68) 863
without delusions or hallucinations, type most frequent outside hospital, (54) **782**
DENGUE, blood-count in, differential, (15) 1033
history, symptomatology and epidemiology, (35) 1325
three-day and seven-day fever, problem of, (16) 1033
DENTAL arches, malformation of, and necessity of orthodontic interference, (109) 161
arches, normal and abnormal, relation to and influence on respiration in children, (39) 696
aspects of rhinology, (16) 1109
surgery, recent work on, (36) 1400
DENTISTRY and optometry, (82) 553
nitrous oxid and oxygen as anesthetic for, (8) 164
DENTISTS and general anesthesia, **532**
French statistics of physicians, pharmacists, midwives and, **917**
organization of, **609**
DENTITION, influence of internal secretions on, (101) 559
DEPRESSOR, visceral, for closing laparotomy wounds, *897
DERMATITIS exfoliativa, progressive degeneration of lenticular nucleus, (105) **794**
formaldehyd producing, *590
pregnancy, serotherapy of, (33) **2069**
repens, infectious eczematoid dermatitis and acrodermatitis perstans, possible interrelationship of, (37) **782**
Roentgen-ray, epithelioma developing at site of, **2025**—ab
Roentgen-ray from standpoint of general practitioner, (94) 1268
DERMATOLOGIST and proprietary remedies, **1243**—P
DERMATOLOGY, elements of, (48) 552
internal secretions in relation to, (1) **1982**
recent advances in, (73) 88, (29) 866
therapeutics in, (53) 1666
DERMATOSES, moist, dry treatment of certain, (69) 160
DERMOIDS of floor of mouth, (96) 1500
at sclerocorneal margin, two cases, (16) 1739
origin of, (99) 328
DESCARTES, skull of, **532**
DES MOINES Specialists Company, **1900**—P
DETROIT Saturday Night in line against fraudulent advertising, **1711**—E
DEVELOPMENT, arrest of, limited to skull and scalp, (62) 1193
of newborn infants, (142) 92
precocious, in boy of six, (15) 401
DEXTROCARDIA, familial, congenital, *1064

DEXTROPHORIA, (141) 243
DEXTROSE, gaseous products of fermentation of, by B. coli, B. typhosus and B. welchii, (72) 161
DIABETES INSIPIDUS and hypophysis, (130) **706**
etiology of, (121) 560
polyuria in, mechanism of, (179) 1753
DIABETES MELLITUS, (74) **792,** (104) 1667
acidosis in, estimation of, (79) 704
acromegaly with, nerve cells in isolated part of nervous portion of hypophysis-tumor in, new formation of, (2) **1663**
and dangerous gluten flours, **909**—E
and diseases of eye, (33) 1838
and ductless glands, (61) 1028
and general asthenia, (36) **2070**
and non-diabetic glycosuria in one person, (58) 1839
and Pavy, **1159**—E
bladder calculus in, (84) **1841**
blood-vessel lesions in, (51) 1985
carbohydrate in, ***1410,** (91) 1672
coma in, (75) **633, 1673**
creatinin and creatin in urines in, estimation of, (73) **1028**
dialysis of urine in (95) 90
diet in, (126) **1750, 1651,** (93) **1929**
dietary, starch days in, (138) 92
diets in, influence of different ones, (52) **867**
disappearance of sugar after removal of tumors in, ***661**
experimental, dependence of disturbances in, on concentration of laving fluid, (70) 1586
foods offered for sale in United States, ***2037**
flours and foods in, **922**—P, **1172**—P
gangrene of lower extremity due to, conservative treatment, ***1126**
glucose in urine in, action of lactic acid bacilli on percentage of, (87) **477**
in acute partial pancreatitis, (47) **1192**
in infants and children, (42) **1326**
individual treatment, (28) 1330
kidney lesions and, (49) **866**
latent, **1554**
malum perforans in, (42) 398
pregnancy in, (69) 319
pregnancy in, treatment, **1913**—ab
prevalence of, in Scandinavian countries, (206) **874**
proctoclysis with sugar solution in, (100) **1841**
sign of intoxication with chlorids, (60) **1402**
sugar in blood in, (93) 1403
theory and treatment, (10) 239
treatment, (6) 1258
treatment, modern, **1364**—E
treatment, progress in last fifty years, (85) **1333**
Wassermann reaction in, and its relation to acidosis, ***1139**
with bladder disease, pneumaturia and apparent subsidence of glycosuria in, (149) 1674
DIABETIC compound, Fulton's, **225**—P, **384**—P
foods, **2052**—E
foods offered for sale in United States, ***2037**
DIAGNOSIS, clinical vs. pathologic, **414**—ab
diagnostic doubts of Dr. Cabot, **145**—C, **386**—C, **464**—C
early, and prompt action in certain conditions, importance of, (80) 697
from infant's cry, (58) 557
indispensable adjuncts in, (8) 1577
liability for negligence in making, **1907**—Ml
of fetus presentation and position, abdominal and vaginal examination in, comparative value of, (87) 629
pitfalls in abdomen surgery, (16) 695
puncture of bone marrow in, value of, (115) 560
pupil reactions in differential, improved technic for estimating, (94) 704
refinements of, possible in general practice, (10)
significant signs in, **1864**
stethoscope in physical, (8) 624
DIAGNOSTICIAN, (69) **863**
DIAGRAM for teaching varieties of regular astigmatism, ***1538**
DIALYSIS technic for serodiagnosis of pregnancy, unreliability of, (111) 1335
DIAPHRAGM and heart neurosis, (88) **634**—ab
eventration, (110) 1501
fascia flap for restoration of, experimental research, (75) 2072
hernia, (146) 330, (5) **624,** (19) **780,** (66) 949, (114) 1749
hernia, congenital, (72) 1986
hernia, probably traumatic, in adult consumptive, (44) 1584
paralysis after anesthesia of brachial plexus, (136) 1197
paralysis, induced, in lung disease, (124) 1405
rupture, subcutaneous, and positive pressure (Meltzer), (83) **783**
DIARRHEA, children, treatment, (101) 161
chronic, as surgical symptom, (66) 241
chronic, diagnosis and treatment, (152) 871
coprologic localization of source of, (53) 867
infants, bottle-fed, (163) 163
infants, feeding problem, (138) 243
infants, summer, (74) 1986
infants, whey in, (117) **1404**
intestine, direct examination of lower, for diagnosis and treatment of, (101) **320**
summer, and summer heat, (10) 1836
summer, from standpoint of clinician, (17) 1919
with vomiting, symptoms from loss of fluids in, (56) 1402
DIASTASE and glycogen of animal tissues, (48) 318
and starch of plant tissues, (49) 318
content of feces with fermentation dyspepsia, (190) 563
DIATHERMIA, influence on temperature, (41) 2070
DIATHESIS, (77) 949, (57) 1746
exudative, eosinophilia with, (97) 250, (102) 1037
exudative, in mucosa of genito-urinary tract, manifestations of, (107) 1195
exudative, skin reactions in, (95) 1195
gouty, menstruation in, (65) 1112
lymphatic, predisposes to stomach ulcer, (87) **1268**
spasmophilic, dyspnea from spasmodic contraction of musculature of bronchi in, (131) **1196**
uric acid, electricity in, (2) 694
DIATUSSIN, **1557**—P
DIAZO Reaction: See Reaction, Diazo
DIET: See also Feeding
DIET and action of drugs, **2048**—E
and exercise in relation to growth, (131) 1328
before and following operations, (88) **1500**
cardiovascular disease, (53) **1497**
chlorid content of blood on different, (80) 1671
cholelithiasis, **1651**
constipation, (47) 1833
constipation, neurasthenia, heart disease, etc., roasted wheat grains in, (129) 1116
convulsions and allied conditions in infants, (1) **1103**
diabetes, **1651,** (126) **1750,** (93) 1929
diabetes, carbohydrate in, (91) 1672
diabetes, influence of different, (52) **867**
diabetes mellitus, starch in, (138) 92
disturbances of upper respiratory tract, errors of, (89) 399
enteritis in infants, (121) 400
eugenics and, **1895**
farinaceous, and auto-intoxication, **1378**—C
hospital, Catholic and Protestant, **1088**
in acute disease, (90) 1494
in gout, **1720**
in infections of infants, (66) **2071**
in nephritis, chronic, treatment, **1732**—ab
individualized, in institutions, **1720**
influence on formation of indol in rabbits, (29) 946
list for use on board ship, (160) 479
non-carbohydrate, and fulguration, effect on transplantable rat sarcoma, **2021**—ab
Prochownick's, in pregnancy, **617, 928**
protein free, in chronic nephritis, favorable influence of periods of, (48) **1833**
regulation at health resorts, (81) **1841**
simplification of some, (105) 629
DIET, special, in hospitals, (100) 1269
tuberculosis, (32) 480
typhoid, (120) 400
typhoid, arguments for and against increased, (46) **1493**
typhoid, full, (72) 319
typhoid, high calory, (53) **1107**
typhoid, low caloric food values in, (106) **1668**
typhoid, low caloric, values in, clinical experiments with, (106) **1667**
typhoid, restricted, (73) 319
vegetable, in infant feeding, (156) 486
vegetarian, physiologic value of, **1087**
DIETETICS and policing of camps, (84) 864
from modern standpoint, (65) 696
institute for, **459**
scientific, (105) 250
simplified for general practitioner, (50) 552
skin diseases and, (96) **1334**
DIETETIST, pediatrician as, (140) 1030
DIGESTION after operations on stomach, (142) **1751**
and absorption in light of serology, (140) 707, (149) 1270
and fever, (55) **1839**
blood-pressure during, (43) **1191**
cecum diseases causing digestive trouble, **1473**
disturbances of, as factor in skin disease, (163) 1502
Einhorn bead test for estimation of, (89) 1494
gastric secretion during, (131) 1844
immunity of intestine from, by alimentary enzymes, **670**—E
ipecac in digestive disturbances in children, **1239,** (67) **1499**
pathogenesis of disturbances, research on, (183) 873
physiology of, **598**—E
protein milk as corrective of disturbances in, **547**—ab, (2) 1324
traced by vital staining, **1721**
treatment of disturbances, (167) 1118
DIGESTIVE TRACT: See Gastro-Intestinal Tract
DIGIPOTEN, what is it? **614**—P
DIGITALIS, (156) 562, (86) 1748
absorption of potent elements from infusions and preparations of, (84) 249
action on different forms of heart disease, (140) 485
bodies, emetic action of, (94) **319, 371**—E, ***499, 924**—C
effect of strychnin and, on man, (40) **1833**
influence on recuperation of heart after muscular exercise, (106) **1930**
preparations, commercial, Austrian investigation of, **143**—P
preparations, erroneous conclusions from recent pharmacologic studies of, (117) 1501
series, glucosids of, tolerance of, factors determining, (54) 1922
use and abuse of, (110) 698
DIGITOL vacules, **442**
DINING-ROOM, healthy employees in kitchen and, **1479**—C
DIONIN in cataract, **69**
DIORADIN again, **1553**
connection of Bernheim and Dieupart with, **608**
in surgical tuberculosis, year's experience of, (7) 699
DIPHTHERIA, antitoxin administration in, (33) **398**
antitoxin, anaphylaxis following injection of, (5) 1031, (63) 1266
antitoxin, immunizing doses of, value of, **147**
antitoxin in, (139) 560, (98) 635, (65) 1266 (123) **1843**
antitoxin in blood of patients with, after serotherapy, (76) 326
antitoxin in epidemic cerebrospinal meningitis, (160) 1675
antitoxin in nervous phenomena of, (111) 705
antitoxin, intravenous dosage of, experimental research on, (102) **1749**
antitoxin, no anaphylaxis to, (112) **1750**
antitoxin refound in serum and proper dosage, (84) 1037
bacilli, cultivation of, improved technic for, (50) 2070
bacilli in secretions of nose and throat in infants with nutritional disturbances, (111) **1269**
bacilli in urine, (77) **327,** (144) **871**
DIPHTHERIA bacilli, staining technic for, (90) 1268
bacilli, tumors due to, (94) 1403
bacteriologic diagnosis, (124) 1843
bacteriologic diagnosis of, technic for, (115) 1196
blood-pressure in, (92) 1037
bread as vehicle for conveying, **380,** (56) 1266
carriers, (5) 1918
carriers, staphylococcus-spray treatment, **1544**—E, ***1876,** (23) **1919**
control of, (55) 1580
convalescents, bouillon culture of staphylococcus pyogenes aureus used in, and bacillus carriers, (58) **782**
diagnosis of, improved technic, (120) 1749
droplet infection in, experiments bearing on, (42) **1921**
ear and nasopharynx, (59) 1580
enteritis due to, (42) 402
epidemic, circumscribed, (24) **625**
epidemics in school-rooms, (96) **634**
epinephrin in tetanus and, (26) **1926**
face paralysis following, recovery under antitoxin, (97) 1195
false membranes of, experimental production of, (23) 1925
heart in, (57) 1580
hemiplegia due to, (16) 1495
hot air for, (48) **701**
larynx, (58) **477,** (9) 1577
larynx stenosis following, treatment, (45) 1833
larynx stenosis originating from continuous intubation with, (176) 1753
lungs, chronic, in woman of 62, (162) 562
necropsy blood findings in, (186) 1758
nose, in public schools, (56) 1580
paralysis due to, (36) 1034
pharynx, atypical, ***1412**
prophylactic inoculation against, free, **761**
prophylaxis, (113) 1115
prophylaxis and early treatment, (114) **870**
pseudomembranes in, spiral wire to remove, (148) **486**
recurring, three attacks in eight months, (163) 1271
respiratory tract, chronic, (39) **1331**
septicemia, (5) 1324
sore throat and, (130) 699
stomach, and diphtherial onychia, (11) **1837**
toxin, formation of immune bodies in human serum by intravenous injection of, (117) 407
toxin, immunizing effect of small doses of, on guinea-pigs, (53) 1187
toxin in blood in, (126) **1932**
toxin reaction, intradermal, (115) 251
vaccination against, **1720,** (58) **1986,** (32) **2069**
vaccination against, v. Behring's, (45) **1839, 1896, 2051**—E
vaccine, bacillus, **1461**
vulva, recurring, (117) 705
wound, and diphtheroid, (79) 1333
DIPILATORIES sold by Cunningham graduates, **1243**—P
DIPLEGIA, cerebrocerebellar, infantile, (1) **2066**
DIPLOBACILLUS infection of eyes, therapeutic action of various dyes in, (105) 1930
DIPLOCOCCI in gasserian ganglion in herpes zoster of brow in senile dement, (161) 1198
DIPLODIA zeae, effect on phosphorus compounds of maize, (74) 1107
DIPLOMAS in Germany, **64**
in psychologic medicine at University of Cambridge, establishment of, **140**
mill, attacks, **760**
mill, Italian Physico-Chemical Academy, **770, 1480**
DIPLOSTREPTOCOCCUS, lymphadenitis, suppurative, acute, abdominal, due to, autopsy, (8) 1738
DISEASES, acute, diet in, (90) 1494
bearing names of saints, (10) 401
common, mistaken for tuberculosis, consideration of, (59) 1326
duration of, stated on death certificate, for classifying causes of death, (21) 1831
influencing growth, (136) 1329
interneuronic synapse in, (7) 1836
laws of physics as they affect vital processes and, (143) 408
monthly incidence of certain, (123) 162

DISEASES, prevention of, vs. cost of living, *1757
safeguarding America against, 759
scope of, (46) 944
seasonal, and seasonal temperatures, (7) 1184
transmission of, limitations of specificity in, 675—E
DISINFECTANTS and disinfection, (27) 1395, (109) 1923
coal-tar, toxicity studies with, (30) 695
phenol coefficient in standardization of, limitations of, (32) 695
standardization of, (48) 398
standardization of, report of Council on, 1316—P
sugar as local, (127) 1116
DISINFECTION: See also Sterilization
DISINFECTION and disinfectants, (27) 1395, (109) 1923
gaseous, of equipment in field, (53) 944
in measles, 930—ab
of rooms, 466
of schoolrooms, 388—C, (45) 782
DISK, pupillary, for correction of spheric aberration, (145) 243
DISPENSARY abuse and its elimination by organization and application of sociologic methods, *738
and day camp in relation to tuberculosis campaign, (81) 1107
clinics, associated, of New York, a social force, (116) 698
free, functions of, (22) 625
tuberculosis, what is it? (47) 1670
work in tuberculosis, results, (23) 317
DISSECTOR, blunt, for submucous septum resections, (134) 243
tonsil, new, (136) 162
DISTEMPER, canine, (46) 627
in horses, bacteriology and vaccine therapy of, (21) 1578
DISTRICT OF COLUMBIA medical news, 1548, 1967
state board January report, 1566
DIURESIS, induced, diagnostic, (97) 90
pituitrin, and vascular conditions, (56) 1922
question of, (116) 705
DIURETICS, indications and mode of administration, (182) 1676
DIURETIN in acute experimental nephritis, therapeutic value of, (6) 1979
DIVERTICULITIS, (9) 940
intestine, (50) 1833
sigmoid, 1101—ab
DIVERTICULUM, Meckel's, (129) 320
Meckel's, and complications, (89) 783
Meckel's, ileus due to, (13) 316
DIVORCE, increased facilities for, 298
tuberculosis, lung, not ground for, 1568—MI
DOG, lung tuberculosis in, experimental, (23) 1578
DOHLE, leukocytic inclusions of, (58) 1188
DOUCHE can and sterilizer, combination, portable, *279
vaginal, abuses of, 1373
DRAFTS, morbidity from, especially in barracks, (37) 1984
DRAINAGE, abdomen under various conditions of inflammation, (2) 555
after surgical procedures, (30) 1492
apparatus, suprapubie, new, *514
ascites into saphenous vein, 1559
ascites through silver tube into subcutaneous tissue, (182) 563
dependent, empyema with special reference to feasibility and importance of, (10) 1025, (15) 1258
effect on health in New Orleans, statistical study, (16) 1837
fecal, instrument for establishing, (15) 317
into cellular tissue without drains, (76) 950
intraocular, clinical and experimental researches on, (32) 1028
muscle, sub-temporal, by silver wire drainage mats in congenital hydrocephalus, (7) 1105
of accessory sinuses in atrophic rhinitis, (100) 1581
tampon, of abdomen, indications for and results, (145) 870
transduodenal, of hepatic duct, (69) 1035
DRAKE-IOWA medical school merger, 619
DREAMS and dreaming, (99) 1189
DRESDEN, university in, 1239
DRESSINGS, nose, use and comparison of, (97) 698
DRINKING-CUP, individual, improvised, 1090—ab
DRINKS, soft, sophistication of, 1308—E
summer, tonic, danger in, 1308—E
DROP dosage, (55) 791
DROPSY, congenital, (68) 326
heart and kidney, medicinal treatment, (124) 1196
DROWNING, resuscitation from, literature on, 390
DRUG action on nervous system, selective, as aid to diagnosis, 1484—ab
addiction, *431
addiction, Lambert treatment for, 309, *1933
delirium caused by, diagnosis, (59) 1982
deterioration, 1810—P
diet and action of, 2048—E
few, needed in treatment of disease, 1388—ab
fluorescent, enhancing action of, by Roentgen rays, (140) 252
foods and, in 1912, 132—E
giving, principles of, (107) 559
in combination, factors which enhance potency of, (92) 406, (103) 1195
journals, attitudes toward patent medicines, 837—E
peripheral action of certain, with special reference to lungs, (65) 1188
standards, uniformity in, and uniform requirements in dispensing, plea for, (60) 241
tariff changes on surgical instruments and, proposed, 1382—ME
therapeutic properties ascribed to ordinary, when put out under fancy name, 1466—E
DRUGGIST Circular and fraudulent advertising, 837
DRUGLESS medication, pills and other drugs versus, (39) 318
DRUNKENNESS: See also Alcoholism; Inebricty
DRUNKENNESS, Wood's cure for, 229
DUCT, arterial patent, (3) 1189
arterial, persistent, its diagnosis by orthodiagraph, (14) 1258
cystic, pain in, sign of typhoid, prognosis, (58) 247
hepatic, transduodenal drainage of, (69) 1035
DUKET tuberculosis cure, 1476—P, 1646—E
tuberculosis cure giving results of some investigations, 1653—P
DUMP, public, and public health, (15) 1492
DUODENAL catheter, findings with, in infants, (95) 1114
DUODENOJEJUNOSTOMY after gastrojejunostomy, Murphy button to effect, (12) 317
DUODENOTOMY for removal of impacted sewing machine needle, (64) 1326
DUODENUM, atresia of, (99) 1334
contents, diagnosis of functional activity of pancreas by ferment analyses of feces and, (9) 1025
gastric juice in cancer and nonmalignant disease of stomach and, (19) 1924
hat-pin in, (31) 1669
injury from contusion, operative treatment, (47) 947
motility, (126) 1264
papilla, systematic dilatation of, and draining common bile-duct into duodenum, (184) 563
roentgenoscopy in diagnosis of disease of, (138) 1750
roentgenoscopy, technic for, (80) 2072
sound, (126) 407
sound in pylorospasm, (115) 636
spastic strictures in stomach and, milk differentiation of, (118) 1336
tube, its value as diagnostic and therapeutic agent, (96) 1667
ulcer, (91) 697, 1374, (118) 1404, (83) 1748
ulcer and cholecystitis, diagnosis, (110) 1189
ulcer, complications, 1573—ab
ulcer, diagnosis, (98) 1108, (60) 1586
ulcer, diagnosis and prognosis, 1573—ab
ulcer, diagnosis by serial radiography, (87) 1667
ulcer, etiology and morbid anatomy, 1573—ab
ulcer, hemorrhage from erosion of gastroduodenal artery by, fatal, 151—ab, (31) 1832
DUODENUM ulcer in infants, (105) 1500
ulcer, non-surgical treatment, 1573—ab
ulcer of stomach and, (150) 1329
ulcer of stomach and, diagnosis and treatment, (68) 1982
ulcer of stomach and, differential diagnosis, (134) 85, (59) 1035
ulcer of stomach and, gastro-enterostomy of, influence on, *881
ulcer of stomach and, in relation to blood-vessel lesions, (1) 1979
ulcer of stomach and, operative procedure (152) 1329
ulcer of stomach and, perforated, (21) 1109, (80) 1494, (129) 1501, (32) 1832
ulcer of stomach and, perforated, omentum cuff for, (103) 1403
ulcer of stomach and, perforated, treatment, (65) 1402
ulcer of stomach and, scarlet red in, 1915—ab
ulcer of stomach and, secondary nature of, (151) 561
ulcer, perforated, (58) 87, (7) 164, (121) 1264, (79) 1494, (42) 1265
ulcer, roentgenography of, 1374
ulcer, surgical treatment, 1574—ab
DURA MATER, defects in skull and, to cover, (132) 637
hemorrhage from various sinuses of, musele flap to arrest, (109) 1842
DUST, mercury refound in air and, of rooms where mercury is handled, (167) 1198
prevention of palliatives, (112) 1923
tuberculosis bacilli in, determination of, (74) 1267
DWARF, achondroplastic, cesarean section in, (9) 694
family of, from defective development of cartilage, (58) 1193
from disturbances of nutrition and from failure of growth instinct, 1362—E
growth from bone and muscle dystrophy, (74) 867
metabolism, (52) 318
DWARFISM, mitral, (9) 1836
DYES, synthetic, cancer in genitourinary tract of workers in, (65) 632
therapeutic action of various, in diplobacillus infection of eyes, (105) 1930
DYNAMITE-CAP injuries to eyes, (142) 478
DYSENTERY, amebas, free-living and parasitic in relation to, 1824—ab
amebic, and tests for determining occult blood in feces, results, (91) 399
amebic, chronic, treatment, (50) 1497
amebic, emetin in, *664, (61) 1111, 1896, (40) 1984
amebic, ipecacuanha and emetin for, (14) 164
amebic, subcutaneous injections of emetin hydrochlorid, *1216
bacillary, in infants, 1389—ab
bacillus of, laboratory notes on, (29) 552, (101) 1397
cases in state institutions, treatment, *9
due to infection with entamoeba histolytica, treatment, *38
flagellate, in children, (2) 864
DYSMENORRHEA, (42) 1741
constitutional, therapeutic-differential diagnosis, (23) 1027
metranoikter for sterility and, (57) 1982
nature and treatment, (92) 1929
organotherapy in, (78) 950
relieved by nose treatment, 1736—ab
DYSPEPSIA, appendix in, (21) 551
chronic, when is operative treatment indicated in? *714, (63) 1834
diagnosis, (48) 1580
fermentation, diastase content of feces with, (190) 563
gastric, true and false, (34) 631
gastro-intestinal, (110) 1667
intestinal, acute, pancreatic ferments in infants in, (5) 1103
intestinal, in children, (26) 1033
ovarian, (37) 1838
painful, biologic interpretation and surgical aspects in, (39) 552
DYSPHAGIA from disease of larynx, relief of, (141) 486
tropical, (148) 1406
DYSPITUITARISM, (30) 556
DYSPNEA from spasmodic contraction of musculature of bronchi in spasmophilic diathesis, (131) 1196, (120) 1931
DYSTOCIA, contraction ring as cause of, (22) 1109, (12) 1744
from excessively large infants, induction of premature delivery, (66) 1112
in relation to modern education, 616
DYSTROPHIA, bone and muscle, dwarf growth from, (74) 867
epithelialis corneas, (74) 1396
muscular, progressive, and syphilis, (46) 1982
of hair and nails, three cases in a family, *27


## DEATHS


Abdelal, Alfred G., 536
Abernathy, Lawrence Y., 1315
Abney, George Warren, 536
Adams, George Smith, 1011
Addy, Henry G., 1315
Aldrich, Albert Clinton, 535
Aldrich, Ezra Barnes, 461
Alexander, Clara Jane, 1315
Alexander, Robert C., 386
Allbee, Elmore S., 1722
Allen, John Henry, 1808
Allen, Richard Cox, 461
Alsman, Stonewall J., 765
Ambler, John Edgar, 847
Ames, Robert Parker Mars, 535
Amis, James M., 921
Anderson, Peter, 1238
Anger, Theophile, 1805
Angle, Saul Brock, 847
Archey, Leona M., 224
Ardiel, Lancelot M., 1091
Ardis, Isaac, 1376
Armstrong, Joseph Walter, 1012
Arndt, Hugo R., 301
Arter, Francis G., 386
Ashbrook, Bryan B., 1376
Ashton, W. W., 765
Atkins, Price W., 921
Austin, Charles Rollin, 536
Aveline, Francis Xavier, 1091
Bacon, Edward Sawyer, 1315
Bagwell, Alfred A., 1315
Bailey, Edward Paul, 223
Bailey, Gerard, 65
Bailey, Leonard, 1556
Bailey, Orla Stair, 302
Baird, James Samuel Tazewell, 1562
Baker, Hugh, 1973
Baker, Samuel B., 1898
Baldwin, Jared Grover, 1315
Baldwin, Thomas Clinton, 302
Ballard, Henry Francis, 612
Balliet, Louis B., 536
Banker, Ernest Ensign, 681
Barck, Gustav W., 1242
Barclay, James, 920
Barkley, Charles M., 847
Barlott, Israel C., 1808
Barnes, Algernon S., 1171
Barnes, Benjamin Franklin, 1898
Barnes, Thomas H., 2059
Barr, Benjamin H., 1652
Barry, John A., 680
Barry, Joseph D., 224
Barton, Edith, 847
Bassell, William Benedict, 461
Bayley, Norman Brigham, 847
Beach, Edward C., 2059
Beach, Eliza J., 65
Beard, William Foree, 302
Beattie, Jeremiah, 1652
Bee, Isiah, 302
Beede, Joshua William, 1376
Beemer, Louis T., 302
Belknap, Edward B., 1723
Belknap, Milton Colt, 1898
Bell, Alexander Taylor, 921
Bell, Robert Eddy, 301
Bell, Samuel, 1315
Bell, Samuel M., 461
Bell, Simeon Bishop, 385
Bellamy, Archibald Waite, 1012
Bennett, Charles E., 1171
Bennett, Hannah Russell, 536
Bennett, Harry Raymond, 1171
Bergen, Evert James, 302
Bergengren, Frederick Wilhelm Alexis, 1012
Bert, Eddy, 1556
Bevier, Archibald McNeil, 847
Bidic, George, 915
Bigelow, Delno Merton, 847
Bigelow, Jane Elizabeth, 1171
Biggers, C. W., 461
Billings, John Shaw, 846
Binz, 459
Birch, Thomas Gulick, 612
Bixby, Ernest P., 1723
Bjelland, Adolph O., 680
Bjorkman, John Per Gustaf, 1723
Black, William T., 536
Blair, James Edward, 1011
Blair, James S., 1242
Blalock, Nelson Gales, 1011
Blanchard, Harold B., 847

Bliss, Arthur Ames, 1556
Bolton, William Stroud, 2059
Boncbrake, Andrew S., 1475
Bonner, Thomas T., 1723
Booker, William P., 1315
Booth, James Fleet, 536
Borland, Peter, 921
Born, Charles, 1315
Bosley, James, 223
Bothfield, James Francis, 385
Bourland, Addison McArthur, 1475
Bowdish, Russell Clark, 847
Bowles, Edward Perry, 386
Boyd, Robert Dempsey, 302
Boyd, William H., 1898
Bradley, E. W., 847
Bradley, J. D., 1652
Bradner, William Batchelor, 302
Brady, John J., 1171
Brady, Sobieski H., 1011
Braman, Francis Nelson, 461
Brayton, Charles Erskine, 224
Brayton, William R., 1242
Brenner, Christopher, 1012
Brinley, Putnam, 1652
Bristow, Algernon Thomas, 1090
Brockway, Charles T., 536
Bronson, Miles Hall, 1091
Brooks, Edward Fletcher, 1898
Brower, Charles S., 765
Brower, Alfred James, 765
Brown, Benjamin Franklin, 1723
Brown, Elmer Ellsworth, 1898
Brown, Eugene Elam, 536
Brown, George A., 681
Brown, Henry William, 846
Brown, Hiram D., 921
Brown, Justus Morris, 1091
Brown, Mary E. Metcalf, 224
Brown, William D., 612
Brown, William Herschel, 536
Bucke, Edward Pardee, 1091
Bundy, Azro Delos, 846
Bunn, Albert C., 142
Bunsen, Charles P., 1808
Burgen, Samuel Newton, 612
Burke, Jesse D., 1171
Burlington, John A., 302
Bussman, Paul Frank, 143
Butler, Edward Everett, 1012
Byers, Leonard S., 1476
Cahill, George Stephen, 765
Cain, Joseph V. M., 1475
Calder, John G., 847
Callan, William James, 765
Calleja y Sanchez, Julian, 1152
Cameron, James Strong, 1171
Campbell, Daniel L., 847
Campbell, Lorne, 1242
Campbell, Robert, 1475
Campbell, Robert Hamilton, 1091
Campbell, William H., 681
Cann, William Richard, 1091
Capron, Arthur S., 1476
Cardona, U., 219
Cahart, Edward William, 1723
Carlton, Snider M., 1315
Carney, James Lester, 1808
Carolan, Eugene Joseph, 1011
Carpenter, Andrew Jackson, 2059
Carpenter, William Bazaliel, 612
Carpenter, William Riegel, 224
Carrington, George William, 681
Carson, George Thomas, 1475
Carson, John Wesley, 302
Carson, William Cowan, 1722
Carson, Willis Wallace, 302
Carswell, Thomas Janes, 846
Carter, John A., 1012
Carter, Marion D., 1315
Carter, Robert Lindsey, 1376
Cary, Ezra H., 1808
Casey, Edward Lawrence, 302
Catching, W. Wilroy, 1898
Chamberlin, Frank Warren, 1171
Charles Frank, 1808
Chase, John Winslow, 461
Chavasse, Thomas Frederick, 915
Cheeseman, Byron Clifford, 1315
Cheesman, John Passmore, 2060
Checver, Benjamin, 680
Cherry, Frederick T. D., 1974
Chitwood, John Eberle, 680
Claiborne, Ruffin Cole, 1556
Clanton, William, 536
Clark, Coleman Nathaniel, 612
Clark, George Albert, 1091
Clark, Lorenzo D., 143
Clark, William Green, 612
Clarke, Mortimer Hall, 386
Clear, John, 1091
Clemens, James Edwin, 921
Cliffe, Daniel B., 535
Clifford, Ben Kissinger, 224
Clift, Frederic, 1091
Cloud, Abel S., 1652
Cobb, Joseph Warren, 1723
Coggin, David, 1652
Cohan, Francis Henry, 1012
Coleman, Daniel S., 765
Coley, Henry Clay, 1898
Collier, Albert V. D., 765
Collins, Albert Lawrence, 1091
Collins, John F., 1315
Collyer, Juriah Fuller, 224
Conaway, James Anderson, 1171
Connelly, Henry M., 1475
Conner, John C., 765
Conrad, John Adam, 1723
Cook, William Valentine, 1012
Cooper, William E., 1898
Corey, George Washington, 1315
Cornish, Mary Bridges Beattie, 1556
Cornwall, Emma J., 1898
Cornell, William R. S., 765
Corson, Francis F., 611
Coveny, Joseph T., 681
Covert, John W., 1723
Cox, Charles Bascom Wyckliffe, 1171
Cox, James Daniel, 920
Craig, John Jay, 1242
Cramer, Roland, 1974
Crane, Frederick Asa, 1974
Crawford, Cyrus David, 1652
Crawford, Henry Maclean, 1898
Creel, Milton Pinckney, 223
Cribbins, Frederick A., 1376
Criswell, Melville Hutchinson, 765
Cross, Hugh, 847
Cross, John T., 536
Crothers, Lewis Haines, 302
Crozier, James, 847
Crumpton, Hezekiah John, 1315
Culbertson, Scott, 920
Cummings, Charles Edwin, 536
Currie, Joseph J., 1376
Cutler, James Tucker, 1171
Curtin, Roland Gideon, 920
Dal, John W., 612
Daniel, Charles C., 224
Daniel, Thomas Jefferson, 2059
Darnell, Robert D., 921
Darner, Frederick William, 1376
Daugherty, Charles A., 1309, 1376
Davis, Charles Henry, 224
Davis, George W., 765
Davis, Joseph, 1315
Davis, Luther M., 1974
Davison, Rachael J., 65
Dawson, Rankine, 1808
Dearborn, Reuben Fletcher, 461
Decker, William Francis, 612
Delaterga, Joseph Manuel, 1723
Delgado, Jose Manuel, 1170
Denbo, William R., 1898
Derr, Hamilton Kemp, 681
De Trana, Joseph M., 681
Dew, Rush H., 921
Diekinson, Charles, 1652
Dickson, Herbert Edward Balmain, 1723
Dierking, Albert W., 385
Diers, Harry Frederick, 1315
Dietrich, Adolph H., 142
Dillon, John E., 1808
Dimler, Edward, 224
Dolph, Benjamin Van Etten, 1171
Donaldson, George Harper, 536
Donnelly, Peter, 223
Doolittle, Egbert D., 1315
Dorset, Joseph Warren, 1898
Dorsey, William A., 143
Dougan, William T., 1012
Douglass, Isaac W., 681
Downs, Edward L., 2060
Doyle, Thomas H., 846
Drake, Nelson Asath, 301
Drennen, Charles, 2059
Droge, John Herman, 1011
Drossner, Morris, 1898
Dryden, John L., 224
Dubois, John Coert, 1556
Duffell, Charles L., 224
Duffin, Alfred Baynard, 915
Duffy, James F., 681
Duhring, Louis Adolphus, 1555
Duncan, Augustus Meek, 1091
Dunlap, Charles O'Neil, 680
Dunn, Jesse T., 846
Dupee, Stradford Straus, 1171
Durham, Ulysses S., 1091
Duvall, John F., 765
Eastman, Robert Watts, 1652
Eastwood, William O., 1808
Eaton, Jesse A., 2060
Edwards, Eliphalet G., 1314
Edwards, John, 1242
Edwards, Pembroke S., 1556
Edwards, Robert Spearman, 1556
Egan, James A., 1090
Egan, James J., 65
Eggert, Frederick Charles H., 846
Eichelberger, James W., 846
Ellaby, Ernest M., 1973
Emerson, John Haven, 1652
Emery, Horace J., 536
Emory, Grenville A., 65
Engle, Walker Dannals, 536
Engleman, David, 1723
Epper, Peter, 302
Epstein, Ephraim M., 535
Etherington-Smith, R. B., 1472
Evans, Albert Job, 921
Evans, George W., 921
Evans, Roscoe, 2059
Faber, Carl, 1652
Faget, Charles A. A., 1012
Falls, Perry Wright, 847
Farleigh, Thomas John, 536
Farrell, George Louis, 224
Faucett, John Thomas, 847
Fauver, Edward E., 1315
Fede, F., 915
Fell, Alexander Gray, 1652
Fenn, Curtis T., 765
Fenwick, Joseph Benson, 1475
Ferrell, Henry Eugene, 142
Ferry, Herbert Work, 765
Fetherlof, Isaac Allen, 846
Fink, Austin Taylor, 1974
Finley, David N., 921
Finney, J. M., 2059
Fischer, George, 847
Flanagan, John T., 536
Fletcher, Arthur Stanton, 612
Flynn, James F., 1091
Follweiler, Robert D. E., 536
Folsom, Edwin, 1171
Forehheimer, Frederick, 1807
Ford, Royston, 224
Ford, Wilburn Walter, 224
Fordyce, Garrard, 1476
Foster, Emery Wendell, 1722
Foust, Isaac Henry, 536
Fox, Charles James, 1376
Foy, Michael Henry, 920
France, John Mill, 143
Francis, John Richard, 1898
Francis, Richard Pearce, 1171
Frank, Philip, 1237
Frank, Prof. Rudolph, 918
Frazier, James C., 681
Freeman, Holman M., 681
French, James Clement, 1170
Frentel, August John, 1898
Fry, Daniel Lafayette, 1091
Fulton, Israel W., 765
Furr, Leonard C., 2059
Gabbert, William A., 765
Gahm, Jacob T., 461
Galabin, Alfred Lewis, 1311
Gallagher, Patriek J., 1898
Gano, Richard M., 1170
Ganster, William Foster, 681
Gareeau, Edgar, 1556
Gard, Brookfield, 681
Geddings, Henry Downes, 611
Gemmell, Sampson, 1472
Gentle, Doke, 302
Gibbons, Horace Joseph, 224
Gibson, James, 302
Gibson, Robert Christy, 765
Gilday, Walter C., 1973
Gildea, Patrick Frederiek, 920
Giles, Alfred Baker, 143
Gilkerson, Milo J., 2060
Gillette, Myra Amanda, 1091
Gladden, Rogers Burns, 921
Glover, Allen Henry, 1012
Goddard, Clarence Brock, 1171
Goldmann, Simon, 302
Good, Jonas J., 1974
Goodfellow, Abram, 301
Goodman, Alexander Mansfield, 847
Goodriek, George Munsell, 1652
Goodspeed, Helen Amanda, 612
Gordon, Edwin R., 143
Gordon, James, 224
Gordon, Thomas G., 1808
Gosewiseh, Walter R., 2060
Goss, John H., 1315
Gosweiler, Augustus Van Hoff, 846
Gottsehalk, Franklin Benjamin, 1723
Grady John H., 1556
Graham, Benjamin Forbes, 611
Graham, Charles Gertrude, 143
Graham, Frank, 1376
Graham, Hamilton, 921
Gray, James M., 386
Green, George DeWitt, 2060
Green, John Alexander, 143
Green, William Elza, 302
Greenshields, William, 1170
Gregg, Sparrow T., 536
Grier, Clarence Russell, 1012
Grimes, James M., 1898
Gross, William M., 143
Grossman, Frederiek Andrew, 2059
Grove, William A., 302
Gue, Arthur E., 1012
Guerin, John, 142
Guerin, Lovett Taft, 2059
Guill, John L., 1091
Gumm, Jay, 461
Gunby, Hiram H., 1315
Guth, Edward Francis, 1315
Haag, H., 219
Haile, George W., 1723
Hale, Colwell D., 536
Hall, Francis Jenks, 2059
Hall, George Benjamin, 1242
Hall, J. A., 1315
Hall, William Irby, 1723
Hallock, Harry M., 1808
Hamilton, Royal Gray, 921
Hamilton, William C., 1723
Hanks, James, 65
Hanson, George Franklin, 385
Harbour, George L., 1898
Harding, David E., 1242
Hardman, Samuel M., 2060
Harmon, Horaec Edwin, 681
Harrah, John M., 1315
Harris, James Edwin, 1314
Harrison, John Tyler, 1898
Hart, Edgerton Haskell, 1723
Hartt, Samuel Whitfield, 680
Hasbrouck, Josiah, 1171
Hasemeier, Jacob A., 65
Haskin, Charles H., 2059
Hateh, Theodore Lincoln, 1091
Hausneek, Frank A., 612
Hayes, Daniel William, 536
Hayes, John Alfred, 1091
Hayes, John D., 1012
Hazeltine, Charles S., 142
Hazeltine, Lewis Hayward, 1171
Head, Gustavus Philemon, 1973
Headland John, 765
Heffernan, Thomas Henry, 1723
Heller, Arnold, 761
Hendershott, Willie Waldo, 1893
Hendricks, James L., 1091
Henry, Jesse Williams, 1723
Hensley, James T., 1376
Henton, Alvin T., 302
Hervieux, Benjamin, 385
Hesse, Amalia, 847
Heywood, George, 579
Hickman, George W. V., 847
Hiett, Francis M., 1475
Hildebrandt, Ernst, 1091
Hildebrandt, Owen F., 921
Hill, Harvey Daniel, 765
Hillweg, Charles A., 536
Hiss, Philip Hanson, Jr., 846
Hobson, John Anthony, 846
Hoeh, William R., 681
Hoffman, Mathias A. T., 1723
Holland, Park, 1011
Holman, George Payne, 1898
Holmes, Charles B., 847
Holmes, William W., 765
Holt, Charles H., 1974
Holton, Joseph Alexander, 1011
Hoover, William C., 1476
Hoppin, William Warner, 301
Horn, Royal D., 1012
Horwitz, Orville, 385
Hongen, Ole T., 1808
Howard, Stephen, 921
Howard, William R., 224
Howe, Harman George, 1973
Hoyt, Eugene Frederick, 1898
Hubler, Simon, 1475
Huddleston, Reuben Harrison, 1808
Hughes, John Owens, 535
Hull, James Richard, 1475
Humiston, Franklin G., 224
Hunt, Robert Stephens, 1723
Hunter, Duke Williamson, 1722
Hunter, Newton P., 461
Hurt, Peyton L., 847
Ilstrup, Francis O., 1376
Ingalls, George Hancock, 1652
Ingersoll, Mary A., 1242
Inghram, William Ray, 1652
Irwin, William Silliman, 1556
Isaaes, Archibald Ezekiel, 1011
Jaccoud, Sigismond, 1650
Jackson, Ames Messer, 536
Jackson, Thomas M., 1315
Jaeques, Hartley Spinney, 302
James, John Theron, 1652
Jameson, William Kirk, 1652
Jarboe, Joseph T., 765
Jarvis, Winfield S., 1898
Jefferis, Thomas Norvell, 2059
Jeffrey, George Clinton 681
Jenckes, George Washington, 536
Jenkins, Elias McKay, 1091
Jenkins, Thomas, 302
Jenks, Frank H., 142
Jensen, Walter August, 2059
Jerrolds, M. F., 302
Jewett, Walter Kendall, 921
Johnson, Frederick Charles, 1475
Johnson, George W., 1242
Johnson, George William, 765
Johnson, Parley H., 1376
Johnson, Richard G., 461
Johnson, Richard Love, 1171
Johnson, William Elting, 142
Jones, Charles M., 1377
Jones, Frank Adelbert, 1011
Jones, Frank Seba, 224
Jones, Henry Woodward, 386
Jones, Thomas Spee, 224
Jones, William D., 1012
Jones, William H., 386
Judson, James H., 1556
Judy, May McClaren, 386
Juler, Henry Cundell, 1242
Jump, David William, 612
Kadison, Albert P., 705
Kahn, Herman, 1556
Kane, John M., 1808

Kantrovitz, Adolph, 765
Karn, Jacob, 1012
Karoly, Frank, 1808
Kecner, Henry N., 1722
Keiser, Max, 65
Keller, George M., 224
Kemp, Simon Alexander, 1723
Kendall, William Samuel, 1376
Kennedy, Charles L., 223
Kent, James Marshall, 921
Kepler, Thomas S., 224
Kern, Henry William, 1242
Kierulff, Benjamin Franklin, 301
Kimball, Margaret Violet Covey Doane, 1974
Kimberley, Augustus Greene, 1012
Kimberlin, Jacob Elmer, 461
King, Albert Hazlett, 224
King, Benjamin D., 1011
King, Charles A., 1242
King, Frank James, 1556
King, Warren R., 1242
Kingsley, Virgil Corydon Taylor, 302
Kinnicutt, Francis Parker, 1555
Kissel, Jacob, 1475
Kitchen, Edward Elward, 1091
Kitchen, Joseph L., 1171
Kleven, Chester E., 1171
Kline, Charles Flint, 223
Knight, Charles Huntoon, 1556
Knight, Charles Milo, 1012
Kochenderfer, John H., 765
Koeller, Ferdinand, 847
Koons, Oliver H., 1475
Kopp, Prof., 2324
Koranyki, Frederic, 1972
Kuhn, Frederick William, 386
Kyger, John William, 1722
Labry, Paul Octave, 224
Lacy, John McClellan, 681
Laflin, Harvey B., 143
Lake, Daniel E., 1315
Lamb, Elmer E., 385
Lane, Charles James, 385
LaPointe, Jovite A., 1171
Latimer, Nannie May, 1171
Laub, Solomon Wexler, 2060
Lauder, Robert, 1973
Lawrence, Robert, 1808
Lawson, Wesley, 224
Leatherbury, Edward R., 1012
LeBeuf, Louis George, 1652
Lehman, John Lee, 847
Leith, Samuel S., 386
Leland, Matthew John, 1898
Lemen, Josephus Robert, 680
Leonard, John Wesley, 846
Leubbers, Alfred, 536
Lewellen, James, 302
Lewin, Berthold L., 536
Lewis, Granville R., 1242
Lewis, John V., 461
Lewis, Wade Allison, 535
L'Hommedieu, John Berry, 764
Liebig, Rosa Kleine Martin Upson, 1475
Liggett, George Samuel, 386
Lindsey, Rezin W., 1011
List, Joshua M., 1476
Litch, Wilbur Fisk, 536
Little, Eugenia Gordon, 1012
Little, Frank, 1242
Little, William Arthur, 846
Livingston, Henry F., 846
Lloyd, Jordan, 1471
Lloyd, Thomas S., 681
Locher, Henry Ellsworth, 680
Loing, Erasmus Darwin, 1475
Long, Merritt Allen, 921
Longan, Herbert Augustine, 143
Loper, Francis Marion, 1012
Loree, James Findlay, Jr., 536
Lott, James Howard, 2060
Love, Reuben D., 1091
Loving, Arthur Bascom, 681
Lowery, Elisha M., 143
Lundy, John Edgar, 1808
Lung, John A., 2060
Macaulay, George, 1475
MacDonald, John Mahon, 1652
Mackay, Adam, 681
MacKaye, Henry Goodwin, 612
MacLeod, Norman Keachie, 1242
Macrum, Robert Shuter, 920
Magee, Franklin J., 536
Magee, John Augustus, 1808
Magoris, Anthony Eugene, 1012
Manown, James Harvey, 1722
Maple, A. L., 302
Marcy, Thomas Knowlton, 1091
Marine, John W., 143
Marsden, Walter La Forrest, 1012
Marsh, Guy Carlos, 224
Martin, George, 1315
Martin, Richard E., 1171
Marvin, Matthew, 301
Massenburg, Richard Channing, 223
Massey, James Everard, 846
Masson, Joseph L. G., 1476
Maxey, William Cannon, 223
May, Edward Maurice, 302
May, Robert J., 921
McBride, Joseph Wesley, 1171
McCarthy, Thomas Henry, 1171
McCartney, Mary Elizabeth Edsall, 1577
McClellan, George, 1170
McCloud, William H. H., 2059
McClure, George White, 765
McClure, James, 1012
McCready, Samuel Ross, 1722
McCurdy, William C., 765
McDivitt, William E., 1723
McDonald, J. D. A., 2059
McDonald, John W., 921
McElroy, John J., 461
McElveen, George W., 1652
McElwee, Francis M., 847
McFarland, Joseph, 385
McGann, Michael Edward, 1652
McGrew, William Edgar, 461
McIntosh, James S., 2060
McIntyre, Charles W., 1652
McKee, Frank Lorenzo, 385
McKelvey, Alexander, 921
McKenna, James Charles, 302
McKinley, Lucien W., 1091
McKinnie, Ebenezer L., 681
McLaughlin, James H., 1808
McLaughlin, John T., 1012
McLean, Solomon C., 1808
McMahon, Frank Abraham, 1091
McMillan, Daniel I., 921
McMillen, W. W. P., 461
McMullen, J. W., 1723
McNally, Thomas Henry, 847
Mead, Francis W., 385
Mead, Julian Augustus, 1242
Meador, J. F., 461
Megrath, William Augustus, 847
Meredith, Thomas Overton, 612
Meredith, William Henry, 1652
Metzler, Samuel N., 536
Meyer, William, 765
Mickel, Frederic A., 1171
Mignault, Roch Samuel Moise 1808
Miles, Franklin P., 1808
Miller, Albert Eben, 1722
Miller, Amos B., 2060
Miller, Christopher C., 143
Miller, Eli Peck, 65
Miller, Henry Luther, 1723
Miller, Robert Hamilton, 847
Miller, Rogers Wright, 847
Millikin, James H., 921
Millspaugh, Theodore, 302
Mitchell, James Reid, Jr., 1556
Molkup, Frank C., 847
Molony, John H., 461
Monroe, Christopher M., 1376
Monroe, George W., 224
Monroe, S. Jean Stevenson, 1315
Monteiro, Manuel Garcia, 681
Moody, Milus L., 1476
Moody, Thomas, 920
Moore, Elmer Ellsworth, 681
Moore, Lee Roy, 1556
Moore, Mark W., 2059
Moore, Robert Alfred, 1012
Moore, Shelly C., 1898
Morehouse, Herbert Walter, 64
Morford, D. Durant, 1652
Morris, David G., 302
Morris, Thomas Nelson Watson, 1652
Morrison, John, 461
Morrow, Prince Albert, 1011
Morse, Alfred Irving, 536
Morse, Carl Goff, 1898
Moss, Robert Hugh, 65
Mothershead, Nathan G., 224
Mudd, James R., 385
Mueller, John Alexius Joseph 847
Muir, H. Skey, 1238
Mulhern, Thomas W., 1376
Murdock, Thomas Samuel, 386
Murphy, Richard Francis, 1723
Murray, Angus John, 1808
Murray, Robert, 223
Musgrave, Robert W., 847
Myers, Evans M., 1652
Neel, James D., 1091
Neff, John, 1974
Nelson, Hiram G., 681
Nelson, John DeWitt, 1898
Nelson, William S., 2060
Nelson, Wolfred, 385
Nesbitt, William Beattie, 612
Neville, James Alan, 681
Nichols, Charles F., 1315
Noble, Jacob L., 1556
Norris, James W., 1171
Norris, Louis E., 921
Oates, Wyatt Stephen, 1723
Oatman, Edward LeRoy, 143
O'Brien, Denis Aloysius, 1376
O'Brien, Keran, 302
O'Donnell, Edward Pius, 612
Ogden, Edward Russell, 1652
Olmstad, Jens, 1974
Oliver, James Peter, 302
Olmsted, James B., 1722
O'Neal, John W. C., 1556
Orme, Francis Hodgson, 536
Osborn, Frank Pitman, 1091
Osgood, George Cowles, 765
Osgood, Howard G., 1011
Owsley, James H., 224
Pace, Jesse Mercer, 536
Pace, Williamson C., 1171
Page, Kingman B., 765
Pahl, Henry F., 224
Paine, Ernest Maynard, 915
Palmer, Ernest, 461
Parker, Edward H., 612
Parker, John Clement, 1808
Paschal, William Cosby, 302
Patch, William, 302
Patten, J. F. J., 386
Patterson, R. W., 1898
Patterson, William A., 461
Patton, William M., 224
Patton, William Rush, 1973
Patty, William, 536
Payne, Alrick T., 1723
Payne, James E., 1898
Paynter, Charles M., 1242
Pease, John Willett, 681
Peddy, George Washington, 1652
Peers, Theodore Wing, 1723
Peltier, Frank Hamilton, 1171
Pendleton, Lewis Smith, 1242
Penning, Oliver Parker, 224
Perkins, Ianthus Clyde, 301
Peterson, Charles Allen, 612
Peterson, Kate B., 612
Petrie, James Alexander, 461
Petterson, O. V., 219
Pettigrew, George Alexander, 2060
Pettit, Henry McEwen, 1808
Pfandhoefer, Louis, 536
Phillips, Abel P., 1242
Pickett, Albert G., 1652
Pierce, R. C., 1242
Pierce, Willard Ide, 301
Pillow, Raymond H., 301
Pitman, John, 1898
Pitman, William J., 142
Pocock, James M., 1556
Podvyssotzky, Prof. A., 915, 917
Pontius, Maria S. Gilmore, 681
Porter, Horace P., 143
Post, James Alexis, 1898
Potter, James H. L., 1012
Potter, Ziba Hazard, 1242
Potts, Franklin, 302
Potts, John S., 680
Powell, James N., 921
Power, Samuel John, 1171
Powers, George Herman, 1651
Pratt, Benjamin W., 1556
Preston, Frederick L., 1476
Price, Charles Wallace, 1556
Price, Robert John, 385
Prichard, Charles C., 1723
Priestman, John, 224
Proctor, Helen Paschall, 535
Proudfoot, Alexander, 385
Putnam, Joseph H., 1808
Quinby, Edgar C., 536
Quinn, James L., 386
Rabe, William Louis, 301
Raines, Robert Franklin, 1722
Ramsey, Walter Hardy, 921
Rannells, Jacob Newton, 1012
Ranney, Eugene Oliver, 1012
Rauch, Kimmel, 681
Reagles, James, 680
Reber, Mayberry S., 1171
Reddish, John, 461
Reed, Warren F., 1171
Reilly, Edmund A., 1651
Reece, William Isaac, 1012
Reese, William I., 1091
Reifel, John W., 1091
Relihan, Harry James, 1898
Reoch, William Stewart, 143
Reppert, Lyell, 1974
Rether, Clarence Smith, 1242
Reynolds, George Edmund, 461
Rice, Eben Riley, 921
Rice, Howard C., 1315
Richards, Daniel, 1898
Richards, John Baxter, 847
Richardson, Samuel M., 1556
Richmond, Samuel, 1171
Riggs, Leroy S., 461
Riggs, Turner S., 1012
Ring, Allen Mott, 1974
Risk, J. Boyd, 1898
Ritchie, Parks, 461
Ritter, Henry O., 765
Roberts, Warren Franklin, 921
Robertson, James F., 921
Robertson, James W., 385
Robinson, Ezra A., 765
Robinson, Robert D., 1315
Robinson, Robert Preston, 1091
Rose, Preston Benjamin, 224
Rosenberger, Abraham S., 1315
Ross, Daniel Curley, 681
Rouse, Morris D., 1315
Ruble, Hiram Hunter, 1808
Rudicil, Robert Young, 224
Rugh, Wilson John, 1723
Runnion, Emma Ardelia Buck, 1377
Rust, David R., 1242
Ryan, Almon James, 1723
Ryker, Charles, 536
Saeger, Luther Jacob, 1171
Sager, Charles F., 302
Saloman, Richard Sigmonde Hau, 302
Sampson, William H., 1315
Sanborn, George R., 1652
Sandel, William, 612
Sanderson, George Hembree, 535
Sanford, Edward, 1012
Sappington, James Lovick, 1691
Saunders, G., 1311
Savard, Alfred Henry, 921
Sayler, Winfield Scott, 1475
Schmall, Octavius B., 1556
Schutt, Lewis C., 1808
Scofield, A. J., 921
Scott, Isaac W., 1376
Sellards, Archibald Borden, 1974
Sellew, Frederic Smith, 224
Sensenig Issac B., 612
Sewell, Silas George, 142
Seymour, Mason S., 681
Shaffer, Joshua Monroe, 1171
Shank, William Henry, 302
Shartle, John, 1012
Shastid, Thomas Wesley, 142
Shaw, Albert Clarence, 386
Shaw, N. Graham, 1091
Shaw, William H., 765
Shawgo, J. B., 764
Sheley Peter A., 1723
Shepard, Ernest Newton, 1723
Shepard, Lewis, 1898
Sheppard, Rodney Y., 681
Sherwin, Orlando Wood, 1476
Shibley, John Samuel, 1170
Shimer, William Henry, 1242
Shirley, Edward K., 301
Shockey, John W., 1898
Shollenbarger, William Luther, 1652
Short, John Latimer, 1723
Shortlidge, Evan G., 846
Shuey, William Andrew, 1898
Shupe, Marcellus B., 1170
Shurly, Ernest L., 1651
Shurtleff, Frank Atwood, 1377
Silberstein, Julius, 681
Silverberg, George Mark, 847
Sime, Malcolm Toland, 1091
Simmons, A. S., 681
Simon, Henry R., 1012
Sims, Jasper Newton, 386
Sims, Waine, 302
Six, Arthur G., 921
Skeel, Samuel C., 1091
Skidmore, Joseph R., 142
Sloane, Harry Francis, 1012
Slocum, Charles W., 1652
Small, Edward Hanna, 612
Small, Edward M., 1808
Smallwood, Edgar W., 681
Smith, Augustus S., 1974
Smith, C. E., 921
Smith, Calvin Wesley, 681
Smith, Cecil Z., 1012
Smith, Eli James, 612
Smith, Ernest Byron, 65
Smith, Frank Pierce, 1475
Smith, George B., 681
Smith, George Belding, 536
Smith, Hamlin, 612
Smith, James A., 921
Smith, William O., 65
Snell, Franklin L., 536
Snively, James Clyde, 1898
Solatinaw, Joseph, 224
Sommerkamp, Ralph F., 224
Sorrels, J. W., 461
Sorrick, John William, 64
Souders, Samuel, 681
Spain, William B., 1556
Sparkman, A. P., 2059
Spear, Owen Crow, 2059
Spohn, Arthur Edward, 1651
Spranger, Francis X., Jr., 1171
Sprinkle, George W., 1315
Sproat, William Delano, 1012
Srofe, William Espey, 612
Stackpole, George Edmund, 1556
Staley, Amos Clyde, 681
Standing, William, 65
Stanley, Elmer Claude, 302
Stanley, Grant, 1171
Staples, George Allen, 1170
Stearns, Phineas Sewall, 1808
Stedman, Arnold, 1170
Steele, Minot A., 705
Steger, Leo John, 302
Stegman, Joseph E., 1012
Steinbach, Lewis W., 612
Sternlicht, Isaac, 1315
Stevens, Joseph De Weese, 1242
Stevenson, Clinton, 461
Stevenson, Samuel, 224
Stevenson, William Blaney, 143
Stewart, Hugh Angus, 1170
Stewart, Peter Breadalbane, 921
Stiles, Francis Winfield, 1723
Stone, David Franklin, 1722
Stoneburner, William A., 765
Storrs, Charles Francis, 921
Strauss, Conrad P., 1556
Strauss, Leon, 1012
Strong, Sylvester Emory, 1091
Stuart, Joseph Red, 302

Stubblefield, D. Rankin, **1242**
Stubinger, George L., **1376**
Stull, Thomas Hawkins, **386**
Sturgeon, Samuel H., **681**
Sturtevant, Charles, **461**
Stutzman, Harry A., **1315**
Sugg, John Fitz Herbert, **1091**
Sutton, Orlando Webb, **1556**
Swango, William, **1476**
Swanzy, Henry Rosborough, **1472**
Swartz, Douglas A., **65**
Symington, Thomas J., **1475**
Syrett, Edgar Charles, **385**
Tabor, James Atwood, **681**
Tainter, Paul R., **224**
Talbot, John Boyd, **461**
Talbot, Nicholas Louis, **396**
Tavel, E., **219**
Taylor, Frank, **1652**
Taylor, George W., **612**
Taylor, Robert H., **1012**
Taylor, Thompson J., **1315**
Thibodaux, P. Edward, **386**
Thomas, Bruce, **1091**
Thomas, Carlton Revere, **1011**
Thomas, Frank Henry, **1012**
Thompson, Charles Lyman, **536**
Thompson, Frank William, **1898**
Thompson, Harriet Adaline, **1377**
Thompson, James Livingston, **920**
Thoms, Sharon John, **461**
Thomson, James, **2059**
Thorne, Walter Scott, **1556**
Tilbrook, John R., **1974**
Tiling, G., **219**
Tillman, William, **2059**
Timmins, Patrick Joseph, **1556**
Timmons, Isaac Whittington, **1315**
Titus, Willard H., **302**
Tock, Orson Wilson, **1898**
Tomlinson, Harry A., **1897**
Tomlinson, Joseph, **1808**
Torrence, James Monroe, **64**
Totten, M. Z., **536**
Towar, George Washington, **2059**
Townsend, Herbert L., **921**
Tracy, Evert Evertson, **1242**
Treganowan, Ambrose, **1011**
Treuholtz, Clarence Albert, **1475**
Trezise, John Davies, **921**
Trolinger, Henry J., **847**
Trotter, Richard R., **1242**
Trunnell, Philip G., **1376**
Turner, John Daniel, **2059**
Tuttle, James Percival, **535**
Underhill, William Webb, **681**
Unger, Charles W., **1808**
Upson, Henry Swift, **1556**
Van Brakle, James, **1376**
Vance, Asbury J., **1555**
Van Gieson, Ira Thompson, **1171**
Van Vorhis, Flavius Josephus, **680**
Vastine, George H., **1242**
Vaughan, Josiah J., **143**
Veeder, Andrew Truax, **302**
Von Bramann, **1806**
Von Valkenburg, Jacob, **1012**
Wadsworth, Sarah Josephine, **461**
Waggener, Edmond Arthur, **1652**
Wagner, Charles J., **2060**
Wagner, Edward F., **847**
Wagner, William Jacob, **386**
Waite, Lorenzo, **1091**
Wakefield, John Morse, **847**
Waldron, Thomas Claude, **2059**
Waldrop, Joseph G., **1012**
Walker, Alexander E., **1556**
Walker, Hiram Dana, **847**
Walker, John L., **1012**
Wallace, James, **1808**
Walters, Joseph W., **765**
Ward, Edgar Pearl, **847**
Ward, Lucius Cincinnattus, **65**
Ward, William Gomez, **1556**
Ware, M., **302**
Washburn, Edward Lyman, **681**
Washington, Edgar J., **921**
Washington, Samuel S. H., **921**
Waters, James W., **1808**
Watson, David Shewman, **847**
Watson, William Henry, **223**
Way, George C., **921**
Weathers, Lucien V., **1242**
Weckslin, Charles, **1723**
Weeks, George Henry P., **2059**
Weir, Albert Sweeney, **1242**
Welliver, James Everson, **1011**
Welton, Robert Bradlee, **385**
Welty, Ephraim, **921**
Wessels, Silas Addison, **1974**
Whann, Walter Lawrie, **764**
Wheeler, Frank Raymond, **143**
White, James K., **1652**
White, Robert Parks, **1808**
White, Ulysses P., **765**
Whitman, Alvah F., **1376**
Whittaker, James Fisher, **1556**
Whitworth, Herbert, **2059**
Wickman, William Joseph, **1973**
Wiegers, Theodore L., **1091**
Wilcox, George Gordon, **1723**
Wile, William Conrad, **765**
Wilkinson, Guilford Dudley, **461**
Willard, Samuel, **1475**
Wille, L., **219**
Willett, Peter, **612**
Willetts, Charles Clark, **765**
Willey, Vernon Justin, **65**
Williams, George Alexander, **1556**
Williams, James Jeremiah, **765**
Willis, John Warren, **846**
Willson, Curtis R., **612**
Wilson, Charles Alonzo, **1808**
Wilson, Edward Adrian **760**
Wilson, Jesse E., **1011**
Wilson, LeGrande James, **142**
Wimp, J. Emmett, **536**
Winch, John Howe, **1242**
Winchester, Benjamin Thomas, **385**
Windsor, Bennett P., **1723**
Winkley, Jonathan Wingate, **386**
Winlock, Joseph Tully, **302**
Winnie, Ephraim, **921**
Winsborough, Joseph W., **385**
Winslow, Lyttleton Stewart Forbes, **1970**
Winter, Albert Henry, **65**
Winter, Artemesia Brumback, **386**
Winton, Charles F., **1011**
Wise, William H., **1171**
Wising, J., **219**
Witter, George H., **680**
Wocher, Charles Frederick, **1723**
Wolcott, Oscar O., **65**
Wood, W. Riley, **536**
Woodruff, Alpheus B., **847**
Woods, James McBride, **1556**
Woodson, Lyman R., **847**
Wormley, William, **612**
Wortham, Patrick Kelley, **1315**
Wright, Augustus R., **612**
Wright, Louisa Van Vleet Spicer, **1974**
Yeagley, John H., **65**
Yingling, Joel, **1376**
Young, John Calvin, **386**
Young, Joseph Coddington, Jr., **1242**
Zeigler, William L., **461**
Zimmerman, Gustave A., **1091**
Zoller, William, **1242**
Zurcher, Clarence W., **612**

## E

EAR: See also Labyrinth
EAR, abscess of middle, acute, (50) 477
abscess of outer, treatment, (130) **329**
adenoids causing complications in, (131) 478
affections of nose, throat and, including accessory sinuses, conservation in treating, (100) 320
bacteriology of, (70) 1396
bismuth paste in nose and, (101) 399
cerebrum abscess originating in, (135) 706
cholesteatoma of, (20) 81
deafness due to disease of middle, (127) 162
diphtheria of nasopharynx and, (59) 1580
hot air and iodoform in conservative treatment of some conditions of nose and, ***1946**
in typhoid, **1241**—ab
internal, functional tests of, (50) 1985
internal, suppurative disease of, (128) 1674
Jarisch-Herxheimer reaction in, after salvarsan treatment, (14) 1837
eye, nose, throat and, journals on, **1320**
lobe, othygroma nephriticum, ***123**
middle, disease of mastoid cells and, based on study of cases of diphtheria, scarlet fever and measles, (49) 696
middle, disease, pseudodiphtheria bacilli in, (45) 790
middle, fibroma or fibro-angioma of, (23) 81
middle, inflammations, (99) 320
middle, suppuration, acute and chronic, management of, (16) 780
middle, suppuration and life insurance, (18) 81
minor operations on nose, throat and, (137) 1590
nose obstruction causing diseases of throat and, (39) 781
operations, after treatment, (20) 165
operations, under local anesthesia, (52) 1839
outstanding, correction of, (70) 1840
pain in, significance of, (11) 1495
painful condition of, and diseases of posterior sinuses, (86) 399
salvarsan from standpoint of, (56) 1982
salvarsan in diseases of, (94) 1114
salvarsan, influence on, **344**—ab, (82) 633, (169) **1118**
EAR, scarlet fever causing complications in, (91) 1587
sexual apparatus in connection with nose, throat and, (112) 1030
sounds in, (184) **1272**
specialist, ethical problems confronting, (111) 1189, (107) 1328
surgeon, needs of, in general hospitals, (146, 152) 1030, (15, 48,) 1395, (82) 1580
syphilis, (14) 81, (111) 400
tinnitus aurium, significance in certain diseases of, (131) 162
tuberculosis, (48) 480
Waldeyer's ring relative to, pathogenicity of disease of, (76) 1834
Wassermann reaction and salvarsan in diagnosis and treatment of syphilis in affections of nose, throat and, (11) 81
work in general practice, (37) 1110
Yankauer treatment in tubotympanic trouble, (87) 1107
EARTHWORM, tumors, malignant, produced from parasites of, (102) **242**
EASTERN University of Medicine not recognized has graduates, **1905**
ECCENTRIC movements in muscular paralysis, (7) **786**
ECHINACEA, **69**
ECHINOCOCCOSIS, (59) 702
liver, (76) 399
lung, (158) 1502, (3) 1264
serodiagnosis and, (101) 869
seriodiagnosis of helminthiasis and, in general, (162) 1271
ECKMAN'S alterative, **1014**—P
ECK'S fistula, influence of phloridzin on dogs with, (77) 1028
ECLAMPSIA, (9) 85, (63) 160, (119) **706,** (17) 780, (7) **1031,** (69) 1188, **1487**—ab, (103) 1667
abdominal, cesarean section in, (64) **944,** (32) **1186**
an intoxication from excess of syncytium nuclei in blood, (174) **872**
blood-changes in pregnancy kidney and, importance for treatment, (86) **868**
cesarean section in certain cases of, (86) 1834
convulsion in, suppression of, (41) **86**
disturbances of carbohydrate metabolism in pregnancy and, (105) **1269**
etiology, (81) 1189
etiology and pathogenesis of, (103) 1029
etiology and treatment, (13) **1668,** (85) **1834**
expectant treatment, (141) 92, (70) **482,** (77) 1747
influence of monsoon on, (23) **323**
kidneys in, (74) **1194**
magnesium sulphate, intradural injection of, in, (191) 873
magnesium sulphate, no benefit from, (153) **1271**
necrosis of cortex of kidneys, symmetrical, with suppression of urine and, (21) **1837**
obstetrical and surgical treatment, (97) 783
prophylaxis and treatment, (42) 477
serotherapy of, (151, 152) **1117**
surgical methods of dealing with, (28) 866
treatment, (193) 873, (65) 1035, (153) **1117, 1485**—ab, (127) 1836
venesection in, improved technic for, (142) **638**
ECLECTIC Medical University of Kansas City, graduates of, go to Arkansas for license, **1887**—E
ECONOMICS, instruction in medical ethics and, **1168**
ECTROPION, eyelid, upper, Wolfe graft to correct total, (85) 1580
ECZEMA and some eruptions often mistaken for eczema, (12) 1032
causation of, (64) **319**
dermatitis, infectious, dermatitis repens and acrodermatitis perstans, possible interrelationship of, (37) **782**
external origin of, particularly industrial eczema, based on study of 4,142 cases, (65) **319**
face, in children, pathogenesis and therapy of, (15) 1664
hands, recurrent, (70) 160
in infants, **591**—T
mouth, as manifestation of congenital syphilis, (24) **1330**
EDEMA, angioneurotic, (63) 1922
colloid-chemical theory of nephritis and, ***345, *348**
eyelid, (100) 399
glottis, (75) **1580**
liver, and nephritis, **602**—E
EDITORIALS, handful of, **2062**—ME
EDUCATION: See also Colleges; Schools; University
EDUCATION, certain elementary concepts in, applied to medicine, **1573**—ab, (58) **1742,** (25) **2067**
duty of physician in, (28) 2067
medical, (56) 552, **931**—ab, (85) 1029
medical, American standard for entrance to medical colleges, **1003**—E
medical, and Harvard medical school, (11) 860
medical, and hospital, **775**—ab, ***974**
medical, and medical profession, **776**—ab, **1389**—ab
medical, and public opinion, **1002**—E
medical, conference of American Medical Association on, **391, 690**—ab, **774**—ab
Medical, Council on, annual presentation of results of state board examinations by, **1623**
medical, discussed in Peking Medical Conference, **1820**—ab
medical, European side of, **690**—ab
medical, function of Royal Medical Society in, (27) 402
medical, higher preliminary qualifications assured, **756**—E
medical, in Illinois, **524**—E
medical, in Iowa, **601**—E
medical, in Iowa State University, (71) 1834
medical, increased cost of, **917**
medical, million dollars for, **1801**—E
medical practice and, necropsy in, past and present position of, ***1784**
medical, preliminary and collegiate, necessity of readjustment of, **774**—ab
medical, preliminary college year, **1016, 1017**
medical, present status of, **1096**
medical, Pritchett's report, **755**—E
medical, problem of, (11) 401, **931**—ab
medical, problem of teaching general medicine, ***1049**
medical, progress in, and University of Tennessee, **1014**—C
medical, psychiatry in, ***1874**
medical, psychology in, (67) 399
medical, questions concerning, (121) 478
medical, research in, value of, **1888**—E
medical, rules and regulations governing, **935**—ab
medical, should internship be required for graduation? **934**—ab, (74) 1922
medical, should state medical boards require one or more years of college work? **933**—ab
medical, state support of, **910**—E
medical, teaching in higher institutions of learning, desirability of, (20) 1980
medical, teaching psychiatry, ***1054, *1057**
medical, third classification of medical colleges of United States, **231**
medical, training of ophthalmologists, (5) 1393
medical, university studies and three-year-term of military service, **1087**
medical, work of Carnegie Foundation and the American Medical Association Council on Education, ***743**
medical, work of full-time instructor, **387**—C
EDWARD'S olive tablets, **1378**—P
EFFICIENCY, medical, (16) 1026, (115) 1030
EFFUSIONS, pathologic, tryptophan-splitting ferment in, (83) 704
pleural, with induced pneumothorax, (113) 951
EGGS, alimentary anaphylaxis to, (33) 1034
hens', bronchial asthma due to hypersusceptibility to, (61) **399**
nutrition of, of schistosomum japonicum and changes they undergo under action of various physical and chemical agents, (48) 1111
EHRMANN palmin test for pancreas functioning, **1487**—ab
EINHORN bead test for estimation of digestion, (89) 1494
ELBOW, ankylosis, treatment, (161) 1752
excision for tuberculosis, end-result, (14) 1104
fracture, (140) 1502

ELBOW fractures, management of, (134) **1030**
swollen lymph-nodes at, (125) **1932**
ELECTRIC accidents, treatment, (71) **168**—ab
action of human heart, (10) 2068
belt, McLaughlin, sale of, a swindle, **1473**
currents, death by lightning and, (1, 13) 1108. (8) 1190, (9) **1264**
headlight, cheap and efficient, (132) 242
lamps, eye injury in testing, (87) 793
lights, focusing several, on field of operation, method, (17) 316
perimeter, practical, (75) 1396
registration of movements of blood-vessel walls with pulse, (154) 708
shock, literature on, **851**
shock, resuscitation from, report of committee on, **2009**
stimuli, influence on stomach motility and secretion, (89) 1402
testing muscles, (22) 630
ELECTRICITY: See also Cautery; Electrotherapy; Faradic Current; Fulguration; High Frequency Currents
ELECTRICITY and heat, effects are identical, experiments indicate, **1707**—E
application to neck in epilepsy, (62) **482**
coagulation by, as adjuvant in operative treatment of cancer, (77) **1194**
enemas, (121) **251**
for diseases of skin and mucous membrane, (41) 1110
for obesity, (71) **1036**
in rectum diseases, (74) 1493
in uric-acid diathesis, (2) 694
local anesthesia by aid of, (145) **1338**
ELECTROCARDIOGRAM, normal, interpretation of, (21) 1739
of weakly infants, (172) 1753
ELECTROCARDIOGRAPHY, (111) 170
during pregnancy, (144) 1406
ELECTRODIAGNOSIS in diseases of labyrinth, (10) 479
ELECTROLYSIS in trigeminal neuralgia, (90) **950**
linear, for urethra stricture, (165) 1118
ELECTRO-OXYGEN Institute of Omaha, **2060**—P
ELECTROTHERAPY, 50 years of, (69) **703**
ELEPHANTIASIS, bacillary, (59) 1402
labor in, (57) 1839
neurofibromatosis of foot with general neurofibromatosis, (8) 1491
operative treatment, (106) **328**
tuberculous, primary, of vulva, (121) **706**
vulva, cesarean section and panhysterectomy in, recovery of mother and child, (14) 479
ELIXER aromaticum as vehicle, **309**
Tonga compound, **1478**—P
EMBOLISM and thrombosis after appendicitis operations, (96) **869**
and thrombosis after gynecologic operations, (64) **1928**
during artificial pneumothorax, fatal, (69) **632**
fat, outside lungs, causes of, (134) 1750
gas, and production of artificial pneumothorax, (122) **1836**
gas, during prostatectomy, fatal, (43) 701
gas, from injection of air into bladder, fatal, (42) 701
lung, (65) 1493
lung, and spontaneous rupture of uterus, (19) 556
lung, operative treatment, **1473**
mechanics of, (133) 1270
mesenteric artery, temporary, ***513**
postoperative, fatal, (25) **81**
EMBRYO, pulsations in primitive heart of human, in second week, (10) **695**
transplantability of tissues to, of foreign species, (47) **1261**
EMBRYOLOGIC specimens, request for, **1655**—C
EMBRYOLOGY, human, institute of, plea for, ***1599**
EMERY technic, modified for serodiagnosis, (128) 401
EMETIN, in amebic dysentery, (14) 164, ***664, 917**, (61) **1111, *1216, 1896**, (40) 1984
EMOTIONS, depressing influence on stomach secretions, (66) **1986**
mind in relation to, (5) 1668
EMPEROR, endowments in connection with anniversary of, **1239**
EMPHYSEMA, (125) 1501, (64) 1986
and chronic bronchitis, (88) 1587
EMPHYSEMA, chondrotomy for, efficacy of, (54) 2070
lung, carbon dioxid eliminated with, proportion of, (126) 560
lung, minute-volume and alveolar air in, (19) **397**
subcutaneous, after laparotomies, (108) 1404
subcutaneous, extensive, following intratracheal anesthesia, (90) 783
EMPLOYER furnishing treatment out of charity, **313**—Ml
liable for services rendered injured employee, **544**—Ml
EMPYEMA and feasibility and importance of dependent drainage, (10) 1025 (15) 1258
and pneumonia in children, (44) 1265
bilateral, in pleura, opening chest on both sides for, successful, (98) 793
infant of five weeks, operation, recovery, (28) 323
mastoid process, tardy, (68) **404**
pleural, operative treatment plus aspiration of, (69) 1402
ENCEPHALITIS, infective, acute, possibly of gonococcic origin, **1391**—ab
localized, of left motor corticle region with epilepsia continua, (38) **552**
ENCEPHALOCELE, congenital bulging or depression of skull with spina bifida and, (132) 1270
ENCHONDROMA of manubrium sterni removed by operation, (4) 1836
of scapula, (86) 1922
ENDO-ANEURYSMORRHAPHY, Matas' method of, for traumatic femoral aneurysm, (40) 81
ENDOCARDITIS, blood-picture in, (110) 705
chronic, acute, conduct of gynecologic and obstetric operations in, **1736**—ab
protracted, (80) **1268**, (95) 1269
septic, treatment of, (56) **1666**
streptococcal, infective, (35) **402**
ENDOMETRITIS, (98) 161
treatment of, (54) 1982
ENDOSCOPY, Goldschmidt's methods, **1247**
technic for, (42) 944, (84) 1747
tube, simple, advantages of, (79) 553
ENDOSTEUM, (121) **1270**
ENDOTHELIOMA, brain, frontal region of, large, (5) **1663**
lymph-nodes, (166) 872, (32) **1981**
undescended testis in male pseudohermaphrodite, (26) 1264
ENDOTOXINS and anaphylatoxins of typhoid bacillus, (33) **626**
ENEMAS, electricity in, (121) **251**
nutrient, containing simple digestion fragments, (100) 1749
ENERGOMETER and sphygmobolometer, (107) 1749
ENGLAND, medical organization in, **1657**—ME
ENOPHTHALMUS, traumatic, (57) 1586
ENTAMOEBA histolytica and entamoeba tetragena, identity of, ***1353**
histolytica, dysentery due to infection with, treatment, ***38**
histolytica seen in race of E. tetragena, budding and other changes described by Schaudinn for, ***1220**
tetragena, budding and other forms in trophozoites of, simulating spore cyst forms attributed to entamoeba histolytica, (3) **1979**
tetragena, cysts of, (17) **396**
tetragena, infection with, (74) 1262
ENTERITIS, catarrhal, resembling dysentery, whey in, (94) 1195
diphtheritic, (42) 402
embolic, acute, (79) **1747**
infants, diet in, (121) 400
ENTEROLITH: See Calculus, Intestinal
ENTEROPTOSIS: See also Gastroenteroptosis; Gastroptosis; Ptoses; Splanchnoptosis
ENTEROPTOSIS, fitness for military service and, (134) 485
operation for, (58) **160**
ENTOMOLOGIC research, **379**
ENURESIS: See also Urine, Incontinence of
ENURESIS of digestive origin, (41) **701**
treatment, (87) **249**
ENZYMES, alimentary, immunity of intestine from digestion by, **670**—E
blood, protective, as means of extracorporeal diagnosis, (89) 1396
concerned with formation of hydroxy acids from ketonic aldehyds, (81) 1028
ENZYMES in saliva, **839**—E
infant nutritive disorders, pathology of, and, **600**—E
influence of cholesterin and saponin on action of, (169) 1198
synthesis, (47) **318**
tannase, effect of nutrition on, (80) 1327
EOSINOPHILIA and anaphylaxis, connection between, (78) 249
arsenic treatment in, (122) 1673
experimental, **1798**—E
extract of animal parasite, experimental in, (19) **1740**
in carcinomatosis and lymphogranuloma, intense, (169) 562
in diagnosis and prognosis of lung tuberculosis, (120) **1843**
with exudative diathesis, (97) 250, (102) 1037
EPIDEMICS, control of, **383**—ab
evolution of, nineteenth century-specificity and evolution, (46) 1670, (8) 1923
physician in wholesale poisonings and, (121) 329
storm havoc and danger of, **1003**—E
EPIDIDYMIS, tumors of testicle and, (84) 1834
EPIDIDYMITIS, epididymotomy for, ***415**
EPIDIDYMOTOMY, ***415**
EPIGASTRIUM, pain in, causes of, (200) **1754**
pain, surgical aspects of, (70) **1982**
reflex pain in, with appendicitis, (37) 1583
symptoms located in, differentiation of, (47) 477
EPIGLOTTIS, papilloma of, large, removed by fulguration, (85) 399
EPILEPSY, (55) 1493, (7) 1663
and amyotrophic lateral sclerosis, **1319**
and crime, the cost, (92) 697
bromids in, (119) 329
bromin in, pharmacologic basis for, (80) **1037**
cause and treatment, (81) 1667
chloretone in, (1) 629
crotalin in, (94) 399, **860, 1001**—E, **1246**, (73) 1262, **1811**—C
crotalin in lung tuberculosis and, action and administration of, (84) 1189
diagnosis, (56) 627
electricity applied to neck in, (62) **482**
heredity in, (16) **551**
hypertrophy of pharynx lymph ring as cause of, (93) 1494
in typhoid, (75) 1499
insanity and treatment, (69) 88
institutional treatment, **1380**
localized encephalitis of left motor cortical region with epilepsia continua, (38) **552**
mental manifestations of, (38) 1665
operative treatment, (107) 250
pathogenesis of, (151) 92
phosphorus in, (86) **1268**
prevention, (87) **84**
rachicentesis and epinephrin in, (166) 1675
remission in, (29) 787
respiration and circulation in, (43) **1833**
status epilepticus, gangrene in, death from sapremia, (133) 478
thyroid in, (52) **1034**
traumatic, after gunshot wound of head, (107) **1404**
treatment, (84) **1929**
EPILEPTICS, care of, in Illinois, **58**—E
marriage of, **2061**
EPINEPHRIN, (64) 1188, (96) 1189
action of hydrocele fluid and certain other pathologic liquids on objects used in biologic test for epinephrin, (36) 626
action of, in experimental kidney disease, (135) 1270
action of plasma and serum on certain objects used in biological test for, comparison, (35) **626**
action on coronary circulation, (27) **2069**
and hypophysis extract in therapeutics, (135) 1406
and meiostagmin reactions in diagnosis of cancer, (46) **1921**
and rachicentesis in epilepsy, (166) 1675
atropin or pilocarpin tests for autonomic nervous system in children, (121) 1931
colorimetric test for determining, new, (57) 318
destruction of constrictor substances of serum and, by oxygenation in blood-vessel walls, (96) 319
EPINEPHRIN glycosuria, alimentary and, in exophthalmic goiter and subsidence after resection of thyroid, (102) 559
glycosuria, pancreatic juice in, modification of, (148) 1502
hemolytic action of, (47) 1111
in arthralgia and neuralgia, (97) **1335**
in asthma, (50) 944
in chloroform anesthesia, (20) 1668
in non-corrosive poisoning by mouth, emergency treatment, (4) 785
in tetanus and diphtheria, (26) **1926**
in vomiting of pregnancy, (53) **325**
paralysis, vasomotor, late, due to, (5) 785
urticaria treated with, (6) **1026**
EPIPHANIN reaction, technic for, (149) 485
EPISTAXIS as met by general practitioner, (59) 241
EPITHELIOMA, **2022**—ab
auricle and cervical glands, removal of, (20) 1583
developing at site of Roentgen-ray dermatitis after sarcoma of femur was cured by mixed toxins, **2025**—ab
ectoplacental, incipient, (39) 1926
in infant, primary, multiple, (48) 1187
inside jugular vein, (82) 89
kidney pelvis, (38) 166
lip, (101) **698**
lip, complicated by xanthoma tuberculosum multiplex, (109) 629
lip, Grant method in surgery of, **1015**—C
lip, lower, operation for, ***507**
lip, surgery of, Stewart and Ryfkogel methods in, **926**—C
metastatic, (183) **1753**
nipple in girl of 11, primary, (11) **2068**
roentgenotherapy in, (92) 1189, **1389**—ab
seborrhea of lower lip and its relation to, (102) **698**
superficial ionization in, (124) 699
EPITHELIUM, cancerous and normal, false transitions between, (48) 1261
intestine stenosis in newborn infant with rectum plug of mucus and, (82) 406
proliferation induced by injection of gas-works tar, (43) **86**
single layer of, between us and death, **367**—ab
urethra and testicles, beware of injuring, (66) 558
EQUINOVARUS, congenital, correction of, thirty-six cases, (61) **1396**
EQUIPMENT, gaseous disinfection of, in field, (53) **944**
ERGOT, application of active principles of, in obstetrics, (122) 1038
intravenous injection of morphin and, in hemoptysis, (118) 1843
potent elements in, (142) 408
ERISTALIS, myiasis due to, critical study of, (20) 1739
ERUPTION after use of copaiba, (69) 1840
as symptom of leukemia, (43) 1838
creeping, case suggestive of, **1481**
development in measles, new observations on, **1462**—E
ERYSIPELAS in infants, vaccines for, (88) 1189
latent, (95) 633, (91) **1195**
nystagmus, sympathetic, in, (68) 949
serotherapy of, (90) 1587
tattooing and, (111) 1930
treatment, (38) 1838
vaccine therapy of, (32) 700
ERYTHEMA multiform, bacillus causing, (122) 1749
nodosum, acute rheumatic orchitis associated with acute torticollis and, in child of two and one-half years, ***1608**
ERYTHROCYTES: See Blood Corpuscles, Red
ERYTHROMELALGIA, rhizotomy for, (76) 1840
ESCHERICH'S pseudotetanus, (182) 873
ESOPHAGOSCOPY and bronchoscopy, (38) 1492
and gastroscopy, new principle in, (7) 316
for detection and removal of swallowed foreign bodies, importance of, (138) **1590**
foreign body in esophagus removed by, (83) 1667
laryngoscopy and tracheobronchoscopy, direct, (26) 401, (13) 786
ESOPHAGUS, atresia, congenital, (4) 550

ESOPHAGUS, atresia of intestines and, congenital, pathogenesis of, (63) 702
cancer, diagnosis, early, with new technic of Roentgen-ray examination, *1283
cancer, from standpoint of intrathoracic surgery, (142) 162, (43) 948
cancer, method of treating, (21) 1664
cancer, resection of thoracic portion of esophagus for, successful, 1252—ab, *1533
cancer, surgical treatment, (60) 1742
dilatation, idiopathic, (42) 947
dilatation, idiopathic, and cardiospasm, (48) 862
dilatation, sagging stomach with, (208) 564
diseases, (117) 320, (18) 630
fistula between bronchus and, with aortic aneurysm, (89) 1114
foreign body in, *801
foreign body in, removed by esophagoscopy, (83) 1667
foreign body in respiratory tract and, (35) 1579, (131) 1932
foreign body in, technic of removal of, (68) 696
foreign body in, tooth-plate impacted in, 2½ years, removal through mouth, (38) 402
obstruction of, caused by calcification of aorta, *801
plastic operation on, and Jianu-Roepke gastrostomy, modified technic for, (119) 1038
plastic operation on, flap from stomach wall for, (118) 1038, (111) 1842
pulsation in jugular vein and, in primary tumor of left auricle, comparison of, (71) 1267
restoration of, (106) 1588
stricture, (69) 326, (88) 327
stricture, cicatricial, (36) 700
stricture, congenital, (22) 1495, (81) 1499
stricture, membranous, of obscure etiology, *1210
ESPERANTO and medical profession, 146—C
ESSEX County, N. J., Public Welfare Committee found infant consultation stations of value, 1169—ab
ESTHESIOMETER, new, (34) 861
ETHER administration, (155) 162
and chloroform in anesthesia, 1304—E
and salt solution, general anesthesia by intravenous injection of, (99) 84
anesthesia by drop or open method, (162) 163
anesthesia, general, by intramuscular injection of, (146) 1197
anesthesia, intratracheal, (97) 1263
anesthesia, intravenous, (108) 170, (61) 1580
hot or cold, (46) 782
in infections, 1010
in peritonitis, 1971
pad and cone, new, *1619
vapor and nitrous-oxid-oxygen anesthetics, improved technic of, (72) 83
vaporizer, new, *892
ETHICS: See also Fee-Splitting; Physician; Profession; Practice, Contract
ETHICS and psychotherapy, (77) 249
consultations, (62) 1666
instruction in medical economics and, 1168
medical, *1290
medical, articles on, 1976
medical, or duty of physicians to each other, (23) 1395
medical secrecy, binding nature of, 1720
problems of, confronting eye, ear, nose and throat specialist, (111) 1189, (107) 1328
social, teaching of, and relation to conservation of children, (24) 1492
ETHMOID cells, anterior, mucocele of, (23) 244
conservation of, (31) 1579
ETHYL chlorid anesthesia, (100) 484, (13) 1495
chlorid anesthesia of mental nerve, (107) 1842
chlorid general anesthesia, advantages and technic of, (113) 328
ETHYLHYDROCUPREIN in experimental bacterial infection, (121) 484
EUGENICS, (77) 399, (44) 403, (191) 488, (64) 1493, (105) 1923
EUGENICS and infant mortality, (60) 1028
diet and, 1895
education for parenthood, (9) 780
from point of view of ophthalmologist, (126) 699
heredity and falling birth-rate, (38) 1400
how much is scientific? (127) 1328
limitations of, 450—E
negative, or prevention of ill-bornness, (9) 1184
plea in behalf of unborn, (51) 1580
rearing of thoroughbred, (38) 318
record office, 1165
Society, French, formation of, 221
statutory, (96) 84
what it does not mean, (120) 162
EUSTACHIAN tube in chronic otitis media, (17) 81, (47) 782
EUTHANASIA, problem of, 1897
EVERETT'S hair foe, 1243—P
EVIDENCE, medical books as, 1731—M1
EVOLUTION, anatomic and physiologic, systematization of, (131) 952
EXAMINATIONS, medical, of men on army list, 844
reforms in, 917
rules and regulations governing, 935—ab
state board, annual presentation by Council on Medical Education of results of, 1623
state board, statistics of, 1641—E
EXAMINERS, board of, writ of prohibition cannot be employed against, 1830—M1
Medical, American Association of, meet, 1649
EXAMINING boards, state, harmony and uniformity in work of, importance of, 776—ab
EXCISOR, appendix, (16) 1980
EXERCISE and diet in relation to growth, (131) 1328
gymnastic, orthopedic, (79) 1036
in ptosis of abdominal organs, *654
influence on heart, (14) 239
moderation in, (20) 2067
muscular, done by infant, (102) 1930
muscular, influence of digitalis on recuperation of heart after, (106) 1930
physiologic aspects of, 1076—E
respiration, (44) 1497
respiration, active, to ward off adhesions after pleurisy, (96) 1930
respiration, technic for, (41) 1746
systematic, after operations, *1202
therapeutic, action on circulation, (63) 2071
EXFOLIATION of epidermis, causes of, 616
EXHIBITION, medical, international, 298
EXOPHTHALMOS, pulsating, treatment, (83) 945
EXOSTOSIS, ivory, of skull, (66) 319
of femur, (8) 629
of os calcis, 1727
EXPERTS, medical, and expert medical testimony, (73) 1742
EXTRACT, lymph-node, in enlarged tonsils and adenoids in children, (6) 2067
lymph-node, in immunization against tuberculosis, (147) 92
of animal parasite, eosinophilia with, experimental, (19) 1740
of normal organs and muscles, toxic action of, (108) 869
of Organs: See also Organotherapy
organs, aqueous, action of serum on toxins of, (110) 90
organs, hemolytic properties of, (35) 947
Pituitary: See Pituitary Extract
spleen, Roentgen ray treated, in tuberculosis, (134) 92
spleen, therapeutic action of, (23) 946
EXTRASYSTOLES, (116) 1030
alternating rhythm after, (44) 1191
auricular and nodal (?), (34) 556
EXTREMITIES, gangrene, diabetic, of lower, conservative treatment, *1126
hand lesions following injuries of upper, (1) 1393
lower, amputations with special reference to, (87) 945
movements of upper, associated, neurologic case demonstrating, (83) 629
EYE: See also Choroid; Conjunctiva; Cornea, Iris; Lachrymal Gland; Lens; Orbit; Sclera; Uvea
EYE, accessory sinus disease in relation to orbit and, (94) 1923
EYE, aches and pains connected with nose and, (2) 945
albuminuria of pregnancy, and eye symptoms, (53) 160
and ear specialists organize, 296
antiseptics in, abuse of, (166) 1502
artificial, fat tissue as support of, (198) 563
artificial light, effect of on, determination of, (138) 478
auto-intoxication in relation to, (139) 322
blindness due to intra-ocular disease, (138) 162
cancer about, roentgenotherapy in, (46) 1580
common diseases of, in children from standpoint of general practitioner, (100) 161
copiopia, (130) 478
defects in central visual field, clinical measurement of, (118) 162
diabetes mellitus and diseases of, (33) 1838
diagnostic symptoms manifested in, (59) 863
diplobacillus infection of, therapeutic action of various dyes in, (105) 1930
disease of nose and accessory sinuses, and eye symptoms, (109) 794
diseases, out-patient clinic for, follow-up work as element of effective treatment in, (44) 1326
disturbances with brain tumors, (117) 794
drainage of, clinical and experimental researches on, (32) 1028
dynamite-cap injuries to, (142) 478
enucleated, injury in which six pieces of steel were discovered in, only one piece found by Roentgen-ray, (84) 553
enucleation, technic for, (72) 558
examination, (24) 86
fluid current of, deficient results in experimental findings in, (10) 1739
fluid current of, proof based on principle of mechanical adaptability, (11) 1739
foreign body, glass in crystalline lens, 3½ years after, (12) 1739
foreign body, localization of, (127) 1673
foreign body within orbit or, (133) 243, (40) 318, (86) 554
fundus of, signs of arteriosclerosis, early, (13) 1739
golf-ball injury of, (158) 243, *1297, 1656
hair dyes causing trouble with, (25) 397, (175) 1676
headaches and, (98) 629
hemianopic pupillary paralysis and hemiopic prism phenomenon, (32) 397
heredity in relation to, (88) 554
hygiene of, (124) 251
impairment, unconscious of, (72) 1107
industrial plant injuries to, prevention of, (139) 478
injured, unconsciously, (100) 1923
injuries, (144) 1030, (103) 1581
injury in testing electric lamps, (87) 793
injury of, by light, (88) 1037
insanity and complicated disease of, pedigree showing both, (1) 1581
journals on ear, nose and throat, 1320
longevity, significance of eye findings in estimating, *1867
magnet for removing fragments of iron from interior of, (135) 243
muscles, development of prootic head somites and, in chelydra serpentina, (4) 474
muscles, paralysis of, in children, (160) 92
muscles, technic of advancement, (143) 243
neurology of visual system, (56, 63, 65) 87, (30, 34, 38) 324, (35, 39, 44) 631, (31, 33) 866
nose and accessory sinuses, causing disturbances of, (99) 1667
nose diseases due to disturbances of, (14) 1739
oculomotor paralysis, bilateral, from softening in each oculomotorius nucleus, 1910—ab
paralysis of insane and eye symptoms, (20) 551
parotitis with eye complication, interesting case, (80) 1581
petroleum fumes causing irritation of, 69
protection of, in school children, (82) 945
puncture of corpus callosum, effect of, (75) 249
EYE, pupillary disk for correction of spheric aberration, (145) 243
pupillary inequality, significance of, (77) 1327
retraction movements of, acquired, (30) 397
retrobulbar neuritis of toxemic origin, (147) 243
salvarsan injections causing lesions in, but further use of salvarsan causes relief, *1359
sclera decompression in intra-ocular tension, (30) 781
sepsis, chronic, influence on disease of, (19) 1983
septic infection causing disease of, (5) 945
specialist, ethical problems confronting, (111) 1189, (107) 1328
strain, (130) 478
strain, analytic consideration of symptoms of, (98) 1923
strain and backward school children, (79) 477, *1059
strain as etiologic factor in functional diseases, (45) 1187
strain in children, (107) 399
strain in children, special reference to chorea, (85) 161
strain in tuberculosis, (20) 475
strain simulating grave organic disease of central nervous system, (72) 88
strain symptoms in general practice, (91) 1667
streptococcic infection of both, (72) 1982
subconjunctival injection in diseases of, (145) 1030
surgeon, needs of, in general hospitals, (146, 152) 1030, (15, 48) 1395, (82) 1580
syphilis of, (110) 400
teeth in relation to, (123) 478
tolerance of vitreous to dislocated lenses as index to reclination in given cases, (26) 317
tuberculosis and, (49) 480
typography and hygiene of, (39) 1034
vaccines in, infections of, (11) 1664
vascular system and certain diseases of, (139) 243
vision, conservation of, formation of state societies for, 2008
vision, defective, and workingmen's compensation laws, 1075—ab
vision in school children, (91) 84, *1059
vision in school children, testing, (129) 1405
vision saving as national movement, (136) 478
vision tests for chauffeurs, (168) 1675
EYEBALL, contusions of, (44) 1493
foreign bodies in, roentgenography of, (89) 554
steel passing through, into orbit, (142) 243
EYELID, ectropion of upper, total, Wolfe graft to correct, (85) 1580
edema of, (100) 399
ptosis of, fascia graft for, (89) 793

## F

FACE bones, development of, development of teeth and occlusion as factors in, (108) 161
eczema in children, pathogenesis and therapy of, (15) 1664
expression of, in disease, literature on, 147
fracture of bones in, typical, (113) 869
gonorrheal wart on, vaccine therapy of, (28) 1983
herpes of mouth and, in relation to infections with colon communis bacilli in women, 1234—E
morphologic changes in nose and, due to development of brain, (7) 81
Neuralgia of: See Neuralgia, Trifacial
paralysis, (97) 793
paralysis, from mastoid lesion, (49) 324
paralysis, peripheral, (82) 558
paralysis, plastic operation on muscles for, (43) 1926
paralysis, postdiphtheric, recovery under antitoxin, (97) 1195
presentation and obstetric paralysis, connection between, (106) 1195
wrinkles and emotional grimace, (43) 402
zoster of leg and, comparison of, *1692
FACIO-HYPOGLOSSAL anastomosis, case of, (35) 1983

FACTORY employees, medical supervision of, *508
match, hygiene in, (203) 564
FALL RIVER milk regulations, 1169—ab
FALLOPIAN TUBES, abscess of ovary and, typhotuberculous, (86) 783
cancer, (39) 1745
double, (148) 162
hernia of ovaries and, (98) 1500
infections from practitioner's standpoint, (103) 785
inflammation of ovaries and, treatment, (57) 791
musculature of uterus and, outside of organism, pharmacologic research on, (172) 562
pregnancy following double ligation and division between ligatures of, 1484—ab
sterility produced by operations on, difficulty of, (17) 1185
sterilization, reimplantation as new operation for, *1221
sterilization, technic, (133) 322
tuberculosis of ovary or, lesions of intestines with, (68) 1266
tumor, malignant, primary, (41) 1741
FARADIC current in intermittent limping, (189) 1754
FARWELL and Rhines' gluten flour, 922—P
FASCIA graft, (44) 166, (131) 637, (75) 1840
graft for ptosis of eyelid, (89) 793
graft for restoration of diaphragm, experimental research, (75) 2072
graft, technic for, (110) 1842
graft to correct spina bifida, (33) 1191
hammock for nephropexy, (62) 1332
lata for plastic operations, (70) 1333
transplanted, vital transformation of structure of, (132) 1196
FAT, adequate intake of, in infant, importance of, (105) 406
albumin and starch-splitting ferment, excretion of, in infants, (97) 406
and lipase of animal tissues, (47) 318
and nitrogen metabolism in congenital absence of bile-ducts, (6) 238
derivation in feces from food intake, 689
double function of carbohydrates and, in nutrition, nutritive properties of, 548—ab, (92) 629
dyes, behavior of tuberculosis bacillus toward, (45) 1106
embolism outside lungs, causes of, (134) 1750
excretion in urine, 1159—E
hernia, 236—ab
high percentage of, used in infant feeding, common results of, (96) 1494
in bacillus tuberculosis, origin of, 290—E
influence of pancreas on digestion and absorption of, (143) 252
influence on action of narcotics, 56—E
metabolism, (136) 1406
metabolism of, and adrenals, (99) 1403
metabolism of calcium, nitrogen and, in infants, (70) 1986
metabolism of, functions of liver in, experimental bearing on, (76) 1029
microchemical stain for, (133) 485
necrosis, after suturing, (136) 330
necrosis, tumor from, (109) 559
reabsorption of lipoids and, experimental research on, (75) 168
soluble dyes, intra-vitam staining of tuberculous guinea-pigs with, (46) 1106
tissue as support for artificial eye, (198) 563
transplantation, (92) 483
FATHER John's medicine and Food and Drugs Act, 1316—P
FATIGUE, (108) 1673
alcohol in, (95) 1037
factor of, industrial conditions, (6) 624
resistance of children to, (45) 557
FECES, blood in, tests for, (100) 1334
calcium excretion, excessive, through, in infantilism, causes, (48) 240
casein curds in, in infants, pathogenesis of, (3) 2066
diagnosis of functional activity of pancreas by ferment analysis of duodenum contents and, (9) 1025
disatase content of, with fermentation dyspepsia, (190) 563
FECES, drainage of, instrument for establishing, (15) 317
examination, artificial infant feeding with special reference to, (32) 1106
examination, clinical, (72) 628
examination, for ova, (54) 948
extracts, hemolysins in, (20) 1259
fat derivation in, from food intake, 689
form of, (4) 1393
impaction in ileum for 53 days, recovery, *722
incontinence of, non-organic, *1783
infant feeding and examination of, (16) 1664
infant, semeiotic significance of pathologic findings in, (83) 1834
microscopic examination of, with polariscope, (51) 1497
nitrogenous compounds in, in infantilism, nature and origin of, (47) 240
occult blood in, amebiasis and results of tests for determining, (91) 399
pancreatic ferments in, as aid in diagnosis of pancreas disease, (204) 1754
staphylococci in, (28) 946
tryptophan in, clinical significance of, (81) 2072
with foreign body in intestine, (132) 408
with hyperacidity and anacidity, (64) 325
FEDERATION of state licensing boards, annual meeting of, 391
FEE of insurance physicians, 1971
professional, and wealthy patients, 909—E
splitting, (109) 320, 1178—ME, 1645—E
splitting, action of one society on, 398
splitting and exploitation of unfortunate girls, 1646—E
splitting places a premium on poor surgery, 2060—ab
splitting practice, surgeons blame physicians for, 1957
splitting, solution of problem of, 1881—ab
FEEBLEMINDED: See also Backwardness; Degeneracy; Idiots
FEEBLEMINDED alien, moron and study of, *105
and insane immigrants arriving at port of New York, (86) 1667
and society, (28) 1260
biologic reaction in, (89) 1841
care of, (58) 1107
children, (11) 780
children, general consideration and classification of, (73) 477
children, literature on, 1245
children, medical gymnastics as prelude to physical education in, (17) 1924
children, plea for, (22) 2067
immigrants, detection of, *106
immigrants, diagnosis of, (50) 696
immigrants, tests for, 908—E
immigration and, 120—E, 209—E
insanity of, (52) 82
mortality in 4000 idiots and, (61) 863
problem of, 77—ab
public protection against, in Paris, (113) 698
school children, (31) 1106
school children, large proportion are, 380
state care for, (55) 1107
FEEBLEMINDEDNESS and medical profession, (131) 699
prolonged pregnancy in relation to cerebrum lesions and, (15) 158
FEEDING: See also Diet
FEEDING, caloric, 539
Infant: See Infant Feeding
rectal, metabolic utility of, (6) 555
teeth in relation to, (40) 696
FELLOWSHIP, Mary Putnam Jacobi, 218
FELON from infection with hog cholera, (47) 866
incisions for, lateral, a warning, 1900—C
treatment with reference to pathologic anatomy and location of incisions, *1416
FEMORAL and brachial arteries, suture of, (67) 1402
artery, disposition of sciatic nerve and, anatomic considerations of, (23) 1191
FEMUR, epiphysis of lower, traumatic separation of, (31) 81
exostosis of, (8) 629
fracture, atrophic, typical, (83) 1333
FEMUR, fracture, end-results, report of commission on, (154) 243
fracture of fibula or, with large defect, (125) 1038
fracture of neck of, (136) 408
fracture of neck of, anatomic treatment, (1) 474
fracture of neck of both, (37) 789
fracture of neck of, treatment, (70) 944
fracture, open treatment, (92) 1396
fracture, paralysis following extension for, (72) 633
osteotomy of lower end of, in permanent flexion of knee-joint, 1917—ab
sarcoma of, with metastatis, mixed toxins for, with epithelioma developing at site of Roentgen-ray dermatitis, 2025—ab
shattering of, with extensive compound injury of soft parts, recovery without operation, *1343
tuberculosis of lower end of, (41) 1670
tuberculosis of lower end of, pathology and treatment, (13) 1582
FERGUSON-GRANT method of lateral intestine anastomosis, modification of, (104) 1262
FERMENT action, (51) 240, (45) 1261
albumin, starch and fat-splitting, excretion of, in infants, (97) 406
amylolytic, excretion in urine during toxemias of pregnancy, (30) 1745, (20) 1924
arresting action of thiocyanic acid in respect to pepsin, (138) 252
attacking mannite, (41) 246
digestive, in infants, (155) 562
in serum of insane, (110) 1335
protective, (116) 91, (74) 404, (117) 1196
FERTILITY in syphilis parents, unusual, (17) 1668
noteworthy, 852
FETUS, ascites in, cause of difficult labor, (26) 1837
autolysates of human, for cancer, Fichera's method of preparing, 228
calcium salts abstracted from mother's blood by, cause of rapid progress of tuberculosis, (6) 1831
carbon dioxid passage from mother to, (56) 867
carbon monoxid poisoning of woman eight months pregnant and of, (56) 1111
change in external aspect and size of, in last month before term, (137) 330
chondrodystrophy, clinical picture of, (100) 1500
chondrodystrophy, familial, in, (148) 870
deformities or defects not due to unsuccessful attempts at abortion, 769
developing in ovary, (29) 1669
do parathyroids functionate in intrauterine life? (84) 783
fluids of, 374—E
head, Porter's method of correcting faulty position of, (203) 874
head, why it rotates, (61) 1402
membrane, action of Roentgen rays on, (110) 1588
membrane grafts, *973, (109) 1029, 1977
ossification centers in pelvis of, (173) 872
overgrowth, significance in labor, (76) 1107
pelvis, development of, (176) 562
peritoneal folds of Jonnesco, Treves and Reid, their relation to Jackson's membrane and Lane's kink, (77) 1396
presentation and position, abdominal and vaginal examination in diagnosis of, comparative value of, (87) 629
serum of, to cause onset of labor, (75) 1107
signs of maturity at ninth month, (152) 708
teratoma of thyroid in, (22) 1933
thyroid, iodin and phosphorus contents, size and physiologic activity of, (46) 1665
FEVER, albumin in, metabolism of, (105) 1335
alimentary, (42) 557
anaphylaxis and, 1721
aseptic wound, and postoperative hyperthyroidism, identity of cause and their prevention, (133) 1030
causes and treatment, (60) 87
continued, comparison of types of, (78) 1262
FEVER, dangers of abrupt change of position during, (131) 1038
diagnosis of, without manifest physical signs, (138) 699
digestion and, (55) 1839
eruptive, differential diagnosis, (94) 242
in children, obscure origin of, 1387—ab
in mastoiditis complicating acute and chronic suppurative otitis media, (15) 1837
nystagmus in, (75) 703
outbreaks of, with rapidly fatal cases in boys' industrial school near Edinburgh, inquiry into, (10) 1190
paramelitensis, (15) 946
polyarthritis with enlargement of spleen and, in children, (84) 406
protracted, of obscure origin, (58) 702
Puerperal: See Puerperal Infection
pulse and sweating in, relations between, (112) 951
sugar in blood during, (114) 1501
treatment, 1720
urinary, (209) 1754
vaccines and, (1) 785
wound, aseptic, and postoperative hyperthyroidism, identity of cause and prevention, (27) 1831
FIBRILLATION, auricles, (6) 164, 665—T
auricles, automatic movements of ventricles with, (42) 1746
FIBRIN in gall-bladder calculus, (175) 488
FIBRINEMIA, (18) 787
FIBRINOGEN, precipitation of, in ascitic fluid differentiates it from cyst content, (108) 328
FIBRO-ADENOMA of male breast, (12) 86
FIBRO-ANGIOMA, extensive, radium for, (45) 86
of tongue, (39) 943
or fibroma of middle ear, (23) 81
FIBROIDS, calcareous, large, with absence of ovaries and uterus ligaments, (21) 695
exotic flora of uterus in relation to cancer and, (1) 699
stomach, with perforating ulcer, transgastric resection, recovery, (6) 396
uterus, (76) 553
uterus, complicating pregnancy, (74) 553
uterus, complications of, demanding early diagnosis and immediate operation, (10) 396
uterus, operations for, early, reasons for advising, (11) 396
uterus, radical treatment, based on association with malignancy, (58) 1326
uterus, urinary symptoms due to, (97) 1108
FIBROMA molluscum, tumors of large nerves associated with, largest specimen on record, 936—ab
or fibro-angioma of middle ear, (23) 81
uterus, phlebitis during course of, (54) 701
uterus, radiotherapy for, technic and results, (55) 867, (89) 1500
uterus, roentgenotherapy, (135) 252, (38) 1496
FIBROMATOSIS, stomach, in relation to ulcer and cancer, 2022—ab
FIBROMYOMA uterus, (71) 1580
uterus, red degeneration of, (24) 1264
uterus, with unusual characters, (30) 1264
FIBROSARCOMA, ovary, (28) 1264, (49) 1265
FIBROSIS, arteriocapillary, clinically resembling myasthenia gravis, (47) 627
FIBROSITIS, various forms of, treatment, (2) 1494, (43) 1670
FIBROXANTHOSARCOMA, case of, (166) 1753
FIBULA, absence of, congenital, (8) 859
fracture of femur or, with large defect, (125) 1038
sarcoma of, periosteal, with unusually rapid though typical complications, (26) 1583
FICHERA'S method of preparing fetal autolysates for cancer, 228
FILARIA embryos, cultivation in vitro, 1824—ab
embryos, life of, outside body, (28) 165
loa cases, (34) 1669
loa, metamorphosis of, 298

FILARIASIS in native troops in Senegal, (27) 946
FINGERS, defects in, pedunculated skin flaps from chest to cover, (98) 704
gangrene, spontaneous, and symmetrical gangrene, (70) 1035
immersed in liquid electrode, sensory threshold estimated by measuring irritability of, **1800**—E
in rhinoplasty, *730
in rhinoplasty, improved technic, (154) 162
toe substituted for, (113) 1037
tuberculous, osteomyelitis of, (16) **1919**
FIREARMS, modern, wounds from, (201) 1754
FIRST-AID corps in Vienna, one year's work of, **1474**
service, Berlin, changes in, **761**
teaching of, in schools, (24) 1980
FISH in destruction of mosquitoes, **1348**—ab, **1812**—C
FISHERIES, hospital ship for, **296**
FISTULA and cysts in neck, (45) **948**
between bronchus and esophagus with aortic aneurysm, (89) 1114
bile lost in, feeding of, (86) **169**
bladder, urinals for, (71) 791
hyomandibular, (83) **1268**
in ano, (5) 396
internal, after gastro-enterostomy, (101) 1114
jejunocolic, from peptic ulcer in jejunum after gastro-enterostomy, (51) 867
lung, (219) 564
perineal, following operation for stricture of urethra, treatment and prevention, (23) 625
skin flap to interpose between urethra and rectum for, (36) 166
urachal, (3) 1836
FLAT-FOOT: See Talipes
FLEA, rat, bionomics of, (8) 2067
FLEXNER'S antimeningitic serum, irrigation of spinal canal as preliminary to introduction of, *828
FLIES, campaign against, **1086**
domestic, eradication of, **525**—E
house, development of, **1169**—ab
poliomyelitis, epidemic, transmitted by fomites and, (105) **635**
sick children and, (73) **1987**
which deposit eggs when they sting, **389**
FLINT'S murmur, causes of, (54) 1497
FLOOD districts, President Wilson rises to emergency in, **1079**—E
situation, **1085**
survey, sanitary, **1975**—C
FLORIDA medical news, **214, 1467, 1713, 1967**
state board November report, **79**
FLOUR and foods for diabetics, **922**—C
entire, wheat bread from bolted flour and from, **925**—C
FLUIDS, body, and leukocytic bacteriolysin, (41) **1261**
body, complement content in, (178) 488
current, intra-ocular, proof of, based on principle of mechanical adaptability, (11) 1739
current of eye, deficient results in experimental findings in, (10) 1739
drying tissues and, new method, (30) **626**
fetal, **274**—E
hydrocele, action of, on objects used in biologic test for epinephrin, (36) 626
organic, technic for removing albumin and determining residual nitrogen in, (139) 1116
FOERSTER operation for spastic paralysis, **1917**—ab
FOLIN and Macallum's uric acid reagent, composition of, **617**
microchemical method of, for determination of urea in urine, (94) 1327
FOOD and drugs act, and Father John's medicine, **1316**—P
and drugs act, proposal to remove restriction on use of decomposed vegetable substances, **1367**—E
and drugs in 1912, work of Connecticut Agricultural Experiment Station in maintaining high standards, **132**—E
antineuritic, **1543**—E
bacteriologic examination of, special reference to gelatin, (34) 695
chemistry of, (164) 163
choice of, in disease, (113) **636**
diabetic, **2052**—E
diabetic, offered for sale in United States, *2037
idiosyncrasy to common, (89) 161
influence on incubation of hydrophobia, (118) **1589**
FOOD, ingestion of, influence on metabolism, (116) 1501
palm buds as, (124) 1589
plant nutriments converted into, by animals, **904**—E
proprietary, in infant feeding, uses and abuses of, (14) 1668
pure, well cooked, **1882**—E
requirements of children, (10) 1264
values and food requirements, objective method of teaching, (20) 317
weight curve of infant in relation to, (29) 1185
FOOT affections, obscure, (13) 1744
amputation, osteoplastic, (190) 1754
care of, on walking tours, (108) **1842**
cast of, rapid and accurate method of taking, **1916**—ab
dislocation of, (135) 1932
elephantiasis neurofibromatosis of, with general neurofibromatosis, (8) 1491
gangrene, arteriovenous anastomosis for threatened, **2024**—ab
gangrene, diagnosis and treatment, (105) **1588**
gangrene from exposure to cold, (155) **1675**
inflammation in anterior arches cause of pain in, etiology of, *1152
myxoma, congenital, (3) 1576
paralysis of, osteoplastic fixation of, (104) 951
strain, prevention of, (46) 1028
support of, (122) 870
vein anesthesia for operations on hand and, (48) **166**
FOOT-AND-MOUTH disease, (113) 1923
FORCEPS, Burton's, (10) 946, (20) 1033
capsule, (86) 945
ligature-passing, automatic, *1226
long thumb, for abdominal work, special, (161) 162
obstetric, history of, (69) 1327
operation, high, when is it justifiable? (6) **695**, (39) 1326
FOREARM, different attitudes of, with various traumatic lesions, (61) 632
fusing of bones of, (105) 1672
FOREIGN BODY, abdomen, (12) 322
abdomen or neck, operative removal of undiagnosed, (56) 2070
appendicitis associated with, (51) 477, (71) 1188
bronchoscopy for recovery of nail occluding third bronchial ramus, (135) 1030
bronchus, (83) 1667
bronchus, pin embedded in, extraction of, (51) 1746
cecotomy for removal of hairpin impacted in ascending colon, (20) 479
coin in alimentary canal, (30) 700
cornea and conjunctiva, removal of, (26) 1496
cornea, treatment, (63) 83
duodenotomy for removal of sewing-machine needle, (64) 1326
duodenum, hat-pin in, (31) 1669
esophagoscopy, (83) 1667
esophagoscopy for detection and removal of, importance of, (138) **1590**
esophagus, *801
esophagus and respiratory tract, (131) 1932
esophagus, technic for removal of, (68) 696
eye, (133) 243, (40) 318, (86) 554
eye, localization of, (127) 1673
eye, magnet for removing fragments of iron from, (135) 243
eye, six pieces of steel in enucleated eye, one piece found by Roentgen-ray, (84) 553
eyeball, roentgenography of, (89) 554
gastrotomies, six, on one woman for swallowed spoons and toothbrushes, (152) 1270
gastrotomy with removal of 1149, (29) 317
grape seeds in pelvic abscess, (126) 1836
heart, toothpick in, (42) **1833**
in soft parts, needles aid in locating, (82) 168
intestines, (66) 1402
intestines, feces with, (132) **408**
lens, glass in eye 3½ years after accident, (12) 1739
nail, travels of, (69) **1580**
needles in abdomen as complication of hysterectomy, (23) 1033
pneumonotomy for, (19) 479
removal, technic for, (134) 637
FOREIGN BODY, respiratory tract and esophagus, (35) 1579
roentgenography, value of, (70) 83
tracheobronchoscopy for removal of, (45) 1395
urethra, (27) 1740
FOREIGN news, **61, 139, 219, 297, 379, 844, 915, 1237, 1311, 1471, 1552, 1970**
population and mortality statistics of Boston, (8) 780
population in relation to mortality and morbidity rate of Philadelphia, (23) 1492
FOREIGNERS, admission to Prussian universities, **917**
problem of German universities, **308**
FOREST reserves, state, what they offer to consumptive, (79) 242
FORLANINI method for artificial pneumothorax in lung tuberculosis, (34) 239
FORMALDEHYD fumes in sterilization of surgical materials, (53) **702**
in urine, Burnam's test for, *662
recklessness in use of, *590
FORMALIN excretion in urine, Burnam's test, accuracy of, (32) **1740**
excretion in urine of children and infants taking hexamethylenamin, factors which influence, (33) **1260**
FORSYTH dental infirmary, purpose of, (55, 56) 696
FRACTURE, (21) 630
American Surgical Association desires articles on, **1655**—C
and orthopedic table, *1850
ankle, (100) 90, (37) **947**
ankle, double, outcome of, (100) 705
ankle, pseudarthrosis after, (57) 166
articulations produced experimentally in fractured bones, (48) **1497**
bones in face, typical, (113) 869
carpus scaphoid with luxation of semilunar, *1536
carpus scaphoid with palpable deformity, *1536
clavicle, irreducible, bone plating in, (30) 81
clavicle, splint for, (26) **781**
closed, open or operative treatment of, American surgeon's opinions of, (47) 1497
compound, articles on, **1246**
compound, management of, (79) 1189
compound, operative management of, (79) 864
compound, treatment, (53) 1580
defectively healed, (104) 483
elbow, (134) **1030**, (140) 1502
extension by Bardenheuer's technic versus Steinmann's nail technic for, (100) 1114
femur, atrophic, typical, (83) 1333
femur, end-results, report of commission on, (154) **243**
femur neck, (136) 408
femur neck, anatomic treatment, (1) 474
femur, neck of both, (37) 789
femur neck, treatment, (70) 944
femur, open treatment, (92) 1396
femur, paralysis following extension for, (72) **633**
fibula or femur with large defect, (125) 1038
foreign bodies in open operation for, (116) 85
healed in abnormal position, operative correction of, (105) 1114
heel bone, internal tubercle of, (38) 1926
heel bone, posterior process of, (163) 1198
heel bone, recent, (33) **1583**
Hodgen's splint for, Brown's modification, **1248**—ab
humerus, circular resection and suture of axillary artery for transverse laceration by, (143) 162
humerus, lower end of, treatment, (13) **865**
immediate treatment, (11) **1394**
jaw, treatment, (79) 326, (106) 1403
joints, (12) **1394**, (51) 1839
joints, in or about, **73**—ab
joints, in or about, passive motion begun early following, value of, (90) **161**
knee-joint, including epiphyseal separation, diagnosis and treatment, **2023**—ab
local anesthesia for reduction of dislocations and, (131) 560, (76) 2072
long bone, (83) 1262
long bones, operative treatment, (42) 240 (53) **627**
FRACTURE, malar bone, depressed, replacing, *278
malleolus, (72) 1499
massage and movement in treatment, (15) 1495
metatarsal bone, fifth, by inversion of foot, (37) 398
metatarsal bones, multiple, technic for treatment, (105) 483
myelomata, multiple, with albumosuria and numerous spontaneous, (14) 625
nail extension after, (51) 166
navicular bone in children, (61) 702
odontoid process of axis, (97) 704
odontoid process of axis with intermittent pressure paralysis, (32) 81
open, fractures with intractable fragments and ununited fractures, treatment, (97) 242
operative fixation as cause of delay in union of, (28) **1325**
patella and olecranon, subcutaneous suture of, (51) 701
patella, in tabes, (32) **166**
patella, treatment, (64) 1193, (55) 1326
pelvis, dislocation and, (110) **170**
Pott's, (66) 1028
radius head, (103) 483
radius, longitudinal, of lower extremity, *123, *1537
report of committee on treatment of simple, (13) **86**
skull, air in cerebrum ventricles following, **1024**—ab
skull, depressed, of newborn infant, immediate treatment, (13) 694, (40) 1326
sternum, (129) 952, (188) 1754
tibia, lower end of, in children, (87) 558
tibia, spiral, treatment, (19) **1920**
tibia, upper end of, (47) 166
treatment, (15) 86, (193) 563, (108) 629, (82) 1262
treatment, operative, (28) 81, (65) 241, (51) 782, (76) 783, (72) 1327
treatment, operative versus non-operative, (75) 783
ulna, upper third of, treatment, (49) **701**
ulna, with dislocation of head of radius, (31) 1583
ununited, Lane plate method and insertion of tibial bone plate in, (84) 1262
ununited, treatment, (97) 242, (135) 401
vertebra, laminectomy for, with necropsy, (149) 638
FRAMBESIA in Guam, prevalence of, and etiology of gangosa, (126) 401
salvarsan in, (119) 484, (104) 1397
FRANK, Professor, death of, **918**
FRANK'S technic for subcutaneous symphysiotomy, (73) **1747**
FRAUDS, statute of, not involved in case made by physician, **396**—MI
FREEZING, effect on typhoid vaccine, (20) **1027**
FRENCH Gynecologists, Obstetricians and Pediatrists, seventh annual meeting, **1373**
physicians on visit, **1649**
FRENKEL treatment in tabes dorsalis, **927**
FREUD, views of Plato and, on etiology and treatment of hysteria, (15) 1577
FREUDIANS and imaginative literature, **767**—C
school, excesses of, **307**—C
theory of neuroses, Jung's modification of, (50) 862
FREUND, honors for Baccelli and, **297**
FRIEDMANN alleged cure for tuberculosis, is it a commercial or scientific proposition? **375**—E
and patent of lung bacilli, (167) 487
articles published by, **1173**—C
disgraceful piece of commercialism, **1365**—E
evading law, **1367**—E
fair play for public and, **754**—E
Institute, New York's action on, shows need of endowing Boards of Health with power to cope with such situations, **1800**—E
method of treating tuberculosis, newspaper puffs for, **845**
newspaper correctly classifies, **1713**—E
New York clinics, report on one, (34) 2067
personal impression of, **849**—C
treatment and government, **672**—E, **1007**
treatment for tuberculosis, **67**—C, **70, 309, 466, 532, 679**, (41) 782, 917, **1010**, (29) 1105, **1807**

FRIEDMANN treatment for tuberculosis, investigation of, (108) 1835
treatment for tubercuIosis, misapprehension as to novelty of, **753**—E
treatment for tuberculosis, personal experiences with, (45) 1982
treatment for tuberculosis, public health service investigation of, **1572**—ab
U. S. senate asked to license, **1313**—ab
FRUITOLA and traxo, **1016**
FRUITS, bitter, artificial ripening of, **601**—E
medicinal value of vegetables and, **147**
FUCHSIN, basic, in chronic leg ulcer, ***1680**
FULGURATION, effect of non-carbohydrate diet and, on transplantable rat sarcoma, **2021**—ab
in bladder tumors, (14) **1395**
papilloma of epiglottis, large, removed by, (85) 399
ureter calculi, impacted, released by, ***1534**
FULTON diabetic compound, **225**—P, **384**—P
FUMIGATUS, sporulation of aspergillus niger and, (29) 1926
FUNGI, application of, as styptics, (5) 1108
in sprue, rôle of, (23) 787
particularly clitocybe sudorifica peck, pholiota, autumnalis peck and inocybe dicipiens bresadola, (66) 1188
FURUNCLE, to abort a, (95) **1988**
FURUNCULOSIS in infants, autovaccine therapy of, (156) **872**
rational treatment, (114) **162**

G

GAG, mouth, with permanently attached tube for continuous etherization and new tonsil grasp, (111) 1328
GALACTOSE introduced directly into portal circulation, tolerance for, (101) 1749
GALL-BLADDER calculus, (19) 401
calculus and uterus myoma, (52) 477
calculus at Basel, (78) 1036
calculus, chologen treatment of, **383**—P
calculus, diagnosis, difficulties in, (60) 1326
calculus, fibrin in, (175) 488
calculus, ileus from, (118) 484, (131) **1589**
calculus in common bile duct, technic for removal, (153) 1198
calculus in common duct, diagnosis, ***171**
calculus incision, technic for, (129) 1589
calculus, intestine obstruction due to, (11)
calculus obstruction of common bile duct, (48) 2070
calculus, operation for, (7) **1329, 1474,** (180) 1676
calculus producing pylorus and jejunum obstruction, (49) 1982
calculus, radish juice for, (145) 1502
calculus, removal, early, and preservation of gall bladder as prevention of disease of this and contiguous organs, (64) 160
calculus, solubility of, (167) **1753**
changes following autoplastic transplantation into gastro-intestinal tract, (50) **1187**
Disease: See also Bile Tract
disease, differential diagnosis, (65) 1028
disease, etiologic factor in, (61) 1982
growths in bile ducts and, (31) 1983
hour-glass, (74) 1333
how diseased may it be and still functionate? **314**—ab
inflammation of, **770, 928**
mucocele of, (12) 1264
myxosporidia in, in fishes, effects of, (7) 401
perforation, acute, six cases, (11) 1982
surgery, (84) 1402
surgery of bile ducts and, technic, (66) 1834
GALL-DUCTS: See Bile-Ducts
GALL-STONES: See Gall-Bladder Calculus
GALVANISM of individual semicircular canals, nystagmus produced by, (38) 943
GALVANOMETER, filament, research on muscles with aid of, (128) 485
GANGLIA, spinal, cultivation in vitro of, (31) 947
GANGLIONITIS, posterior, acute, herpes zoster is the eruption in, ***1691**
GANGOSA, and tropical hygiene, **1797**—E
frambesia in Guam, prevalence of, and connection with, etiology of, (126) 401
GANGRENE, amputation for, technic for, (94) 559
appendix, (5) 555
appendix and coil of small intestine, operation, recovery, (4) 555
arteriovenous anastomosis in, (61) 166
balanitis due to, (61) 404, ***1769**
contagious, new, in white rats, (47) 1982
diabetic, of lower extremity, conservative treatment, ***1126**
finger, spontaneous, and symmetrical gangrene, (70) 1035
foot, arteriovenous anastomosis for threatened, **2024**—ab
foot, diagnosis and treatment, (105) **1588**
from paralysis of vessels following exposure to moderate cold, (155) **1675**
hernia with combined anastomosis and fistula operation for, (26) 700
in status epilepticus, death from sapremia, (133) 478
incipient, treatment, (148) **1117**
intestine from non-penetrating bullet wound, (62) 477
lead carbonate salve cause of, (41) 1497
leg, in infant 11 days old, amputation, recovery, (25) 1191
lung, (119) 1749
of ileum complicating appendicitis, (36) 81
operative treatment of impending, (69) 558
spontaneous, and allied conditions in orthopedic surgery, (6) **859**
spontaneous, measures to reduce viscosity of blood in, (113) **1404**
thigh, entire, and retroperitoneal rupture of appendix with extravasation of pus into, ***1782**
GAPES (syngamus) in man an occasional helminthic infection, (29) 556
GARBAGE: See also Refuse; Waste
GARBAGE and sewage disposal in Germany, (44) 1395
disposal, **1239**
disposal by reduction method, (27) 239
kitchen incinerator, construction and use, (55) 944
piggeries, (26) 239
systems of collection and disposal of, in New Orleans, (24) 239
GAS embolism and production of artificial pneumothorax, (122) **1836**
embolism during prostatectomy, fatal, (43) 701
embolism from injection of air into bladder, fatal, (42) 701
explosion, in mining, danger from, (211) **874**
metabolism of bacteria, (72) 161
GASOLINE fumes, toxic effects of, (74) 697
GASSERECTOMY, (70) 697
medical, ***1355**
GASSERIAN GANGLION, alcohol injection into, in trifacial neuralgia, new method of treating, ***1354, 1725**—C, (59) **1840**
anesthesia by blocking, (84) **483**
diplococci in, in herpes zoster of brow in senile dement, (161) 1198
herpes of brow with bacteria in, (68) 1840
neuralgia from calcification of, **183**—ab
GASTRALGIA nervosa, differential diagnosis, (53) 1493
GASTRECTASIS, (148) **330**
acute, (5) **158**
acute, following cesarean section, (4) **158**
acute postoperative, (73) 399, (133) **408,** (78) 944, (28) 1186
removal of gastric contents, starvation and rest in bed for, ***1859**
GASTRECTOMY, partial, in combined tuberculosis and cancer of stomach, (5) **1738**
total, (89) 1268
GASTRIC JUICE, acidity of, blotting-paper test for, (63) **1035,** (85) 1037, (85) 1747
anaphylaxis to, (56) 948
bound chlorin in, especially with stomach cancer, (92) 1403
during digestion, (131) 1844
GASTRIC JUICE, hydrochloric acid of, **284**—E
hydrochloric acid of, behavior of, during kidney disease, (204) 874
in cancer and non-malignant disease of stomach and duodenum, (19) **1924**
hyperacidity, causation and treatment, (2) 1923,
influence of, on other living tissues, (97) 869
peptolytic power of saliva and, special reference to diagnosis of cancer, (19) **158**
why living tissue is not digested by, (61) **1333**
GASTRITIS: See Dyspepsia
GASTROCOLOPTOSIS, (6) **316**
GASTRO-ENTEROPTOSIS: See also Enteroptosis; Gastroptosis; Ptosis; Splanchnoptosis
GASTRO-ENTEROSTOMY and stomach resection, indications and technic in, (20) **695**
button in, advantages of (68) 702
chronic vicious circle after, especially with incarceration of loop in slit in mesocolon, (97) 483
for peptic ulcer, after-history, (6) **1108**
influence on stomach and duodenum ulcers, ***881**
internal fistulas after, (101) 1114
jejunocolic fistula from peptic ulcer in jejunum after, (51) 867
on infant thirteen days old, (34) 1191
permeability of the pylorus after, (163) **708**
pylorospasm with stomach tetany cured by, (87) 1922
technic, ***511**
GASTRO-ESOPHAGOSCOPE, new, (86) 83
GASTRO-INTESTINAL TRACT, alpha and omega of, in newborn infant, (10) 1324
and heart disorders, (30) 1033
atherosclerosis, experimental, (168) 1753
bacteriology of, (5) **1190**
coin in, (30) 700
diseases of, complicating pregnancy, (135) 699
diseases of, newer teachings of, (92) 399, (55) 552, (71) 863, (98) 1189, (73) 1493
disturbance in children due to constipation, (66) 160
disturbances of infants, classification of, (122) 1931
disturbances of infants, heat factor in, (38) 1395
dyspepsia, (110) 1667
hemorrhage, treatment, (48) **1585**
hemorrhage, unusual forms, (87) **1929**
influenza, (52) 552
Intoxication of: See Intestine, Intoxication
iodin for mucosa in operations, (138) 1197
occult blood in, (67) **1036**
operative treatment, indications for, (62) 325
ozone in, therapeutic action of, (64) 1035
palpation and roentgenoscopic control of, (79) 249
paralysis, postoperative, (62) 1035
permeability of, for alien albumin in sick infants, (115) 1404
physiology and pathology of, (53) 2070
reflex influences from, on blood-pressure, (89) 1672
roentgenoscopy in diagnosis of lesions of, value of, (45, 53) **82,** (83) 864, (30) 1186
roentgenoscopy in functional nervous disorders, value of, **1911**—ab
surgery, internal medicine findings as guide to, (125) 407
symptoms, puzzling, ***1357**
therapy, (72) 1742
tonus in, **1101**—ab
GASTROJEJUNO - ESOPHAGOSTOMY, Roux, modified technic for, (102) **951,** (40) 1497
GASTROJEJUNOSTOMY, duodenojejunostomy after, Murphy button to effect, (12) **317**
method of performing, (7) **1108**
GASTROPEXY by ligamentum teres, (165) 562
GASTROPHILUS and creeping eruption, **1481**
GASTROPTOSIS: See also Enteroptosis; Gastroenteroptosis; Ptosis; Splanchnoptosis
GASTROPTOSIS and coloptosis transversa as seen from post-mortem examinations, (81) 1922
GASTROPTOSIS, operative treatment, (138) 952
position of stomach in relation to certain aspects of, ***421**
GASTROSCOPY and esophagoscopy, new principle in, (7) 316
technic for, (139) 1590
GASTROSTOMY, Jianu-Roepke, and plastic esophagus operation, modified technic for, (119) 1038
GASTROTOMY, hair cast of stomach with (33) 631
six, on one woman for swallowed spoons and toothbrushes, (152) 1270
with removal of 1149 foreign bodies, (29) 317
GATLIN Institute, **1092**—P
GAUZE as a scarifier in vaccination, **1318**—C
sponges in laparotomies, **226**—C
GELATIN, antigen separated from nucleoprotein of plague bacillus by filtration through, attempt at, (21) 1744
bacteriologic examination of, (34) 695
in acute and chronic suppuration, **519**—ab
influence on coagulation of blood, (110) **1115**
tetanus from, **1366**—E
GENERAL news, **61, 139, 218, 296, 379, 457, 678, 759, 843, 915, 1006, 1085, 1165, 1237, 1311, 1372, 1471, 1551, 1649, 1717, 1804, 1893, 1969**
GENITALIA and appendix, (65) 1927
biochemistry of female, (61) **319**
cancers and myomas of breast and, roentgenotherapy of, (87) 1841
cancers, primary, multiple, in women, (74) 1747
developmental defect of female, (18) **164,** (85) 629
diseases of, in female insane, diagnosis and operative treatment, (13) 396
functions of ductless glands in female, (35) **1265,** (10) **1330,** (20) 1399, (14) 1582
iodin application to external and internal, in women, **151**—ab, (7) **695**
malformation of, and displacement of kidney, (177) 562
myoma and tuberculosis of, in female, (121) 1589
prolapse, influence of spina bifida on, (59) 398
reflex tenderness with inflammation of female, (140) **1197**
tuberculosis in female, management of, **1101**—ab
tumors, serodiagnosis of pregnancy and, (87) **950**
GENITO-URINARY TRACT, cancer, in workers on synthetic dyes, (65) **632**
diseases, differential diagnosis, (116) 162, (25) 1027
exudative diathesis in mucosa of, manifestations of, (107) 1195
infection by micrococcus catarrhalis, (80) 944
roentgenoscopy of diseases, advancement in, (31) 1027
surgery done in Vienna and Berlin, (159) 162
surgery, modern, points for practitioner, (32, 33) 1400
tuberculosis from general practitioner's standpoint, (7) 2066
tuberculosis in women, (46) 480, (116) **1115,** (31) 1325
tuberculosis, paths of infection in, (20) **865**
tuberculosis, tuberculin in, (97) **1923**
tumors, in aniline-dye workers, **206**—E
GENIUS and errors of refraction, **1562**—ab
literary, and manic-depressive insanity, (77) 628
GENTIAN violet, bactericidal action of stains closely allied to, selective, (38) 1260
GENU-VALGUM, (104) 1672
among Arabs, rarity of (95) 793
in small children, (23) **700**—ab
GEORGIA homeopathic May report, **1826**
medical news, **135, 454, 1162, 1368, 1467, 1967**
GERMAN chemical interests, toward improvement in scientific organization, obstructive attitudes of, **1229**—E

GERMAN convention on internal medicine, (63) **1720, 1806**
medical dictionaries, **541**
medical study tour, this year's **1010**
pharmacopeia and protection against deadly bichlorid, **1083**—E
surgery, (83) 1029
Surgical Association, annual meeting, **1312, 1374, 1473**
GIANT CELLS in thyroid and prostate, (119) 1270
stellate inclusions in, (120) 1270
GIGANTISM in children, conditions resembling, (119) 407
GILLIAM operation for uterus suspension, (14) 694
GIRARD treatment for seasickness, **1903**
GLANDS and lymph-node, **1560**
ductless and diabetes, (61) 1028
ductless, examination of, in dementia praecox, (31) **861**
ductless, genital functions of, in female, (35) **1265,** (10) **1330,** (20) 1399, (14) 1582
ductless in gravid uterus, (68) 1747
ductless, works on, **1016**
submaxillary, infection of, (43) **246**
GLANDERS, conjunctival reaction for, (39) 1106
laboratory diagnosis, (27) **476**
GLASSES, colored, for hunting and as protection against snow and other light, (90) 554
grinding, progress in, (60) 404
prescribing, (60) 553
GLAUCOMA, (85) 553
antiglaucomatous operations, new, (92) 554
chronic effect on central retina blood-vessels, (35) 1028
diagnosis and present methods of treatment, (54) 1833
hemorrhagic, pathology of, (14) 1664
origin of, (159) 92
surgical treatment, (149) 243
GLENARD'S DISEASE: See Splanchnoptosis
GLIOMA, brain tumors with special reference to pathology of, (9) 629
cerebellum, operation, recovery, (51) 1921
in frontal lobe, large, (46) 1926
pia mater, diffuse, (1) 1663
GLIONEUROMA, ganglionic, of optic nerve, *363
GLOBIN, caseinate, antigenic properties of, (24) 1578
caseinate, preparation and properties of, (59) 318
refractive indices of, (53) 318
GLOBULINES, antidiphtheric, and antidiphthericum serum, **1074**
GLOSSINA MORSITANS, development of, trypanosoma rhodesiense in, (9) 401
influence of meteorologic conditions on development of trypanosoma rhodesiense in, (6) 243
traps, (6) 1397
GLOTTIS, edema of, (75) **1580**
GLOVES: See Rubber Gloves
GLUCONEOGENESIS, chemistry of, (32) 626
GLUCOSE in urine in diabetics, action of lactic acid bacilli on percentage of, (87) **477**
wins in Supreme Court decision, **1307**—E
GLUCOSIDS, digitalis series, tolerance of, factors determining, (54) **1922**
GLUTEN flours, dangerous, and diabetes, **909**—E, **922**—P
GLYCERIN, sterilization of, (86) **2072**
GLYCOGEN and diastase of animal tissues, (48) 318
in liver, modification of, after intravenous injection of cholin, (122) 952
mobilization of, (106) 1037
GLYCOSURIA, (7) 1264
and inanition in infants, (71) **2072**
epinephrin and alimentary, in exophthalmic goiter and subsidence after resection of thyroid, (102) 559
epinephrin, pancreatic juice in, modification of, (148) 1502
internal secretions and, (137) 1932
in tuberculous meningitis, (37) **402**
non-diabetic, and diabetes in one person, (58) 1839
ozone in, (54) **1332, 1559**
pneumaturia and apparent subsidence of, in diabetes mellitus with bladder disease, (149) 1674
with cirrhosis of liver, (147) 252
GLYCYLTRYTOPHAN splitting agent in human saliva, (17) **158**
GLYOXALASE, (49) 1665
GOITER: See also Hyperthyroidism; Thymus; Thyroid
GOITER, (82) 697, (119) **1115,** (103) **1189,** (149) 1329
aberrant, (171) 1272
and hyperthyroidism, (141) 1030
and its structural and physiologic units, (87) 1396
blood-picture with, (49) 1839
drinking-water origin of, arguments against, (124) 1116
endemic, **751**—E
endemic, and radio-activity, **1798**—E
endemic, and radio-activity of drinking water, no probable connection between, (104) 1749
endemic, etiology of, (21) 556, (26) **631,** (25) **787**
endemic, in Bavaria, (73) 167
exophthalmic, (76) 1402
exophthalmic, alimentary and epinephrin glycosuria in, and subsidence after resection of thyroid, (102) 559
exophthalmic, and perverted thyroid secretion, high-frequency electricity in treatment, (1) **694**
exophthalmic, atypical, (2) **699**
exophthalmic, clinical and pathologic aspects of, (115) 478
exophthalmic, histology of, (146) 561
exophthalmic, intestinal symptoms with, (100) **250**
exophthalmic, kinetic theory of, (12) 239
exophthalmic, pathologic physiology of, from surgeon's viewpoint, present-day conceptions, (76) **697**
exophthalmic, roentgenoscopy of heart in, (120) 560
exophthalmic, roentgenotherapy of, (68) 1666
exophthalmic, roentgenotherapy of ovaries in, (113) **1931**
exophthalmic, spontaneous recovery, (158) 562
exophthalmic, sugar content in blood in, (103) 559
exophthalmic, surgery of thyroid with special reference to, (17, 25) 1109, (17) 1191
exophthalmic, surgical treatment, (46) 398, (116) 478, (73) **633**
exophthalmic, thymectomy in, with myasthenia, (150) **561**
exophthalmic, thymus with, (99) 869
exophthalmic, thyrogenic origin of, (8) **1105**
exophthalmic, thyroid in, histology of, (73) 1402
exophthalmic, thyroid in relation to, (77) 697
exophthalmic, typical and atypical, **1572**—ab
exophthalmic, viscosity of blood in, (104) 559
experimental production of, (93) **1500**
intrathoracic, and thymus hyperplasia, Roentgen ray in, *117
ligation of superior thyroid under local anesthesia, (107) 1189
operations and local anesthesia, (166) 163
operations, modern technic for, (36) 1583
operative surgery of, (91) 406, (84, 85) 1494
predisposition of women for, (214) **564**
resection, technic for, (70) 703
serodiagnosis, (138) 1674
thymus and combination of thymus-hyperplasia with, (96) 1923
treatment, Mark White's, **1319**
uterus tumors associated with, **1572**—ab
Weber county, (117) 478
GOLD in tuberculosis treatment, (97) 1672
jewelry, skin discoloration from, **1094**
preparations in tuberculosis, (100) 1403
salts injected intravenously, action of, (114) 1037
GOLDSCHMIDT endoscope, **1247**
method of urethroscopy, (200) 564
GOLF-BALLS, fluid core, literature on, **1656**
injury to eye due to explosion of, (158) 243, *1297, **1307**—E
GONOCOCCUS, (34) 475
cultivation of, easy method, (156) 479
do not proliferate in urethra itself, (40) **166**
infection, diagnosis of, improved methods for, (126) **1844**
infection, generalized, with keratosis, (136) 1038
infection in male child without evidence of urethritis, (31) 475
GONOCOCCUS septicemia, fatal case, (109) 242
streptococcus and other bacteria in infective deforming arthritis and arthritis deformans, serodiagnosis for, *1208
vaccine, **1074, 1461**
vaccines in gonorrheal ophthalmia, (48) 944
vulvovaginitis, serodiagnosis of, (4) 1324
GONORRHEA, (112) 320
acute, treatment, new, (35) **1395**
and accessory passages in penis, (91) 1748
arthritis due to, in arthritic subjects, (88) 477
arthritis due to, meningococcus serotherapy of, (36) **1984**
arthritis due to, vaccine in, (175) 1272
chronic, persistence of, explained by polyps in urethra, (63) 1671
complications, treatment, (123) 1196
conjunctivitis due to, aborted by two per cent. solution of nitrate of silver, (91) 1494
digestive bacterial extracts in, and other infections, *1061
dispensary treatment, (68) 1742
double chancre and, with confrontation, (95) 161
encephalitis, infective, acute, probably originating from, **1391**—ab
hyperkeratosis due to, (145) **330**
in negro, (66) 1922
infection of others during incubation stage of, danger of, (66) 1671
iritis due to, what general practitioner should know about, **1486**—ab
ophthalmia due to, gonococcus vaccines in, (48) 944
ophthalmia due to, infection with, tardy, (164) 562
phylacogen for, chronic, (91) 319
prophylaxis, individual, (47) 1400
rheumatism due to, management of, (64) 241
salpingitis due to, cytologic examination of pus unreliable for diagnosis of, (90) 169
serodiagnosis, (53) 398, (75) **697,** (69) **1666**
treatment, (112) 636, (44) **1034**
urethritis, acute, due to, in male, (42) 782
urethritis, anterior, due to, (32) 1838
urethritis due to, antimeningococcus serum in, (93) 89, (55) **247**
urethritis due to, in infant boy, (18) 1668
urethritis due to, old, flares up during influenza, vaccine therapy for, (147) 1674
urethritis due to, treatment, (152) **1406**
vaccine, autogenic, in diagnosis and treament in female, (81) **950**
vaccine therapy, (91) 633
vaginitis due to, vaccine in, (34) **1496**
vulvovaginitis due to, in children, cause of persistence of, (8) 238
wart on face, vaccine therapy of, (28) 1983
GOOD HOUSEKEEPING and clean advertising, **291**—E
will, retiring partner may sell his influence and, **623**—M1
GORGAS, Colonel, reward for, **222**
GOUT, acute, in larynx, localization of, (67) 1586
and mild intestine toxemia, comparisons between, (8) 940, (49) 1028, (20) 1105
calcium, and calcium mestastasis, (78) **633**
diet in, **1720**
latent, manifestations of, (147) 1329
menstruation in gouty diathesis, (65) 1112
nuclein metabolism in, (137) 560
GRAFTING: See also Transplantation
GRAFTING, amniotic membranes for, *973, (109) **1029**
and traumatic dissemination of cancer in course of operations for malignant tumors, *512
arteries, (54) 557
blood-vessel, **1474**
bone, (194) 873, (109) 1263
bone and muscle, **1473**
bone, without periosteum, **1900**—C
fascia, (44) **166,** (131) 637, (75) 1840
fascia, for ptosis of eyelid, (89) 793
fascia, technic for, (110) 1842
fascia, to correct spina bifida, (33) 1191
GRAFTING, nerve, (47) **324**
nerve, improved technic for, (104) **170**
ovary, (149) 1406
skin flaps from chest to cover defects in fingers, (98) 704
skin, operation for cancer of breast, developments in, *416
skin, without dressings, *1526
Thiersch, safety-razor to cut, **1245**—C
Thiersch, thickening of, excessive, due to component of scarlet red, (28) **1980**
thyroid into spleen or tibia in children with congenital myxedema, successful, (121) **1405**
transplantation without periosteum successful, *1533
urethra restored with segment of vein, (117) 1843
vein, segment of, (65) 1333
Wolfe, to correct total ectropion of upper eyelid, (85) 1580
GRAHAM flour, what is it? **1643**—E
GRANT method in surgery of epithelioma of lip, **1015**—C
GRANULOMA, coccidioidal, in California, **308**—C
inguinale tropicum, (52) 1326, (99) 1328
malignant, with recurring fever, Pel-Ebstein type, (184) 873
pyogenicum infection due to protozoa, new, **290**—E
ulcerating, venereal, tartar emetic in, (147) **1406**
GRAPE seed, appendicitis in relation to, (71) 1188
GRAPEFRUIT, effects of, **309**
GRAPE-NUTS, **1082**—E
GRASP, tonsil, new, and mouth gag with permanently attached tube for continuous etherization, (111) 1328
GRAVES' DISEASE: See Goiter, Exophthalmic
GRAVITY and syringe method, combined for intravenous injection of salvarsan, *824
GREAT Britain, proprietary evil in, **1557**—P
GREENWICH, malaria and mosquitoes in, **919**—ab
GROWTH, calcium for, importance of, (112) **1501**
diet and exercise in relation to, (131) 1328
disease influencing, (136) 1329
of children, standards for, and state of nourishment, (169) 1753
GRUELS, utilization of, in infants, (109) 1196
GUAM, intestine parasites and diseases in, (155) 479
GUAYAQUIL, vessels from, fumigated, **1970**
GUIAC Test: See Test, Guiac
GUILLOTINE, tonsil snare and, new, *650
GUINEA-PIGS, tuberculous, intra-vitam staining of, with fat-soluble dyes, (46) 1106
GUMMA of urethra, (113) 400
GUTTA-PERCHA tissue, silver foil and gloves, introduction of, *1119
GYMNASIUM, (64) 477
GYMNASTICS, medical, as prelude to physical education in feebleminded children, (17) 1924
GYNECOLOGIST, physician as obstetrician and, (134) 699
French Obstetricians, Pediatrists and, seventh annual meeting, **1373**
GYNECOLOGY, advances in, (1) 157, (53) 552
and appendicitis, (164) **1198**
bacteriologic examination in, (157) 1675
chronic, disease, (153) 871
conservatism in, (90) 629
differential diagnosis in, difficulties in, (117) **870**
field of, more than merely organs in lower abdomen, (92) 169
massage in, (147) 638
mental disease and, (136) 92, (141) 560, (154) **1031**
minor, local anesthesia in, (98) 1835
obstetrics and, 1887-1912, (26) 323
operations, tuberculosis, acute, after, (187) **563**—ab
psychiatry and, (112) 328, (134) 706, (99) 1037, (72) 1193
ptosis in, (37) 239
radium in, (61) 87, (93) 793
roentgenotherapy in, (109) 90, (92) 249, (93) **406,** (175) 562, (93) 793, (107) 1269
spinal anesthesia in, (97) 1835
study of, progress in, during 1912, (39) 1110

GYNECOLOGY, tetany in, (76) **1747**
thorax developed in prophylaxis of gynecologic disease, importance of, (64) 482

H

HABIT forming drugs, prevalence of use of, **1363**—E
HAIR apparently growing in bladder, (186) **873**
-cast of stomach with gastrotomy, (23) 631
-dyes, eye troubles due to, (25) **397**, (175) 1676
dyes, paraphenylendiamin in, untoward effects of, **229**
dystrophy of nails and, three cases in a family, *27
over sacrum, abnormal tuft of, and plica neuropathica, (33) 244
-splitting in hypertrichosis, **617**, **770**
-stain, Potter's walnut juice, **229**—C
whitening of beard and, on side of hemiplegia only, (93) **634**
HALLES, William, obituary sketch of, (1) 1918
HAMMER, percussion, graduated, (132) 706
HAND, cirsoid aneurysm of, (73) **1666**
cleanliness of, among school children, **382**
eczematoid affection of, recurrent, (70) 160
infections, (30) 1324, (80) 1743
infections, literature on, **1175**
injurious, wet antiseptic dressings for, (100) 1667
lesions following injuries of upper extremities, (1) 1393
pus in, location of, (25) 1496
sterilization, (178) 873
sterilization, bolus alba in, (143) 1406, (51) 1585
valve, suction, for clearing operative field, *897
vein anesthesia for foot and, (48) **166**
veins on, identification by, (109) 951
Volkmann's ischemic contracture of, (27) **1984**
HARE-LIP and cleft palate, treatment, (64) 791
extensive, operation for, (78) 404
HARVARD medical school and medical education, (11) 860
HARVEY and Sydenham, work of, *884
HASLAM traction bar, Gerster's disapproval of, **615**—C
HAT, stiff, and baldness, **1233**—E
HAUNTED houses and furnace gases, **1883**—E
HAWAII, report of board of health of, **915**
HAY-FEVER, (70) 1188
etiology of, (36, 37) 1260
vaccine therapy of, (32) 244, **1796**—E
HAYNES Copper Company, New York, information concerning, **1016**
HEAD, fetal, Porter's method of correcting faulty position of, (203) 874
gunshot wound of, traumatic epilepsy after, (107) **1404**
injuries, **236**—ab
injuries of newborn infant, (2) 1393
specialists in state eleemosynary institutions, importance of, (102) 785
suppuration, focal, chronic, with general symptoms, (36) 398
surgery, (67) 1262
teratomas on back of, (53) 1266
HEADACHES, carbon monoxid may be cause of anemia and, **1883**—E
eyes and, (98) 629
in infectious diseases, severe, rachicentesis in, (53) **1034**
indurative, (74) 944 (108) 1189
influence of motor insufficiency of stomach in neurasthenia and, (98) 242
nose operations for, (35) **2070**
of thyroid origin, (138) 1338
radical cure, unusual type of, *1954
HEADLIGHT, electric, cheap and efficient, (132) 242
HEALTH and lives of women and children of Kentucky, what federation of women's clubs will do to conserve, (90) 1029
and police departments, cooperation between, need for more general, (13) 1492
appropriation, how shall we spend it? (4) 1184
athletics and, **446**—E
HEALTH, athletics and, in navy, **131**—E
board, efficient, (12) 1919
board of, law, constitutionality of, **235**—Ml
boards not abolished, **1386**—Ml
boards to meet in St. Paul, **1170**
conditions and vital statistics an advertising asset, **910**—E
conditions as they exist in South Georgia, (57) 1834
conditions for country, better, how obtained, (124) 1328
Conference of State and Provincial Boards of, of North America, meeting of, **1311**
conservation of, (57) 477
cost of, and war, **831**—ab
cost one cent a day, **1082**—E
county boards of, (58) 1834
department, Bell system creates, **457**
department, including Indian service in proposed, advantage of, **1558**—C
departments, waste of inadequate support of, **1559**—ab
expenditures of federal government, **904**—E
figures of British army in India, remarkable, **298**
figures of British navy, **531**
housing and, (25) 695, **1886**—E
laboratory, of state board of, work of, (74) 1982
laws, enforcement of, (118) 85
National Department: See also Owen Bill
national department of, and National League for Medical Freedom, or organized medicine vs. organized quackery, (64) 553
national department of, movement for, **1366**—E, **1382**—ME
of Europeans in Uganda and East Africa influenced by climate and other factors, (35) 1669
officer, amounts paid for proper services to, not recoverable for county, **1258**—Ml
officers and the public, (77) 783
officers, county, full-time, **1486**—ab
officers, county, full-time, need of, (59) 1834
officers, county, supervisory, **619**—ME
officers, duties and compensation of, substitutes not allowed, **1567**—Ml
officers, property destroyed by, towns not liable for, **157**—Ml
officers, training of and instruction in hygiene in medical colleges, *1199
organization in schools, **779**—ab
protective surveys and programs, general need for, (10) 1184
public, (68) **160**, (22) 151 (86) 1029
public, and child, (66) 553
public, and domestic animals, (77) 1982
public, and housing problem, in relation to tuberculosis, (56) 480
public, and tuberculosis, (57) 480, (27) 626, **1571**—ab
public, and tuberculosis in South Africa, (25) 625
public, education, *427
public education among women, (65) 553
public, in South, negro in relation to, (11) 1492
public, is public wealth, (101) 785
public, law, advisability of amending articles II and III of, (70) 553
public, legislation and medical education, annual conference on, **391**
public, legislation in 1913, **230**—ME
public, legislation, needed, **1483**—ab
public, legislation, proposed, **391**—ME
public, legislation, summary of, **928**—ME
public, legislature, different methods of drafting measures for, **838**—E
public, matters, cooperation of laity and medical profession in, appeal for, (93) 945
public, organizations, cooperation among, **1080**—E
public, pamphlets **1253**—ME
public, physician and, (56) 1834
public, problem, constructive efforts toward its solution, (57) **627**, (89) 1029
public, service in New York State, plan for reorganization of, (18) 1627
public, Sulzer's special message on, **835**—E
public, work, business side of, (1) 1264
HEALTH, public, work, concerted, by Young Men's Christian Association, possibilities of, (94) 1029
public, work, cooperative, plans of, that will be presented for action by Kentucky Educational Association, (93) 1029
public, work in cities, (63) 553
public, work, practical, that will be attempted by Kentucky Press Association, (92) 1029
public, work, what is opportunity of minister to assist in, and how to secure his active assistance, (95, 96) 1029
resorts, diet regulation at, (81) **1841**
service, President's commission favors, **771**—ME
smoke, effects of, (61) 1493
state board of, and public school sanitation, (87) 1743
valid ordinance of board of, **79**—Ml
visiting in American city, (103) 1923
work expense, **606**
work progress in America, (3) 1184
HEARING acuity enhanced by psychologic methods, (77) 1922
bone conduction of sound with normal, (111) 635
capacity, measurement of, (155) 1198
hygiene of, for school children, (172) 1676
injurious effects of loud noises on organ of, (44) 398
loss of, in one ear from injury, (79) 1580
preservation of, *878
test apparatus for, (101) 1269
HEART action, arrested, revival of, (62) 1746
action of blood and, in healthy children, (70) 2071
action, slow, exceptional types of, (35) **557**
acute infections and (46) 160
and arterial decomposition, prevention and treatment, **1484**—ab
and kidney cases exhibiting high blood pressure, management of, (131) 401
anemic diastolic murmer at base of, (41) 1191
anesthesia and heart strain, prevention of, *1273
arhythmia, (68) 1834
asthma, (9) 699
athletics and over-exertion of, chronic, prognosis of, (132) **1844**
athletics and, (115) 705
asystole, Karell's milk cure in, (130) 407
auricular and nodal (?) extrasystoles, (34) 556
auricular fibrillation, (6) **164**, **665**—T
auricular fibrillation, automatic movements of ventricles with (42) 1746
balneotherapy in disease of, (85) 1841
-beat, mechanism of, and functional disturbances, (81) 83
-beat, mechanism of, in atrioventricular paroxysmal tachycardia, (81) 249
-beat, temporary arrest of following incision of pericardium for suppurative pericarditis, (10) 1104
-beat, weakness of, (49) 403
-block, (102), 161, (12) 243, **365**—T, (134) 1328, (6) 1329
-block after tropacocain spinal anesthesia, symptoms suggesting, (98) 1269
-block, complete ventricular rate in, (11) 1108, (11) **1259**
-block, functional, **1799**—E
-block, ventricular beats in, premature, (33) **557**
blood expelled from, amount at each beat, (108) 1749
boning of thoracic precardial wall in certain affections of, **316**—ab
broken compensation, treatment, **45**
chorea of, (40) **789**
cinematograph of, action, (102) 250, (124) 1749
congenital disease, case of, *1278
diagnosis, prognosis and treatment of disease of, (8) 1108
diastolic pressure in aortic regurgitation, determination of, (10) **1979**
diet of roasted wheat grains in disease of, (129) 1116
digitalis, action on different forms of disease of, (140) 485
dilatation and athletics, (207) 874
HEART disease, **45**—T, **124**—T, **203**—T, **281**—T, **265**—T, **444**—T, **518**—T, **594**—T, **665**—T, **748**—T, **902**—T, **996**—T, **1806**
disease and arteriosclerosis, prevention of, in healthy individuals past middle life, *803
disease and gastro-intestinal tract, (30) 1033
disease and secondary polycythemia, (55) **1497**
disease, chronic, resort treatment, **124**—T
disease, literature on, (35) 1400
disease, physical measures in treatment, general principles for, (87) 327
disease, toxic disturbances, **828**—T
displacement with lung tuberculosis, (72) **1267**
disturbances of, to be bound in book form, **852**
dorsal auscultation of blood-vessels and, (123) **636**
dropsy, medicinal treatment, (124) 1196
electrical action of human, (29) 1983, (10) 2068
embryo, pulsations in, in second week, (1) **695**
exercise, influence of digitalis on recuperation of, (106) **1930**
exercise, influence of, (14) 239
extrasytoles, (116) 1030
extrasytoles, alternating rhythm after, (44) 1191
extrasytoles, auricular and nodal, (34) 556
failure, acute, (61) 241
Flint's murmur, causes of, (54) 1497
foreign body, toothpick, in, (42) **1833**
functional test of, (13) 780
functional test of, rise of blood-pressure in venous system during physical effort as, (83) 249
gynecologic operations of pregnancy and labor in acute and chronic affections of, **1737**—ab
healthy manifestations of, (10) **1108**
healthy, some manifestations of, in children frequently taken as indications for treatment, (9) 243
hypertrophy, (116) 1038
hypertrophy, high pressure, (7) **1258**
hypertrophy of left, incipient, roentgenoscopy of, (58) 1671
hypertrophy, simple, **902**—T
impulse initiation and conduction in, localization of, (23) **1260**
in arteriosclerosis, (70) 1666
in diphtheria, (57) 1580
in tuberculosis, (201) 564
injury from sudden physical effort, (158) 1118
insufficiency, murmurs of, (81) 89
kidney function in disease of, (18) **1259**
malformation, congenital, (199) 874
metastatic sarcoma in, (135) 1590
mitral disease, absence of certain mitral murmurs in, (17) 1744
mitral dwarfism, (9) **1836**
mitral stenosis, auricle in, (12) 1108
mitral stenosis, crescendo murmur of, (101) 328
mitral stenosis, reduplication of sound in, in connection with third sound, (44) 324
mitral valve rupture, spontaneous, in chronic myocarditis, (136) 252
murmurs and patients, (77) 83
muscle, (94) 161
muscle, defective, and valvular symptoms, (30) 1106
muscle, lipins of, in ox, (93) 1327
nerve ganglia of, morbid histology of, (51) **1187**
neuroses, (126) **485**
neurosis of diaphragm and, (88) **634**
neurosis, psychogenic, sexual, (77) 1671, (86) **1987**
Osler's sign and skin phenomena sometimes associated with disease of, (21) 1924
premature beats arising in auriculoventricular bundle of child, (3) **1738**
pulmonary insufficiency, *1150
pulse in disease of, influence of sequestration of venous blood on, (76) **1194**
purging effect of, on blood-pressure and, *436
regurgitation in young man, (129) 1674
rhythm, anomalies in, (68) 1580
roentgenography of disease of, (96) **698**, (68) 1671
roentgenoscopy of, in exophthalmic goiter, (120) 560

HEART, secondary polycythemia in diseases of, prognostic significance of, (25) 1837
sign in cancer, experience of, (2) **2067**
size and heart function in children showing orthostatic albuminuria, orthodiagraphic study, (39) **1832**
sound, musical, (211) 1754
stab wound of, (68) 1402
stenosis, (88) 1922
stenosis, acoustic phenomena in, (10) **244**
stenosis, recurrent paralysis with, (25) 2069
subaortic stenosis, (2) 1189
sugar in disease of, (27) **1583**
surgery, (101) 483, (96) 704, (103) 869
suture of, **2024**—ab
syphilis and involvement of, symptoms and diagnosis, **1483**—ab
technic for study of, improved, (119) 560
tonic with action like that of digitalis of asclepiadaceae-milk-weed-family, new, (73) **949**
treatment of diseases of, (95) 1334, (97) 1494
tuberculosis bacillus in, (112) 251
tumor in, (46) **790**
valves, surgery of, experimental research on, (129) 870
valves, topography of, revealed by roentgenoscopy, (7) **624**
valvular disease, extracardiac causes of failure of compensation in, (11) 239
valvular disease, prognosis in, (88) 1748
wound of, penetrating, operation for, (6) 1494
HEAT and electricity, effects of, are identical, experiments indicate, **1707**—E
and life, (159) 1502
in gastro-intestinal disturbances in infants, (38) 1305
intense, disorder due to, (96) 1108
intense, effects of exposure to, on working organism, (16) 1258
production and sugar content of blood, (41) 1984
regulation and central nervous system, **520**—E
regulation in infants, (117) 251
regulation of body in hot climates, **1794**—E
stimuli applied to skin, action on blood-supply of brain, (45) 2070
summer and summer diarrhea, (10) 1836
vasomotor reflexes elicited by cold and, from regions devoid of temperature sensibility, (36, 37) 1832
HEBRA'S herpetiform impetigo, pathogenesis of, (146) 1270
HEDERIN, chemical and pharmacologic properties of, a sapoglucosid contained in leaves of common ivy, (63) 1188
HEDIOSIT, **516**
HEDONAL anesthesia, (54) 87
anesthesia in children, (3) 479
HEEL bone, exostosis of, **1727**
bone, fracture of internal tubercle of, (38) 1926
bone, fracture of posterior process of, (163) 1198
bone, fracture of, recent, (33) **1583**
new, with pathognomonic sign for detecting inflammatory lesions in anterior arch of foot, *1152
HEIGHT and weight at different ages of applicants at recruiting station, Cleveland, (158) 479
HEINTZ Food Company, **922**—P
HELIOTHERAPY: See Sunlight Treatment
HELMINTHS, appendicitis from, (74) **1499**
from surgical standpoint, (120) **1589**
gapes in man due to, (29) 556
ileus from, (137) 1116
in children, (3) **80**
in children, prevalence of, at Rio de Janeiro, (44) 557
of anthropoid apes found also in man, (54) 1670
reflex phenomena from, (103) **794**
serodiagnosis of, (162) 1271
spasm of intestines from, (72) **168**
toxic nephritis from, in boy of five, (137) 252
HEMAGGLUTININS in human milk, transmission of, (60) 791
HEMANGIOMA cavernosum, pathology and treatment, (105) **1835**
HEMATEMESIS in liver syphilis, fatal, (28) 1109
HEMATOGENESIS, growth of chicken bone-marrow in vitro, its bearing on, in adult life, (50) **241**
HEMATOLOGY in service of neurology, (151) 870
present status of, (71) 326
HEMATOMA and thrombi of vulva and vagina, (40) 1584
in abdomen developing during labor, (111) 1588
left orbit, modified Krönlein's operation for, (4) 945
HEMATOPORPHYRINURIC, congenital, and beard growth in women, (64) 1840
HEMATURIA, (161) 1502, (66) 1580
essential, (67) **944**
essential, unilateral kidney hemorrhage with reference to, (124) **321**
following sterilization of skin with benzine five to ten days, (96) 1749
renal, (79) 1107
renal, unilateral, etiology of, *10
unilateral, in chronic nephritis, (24) **552**
HEMIANOPSIA, altitudinal, unilateral and bilateral, (86) 1580
HEMIPLEGIA, cerebellar, syphilitic, (90) 558
cerebellar, syphilitic, clinical forms and diagnosis, (60) **1332**
diphtheritic, (16) 1495
from scarlet fever in puerperium, (52) 324
gradually developing, due to cerebral neoplasm, (54) 1107, (140) 1329
traumatic, (122) 1589
whitening of hair and beard on side of, only, (93) **634**
HEMISPASM and neuralgia, facial, treatment, (46) 631
HEMOGLOBIN metabolism in malaria, (4) **401**
HEMOGLOBINURIA, experimental, from ingestion of distilled water, (107) **328**
from marching, (139) 1270
in children originating in kidney occasionally, (31) 1926
Malarial: See Blackwater Fever
paroxysmal, (57) **247**
paroxysmal, cholesterin in, (98) **1037**
HEMOGREGARINE, infective granule as initial phase in life-history of, (3) 243
HEMOLYSINS in feces extracts, (20) 1259
phagocytes the source of, (47) 1034
HEMOLYSIS, immune serum lipase and, (51) **241**
influence of lipoids on, (61) **1326**
inhibiting action of carbon dioxid on bacteriolysis and, (41) 866
inhibition of, by serum of individuals with cancer, (48) **627**
origin and action of, (36) **476**—ab
HEMOPHILIA, **473**—ab, (103) 1108
blood-serum, human, for, *44
developing in course of stomach cancer, (45) 324
in women, (146) 1751
Mendel's laws govern, (86) 1841
thermocauterization in, (108) **1931**
HEMOPTYSIS after perforation of aorta aneurysms, (62) **1840**
ergot and morphin in, intravenous injection, (118) 1843
treatment, (20) 86
HEMORRHAGE, adrenals in newborn infant, (109) 251
after tubal abortion, toxicity of, (90) 868
anemia from, (86) 704
antepartum and postpartum, (33) 1579
bone, arrest by plugging with soft tissue, (15) **1105**
cerebrum, diagnosis by rachicentesis, (47) **1741**
cranium, in newborn infant, (84) **868**
due to premature separation of placenta, vaginal cesarean section in, (86) 1834
excessive, during menstruation, treatment, (93) 1672
from erosion of gastroduodenal artery by duodenal ulcers, fatal, **151**—ab, (31) **1832**
from various sinuses of dura mater, muscle flap to arrest, (109) 1842
gastro-intestinal, treatment, (48) **1585**
gastro-intestinal, unusual forms, (87) **1929**
hemophilic, thermocauterization in, (108) **1931**
horse-serum, local application controlling, *721
in hydronephrosis, diagnosis, (9) **475**
HEMORRHAGE in pancreas, (133) 1501
in stasis cyanosis, (99) 705
infant, newborn, (134) 401, (9) 1394
internal, on seventh day after contusion of spleen, (116) 1673
into cystic cavity from carcinomatous degeneration of cystic tumor, death due to, (114) 1263
intracranial, **1248**—ab
intraperitoneal, during labor from rupture of uterus vein, (114) 1588
intraventricular, in newborn infants, (27) 551
kidney, unilateral, and essential hematuria, (124) **321**
Lung: See Hemoptysis
meninges, in newborn infant, operative treatment, (46) **866**
movable kidney, (44) 701
obstetric, blood transfusion after, (34) **245**
operative, with narrow aorta system, extra danger from, (93) **704**
perineum, spontaneous, (127) 407
post partum, method of controlling, by manual compression of abdominal aorta, (145) 162
post partum, treatment, **1388**—ab
precipitated blood serums in treatment, (129) 242
rectum, method of controlling, *1619
stomach, and other complications in labor, (8) 699
suffocation, (112) 559
sugar solution in, intravenous infusion of, (101) **1841**
tardy, with appendicitis, (94) 1500
throat, fatal, (3) **864**
tonsillectomy followed by serious, (161) **1271**
typhoid, (131) 85
typhoid, treatment of, **1733**—ab
uterus, (143) **1751**
uterus, after menopause, (68) **482**—ab
uterus after menopause, and prophylaxis of cancer, (143) **637**
uterus disease due to, roentgenotherapy or vaporization in, (147) 1751
uterus, drug treatment, (3) 1831
uterus, from non-pregnant uterus, surgical treatment, (4) 1831
uterus, of newborn infants, (115) 1673
uterus, pathologic, (7) 1577
uterus, roentgenotherapy of, (2) **1831**
HEMORRHAGIC conditions in children, pathology, etiology and treatment, (17) 1664
diathesis, epidemic, (135) **486**
disease of infants and children, normal human blood serum in, (106) 399
disease of newborn infant, (75) 399
disease of newborn infant, horse-serum for, *1154
disease of newborn infant, treatment, **74**—ab, (18) **317**
disease of uterus, thyroid origin of, (104) 1930
disease with purpura, (43) **1746**
erosions in stomach in connection with melena neonatorum, (65) 325
HEMORRHOIDS, (127) 478
clamp for, new, (89) 319
extra-anal method of treating, (82) **1747**
injection treatment for, **70**
operations, (181) **563**, *1154, (129) 1328, **1559**—C
treatment, (90) 697
Whitehead operation for, 200 cases, (94) 783, (66) **1333**
HEMOSTASIS in resection of parenchymatous organs, (151) 1502
HEMOSTAT, tonsil, Corwin's, (113) 1328
HENOCK'S Purpura: See Purpura, Henock's
HEREDITY, age of parents as factor in, **616**
alcohol and, (107) 785
atheroma and, (89) 950
cause of nutritional disturbances in infancy, (123) **1932**
eugenics and falling birth-rate, (38) 1400
eye in relation to, (88) 554
insanity and, **146**—ab, (78) 399, (97) 1269
law of Gregor Johann Mendel in reference to, (48) **82**
pathologic, (85) 558
unfit and, **127**—ab
HERMAPHRODITISM, (102) 399, (131) 1836
HERNIA, (113) 705
appendix in incarcerated, (38) 2069
HERNIA, bile, (62) 1586
bilocular, (79) 1396
bladder, (95) **484**, (160) 1118, (68) 1927
children, treatment, (82) **1029**
complicated with undescended testicle, (56) 160
diaphragm, (146) 330, (5) **624**, (19) **780**, (66) 949, (114) 1749
diaphragm, congenital, (72) 1986
diaphragm, probably traumatic, in adult consumptive, (44) 1584
epigastric, importance in diagnosis of abdominal conditions, (14) 941
epigastric, with stomach ulcer and cancer, frequency of, (34) 700
extrasaccular, (14) 316
fat, **236**—ab, (59) 477, (18) 625
femoral and inguinal, operations for, (178) **1676**
femoral, good way to treat, (26) **1186**
gangrenous, combined anastomosis and fistula operation for, (26) 700
in 279 cadavers, (68) **1333**
incarcerated, cecum-small intestine volvulus in, (84) 1333
inguinal, (63) 166
inguinal, in children, treatment, (88) **864**
inguinal, indirect, operation for cure of, new, *2032
inguinal, medicolegal aspects of, (95) 1397
inguinal, radical cure of, **315**—ab
inguinal, radical operation for, improved technic for, (92) 327
inguinal, strangulated, in young infants, (17) 625, (16) 1577
internal, case of mesocolic hernia, (45) 160
obturator, double, radical operative cure, (90) 1396
operation, accidents of, (86) 1494
ovaries and fallopian tubes, (98) 1500
parasacral, muscle plastic operation on, (115) 483
pectineal, (110) 951, (115) 1749
properitoneal, (12) 1324
Richter's, (46) 324
roentgenoscopy of, (80) 1927
sacs, cysts connected with, etiology of, (19) **1191**
sliding, of large intestine, (94) 483
strangulated, (75) 863
strangulated, operative technic, (89) 864
supravesical, external, (81) 1333
suture of large, technic for, (148) 707
through pelvic outlet, (122) 320
treatment, (155) 708, (112) 1269, (19) 1495
vaginal, operation for cure of, (6) **1394**
ventral, lateral, (82) 1333
HERNIOTOMY and appendicectomy by inguinal canal, (96) **90**
appendicectomy in, (45) 246
ileus after, (126) 636
inguinal, double, single transverse incision for use in, (98) **1667**
under local anesthesia, (117) 162
HERPES, brow with bacteria found in gasserian ganglion, (68) 1840
face and mouth, infections with colon communis bacilli in women in relation to, **1234**—E
iris of conjunctiva, (12) 1664
rhizotomy for, (58) **167**
zoster and varicella, (70) 249
zoster complicating bronchitis or pneumonia, (147) 1502
zoster in puerperium, (150) 708
zoster, ionic medication in, (39) **1265**
zoster is the eruption in acute posterior ganglionitis, *1691
zoster of brow in senile dement, diplococci in gasserian ganglion in, (161) 1198
zoster, virus of, course taken to reach nerve ganglion, (47) 1187
HEWITT'S artificial airway, description of modification of, *1858
HEXAMETHYLENAMIN, compatibilities of, **465**
formalin excretion in urine of children and infants taking, factors which influence, (33) **1260**
in typhoid, (50) 1034
HEXOSES, action of leukocytes on some pentoses and, (80) 1028
HICCUPS, persistent, *1879
HIGH-FREQUENCY CURRENT, (96) 629, (121) 870, (79) 1402, **1707**—E
for cancer of bladder, (130) 320
for operating on bladder, (109) 1037
high tension, (88) 1667
in exophthalmic goiter and perverted thyroid secretion, (1) **694**

HIGH-FREQUENCY CURRENT in high blood-pressure, (3) 694
in trigeminal neuralgia, (14) 243
in vesieal papillomata, value of, (19) 860
Oudin, for benign papillomata of urinary bladder, introduction through catheterizing cystoscope, (76) 628
HIP, ankylosis of vertebrae, shoulder joints and, (87) **1987**
arthritis of, traumatic, crippling, cheilotomy for, (5) **1743**, (6) 1836
disease, extension apparatus for, (100) 84
disease, short spiea in, (63) 1742
dislocation, congenital, etiology of, (29) **81**
dislocation, congenital, open reduction by anterior incision, (10) 859
dislocation, congenital, treatment, **2024**—ab
dislocation, old-standing, open operation for, (18) 699
dislocation, ultimate outcome of, (44) **790**
fixation in treatment of disease of, (4) 859
-joint, arthrodesis of, (71) 1586
-joint disease, short spica in, (63) 1742
-joint, dislocation, congenital, deformity after reduction of, (62) 1927
-joint, dislocation, congenital, treatment, (4) 1982
-joint, excision of, in 34 cases of suppurating tuberculosis, results, (7) **864**
-joint, osteoma in front of, (40) **947**
tuberculosis, mechanical treatment of disease of, (2, 3) **859**
HIPPOCRATES, (11) 86
oath of, proposed addition to, **927**—C
HIRSCHSPRUNG'S Disease: See Colon, Dilatation, Congenital
HISTAMIN, action of, on surviving arteries, (39) 861
HISTORY and case-record blanks or cards, request for, **689**
registers, personal and family, (28) 1027
HODGEN splint for fractures, Brown's modification of, **1248**—ab
HODGKIN'S DISEASE: See Pseudoleukemia
HOLMAN, Miss., call for physician in mountains of North Carolina by, **1479**—C
HOMBURG, mineral mud at, (95) 950
HOME sanitation, (76) 1982
Supply Company, **1243**—P
HOMEOPATHY, past and present, (81) 697
HOMOSEXUALITY, (117) 1263
and alcohol, (129) 636
psychogenesis and treatment, (66) 1107
HOOKWORM DISEASE: See Uncinariasis
HORMONAL, action of, (90) 1114
research on, (121) **1116**
HORMONES, influence on opsonic index, (71) 249
HORSE-CHESTNUT, action of, **540**
HOSPITAL accommodations for treatment of venereal diseases, (69) 1742
administration, detrimental effect of present system of, on interests of medical profession, (46) 1265
advice to patients after surgical operations on leaving, ***1133**
Bangkok, **297**
children's, medical school and public, (23) 860
clinical record, ***1205**
clinical record, when it is not evidence, **157**—MI
compulsory admission of patients into, **1807**
construction, general principles of, (123) 400
construction in United States navy, recent, (122) 400
construction, literature on, **390**
contagious diseases in infant wards, prophylaxis of, (61) **867**
control, adequate, (119) 242
country, surgery in, (12) 2066
diets, Protestant and Catholic, **1088**
diets, special, (100) 1269
experience with typhoid during 46 years, (95) 1749
field, and ambulance corps, evolution of, (89) 1189
field, proposed method of pitching and striking a, rapidly, (59) 1493
fresh air in schools and, prophylactic and therapeutic value of, including sunlight therapy, (42) **1982**
HOSPITAL, infant, under care of infants' welfare organizations and, method of scoring viability of, (21) 317
infant wards in public, (62) **1498**
infants' ward of, prophylaxis of infection, (69) **2071**
infectious diseases treated at, (56) **782**
insane, and community, (104) 1923
insane, state, large, argument for, (16) 860
international, rebuilding at Kobe, Japan, **297**
Jubilee, of Vienna, **1168**
management, (115) 162
maternity, secret, municipal, **1806**
medical education and, **775**—ab, ***974**
medical education, clinical and postgraduate in relation to, **775**—ab
morbidity statistics, (93) **1189**
naval, for tubercuIosis, Las Animas, Colo., (151) 479
necropsy in large hospitals of United States and abroad, statistics of, ***1784**
needs of eye, ear, nose and throat surgeon in general, (15, 48) 1395, (82) 1580
of Paris, tour of inspection and study through, (57) 557
operating-rooms for modern, which provide for spectators, ***1847**
or fifth year in medical education, **854, 932**—ab
positions, **310**
prophylaxis, (93) 1667
railroad, associations, (75) **83**
railroad, in Mexico, **297**
service in Germany and United States, brief comparison between, with reference to requirements for medical practice, (87) 1189
ship for fisheries, **296**, (152) 479
ship for United States navy, plans and description of, (125) 401
specialism in, (25) 1980
system of intercommunication arranged among London medical schools and, **915**
traveling, for rural needs, **755**—E
tuberculosis, (3) 1918
tuberculosis, donation for, **1472**
urinalysis, (85) 1922
HOUSE, mosquito-proof and storm-proof, for tropics, new, (3) **1397**
HOUSEHOLD remedies for accidents, (122) 1404
HOUSING and health, **1886**—E
and health departments, (25) 695
bureau, municipal, in Berlin, establishment of, **609**
conditions, improving, in cities, **133**—E
problem and public health in relation to tuberculosis, (56) 480
reform, constructive program for, (106) 1923
HUMERUS, fracture-dislocation of anatomic neck of, circular resection and suture of axillary artery for transverse laceration by, (143) 162
fractures of lower end of, treatment, (13) **865**
tearing off of radial articulation of, (102) 483
when man had a hole in his, (56) 1326
HUMIDITY, device to increase, in house in winter, **1094**—C
HUNGER, stomach in, **448**—E
HUNTER and Lister, Hunterian oration on museum of Royal College of Surgeons of England and, (1) 945
museum and Lister, (16) 946
HURBURGH Bill and Antikamnia Chemical Company, **1711**—E
HYALOID artery, persistent, ***173**
HYDANTOIN derivatives in metabolism, behavior of, (88) 1327
HYDATID Cyst: See Echinococcosis
HYDATID mole: See Deciduoma Malignum
HYDRENCEPHALOCELE, occipital, congenital, removal of cerebellum in, (65) **1193**
HYDROCELE, electric pocket light shows transparency of, as aid in diagnosis, (93) 950
fluid, action of, and certain other pathologic liquids on objects used in biologic test for epinephrin, (36) 626
in infants, operation for, (6) **945**
of tunica vaginalis, bottle operation for, (160) 162
treatment, new method of, **1895**
unusual type, ***514, *1226**
HYDROCEPHALUS, congenital, subtemporal muscle drainage by silver wire drainage mats in, (7) **1105**
HYDROCEPHALUS, internal, chronic, (26) 865
internal, congenital, (20) **1324**
internal, in children, operative treatment, (78) **482**
HYDROGEN dioxid and hydrolysis, (130) 1674
ionized, in human urine, extremes of variation of concentration of, (72) 1028
peroxid, commercial preparations of, germicidal efficiency of, ***1603**
HYDROLYSIS and hydrogen dioxid, (130) 1674
HYDRONEPHROSIS, diagnosis and indications of operation in early, ***16**
hemorrhage in, diagnosis, (9) **475**
intermittent, ureter obstruction or beginning of, (21) 475
not diagnosed for 17 years, (39) **701**
of pregnancy, acute, (6) 1264
HYDROPHOBIA, (58) 241, **770, *990, *1069,** (95) 1588
control of, (6) 1738
etiology of, (128) **242,** (53) 1585
false, (195) **563**
influence of food on incubation of, (118) 1589
is right eye blind in, **1320**
negri bodies in, (49) 240, (40) 866
paralytic type of, and poliomyelitis, **146**—C
Pasteur treatment, **1732**—ab
poliomyelitis, acute anterior, due to bite of dog infected with, (137) 1329
Vienna, **533**
virus of, two methods for obtaining, (42) **1106**
HYDROPYONEPHROSIS with calculi and rudimentary kidney in man of 31, (61) 1671
HYDRORRHEA, amniotic, etiology of, (112) 1842
HYDROTHERAPY: See also Balneotherapy; Baths
HYDROTHERAPY in America, neglect of, (15) 1980
rationale of, (61) **1834**
HYDROTHORAX, bilateral, nephritis with ascites, general edema and, in secondary syphilis, (18) 1330
myocardial, **1023**—ab
tuberculous, (19) **2069**
HYDROXY-CODEIN, action of, (93) **319**
HYGIEA'S ten year index, **1471**
HYGIENE and clinical medicine for diseases of children, chair of, **917**
city babies', (76) 1113
course in school of medicine of Syracuse University, (26) 1492
dining room and kitchen, healthy employees in, **1479**—C
for normal children, (71) 628
in schools and colleges, (180) 1272
industrial, Gov. Sulzer on importance of, **452**—E
infant, (176) 1272
instruction in, in medical colleges and training of health officers, ***1199**
match factories, (203) 564
municipal, (66) 1262
personal, education of public in, (109) 478
public, advances in, and future of physicians, **152**—ab
ships below decks, (108) 1397
teaching by indirect methods, (29) 159
HYGROMA cysticum colli, **2025**—ab
HYOSCIN-MORPHIN anesthesia for alcohol injection in neuralgia, (26) 1330
in labor, **1814**
HYPERACIDITY, (161) **487**
feces with anacidity and, (64) **325**
gastric-juice, causation and treatment, (2) 1923
HYPERCHLORHYDRIA and alkalies, (114) 478
rhizotomy for, (58) **167**
HYPEREMIA, active, following local exposure to cold, (4) 1979
local, benefit from, in acute affections, (94) 1672
passive, in inflammation treatment, (72) **1928**
stasis, in infected injuries of knee, (98) 559
suction, in otology, (215) 1754
HYPERKERATOSIS, gonorrheal, (145) **330**
HYPERLEUKOCYTOSIS, specific and extreme, following injection of bacillus typhoid in immunized rabbits, ***1950**
HYPERNEPHROMA, extrarenal, (71) 1402
horseshoe kidney, (4) 316
kidney, (146) 162, (138) 1501
HYPERNEPHROMA, Reeklinghausen's disease with, (130) 1270
nodular, of liver associated with lesions in brain, (127) 1270
HYPERPYREXIA in rectum in children, (104) 1037
HYPERSECRETION after test meal in diagnosis of stomach ulcer, (61) **325**
HYPERSUSCEPTIBILITY: See Anaphylaxis
HYPERTENSION: See also Blood-Pressure, High
HYPERTENSION and hypotension, mechanism and therapeuties of, (74) 1666
and hypotension treated at Vittel, analysis of series of cases, (8) 1982
arterial, in nephritis, pathogenesis of, (192) 563
arterial, management of, **444**—T
nephritic, clinical and experimental studies, (1) **1738**
significance and management of, (44) 1579
HYPERTHYROIDISM, **2026**—ab
and goiter, (141) 1030
limitations of suggestion in, **226**—C
postoperative, and aseptic wound fever, identity of cause and their prevention, (133) 1030, (27) 1831
thyroid and, (114) **85**
HYPERTRICHOSIS, (76) 1262
hair-splitting in, **617, 770**
treatment, (31) 1838
HYPNOTICS, analgesics and antipyretics, **610**—ab
checking use of veronal and other, **1008**
HYPOCHLORITE treatment of water supplies, **211**—E, **466,** (60) 1107
HYPOPHOSPHITE treatment, fallacy of, **747**—T
HYPOPHYSIS CEREBRI, approach to, through anterior cranial fossa, (12) **625**
cancer of, (94) 1667
changes with acromegaly, (60) 2071
diabetes insipidus and, (130) **706**
disorders of two lobes of, symptomatic differentiation between, (1) **1025**
during pregnancy and after castration in women and animals, (73) 482
effect of removal of, in dog, (21) **1324**
functioning, mechanical influencing of, experimental, (202) 1754
in metabolism of carbohydrates, (59) **696**
isolation of active substance of, (84) 1268
lesions of, and uncinate region, **1910**—ab
perimetric deviations accompanying, early lesions, **1910**—ab
physiology and pathology of, (35) 1187
simultaneous disease of thyroid, testicles and, (123) 1589
surgery, experimental research on, (149) 92
surgical intervention, (139) **1329**
tuberculosis of, (176) 488
tumors and adiposity, (126) **91**
tumors and infantilism, (7) 1979
tumors, classification of, (8) **1744**
tumors, new formation of nerve cells in isolated part of nervous portion of, in acromegaly with diabetes, (2) **1663**
tumors of base of brain immediately behind, **1023**—ab
tumors, removal of, (81) **482**
HYPOPHYSIS EXTRACT: See Pituitary Extract
HYPOSPADIAS, operation for, (23) 865
treatment, (25) 317
HYPOTENSION and hypertension, mechanism and therapeutics of, (74) 1666
and hypertension treated at Vittel, analysis of series of cases, (8) 1982
HYRGOLUM, sublimate, oxycyanid and sublamin in salvarsan relapses, intravenous administrations of, (81) 864
HYSTERECTOMY, acromegaly developing after, at 38, (82) 1586
for prolapse of uterus, (11) 1324
needles found in intestine and appendix during, (12) **555,** (23) 1033
selection of women for life insurance risks on whom ovariotomy and, have been performed, (82) 83
technic for, (80) 558, (65) 944
year's work in, (5) 1258

HYSTERIA, anxiety, and anxiety neurosis, relation between, (31) 1920
psychoanalysis, (36) 1665, (34) 1920
traumatic, diagnosis, (123) 699
traumatic, motor disturbances in, athetoid and dissociated, analysis of, (114) 1673
views of Plato and Freud on etiology and treatment of, (15) 1577

I

I. M. S., history of, (10) 699
ICHTHYOL and phenol in external otitis, *742
ICTERUS: See Jaundice
IDAHO Medical News, 1467
state board April report, 1566
IDENTIFICATION records for unknown dead, (20) 1831
IDIOSYNCRASY, experimental research on, (99) 1588
in infants to cow's milk, (74) 2071
to common foods, (89) 161
IDIOTS: See Backwardness; Degeneracy; Feebleminded
IDIOTS, Mongolian, (80) 1587
mortality in 4,000 feebleminded and, (61) 863
sterilization of, (97) 84
ILEOCOLOSTOMY for arthritis, legality of, (11) 1032
ILEOSIGMOIDOSTOMY for colon stasis, (22) 695
ILEUM, cancer in jejunum and, (142) 1338
feces impacted in, for 53 days, recovery, *722
gangrene of, complicating appendicitis, (36) 81
kink, etiology of, 148-ab
kink, fetal peritoneal folds of Jonnesco, Treves and Reid in relation to pericecal membrane and, 148—ab
Lane's kink and Jackson's membrane, (96) 945
lower, excision of eight feet of, (125) 85
terminal, angulation of, acute, cause of intestine obstruction in acute appendicitis, (34) 1741
terminal, pathologic conditions of cecum and symptoms and diagnosis, (153) 1031
tuberculous ulcer of cecum and, (33) 1106
ILEUS, cystic kidney causing, (62) 558
due to Meckel's diverticulum, (13) 316
from compression of intestine between gravid uterus and promontory, (44) 1839
from displacement of normal uterus, (48) 1331
gall-stones, (118) 484, (131) 1589
helminths causing, (137) 1116
postoperative, high intestine obstruction and acute pancreatitis, (93) 1581
syndrome of, toxic action of glandular secretions as factor in, (61) 1193
twofold, after herniotomy, (126) 636
ILIAC artery, tuberculous aneurysm of right common, *1413
vein, external, thrombophlebitis of, *1523
ILLINOIS college, pioneer medical school, (52) 398
medical news, 59, 135, 215, 292, 375, 454, 527, 675, 756, 840, 911, 1004, 1083, 1162, 1234, 1309, 1369, 1468, 1548, 1647, 1713, 1802, 1889, 1967
Pellagra Commission, nutrition investigation of, 833—E
state board January report, 1826
state board September report, 1017
ILLNESS, compensations of, (58) 1666
what is not an, consulting a physician or confinement to house, 544—Ml
ILLUMINATOR oblique, improved, (66) 1396
operating-room, improved apparatus for, *1846
IMBECILITY: See Idiocy
IMMIGRANTS, defectives, and moron, study of, *105
feebleminded, detection of, *106
feebleminded, diagnosis, (50) 696
feebleminded, problem of, 209—E
feebleminded, tests for, 908—E
infectious diseases imported through, means for diminishing or preventing, (28) 159
insane and feebleminded, arriving at port of New York, (86) 1667
insane, problem of, (4) 1738
IMMIGRANTS, medical examination of arriving, (27) 159
methods of examining, recommended improvements in, 210—E
midwife problem and, (18) 1980
trachoma in modern, its dangers to America, (19) 1980
tuberculous, in United States, problem for every nation, (17) 1980
IMMIGRATION laws, administration of (26) 159
IMMUNE bodies, formation of, in human serum by intravenous injection of diphtheria toxin, (117) 407
serum lipase and hemolysis, (51) 241
IMMUNITY, (49) 1580
against anticoagulating action of peptone, research on, (32) 1330
against tuberculosis, Spengler's rapid precipitation method for estimation of approximate, modification of, (34) 1400
anaphylaxis and, (57) 1188
anaphylaxis in relation to disease and, (2) 624
biostatistics of Jewish race pertaining especially to susceptibility and, (97) 1667
by mouth against cholera, experimental, (145) 1197
experimental, and agglutination reaction in typhoid, *1764
general principles of, (137) 408
inefficient, and new growth, (16) 699
nutrition and, 1651
onset and duration of, consequent on inoculation of plague nucleoprotein, (25) 1744
passive, cytology of blood in, (8) 243
pregnancy, (21) 1033
therapeutic, development of, (62) 87, (5) 163
through tuberculosis infection, (93) 478
tuberculin and, (13) 401
typhoid, experimental, (163) 1675
works on, 1016
IMMUNO-THERAPY in ophthalmology and otolaryngology, (92) 1494
IMPALEMENT accidents, (121) 636
IMPERIAL Institute for Care of Mothers and Infants, 845
IMPETIGO, herpetiform, Hebra's pathogenesis of, (146) 1270
IMPOTENCY and involuntary seminal emissions, (64) 1028
sexual, in male, (5) 316, (12) 475
sexual, treatment, (37) 2069
IMPULSE initiation and conduction in heart, localization of, (23) 1260
INCINERATOR, kitchen, its construction and use, (55) 944
INCISION, lengthwise, for resection of ankle, (93) 483
surgery-Z, plastic, (93) 783
transverse, single, for use in double inguinal herniotomies, (98) 166
vagina, pelvis examination in doubtful cases through, (48) 1741
INCLUSION bodies in scarlet fever, (2) 479—E, (82) 1402
cells, (30) 165
leukocytic of Dohle, (77) 404, (58) 1188
INCUNABULA, international catalogue of, proposed, 1958—E
INDEX, Hygiea's ten year, 1471
Journal of American Medical Association an encyclopedia of medical information with key in, 1887—E
of general nervous conditions, 1860—E
of The Journal of the American Medical Association, 2051—E
INDIA, health figures of British army in, remarkable, 298
INDIAN Affairs, House Committee on, refused request for fund for adequate health work among Indians, 2049—E
American, contagious diseases, 1814—ab
American, health of 832—E
medical service, 1244—C, (60) 1493
medical service, including it in proposed department of health, advantage of, 1558—C
medical service, needed reorganization of, 1812—C
obstetrics, early-day, among, experiences in, (137) 699
service, physicians in, 454—E, 458
INDIANA medical news, 59, 215, 455, 527, 757, 840, 1004, 1035, 1309, 1468, 1647, 1714, 1967
state board January report, 1905
state board of health, year's work of (35) 552
State Medical Association, activities of, (36) 552
State Medical Association Journal in active campaign against fee splitting, 1645—E
INDICAN and urorosein in urine, clinical significance of tryptophan in feces and, (81) 2072
INDICANURIA and phosphates, (117) 698
INDICTMENT, validity of medical practice act and, 939—Ml
INDIGESTION: See Dyspepsia
INDIGOCARMIN as functional kidney test in chromo-ureteroscopies, results of 200, *185
INDOL, determining small amounts of, technic for, (158) 1271
influence of diet on formation of, in rabbits, (29) 946
INDUSTRIAL accidents and secrecy of profession, 1719
accidents, medical exploitation of, 221
aneurysm in file-grinders, (87) 1499
brass poisoning, brass founder's ague, (9) 1738
conditions and fatigue, (6) 624
diseases, (108) 1923
diseases in Italy, 1168—ab
diseases, inadequacy of compensation for, 1463—E
diseases of skin, exclusive of so-called trade eczemas, (153) 243
diseases, prevention of, (59) 782
eczemas, external origin, (65) 319
hygiene and human indifference, 1799—E
hygiene, Governor Sulzer on importance of 452—E
hygiene, new review on, 606
injuries to eyes, prevention of, (139) 478
neuroses, nature and treatment, (106) 1029
strain, effects on working women, (1) 396, 428—ab
training for cripples in Russia, (92) 161
traumatism, rupture of veins as, (124) 407
INEBRIETY: See also Alcoholism
INEBRIETY and physiologic effect of alcohol, (32) 86
home and office treatment, (133) 85
periodicity of, (3) 1258
problem of, (29) 239
INFANTILISM, calcium excretion through feces in, excessive, causes of, (48) 241
cause of, failure to develop in, (40) 626
hypophysis tumor and, (7) 1979
intestine absorption in, (39) 626
nitrogenous compounds in feces in, nature and origin of, (47) 240
INFANTS, abdomen pain in, (23) 1583
abnormal physical and sexual development of, probably due to tumor of pineal gland, (25) 1260
abnormally large at birth, (175) 872
abnormally large, dystocia from, successful induction of premature delivery, (66) 1112
air swallowing in, cause, (121) 407
albumin, starch and fat-splitting ferment in excretion of, (97) 406
albuminuria in newborn, (73) 2071
alimentary saccharose test for, (36) 1191
anatomic differences between adults and, 391
anemia in newborn, iron in, (68) 1112
appendicitis in, with appendix in inguinal hernial sac, (37) 81
arthritis, purulent, in, (133) 1590
asphyxia of newborn, mucus extractor in, (3) 322
asphyxia of newborn, oxygen under pressure in, (100) 1195
asphyxia of newborn, pulmotor for artificial respiration on, (11) 694, 1735—ab
asphyxia of newborn, sphygmomanometer for determining persisting pulse in, (55) 1401
aspiration of milk in nursing, (210) 874
bacillary dysentery in, 1389—ab
beriberi in, (16) 244
blind, operation bestowing vision on (69) 1266
blood, coagulation time of, (2) 238
bottle-fed, retention of nitrogen and salt in, (47) 247
breast-fed and bottle-fed, mortality of, statistical comparison, (3) 1103
breast-fed, constitutional inferiority of organs in certain, (123) 1932
breast-fed, malnutrition in, (69) 1262
breast-fed, management of, (24) 1260
breast-fed, methods of encouraging, and contra-indications to breast-feeding, (16) 396
INFANTS, breast-fed, pathology of, (127) 1750
breast-milk feeding, urine test for, (75) 1986
breast-nursing, nose obstruction and orthodontia, 301—ab
breast-nursing, promotion of, (137) 92
cachectic, nitrogenous bodies in blood of, (51) 247
cancer of liver in male, (73) 1333
cancer of skin in, primary, multiple, (48) 1187
carbon monoxid poisoning cause of anemia in, (67) 1112
casein curds in feces in, pathogenesis of, (3) 2066
cerebrocerebellar diplegia in, (1) 2066
consultation stations, value of, 1169—ab
convulsions in, diet for, (1) 1103
convulsions in, etiology of, (41) 81
crying, diagnostic importance of manner of, (58) 557, (30) 1191
death of, doubtful cause of, 1016
development of newborn, (142) 92
diabetes in children and, (42) 1326
diarrhea in bottle-fed, (163) 163
diarrhea in, feeding problem, (138) 243
diarrhea in, whey for, (117) 1404
diarrhea, summer, in, (74) 1986
diet in infections in, (66) 2071
digestive ferments in, (155) 562
digestive troubles of, obstinate, small doses of ipecac for, 1239
diphtheria bacilli in secretions of nose and throat in, with nutritional disturbances, (111) 1269
duodenal catheter, findings in, (95) 1114
eczema in, 591—T
electrocardiograms of weakly, (172) 1753
feces, semeiotic significance of pathologic findings in, (83) 1834
empyema, operation and recovery, (28) 323
enteritis in, diet for, (121) 400
erysipelas, vaccines for, (88) 1189
fat, adequate intake of, importance of, (105) 406
feeding, 200—ab, (71) 944, (103) 1930
feeding and examination of feces, (16) 1664
feeding, artificial, (105) 698
feeding, artificial, scientific basis for, (6) 1576
feeding, artificial, with special reference to feces examination, (32) 1106
feeding, caloric, 539
feeding, developments in, recent, (63) 1396
feeding, difficult, clinical and prophylactic suggestions for, (62) 1396
feeding, disturbances in, recent interpretations of, (10) 1394
feeding, graphic chart for calculating milk percentages and caloric values, (44) 81
feeding, graphic chart method of studying and teaching principles of, (2) 80
feeding, high percentage of fat used in, common results of, (96) 1494
feeding, in diarrhea, (138) 243
feeding, later, (64) 696
feeding, problems of, illustrated by cases and charts, (42) 81
feeding, proprietary foods in, uses and abuses of, (14) 1668
feeding, sugar in, (175) 1753
feeding, vegetable diet in, (156) 486
feeding, vegetable digesting ferment in, (118) 251
feeding, whey in, (107) 1673
formalin excretion in urine of children and, taking hexamethylenamin, factors which influence, (33) 1260
from birth to end of first year, 100 followed, (2) 940
furunculosis, autovaccine therapy of, (156) 872
gall passages, stenosis of, in newborn, (95) 406
gangrene of leg, amputation, recovery, (25) 1191
gastro-enterostomy on thirteenth day, (34) 1191
gastro-intestinal disturbances in, classification of, (122) 1931
gastro-intestinal disturbances in, heat factor in, (38) 1395
gastro-intestinal tract in newborn, alpha and omega of, (10) 1324
gonorrheal urethritis in boy, (18) 1668

INFANTS, gruels in feeding, (109) 1196
head injuries of newborn, (2) 1393
heat regulation in, (117) 251
hemorrhage from uterus of newborn, (115) 1673
hemorrhage in adrenals in newborn, (109) 251
hemorrhage of newborn, (75) 399, (134) 401, (9) 1394
hemorrhagic disease of newborn, horse-serum for, *1154
hemorrhagic diseases of newborn, treatment, 74—ab, (18) 317
hemorrhagic diseases of, normal human blood serum in, (106) 399
hernia, inguinal, strangulated, in, (17) 625, (16) 1577
high temperature, effect of, (26) 1260
hydrocele in, operation for, (6) 945
hygiene, (76) 1272
hygiene in army families, 382
hygiene of city, (76) 1113
idiosyncrasy in, to cow's milk, (74) 2071
Imperial Institute for Care of Mothers and, 845
in institutions, care and treatment, (101) 1335
inanition in, and glycosuria, (71) 2072
infections of upper urinary tract in children and, (14) 1577
Institute of Infantile Hygiene and public charities, 299
intestines, permeability of walls of, (106) 1673
intestines, stenosis in newborn, with rectum plug of mucus and epithelium, (82) 406
intracranial hemorrhages in newborn, (84) 868
intraventricular hemorrhage of newborn, (27) 551
intussusception in child 11 months old, (132) 478
intussusception, irreducible, in, resection of one-third of colon for, (33) 1832
jaundice in newborn, (120) 251, (114) 1115
life, methods for preservation of, in use in Australia, (10) 86
lipomatosis of spinal cord in, subdural, diffuse, (29) 1665
malnutrition, 750—E
malnutrition, feeding in, clinical studies, (26) 551
marasmatic, cod-liver oil in feeding, topical use of, (82) 319
meninges hemorrhage in newborn, operative treatment, (46) 866
meningitis, (67) 1028
meningitis, due to influenza bacillus, fatal, (185) 1676
meningitis due to typhoid bacillus in, (54) 1188
metabolism, importance of laws of physics and chemstry in study of, (72) 2071
metabolism of fat, calcium and nitrogen in, (70) 1986
metabolism of matter and energy in, (86) 950
method of scoring viability of, under care of hospitals and infants' welfare organizations, (21) 317
mortality and eugenics, (60) 1028
mortality and maternal ignorance, 1866—ab
mortality and still-births, (41) 631
mortality, causes and prevention, (97) 161
mortality, great fall in, 916
mortality, high, what it means, 1850—ab
mortality in Germany during summer months, (95) 250
mortality in 1911, (104) 1335
mortality, milk stations or, (19) 1664
mortality, National Association for Prevention of, 1805
mortality, postnatal causes (16) 158
mortality, prevention of, 1165
mortality, prevention of, literature of, 388
mortality, reduction of, in New York, (5) 550
mortality, teaching midwives in relation to prevention of, (14) 158
muscular exercise done by, (102) 1930
nutrition, effects of heated and superheated milk on, (4) 940
nutrition, influence of psychic factors on, (99) 1930
nutritive disorders, pathology of, and enzymes, 600—E
pancreatic ferments in, in acute intestinal indigestion, (5) 1103
INFANTS, pancreatic juice into stomach of, no reflux of, (128) 1337
permeability of gastro-intestinal tract for alien albumin in sick, (115) 1404, (106) 1673
physical development of, at birth and occupation of parents, (178) 562
premature, long interval feeding of, (5) 80
protein metabolism in, when fed on protein milk, (3) 1324
pylorus obstruction and normal stomach of infants, 74—ab, (19) 317
pylorus stenosis, (24) 695
pylorus stenosis, congenital, with development of hour-glass stomach, (83) 406
rachitis in newborn, (116) 1404
rhinitis in, posterior, (24) 2069
roentgenoscopy in diagnosis of diseases of, (31) 1191
salvarsan and neosalvarsan for newborn, (55) 1111
sarcoma of ovary in, (51) 1192
scorbutus in, (37) 1034
scorbutus, infantile, fed on pasteurized cow's milk, (33) 1395
sexes, power of resistance of, 1010
shoulder-joint subluxation in children and, (31) 1745
skull defects of newborn, (125) 706
skull fracture in newborn, depressed, immediate treatment, (14) 694, (40) 1326
stomach motility in, roentgenography of, (1) 1576
sugar-splitting ferment in excretion of, (96) 406
syphilis in newborn, sudden death of, (81, 82) 868
syphilis of nervous system in, (22) 86
teething period, (76) 944, (179) 1272
temporal bone and its anomalies at birth in 150 cases, (36) 1326
temporal bone and mastoid operation, (37) 1326
therapeutics of diseases of children and, (50) 1261
thymus death in newborn, 1022—ab, (5) 1831
transmission of germs in vagina to, during labor, (181) 873
tuberculides, papulonecrotic, in, (2) 2066
tuberculosis, diagnosis, (125) 699
tuberculosis, glandular or secondary form of, pathogenesis of, (60) 398
tuberculosis, lung, roentgenoscopy of, (52) 247
tuberculosis, pathology of, (17) 1593
tuberculosis, prognosis of, (120) 636
tuberculosis, roentgenoscopy of, (34) 1926
tuberculous attendant infects, *1617
ulcer of duodenum in, (105) 1500
urobilin and urobiligen in urine in, (80) 406
vomiting, sweetened condensed milk arrests, 20 cases, (59) 1266
vomiting, treatment, (65) 248, (110) 559
vomiting, uncontrollable, sugar in, (60) 1498, (35) 1926
wards, contagious diseases in, prophylaxis of, (61) 867, (69) 2071
wards in public hospitals, (62) 1498
weight curve of in relation to food, (29) 1185
welfare, conferences on, 679, 1240
welfare, municipal health work pertaining to, (25) 1105
welfare work and physician, (48) 1746
INFECTION and sarcoma of thyroid, coexisting, (23) 1325
constitutional, and mouth infection, (25) 781
effective range of, 383—ab
ether in, 1010
from torn gloves, danger of, (75) 1402
hand, (30) 1324
hand, literature on, 1175
heart during acute, (46) 160
hematogenous, of kidney, acute, 1389—ab
in infants, diet in, (66) 2071
in infant's wards of hospital, prophylaxis of, (69) 2071
influence of certain, on rabbit testicle, (87) 1672
latent and recurrent, and subinfection, (81) 161
lymphocytosis connected with, (105) 1749
mucous channels and blood-stream as alternative routes of, (9) 1329
INFECTION, peritoneum, surgical treatment with special reference to immediate sterilization of same, (138) 1030
physician's duty to prevent, 310
pleura and lungs, acute, etiology, diagnosis and treatment, (54) 1666
pneumococcus, combined drug and serotherapy in experimental, (125) 1116
Puerperal: See Puerperal Infection
septic, influence of, in causation of eye disease, (5) 945
vaccines instead of serums are given in, why, 1727
with living micro-organisms, various, vaccination for, (38) 1669
INFECTIOUS DISEASES, 139, 218, 678, 1806
acute, leukocytes in nephritis and, destruction of, (39) 1838
acute, toxicity of urine in, (87) 1195
advancement in treatment, (56) 1262
alcohol in, 1651
and anaphylaxis, 1058—ab
cooperative clinical investigation of, 755—E
during May, 1717
etiology of, (95) 555
headache, severe, in, rachicentesis in, (53) 1034
hospital treatment of, (56) 782
imported through immigration, means for diminishing or preventing, (28) 159
in children, unusual complications of, (6) 940
insects in spread of, (115) 1263
on shipboard, prevention and spread of, (153) 479
oral treatment, neglect of, (79) 628
septicemia in, frequency of, (155) 1118
toxicity of urine in acute, antianaphylaxis in research on, (78) 326
treatment, (95) 1672
urination, abnormally frequent in acute, (78) 1987
INFERIORITY constitutional, and retardation in connection with education and crime, (37) 552
constitutional, of organs in certain breast-fed infants, (123) 1932
INFLAMMATION, hyperemia, passive, in treatment of, (72) 1928
INFLUENZA, (60) 944
bacillus, bacillus from spontaneous abscesses in rabbits and its relation to, (30) 476
bacillus, meningitis in infant from, fatal, (185) 1676
differential diagnosis and treatment, (86) 319
flaring up of old urethritis during, autovaccine therapy, (64) 558, (147) 1674
gastro-intestinal, (52) 552
in 855 A. D., (82) 1267
meningitis due to, (14) 1831
meningitis due to, complicated by pneumonia, recovery, 1915—ab, (73) 1922
with repeated rigors, (39) 1400
INHALATION, antiseptic, continuous, in lung tuberculosis, (36) 480
improved technic for, (119) 91
new apparatus for, (87) 697
INHALER, ether given by drop method with closed, (96) 1835
somnoform, new, (6) 1668
INHERITANCE in 442 tuberculous families among workingmen, (63) 248
of "acquired properties," (58) 404
INJECTION, intramuscular, of mercury in syphilis of nervous system, (79) 1667
intravenous, of saturated solution of camphor in pneumonia, benefit from, (122) 1501
intravenous, of various substances in animal cancer, *1857, 2022—ab
neosalvarsan, technic for, (59) 1193
quinin, subcutaneous, technic for, (60) 1193
salt, intravenous, (49) 2070
salt, subcutaneous, simple and rapid method for administering, (3) 786
salt, technic for, (150) 1117
salvarsan, technic for, (81) 1267, (138) 1329
subconjunctival, in eye disease, (145) 1030
INJURY case, selection of physician and services recoverable for, 313—Ml
toes and insurance against accidents, (118) 1196
treatment by mobilization and massage, recent, (19) 699
INOCULATIONS, animal, 927
diagnostic, of animals, (112) 406, (144) 561
tests in tuberculosis, improved technic for, (81) 792
INSANE, after-care of, 1008
alien, care of, 139
and feebleminded immigrants arriving at port of New York, (86) 1667
asylums, mortality from tuberculosis in prisons and, in Norway, (209) 874
brains, normal-looking, in, series of, (4) 1663
care of, in war, (122) 329
criminal, 1733—ab, (40) 2070
ferments in serum of, (110) 1335
gynecologic diseases and their relation to state of mind, (154) 1031
gynecologic operations on, (13) 396, (141) 560
hospital for, and community, (104) 1923
hospital, state, large argument for, (16) 860
immigrants, problem of, (4) 1738
in British Columbia, treatment, (18) 551
in navy, treatment, (154) 479
institutional care of, in United States, three-quarters of a century of, (6) 551
jury law for commitment of, in Illinois, (1867-1893) (15) 551
law on, in France, proposed revision of, 1719
number in Prussia, 381
occupation in treatment, (7) 551, (18) 1395
paralysis, general, (13) 1330, (110) 1397, (19) 1744
paralysis, general, eye symptoms in, (20) 551
patient and family physician, (92) 1108
psychologic observations in, (9) 551
recovered, menace of, 920—ab, (85) 1189
self-mutilation by, (3) 1393
state's, rational care of, (76) 1667
sterilization of, (97) 84, (62) 1834
INSANITY: See also Psychiatry
INSANITY, alcoholic, (85) 319, 380
among Indians, (1) 551
and complicated eye disease, pedigree showing both, (1) 1581
and pellagra, (52) 1742
common form of, (34) 1395
court restricts to attending physicians' opinions on, 545—Ml
curability of, (6) 1663
diagnosis, (89) 242
etiology and prognosis of, (106) 785
heredity and, 146—ab, (78) 399, (97) 1269
manic-depressive, and literary genius, (77) 628
medical certificates in regard to, (82) 327, (44) 1111
of feebleminded, (52) 82
post-traumatic, (99) 478
problem, some phases of, (63) 1982
sociologic aspect of, and allied defects, 357—ab
syphilis and, 851
teaching of, *1057
treatment, (106) 170
treatment of epilepsy and, (69) 88
INSECT aids in destruction of noxious species, advisability of utilization of, (42) 1838
and spread of infectious diseases, (115) 1263
carriers, (5) 479
carriers of bacterial infections, (18) 401, (34) 402, (5, 17) 479
disease-bearing, reduction and destruction of, (1) 85
poliomyelitis and, 55—E
INSOMNIA and noise, (43) 398
INSPECTION, Medical, of Schools: See Schools, Medical Inspection of
INSTITUTE, medical, now, opening, 64
of Infantile Hygiene and Public Charities, 299
INSTITUTIONS, individualized diets in, 1720
skin diseases and cleanliness in, 1656
INSTRUCTOR, full-time, work of, in medical education, 387—C
INSTRUMENT: See also Apparatus
INSTRUMENT, appendix excisor, (16) 1980
artificial airway for surgical anesthesia, *1858
blood-vessels, suturing, aid in, (76) 633
bone-clamp and bone-plates, *1699
bone-saws, circular, *1285
cannula for blood-transfusion, *1284

INSTRUMENT, cannula-forceps for blood-vessel anastomosis, (41) 552
capsule forceps, (86) 945
dissector for submucous resections of septum, (134) 243
duodenum sound, (126) 407
electric perimeter, practical, (75) 1396
ergometer and sphygmobolometer, (107) 1749
esthesiometer, new (34) 861
fecal drainage, (15) **317**
for teaching auscultatory blood-pressure technic, new, ***279**
forceps, long thumb, for abdominal work, (161) 162
gastro-esophagoscope, (86) 83
hemostatic lid clamp, U-shaped, (85) 945
iris scissors, new, ***1226**
knife for prostate, (91) 793
ligature-passing forceps, automatic, ***1226**
light-carrier with lens and rheostat for urethroscopy, ***182**
lumbar-puncture needle, new, ***1204**
monochord, (110) 1328
mouth gag with permanently attached tube for continuous etherization and new tonsil grasp, (111) 1328
needle-holder for submucous resection of nose septum, ***1295**
nose and throat, (40) 943
percussion hammer, graduated, (132) 706
pile clamp for hemorrhoids, new, (89) 319
safety razor blade as scalpel, **67**—C, **1245**—C
Sahli's pocket sphygmobolometer, ***1211**
scleral trephine, new, ***2045**
sclerocorneal trephine, ***1537**
sheep-shears useful in surgery, modified, ***1784**
surgical, discarded, worthy use for, **227**—C
syringe, one-hand, (133) 330
tariff, **1322**—ME, **1726**—C
tariff changes on drugs and, proposed, **1382**—ME
tonsil clamps, new, ***2044**
tonsil dissector, (136) 162
tonsil guillotine and snare, ***650**
tonsil hemostat, Corwin's, (113) 1328
tonsil-snare, new, ***2043**
tonsil tenacular, (111) 161
tonsillectome, new, ***827, *1620**
tourniquet for intravenous work, new, (126) 162
umbilical cord clamp, (137) 321
urethroscope, operating, (122) 242
urethrotome, new, (38) **782**
visceral depressor for closing laparotomy wounds, ***897**
vulsellum cervix forceps, double, ***1952**
INSUFFLATION, Intratracheal: See also Anesthesia, Intratracheal Insufflation
INSUFFLATION, intratracheal, principles and uses, (39) 1395
systematic, of air as first aid in asphyxia, technic for, (130) 1405
INSURANCE act, **62, 139, 297, 607, 1719, 1894**
act and British Medical Association, **760**
act and nostrums, large decrease in sales, **1238**
act, British Medical Association releases physicians from pledge, **458**
act, contract practice in England under, (63) 1028
act, crisis in profession, **219**
act, defeat of British Medical Association's policy, **379**
act in operation, **531**
act, removal of grievance of too much clerical work, **760**
act, results of, **1472**
act, working of, **916**
against accidents and injuries of toes, (118) 1196
company asking support of physicians, **1656**
doctors, payment of, **1238**
for disability in 1911, **1168**
life, and albuminuria, (3-5) 85
life, and middle-ear suppuration, (18) 81
life, and tuberculosis, (58) 480
life, conference on, **606**
life, examinations, (42) 1395
life, examiners meet, **843**
life, selection of women on whom hysterectomy and ovariotomy have been performed for risks in, (82) 83
INSURANCE, life, sphygmomanometer in examinations for, additional report, (76) 83
medical, and future of physicians, **153**—ab, (124) 242
national, of wage earners in Russia, (94) 950
physicians, fees of, **1971**
sickness, national, in Germany, **141**
wage-earners', in Germany, (69) **167**
INTELLIGENCE TESTS, (105) 242
INTERAGGLUTINATION experiments with various strains of sporothrix, (36) 1106
INTERCOLLEGIATE gathering of students in South America, **297**
INTERNATIONAL conference on charitable relief to aliens, **1009**
Congress of Medicine, **1970**
Congress of Physical Education, **1167**
Congress on Medical Climatology and Hydrology and on Geology, **1552**
Congress on Ophthalmology, **606**
Congress on Physiotherapy, sixth, **1553, 1650, 1720**
Congress on School Hygiene, **1237**
Dental Congress, **1650**
Exposition of Safety and Sanitation, **1893**
Institute of Chemistry proposed by Ostwald and opposed by chemical houses, **1229**—E
Medical Congress, **1175, 1372, 1649, 1718, 1804, 1893, 1903, 1970**
Purity Congress meeting, **1006**
INTERNS, hospital, methods of appointing, ***639**
work required for graduation, **1888**—E
INTERNSHIP, should it be required for graduation? **934**—ab, (74) 1922
INTERSYSTOLE in man, (39) 1191
INTESTINE absorption in infantilism, (39) 626
adenoma in, simulating stenosis of pylorus, (51) **1401**
adenomyomatosis of small, subserous, (168) 872
alcohol by, absorption, (49) **1741**
anastomosis between kidney and, (85) **168**
anastomosis of, lateral, modification of Ferguson-Grant method, (104) 1262
atresia of, congenital, (189) 873
atresia of esophagus and, congenital, pathogenesis of, (63) 702
calculus, (6) 1743
cancer, diagnosis, early, (82) **1494**
cancer of lower, palliative operations for, (56) 1192
compressed between gravid uterus and spine, (189) 563
deprived of its mesentery, invagination for, (148) 92
devascularization of, experimental, with and without mechanical obstruction, (24) **1325**
development of mucous membrane of large, and vermiform process in human embryo, (5) **474**
diseases of children, (129) 478
diseases, treatment during last fifty years, (108) **559**
distention, effects on shape of villi and glands, (6) 474
disturbance from sexual organs, (40) 557
diverticulitis, (50) 1833
doubling of great, (13) **164**
foreign bodies in, (66) 1402
foreign body in, feces with, (132) **408**
gangrene of appendix and small, operation, recovery, (4) 555
gangrene of, from non-penetrating bullet wound, (62) 477
gunshot wounds of, (100) 1029
gunshot wounds of, multiple, without perforation of lumen, (34) 81
helminths causing obstruction of, literature on, **310**
helminths causing spasm of, (72) **168**
ileus from compression of, between gravid uterus and promontory, (44) 1839
immunity of, from digestion by alimentary enzymes, **670**—E
in fulminating cerebrospinal meningitis, (124) 1931
infant, permeability of walls of, (106) **1673**
intoxication, (120) 85, (71) **633**, (4) **1190**, (18) 1191, (68) 1262, (22) 1837, (18, 30) 1983
intoxication and gout, comparisons between, (8) 940, (49) 1028, (20) 1105
INTESTINE intoxication and thyroid, (20) **1983**
intoxication, bacteriologic evidence in support of, (10) 1582, (37) 1669
intoxication, consequences and treatment from surgical viewpoint, (7) 1190
intoxication proceeding from, especially polyneuritis, ***101**
intoxication, prophylaxis of, (37) **246**
intoxication, skin indications of, (8) 1582
intoxication, symptoms and treatment, (6) **1190**
intoxication, therapeutics of, (91) 1835
invagination, retrograde, of, (39) 947
lesions due to contusions of abdomen, (139) 162
lesions of, with tuberculosis of ovary or fallopian tube, (68) **1267**
linguatula serrata found in human, in Brazil, (198) 873
lower, direct examination of, for diagnosis and treatment of diarrhea, (101) **320**
malposition of stomach and large, roentgenoscopy showing, (73) 1189
melanosis of mucosa of large, (205) 874
metabolism of children with complete absence of bile from, (5) **1576**
microbian flora of large, in cattle and sheep, (52) 1670, (27) 1926
motility of, influence of various contrast substances on, (23) **1664**
motor functioning of, and stools, relations between, (64) 325
needles found in appendix and, during hysterectomy, (12) **555**
obstruction, (65) 83, ***733**, (101) 1029, (116) **1263**, (7) 1324, (24) 1496, (65) 1580, (92) 1922
obstruction, acute, due to volvulus of cecum, (25) **556**
obstruction, acute, early recognition of, (119) 478
obstruction at two points, (98) 483
obstruction by gall-bladder calculus, (11)
obstruction, chronic, colonic dilatation, congenital and acquired, as factor in, (118) 320
obstruction, clinical study of 180 cases, **71**—ab
obstruction, diagnosis, difficulty and importance of early, (40) 324
obstruction, experimental work on, (24) 475
obstruction following cesarean section, acute, (32) 787
obstruction, high, postoperative ileus and acute pancreatitis, (93) 1581
obstruction in acute appendicitis, acute angulation of terminal ileum cause of, (34) **1741**
obstruction in rabbit, (38) **626**
obstruction, toxic substance produced by mucosa of closed duodenal loops, (25, 26) **942**
occlusion of, arteriomesenteric, (90) **1334**
occlusion of, by retrodisplaced normal uterus, (48) **1331**
oxygen applied direct in disease of, (162) **487**
parasites and diseases found in Guam, (155) 479
parasites in Costa Rica, (16) 1191
parasites in tropical pathology, is importance of, exaggerated? **1823**—ab
perforative lesions of, early diagnosis and treatment, (48) 1493
peristalsis in large, (103) 328
permeability of wall of, for bacteria and protecting action of omentum, (155) 1502
phlegmon in small, (64) 1402
physiologic rest of large, completed in ulcerative and obstructive lesions, **73**—ab
poisons, destructive influence on central nervous system of rabbits and guinea-pigs of long-continued minute doses of, (30) 1926
putrefaction in, influence of bile on, (49) 1497
removal of over eleven feet of small, successful, (125) **321**
resection of large, technic for, (211) 564
resection of small, **523**—E
resection of stomach and, improved technic for, (76) 1987
roentgenoscopy of large, with tumors in kidney region, (101) 950
INTESTINE, sarcoma of small, primary, (135) 1337
sliding hernia of large, (94) 483
stasis, (39) 324, (25) 700
stasis, chronic, (27) **245**, (63, 65) 477, (16) 865, (9) 1582, (23) 1837
stasis, chronic, versus septic infection, (11) **1032**
stasis, special reference to Lane's short circuiting operation, (67) 160
stenosis, flushing of large, in, (88) 793
stenosis in groove after reduction of incarcerated loop of, (89) 483
stenosis in newborn infant with rectum plug of mucus and epithelium, (82) 406
stenosis of small, (92) 1841
strangulation of, acute, (73) 1840
surgery of, conservation in some conditions of, (27) **781**
surgery of, large, disputed problems associated with, (1) 624
suturing stump of stomach or, improved technic for, (139) 92
torsion of large, operative treatment, (64) 632
transplantation, artificial vagina by, (104) 242, (19) 625
tuberculosis of stomach and, (45) 480
tuberculous perforation of, multiple, (51) 1034
tumor of large, malignant, (4) 629
typhoid perforation of, (131) **408**
ulcerations and perforations of cecum and small, from postoperative intestine toxi-infection, (54) 867
ulcerations, widespread, limited to, fatal case, (11) **1399**
volvulus, cecum-small, in incarcerated hernia, (84) 1333
INTUBATION tubes for larynx stenosis, specially devised, (136) 1030
INTUSSUSCEPTION, (1) 1836
diagnosis and treatment, progress in, (45) 1326
Henoch's purpura with, laparotomy, recovery, (12) **1330**
in child 11 months old, (132) 478
irreducible, in infant, resection of one-third of colon for, (33) 1832
INVALIDISM, (122) 1030
IODID medication, influence on phagocytosis of tuberculosis bacilli in sputum, (91) **1114**
IODIN, action of, new methods for using, (75) **88**
action on vascular system, (100) **170**
and benzin-iodin, methods of skin sterilization in emergency work, (42) **1028**
and phosphorus contents, size and physiologic activity of fetus thyroid, (46) **1665**
applied to external and internal genitalia in women, **151**—ab, (7) **695**
as antiseptic in tropical countries, (7) 2067
-containing complex in thyreoglobulin, nature of, (75) **1028**
content of thyroid, **1000**—E
content of thyroid, seasonal variation in, (63) **319**
cult of, and dread of skin, (21) 401
for fresh wounds, (102) **1835**
for mucosa in gastro-intestinal operations, (138) 1197
for small-pox, (17) 165
in body, action and fate of, (133) 1844
in ophthalmology, advantages of, (55) **1746**
in thyroid cancer, effects of, (19) 1259
in typhoid, (56) **557**
infected wounds at time of injury treated with use of serums and, (63) 783
nascent, for lupus of nose, (7) 1494
nascent, in cystitis, (67) 558
sterilization as now used at United States naval hospital, Norfolk, Va., (107) 1397
sterilization of skin, (142) 1197
IODIPIN, deposits of, interfering with roentgenoscopy findings, (91) 327
IODOFORM and hot air in ear and nose conditions, ***1946**
IONIZATION, experiments with, (24) 1664
in herpes zoster, (39) **1265**
in superficial epitheliomas, (124) 699
IOSALINE, **849**—P
IOWA medical news, **59, 136, 912, 1163, 1235, 1468, 1648, 1714, 1967**
state board March report, **1385**
state board September report, **772**

IOWA State University, future of college of medicine, (74) 1834
State University, medical department, since 1876, (73) 1834
State University, medical education at, (71) 1834
IPECAC, small doses in obstinate digestive troubles of infants, **1239**, (67) **1499**
IPECACUANHA, in amebic dysentery, (14) 164
IRELAND, population of, **1894**
IRIS, eversion of pigment layer of, (39) 1028
scissors, new, ***1226**
IRITIS, etiology of, (46) 862
gonorrheal, what general practitioner should know about, **1486**—ab
IRON, albumin-containing preparations of, absorption of, (107) 406
in anemia of newborn infants, (68) **1112**
in blood, (32) **556**
salicylate of, (45) 1111
IRRITABILITY of fingers immersed in liquid electrode, estimating sensory threshold by measuring, **1800**—E
ISATOPHAN, **516**
ISLANDS OF LANGERHAN, importance of, (128) 1270
ISOAGGLUTINATION in man and lower animals, (35) **1106**
ITALIAN physico-chemical academy, pursuit of empty honors, **770**, **1480**
ITCH, copra, (18) 244
IVY, common, hederin a sapoglucosid contained in leaves of, chemical and pharmacologic properties of, (63) 1188

J

JACCOUD, Sigismond, death of, **1650**
JACKSON'S MEMBRANE, (49) 1833
and Lane's kink, (96) 945
and Lane's kink, literature on, **1319**
fetal peritoneal folds of Jonnesco, Treves and Reid in relation to Lane's kink and, (77) **1396**
Lane's kink and cecum mobile, etiology of, (78) **1396**
or membranous pericolitis, (61) 1107
JAPAN, cholelithiasis in, (51) **1927**
JARISCH-HERXHEIMER reaction in ear after treatment by salvarsan, (14) 1837
JAUNDICE, (48) 87, (14) **2067**
acholuric, anemia of pernicious type with, (14) 865
acholuric, chronic, acquired, sequel of cases, (29) 1838
catarrhal, epidemic, (1) 479
catarrhal, recurring with positive tests for typhoid, (50) 866
chronic, from old tuberculous peritonitis, (66) **1266**
due to unilateral surgical kidney with pressure on common duct, (134) 478
familial, congenital, (90) 704
hematogenous and obstructive, (13) **2066**
hemolytic, (111) 1501, (81) 1671
hemolytic, acquired, with anemia of pernicious type, effect of splenectomy on, (167) 1271, (81) 1987
hemolytic, and splenic anemia, (125) 560
hemolytic, in tuberculosis, (104) **794**
hemolytic, pathogenesis of, (47) 1746
hemolytic, treatment, (58) **1035**
hemolytic, with splenomegaly, (47) 398
in children, (10) **1398**
in newborn infant, (120) 251, (114) 1115
infectious, epidemic of, 25 cases, (162) 1675
obstructive, relieved by operation, (36) 86
tuberculosis of liver with, (95) **1667**
JAW, actinomycosis of lower, (114) 1397
ankylosis of, (32) **947**
cancer of upper, removal of, technic for, (34) 2069
cystoma of lower, multilocular, **1248**—ab
fracture of, treatment, (79) 326, (106) 1403
osteoma of, unusual case of, (34) 943
poor development of upper, evils due to, (38) 1579
prognathous, early correction of, **1560**
prothesis after resection of lower, first, (45) 166
JAW, resection of three-fourths of, and mode of repair, (159) 1118
sarcoma of upper, (114) 1404
teratoma of upper, (71) 1333
JEJUNOSTOMY, (43) **1984**
JEJUNUM, cancer in ileum and, (142) **1338**
jejunocolic fistula from peptic ulcer in, after gastro-enterostomy, (51) 867
obstruction of pylorus and, due to gall bladder calculus, (49) 1982
JELLY method of diagnosis of syphilis, (4, 5) 244, ***1225**
JEQUIRITY in ophthalmic work, (133) 1328
JEWISH race, biostatistics of, pertaining especially to immunity and susceptibility, (97) 1667
JIANU-ROEPKE gastrostomy and plastic esophagus operation, modified technic for, (119) 1038
JIREH diabetic food, **923**—P
Diabetic Food Co. and the "original article" fraud, **1081**—E
JOHNS AND BASS' method of cultivation of benign tertian malarial parasites in vitro, (8) **1398**
method of cultivation of malarial parasites in vitro, (74) 167, (5) 401, (85) 1987
JOHNS, L. D., Company, **682**—P
JOINT, bony ankylosis of, restoring mobility after, (144) 479, (82) **1922**
diseases, (66) 404, (14) 1923
diseases, common, pathology and treatment, (60) 1396
diseases, hysteric, simulating chronic arthrosynovitis, (145) 638
diseases, nervous, without signs of tabes, (47) 557
diseases, treatment, (8) 940, (49) 1028, (20) 1105
fractures, **73**—ab, (12) **1394**, (51) 1839
fractures in or near, passive motion begun early, value of, (90) **161**
Hip: See Hip Joint
lumbosacral, subluxation of, as cause of paraplegia, (6) 1491
operations, local anesthesia for, (150) **1270**
resection without drainage, (68) 867
septic infection, (20) **700**
strain, pain, especially backache, in relation to, (40) 160
syphilis of bones and, in children, (27) 1496
temporomandibular, crackling in, **1560**
traumatic extravasation of blood in pleura and, behavior of, (145) 561
tuberculosis, (110) 869
tuberculosis, diagnosis, (26) 1665
tuberculosis of bone and, (118) **329**, (41) 480, (89) **1988**
tuberculosis of bone and, experimental study, (30) **942**
tuberculosis of bone and, in children, types of organism in series of, (3) **1494**
tuberculosis of bone and, special institutions for treatment and care of, necessity for, (43) 2070
tuberculosis, treatment, (69) 482, (108) 1262
JONNESCO, fetal peritoneal folds of Treves, Reid and, relation to Jackson's membrane and Lane's kink, (77) **1396**
JOURNALISM, medical, origin of, (108) 399
JOURNALS, drug, attitude toward patent medicines, **837**—E
eye, ear, nose and throat, **1320**
foreign, lending, **229**
foreign, list of, **1480**
medical, and great American fraud, **213**—E
medical, slowness of, to realize changed attitude of public toward clean advertising, **602**—E
of American Medical Association an encyclopedia of medical information with index as key, **1887**—E
of Out-Door Life, anniversary of, (49, 50) 627
of Surgery, British, **1372**
JUDGMENT, no reliability for error in, and failure to discover infantile paralysis, **857**—M
JUGULAR VEIN, pulsation in esophagus and, in tumor of left auricle, comparison of, (71) 1267
septic thrombosis of left lateral sinus and internal, serous otitic meningitis with, operation for, (8) 479
JUNG'S modification of Freudian theory of neuroses, (50) 862
JURISPRUDENCE, medical, (43) 1395

K

KALA-AZAR: See also Leishmaniasis
KALA-AZAR, arsenic in, (22) 1669
at Tiflis, four cases, (84) 1987
children, (103) **170**
experimental facts, (16) 479
in Southern Italy, (152) 1198
KANSAS medical news, **59**, **136**, **527**, **675**, **912**, **1163**, **1369**, **1468**, **1548**, **1968**
Medical Society, cooperation of physicians in, **538**—C
state board October report, **1179**
KAOLIN, toxic action of guinea-pig serum in contact with, (30) 946
KARBENZYM, chemical action of, (111) 328
KARELL'S method of treating cardiovascular disturbance, (115) **1501**
milk cure in asystole, (130) 407
KENTUCKY Educational Association, plans of cooperative health work that will be attempted by, (93) 1029
medical news, **293**, **527**, **757**, **840**, **912**, **1084**, **1309**, **1369**, **1648**, **1802**, **1890**
poliomyelitis and vital statistics law in, **56**—E
Press Association, practical public health work that will be attempted by, (92) 1029
preventable diseases in, how United States public health service can help in eradication of, (88) **1029**
state board December report, **469**
state board of health, work of, (55) 627
state department of education to lower sick and death rate of, what will be attempted by, (91) 1029
what federation of women's clubs will do to conserve health and lives of women and children of, (90) 1029
KERATITIS, interstitial, (17) 401, (10) 786
parenchymatous, neosalvarsan in, no benefit from, (106) 635, (128) 636
punctata superficialis, neurotic case of, (3) 780
suppurative, infectious, (73) 1396
KERATOCONUS, operative treatment, (87) 554
KERATODERMIA blennorrhagica, (4) 322
KERATOSIS follicularis, four cases, (71) 160
gonococcus infection with, generalized, (136) 1038
seborrheic, following unusual exposure to light, *7
seborrheic, of lips, diagnosis and treatment, ***1774**
KIDNEY, anatomy, (1) 316
and heart cases exhibiting high blood-pressure, management of, (131) 401
anomaly of ureter and, congenital, (13) **1399**
apparatus for injection and lavage of pelves of, and ureters, ***184**
arteries, arteriosclerosis of, (82) **1841**
bacillus colon communis infection of, (60) 1922
balneotherapy in disease of, (127) 636
calculus, (9, 12) 1495
calculus and rudimentary kidney, hydropyonephrosis with, in man of 31, (61) 1671
calculus, bacteriology and bacteriotherapy of, its sequels, ***1213**
calculus, bilateral, **936**—ab
calculus, chemistry of, (22) **397**
calculus, cholecystitis due to, cholecystectomy in acute, immediate, (58) **325**
calculus in children, (7) 555
calculus, large, associated with sarcoma of kidney, (20) 946
calculus of ureter and, (89) 1835
calculus of ureter and, in shadow diagram of body, allotment of, (60) 1982
calculus of ureter and, 110 cases of, and ten cases simulating these conditions, (22) **317**
calculus of ureter and, roentgenography of, (75) **558**
calculus, pyelotomy for removal of, **315**—ab, ***1145**
calculus, reenforce suture after operation for, (107) 1588
calculus, removing, technic for, (85) 327
calculus, surgical methods in operating for, conservative, (46) 1741
cancer, transplantable, of white rat, (20) **787**
KIDNEY changes, in tuberculosis, (77) 1267
classification, diagnosis and therapy of diseases of, method based on functional testing, (114) 251, (32) 1395
congested, functioning of, (118) 1501
cystic, (124) 1270
cystic disease of, pathologic anatomy of, (181) 1676
cystic, ileus from, (62) 558
cystic, resection of, successful, (128) 1589
cysts studding both, (41) 1034
decapsulation, (101) **1195**
decapsulation and establishment of collateral circulation, results of experiments on, (151) **163**
decapsulation in acute nephritis from poisoning, (70) **558**
disease, (142) 560, **1806**
disease, albumin determination aid in diagnosis of, (93) 84
disease and permanently high blood-pressure, (88) **1403**
disease, commoner forms of, knowledge most useful to general practitioner, (13) **239**
disease, experimental, (99) 170
diseases, French progress in, (108) 242
displacement and malformation of genitals, (177) 562
double, tuberculosis in half of, (144) 1674
dropsy, medicinal treatment, (124) 1196
dystopic, (120) 320
epinephrin, action of, in experimental disease of, (135) 1270
epithelioma of pelvis, (38) 166
functioning before phenolsulphonephthalein test, (192) 873
functioning, blood-cryoscopy for determining, value of, ***188**
functioning, clinical importance of, **1568**—ab
functioning, color tests of, (114) 328
functioning, effect of experimental chronic passive congestion on, (17) **1739**
functioning in eardiorenal and cardiac diseases, (18) **1259**
functioning in nephritis, (185) **1753**
functioning, indigocarmin as functional, in chromo-ureterscopies, results of 200, ***185**
functioning, methods of estimating, (4) 238
functioning, mountain sickness transient upset of, (167) 1675
functioning, phenolsulphonephthalein test for, (57) **83**, ***191**, (110) 1269, (112) **1336**, (39) 1492, **1561**—ab
functioning, prognostic value of, **1568**—ab
functioning tests, (18) 780, (36) 781
functioning tests, technic for, (121) **1673**
hemoglobinuria in children originating in, occasionally, (31) 1926
hematogenous infection of, acute, (26) 81, **1389**—ab
hemorrhage, unilateral, and essential hematuria, (124) **321**
horse-shoe, (46) **1497**
horseshoe and single, surgery of, **237**—ab, (25) **1325**
horseshoe, hypernephroma in, (4) 316
hydrochloric acid in gastric juice during disease of, behavior of, (204) 874
hypernephroma of, (146) 162, (138) 1551
in eclampsia, (74) **1194**
innervation of, (113) 1501
insufficiency, mental symptoms associated with, (14) **860**
lesion of experimental cantharidin poisoning, (25) 1578
leukoplasia of pelvis of, (40) 1034
movable, (54) 160
movable, hemorrhage in, (44) 701
movable, operative correction of, (55) **1985**
movable, suspension from rib, (84) 168
movable, with or simulating chronic appendicitis, (83) 83, (61) 558
necrosis, symmetrical, of cortex of, with puerperal eclampsia and suppression of urine, (21) **1837**
pathologic, action on its mate, (132) **1750**
pelvis, pyelotomy with incision of anterior wall of, (133) 637
pelvis, roentgenoscopy of, complications from, (144) **1338**
pelvis, suturing incisions in ureter and, (34) 166
plasma cells in, (125) 1270
polycystic, (25) **866**

KIDNEY, polycystic, nephrectomy for, (16) 1324, (73) 1499
pyelography in diagnosis of surgical diseases of, value of, (66) 1982
resection, influence of operation on function of organ, *13
roentgenoscopy of, technic for, (73) 558
rudimentary, hydropyonephrosis with calculi and, in man of 31, (61) 1671
rupture, subcutaneous, (106) 320
supplementary ureters as cause of various affections of, (130) 1501
Suprarenal Capsule: See Adrenal
Surgery: See also Nephrectomy; Nephrotomy
surgery, (3) 316
surgical diseases of, diagnosis, (53) 1262
surgical, unilateral, with pressure on common duct causing jaundice, (134) 478
transplantation of, (129) 1932
tuberculosis, (164) 1502
tuberculosis, bilateral, nephrectomy with, (138) 408
tuberculosis, chronic, (135) 85
tuberculosis, cystoscopy in diagnosis of, value of, (77) 864
tuberculosis, diagnosis, (44) 318, (44) 1400
tuberculosis, diagnosis and treatment, (75) 1671
tuberculosis in children, (42) 1034
tuberculosis, indications and results of medical treatment, (38) 1034
tuberculosis, microscopic miliary tubercles at ureter mouth early sign of, (59) 1671
tuberculosis, pseudo-healing of, (37) 166
tumors, (26) 787
tumors in region of, roentgenoscopy of large intestine with, (101) 950
tumors, malignant, clinical data on, *274
tumors of adrenal, testicle and, embryogenetic relationships of, (26) 1325, 236—ab
tumors of ureter and, (10) 475
tumors, symptomatology of, 74 cases from Massachusetts General Hospitol, (20) 860
urinary lithiasis, bilateral, *114
urine retention in, operative treatment, (43) 1034
KINETIC theory of exophthalmic goiter, (12) 239
KITCHEN, healthy employees in dining-room and, 1479—C
incinerator, its construction and use, (55) 944
KLAUSNER reaction, nature of, 1078—E
KNEE, amputation below, instead of exarticulation, (135) 637
deformity below, operative correction of, (93) 1748
derangement, (112) 1196
dislocation, (97) 1500
injuries, infected, stasis hyperemia in, (98) 559
injury of crucial ligaments of, (107) 635
-joint, floating cartilage in, (31) 2067
-joint, fractures involving, including epiphyseal separation, diagnosis and treatment, 2023—ab
-joint, infected, drainage without subsequent ankylosis, (131) 242
-joint, injuries to semilunar cartilages of, (14) 1495
-joint, oil injections into, by open incision method, 1917—ab
-joint, osteotomy of lower end of femur in permanent flexion of, 1917—ab
removal of semilunar cartilages in, ultimate outcome, (53) 166
resection of entire, leaving only nerves and vessels, (59) 1927
sarcoma, (90) 249
stiff, bicycle devised for, (110) 635
subluxation of, anterior, congenital, (9) 859
tabes dorsalis causing affection of, resection for, (206) 1754
tuberculosis in children, treatment, (113) 483
KNIFE, circular, for prostate, (91) 793
KNOWN doctors come to grief at Ottumwa, Ia., 1900—P
KOJO and Salkowski urine test for diagnosis of cancer, (80) 1499
KORÁNYI, death of, 1972
KORSAKOFF'S psychosis, polyneuritic delirium, (9) 1663
KOSINE, 66—P
KRONLEIN, operation of, simplification of, (84) 1580
KUHN aspiration mask, (66) 632
aspiration mask, simple substitute for, 768—C
KUR and cure, 1308—E
KURASHIGI-SCHNITTER method for demonstrating tuberculosis bacilli, *995

L

LABELS, fanciful, of secret products, 453—E
on food, Supreme Court decision on, 1307—E
poison, needed amendment, 1547—E
LABOR: See also Obstetrics
LABOR, analysis of 700 cases, *2032
artificial, technics for, (104) 1269
behavior of uterus in and after third stage of, (146) 1406
blood loss of, safe limit, (132) 1932
blood-vessels, closure after, (173) 562
brow presentations, (155) 1752
care of perineum during and after, (30) 1260
cocain injection into perineal tissue as head emerges, (92) 950
conduct of, without vaginal examination, (41) 1326
contracted pelvis and, (39) 2070
crossed-hands maneuver to aid, (134) 1337
delivery of placenta and membranes, (78) 1107
difficult, due to fetal ascites, (26) 1837
dorsal decubitus after birth of head, necessity for, (123) 1038
double uterus, bladder, vagina and vulva with successive full-time pregnancy in each uterus, (11) 946
fatalities during and immediately following, (133) 699
fetal serum to cause onset of, (75) 1107
fetus overgrowth in, significance of, (76) 1107
gynecologic operations in acute and chronic affections of heart during, 1737—ab
hematoma in abdomen developing during, (111) 1588
in elephantiasis, (57) 1839
injuries of pelvic floor due to, (13) 158
intraperitoneal hemorrhage during, rupture of uterus vein, (114) 1588
management of women after, (64) 1112
morphin and hyoscin (scopolamin) in, 1814
normal, conduct of, (46) 552, (86) 629
occipito-posterior position, (53) 1326
ovary cyst in relation to, (128) 320, (123) 321
pituitary extract retards, (139) 1197
pituitrin in, (90) 945
position after delivery, (64) 1112
premature, induction of, successful, in dystocia from excessively large infants, (66) 1112
rapid dilatation and accouchement forcé, (13) 1831
symphysis separation during, (76) 1189
station of presenting part in, (18) 941
stomach hemorrhage and other complications in, (8) 699
third stage of, treatment, (84) 1113
transmission of germs in vagina to infant during, (181) 873
tuberculosis in relation to, (13) 1324
tuberculous peritonitis developing after, (70) 1113
LABOR camp, insanitary, 1464—E, 1901—C
LABORADINE Pharmacal Company, 1161—E
LABORATORY of state board of health, work of, (74) 1982
LABYRINTH, diseases of, (105) 320
electrodiagnosis in diseases of, (10) 479
origin of compensatory tonus after destruction of, (12) 81
practical applications of studies of, (93) 698
LABYRINTHITIS and cerebellum abscess, differential diagnosis, (89) 84
pathology of, (15) 81
suppurative and serous, differential diagnosis, (33) 1740
LACRIMAL apparatus, intranasal operations on, technic for, (81) 399
ducts, disease of, (157) 486
sac, access to, through nose, (29) 2069
LACRIMAL sac, extirpation of, (65) 1396
sac, extirpation of, in chronic dacryocystitis, (26) 861
LACRIMATION, (88) 1580
LACTASE of mammary gland, (50) 318
LACTATION, care of breast during pregnancy and, (102) 1029
improved technic for, (154) 562
physiology of, (173) 1753
stomatitis need not be expected during, 616
LACTUCARIUM, Aubergier's, 358—P
LAKE MICHIGAN, sanitary survey of, along Wisconsin shore, (59) 83
LAKES, great, sewage pollution of, (66) 863
LAMBERT treatment for drug addiction, 309, *1933
LAMINARIA dilatation, peritonitis after, fatal, (93) 1841
LAMINECTOMY for fracture of vertebra, with necropsy, (149) 638
paraplegia in Hodgkin's disease treated by roentgenotherapy and, (141) 1329
LAMPSTAND attachment, useful, *900
LANE bone plates in 76 operations, (23) 551
Harry, selected senator from Oregon, 212—E
kink and Jackson's membrane, (96) 945
kink and Jackson's membrane, literature on, 1319
kink, fetal peritoneal folds of Jonnesco, Treves and Reid in relation to Jackson's membrane and, (77) 1396
kink, Jackson's membrane and cecum mobile, etiology of, (78) 1396
Plate: See also Fractures. Operative Treatment
plate method of treating ununited fracture, (84) 1262
plates, safety screw driver and screws for, (79) 83
short circuiting operation, intestine stasis with reference to, (67) 160
LANOLIN and olive oil, injection of, for removal of wrinkles, atropy of optic nerve following, (83) 553
LAPAROSCOPY findings in 59 cases, (68) 249
LAPAROTOMY, anesthetic for, selection of, (12) 396
blood-pressure and prognosis in, 1737—ab
cancer of cervix uterus, (52) 782
early, in abdomen diseases, (65) 1922
emphysema after, subcutaneous, (108) 1404
exploratory, desirability of, (51) 1833
exploratory, for abdomen cancer, 1574—ab
gauze sponges, in, 226—C
gynecologic, bacteriologic control of asepsis in, (72) 1747
how does it cure tuberculous peritonitis? (17) 695
in home, (144) 485
loofa sponges in, (137) 637
on children, (66) 1928
postoperative complications of, (79) 319
postoperative treatment, with complete wound closure, (84) 83
preliminary and postoperative treatment, (36) 1579
transverse incision in, (30) 866
wounds, visceral depressor for closing, *897
LARNYGECTOMY, complete, under cocain anesthesia, (109) 1667
for cancer of larynx, (80) 399
LARVICIDE, crude phenol as, experiments in British Guiana, (31) 165
LARYNGITIS, acute, (127) 952
chronic, and angioma of larynx, (2) 550
nerve blocking for painful, (37) 700
LARYNGOLOGY and rhinology in general practice, (104) 399
influence of work of Sir Felix Semon on, (14) 1109, (23) 1399
LARYNGOSCOPY, indirect, epiglottic suture in, value of, (4) 1743
suspension, (130) 242, (9) 555, (41) 862
tracheobronchoscopy and esophagoscopy, direct, (26) 401, (13) 786
LARYNGOTOMY, intercricothyroid, technic and advantages of, (129) 560
LARYNX, angioma of, in relation to chronic laryngitis, (2) 550
cancer, laryngectomy for, (80) 399
LARYNX diphtheria, (58) 477, (9) 1577
disturbance in swallowing from disease of, relief of, (141) 486
examination, direct, (76) 1922
gout, acute, in, localization of, (67) 1586
innocent growths of, (103) 1328
operations on, through mouth, (70) 1927
speech without, *1601
stenosis, chronic, specially devised intubation tubes for, (136) 1030
stenosis following diphtheria, treatment, (45) 1833
stenosis, large doses of antitoxin given early means of preventing, (45) 862
stenosis of diphtheric origin, continuous intubation with, (176) 1753
stenosis of trachea and, chronic, treatment, (46) 1833
tuberculoma of, (17) 1399
tuberculosis, (105) 400, (47) 480, (59) 482, *1518
tuberculosis, treatment, (84) 161
LAVAGE, transduodenal, *586
LAW and medicine, 906—E
and sale of opium, morphin, etc., 298
on insane in France, proposed revision of, 1719
prohibiting fraudulent advertising, 1482—ME
LAWSON, John, Daisy headache powders and, 1466—E
LAXOL not approved, 1174
LAZARUS and Dives, 1712—E
LEAD carbonate salve, gangrene, superficial, after application of, (41) 1497
colic, bradycardia of, (78) 867
poisoning, acute, (68) 1586
poisoning and spinal cord disease, (72) 949
poisoning, chronic, with multiple aneurysm, case of, (16) 1668
poisoning from drinking-water, chronic, (48) 1107
poisoning, household, 1239
poisoning in storage battery works, prophylaxis of, (98) 1841
poisoning in workers on brass, (116) 1269
poisoning, Wassermann reaction in, (10) 1668
white, toxicity of, 603—E
LECITHIN, cholesterin and cholesterin esters in blood-serum, (76) 703
in narcosis, rôle of, (41) 627
influence of cholesterin and, on growth of tumors, (28) 942
LE FORT'S operation for uterus prolapse, (13) 479
LEG, amputation, technic for, (157) 1502
blocking of nerves in, effectual and harmless, technic for, (64) 703
circumcision, for varicose ulcer, (40) 1838
gangrene, in infant 11 days old, amputation, recovery, (25) 1191
paralyses, anatomic explanation of many cases of weak or painful backs and, (17) 475, (1) 859
paralysis of muscles of, total, deformity from gravity, (58) 1746
polyneuritis of, following tubal abortion and local ischemia in legs, (54) 1266
sign, new, (72) 326
spring extension of, (146) 485
ulcer, chronic, (100) 629
ulcer, chronic, basic fuchsin in, *1680
ulcer, office treatment, (197) 488
zoster of face and, comparison of, *1692
LEGISLATION, lunacy, jury law for commitment of insane in Illinois and later developments in, (15) 551
medical, conference on, 690—ab, 777—ab
national, on health needed, 1483—ab
public health, proposed, 391—ME
public health, summary of, 928—ME
Tennessee's needs in, (92) 945
LEGISLATIVE news, 467—ME, 541—ME, 617—ME, 852—ME, 929—ME, 1018—ME
LEGISLATURE, public health, different methods of drafting measures for, 838—E
LEISHMAN Anemia: See Anemia, Leishman
LEISHMAN, blackwater fever showing cell inclusions of, (15) 244, (24) 787

LEISHMANIA, identity of certain, based on biologic reaction, (14) 946
mosquitoes and, (144) **252**
of mucosa of nose, *898
oropharyngeal, Indian, (13) 946
LEISURE, distractions of, (59) 1666
LENS, capsule, calcareous degeneration of cornea and, (27) 397
dislocated, tolerance of vitreous to, as index to reclination in given cases, (26) 317
dislocation of, and perforation of cornea, (57) 241
extraction in capsule in cataract operation, (27) 1669
extraction in capsule, Smith operation, (62) 160
LENTICULAR nucleus, degeneration of, progressive, (105) **794**
LEPERS in Hawaii, care of, **1503**—ab
LEPROSY bacillus, cultivation and differentiation from other acid-fast species, (136) 1270, (39) **1981**
in blood, (107) 869
in London, **844**
reduced by prophylaxis, **1797**—E
research on tuberculosis and, (137) 952
serodiagnosis of, (123) 1501
LEPTO-MENINGITIS, serous, operation for, (19) 165
LEUKEMIA, aleukocythemic, (2) 1329
benzol for, (128) **251**, *495, (118) 636, (145) **707**, (160) **872**, (65) **949**, (132) 1038, (142, 143) **1270, 1575**—ab, (65) 1586, (124) 1674
exanthems as symptoms of, (43) 1838
experimental, (132) 1674
lymphatic, acute, in boy of 4, (7) 238
lymphatic, blood in, (114) 560
lymphatic, four cases, (66) 783
lymphatic, in cattle, (42) 1191
Mikulicz' disease in connection with pseudoleukemia and, (130) 1932
myelocytic, (29) 1920
oxydase reaction in differentiation of acute, (18) **1924**
pseudoleukemia and, (96) **793**
splenomyelogenous, (168) 163
splenomyelogenous, in child with blood-picture of so-called megaloblastic degeneration, (21) 479
splenomyelogenous, persistent priapism in, (36) 318
splenomyelogenous, tuberculosis as factor in, (52) 631
splenomyelogenous, with unusually high leukocyte count, (36) 1492
thorium X in rheumatism, anemia and, (82) 1113
traumatic, (82) **2072**
treatment, **473**—ab
unusual case, *822
LEUKOCYTES, action of quinin on, (97) **320**
count chart, differential, new, *1516
count in osteomyelitis and tuberculosis of bones in children, diagnostic significance of, (19) **1492**
count in pelvic suppurative conditions, prognostic value of, (86) **1397**
count, splenomyelogenous leukemia with unusually high, (36) 1492
effects of subdural injections of, on development and course of experimental tuberculous meningitis, (45) **241**
in healthy children and at different ages, (77) 482
in nephritis and acute infectious diseases, destruction of, (39) **1838**
influence on anaphylatoxin, (89) 1929
influence on viscosity of blood, (62) 791
metamorphosis of, (75) **944**
polymorph neutrophil, qualitative and quantitative effect on, with tuberculin in tuberculosis, (8) **555**
producing organ, thymus as, (64) 167
LEUKOCYTOLYSINS and antileukocytolysins, origin of, (35) 789
induced by Roentgen exposures of spleen, curative action of, (45) 1985
LEUKODERMA in mulatto, excessive, **1246**
LEUKOPLASIA of kidney pelvis, (40) 1034
LEUKORRHEA, causes and treatment, (112) 869
LIABILITY for malpractice, sufficient allegation to show, **1490**—Ml
for negligence in making diagnoses, **1907**—Ml
for obstetric operation without consent of husband, **615**
LIABILITY, no, for error in judgment and failure to discover infantile paralysis, **857**—Ml
of employers for injuries from Roentgen-rays applied on their demand, **1908**—Ml
to cancer may be considered as result of injuries, **235**—Ml
to occupation tax after exemption, **1323**—Ml
under contract to furnish services of particular surgeon in case left to his assistant, **1730**—Ml
LIBEL, antivivisectionists lose suit for, **1718**
LICENSE law, medical change in, **141**
loss of examiner's decision in regard to, and failure to send notice, **1257**—Ml
power of state board to revoke, **157**—Ml
practice without, **1257**—Ml
practicing medicine without, not a continuing offense, **693**—Ml
reciprocity, revocability of, **1257**—Ml
requirements as to having and recording, **1021**—Ml
tax, law imposing, constitutionality of, and exempting ex-confederate soldiers, **1256**—Ml
LICENSING boards, federation of, meeting, **1471**
LIFE, artificial creation of, (114) 794
conservation of human, **2049**—E
cost of destroying, **54**—E
human, value of, (11) 1026
of tissues, maintenance outside of organism, **210**—E, (63) 482, (53) 631, (102) 705, (165) 872, (24) **942**
of tissues outside organism from embryologic standpoint, **1660**—ab
of tissues outside organism from pathologic standpoint, **1661**—ab
of tissues outside organism from physiologic standpoint, **1661**—ab
origin of, (14) 86, **1894**
physicochemical theory of, (192) 488
LIGAMENT, BROAD: See Broad Ligament
LIGAMENTS of Mackenrodt, nature of, (25) 1264
uterosacral, sensitive, short, significance and treatment, (90) 242
uterosacral shortening, (65) 1107
LIGATURE and suture material, *1119
-passing forceps, automatic, *1226
LIGHT, action on tissues, (100) **407**
artificial, effect on eyes, determination of, (138) 478
-carrier with lens and rheostat for urethroscopy, *182
injury of eyes by, (88) 1037
rays, absorbed, therapeutic application of, (161) 92
seborrheic keratosis following unusual exposure to, *7
LIGHTING plant, emergency, for ships, **1957**
LIGHTNING, death by electric currents and, (1, 13) 1108, (8) 1190, (9) **1264**
LIME, requirements of animals, influence of function on, (70) 1028
starvation, treatment, (52) 1107
water, appendicitis possibly due to, (81) 783
LIMPING, intermittent, (104) **250**
intermittent, faradic current for, (189) **1754**
LINDENBAUM, Dr. Moses Harold, whereabouts of, **606**
LINGUATULA serrata found in human intestines in Brazil, (198) 873
LIP, cancer of lower, surgical treatment, (118) 478
epithelioma, (101) **698**
epithelioma, complicated by xanthoma tuberosum multiplex, (109) 629
epithelioma, Grant method in surgery of, **1015**—C
epithelioma of lower, operation for, *507
epithelioma, surgery of, Stewart and Ryfkogel methods in, **926**—C
keratoses, seborrheic, diagnosis and treatment, *1774
papilloma of lower, malignant, (108) **1668**
seborrhea of lower, relationship to epithelioma, (102) **698**
LIPASE and fat of animal tissues, (47) **318**
immune serum, and hemolysis, (51) **241**
LIPECTOMY, abdominal, (66) 696
LIPINS of heart muscle of ox, (93) 1327
LIPINS of ovary and corpus luteum, (61) **319**
LIPODYSTROPHIA progressiva, (3) 2067
LIPOIDS and nutrition, **669**—E
compounds of arsenic, (160) 487
content of appendix cancer, (82) 792
in urine, (133) 1196
influence on hemolysis, (61) **1326**
part played by, in biology and therapeutics, (52) 1192
reabsorption of fats and, experimental research on, (75) 168
rôle in narcosis, particularly lecithin, (41) **627**
LIPOMATOSIS, pancreas, (40) 1741
sub-dural, diffuse, of spinal cord in infant, (29) 1665
LIPOMYXOMA, spectacular case of, *899
LIQUIDS, determining surface tension of, for biologic purposes, method for, (79) 1028
LIQUORS, adulteration of, (168) 1118
LISTER and Hunter museum, (1) 945, (16) 946
international memorials to, **308**—C
life and work of, references to, **928**
memorial, **927**—C, **1311**
work and teaching, (12) 865
LITHIA water fraud, who is responsible for? **1544**—E
LITHIASIS: See Calculus
LITHIUM, poisoning by, *722
LITHOTOMY or lithotripsy, (147) 870
LITHOTRIPSY for bladder calculus, advantages of, (90) 1988
LIVER abscess, abdominal and transpleural operative technic for, advantages of, (52) 1580
abscess, amebic, emetin for, **917**, (61) **1111, 1896**
abscess, modification of Rogers' method for, (26) **165**
adenomata, primary, simulating Hanot's hypertrophic liver cirrhosis, (11) 624
anachlorhydria with disease of, (165) 1271
anastomosis between intestine and, (85) **168**
atrophy of, yellow, acute, (25) 1669 (76) 1743
botryomycosis of, human, (41) 1832
calculus obstruction of common duct of, surgical management, (37) 318
calculus in common duct of, (86) 1107
cancer in male infant of seven months, (73) 1333
cancer, mineral elements in, (59) 867
cancer of pancreas or, (42) 631
catalase content of blood and, with mouse cancer, (124) 91
cirrhosis after chronic alcohol poisoning, experimental, (132) 560
cirrhosis, glycosuria with, (147) 252
cirrhosis, operative treatment, indications for, (56) 1035
cirrhosis, spleen enlargement, chronic, with ascites and, (124) **952**
cirrhosis, tuberculous nature of ascitic fluid with, (62) 248, (83) **558**
cirrhosis with ascites, autoserotherapy of, (57) **1402**
cyst, non-parasitic, (16) 1582
cyst, solitary, **152**—ab
diagnosis of glandular functions, **287**—E
disease, acute, curable, (85) 249
echinococcosis of, (76) 399
edema and nephritis, **602**—E
elasmobranch, development of, (2) **1184**
functional activity of, determined by urobilinogen in urine, (112) **162**
functional tests of, (14) 780
functioning, examination of, before general anesthesia, importance of, (114) **1269**
functioning, ferment test of, simple, (144) **638**
functions of, in metabolism of fats, experiments bearing on, (76) **1029**
glycogen in, modification of, after intravenous injection of cholin, (122) 952
hyperplasia, nodular, associated with lesions in brain, (127) 1270
in appendicitis, (56) 241
influence on respiratory interchanges of exclusion of, (82) 249
injury, bradycardia due to, (135) **1501**
insufficiency in scarlet fever, (71) **1986**
LIVER, pancreas and carbohydrate metabolism, (80) 1113
reducing power of, 129, 1038
resection of, (94) 869
rupture, (135) 1038
rupture from contusion, (108) **636**
rupture of spleen and, operation, recovery, (36) 402
surgery of bile tract and, (15) 1324
syphilis, hematemesis in, fatal, (28) 1109
tuberculosis, surgical treatment, (85) **483**
tuberculosis, with jaundice, (95) **1667**
urobilinogen in urine as index of disease of, (117) 1673
LIVERPOOL school of tropical medicine, bequest to, by Sir Alfred Jones, **1086**
LLOYD Brothers' preparations, **848**—P
LOCALIZATION and removal of intracerebral tumors and hemorrhages, consecutive displacement of cerebral hemisphere in (22) 1324
cerebral, from ophthalmic standpoint, (62) 783
in cortex of cerebellum, (113) 407
of brain lesion, advances in, (29) 1105
LOCOMOTOR ATAXIA: See Tabes Dorsalis
LODGE Practice: See Practice, Lodge
LONDON letter, **62, 139, 219, 297, 379, 458, 531, 761, 844, 915, 1007, 1086, 1166, 1238, 1311, 1372, 1472, 1649, 1718, 1804, 1893, 1970**
LONGEVITY, (111) 698
eye findings in estimating, significance of, *1867
LOOFA sponges in laparotomies, (137) 637
LOPEZ, a fraudulent cure for syphilis, **1317**—P
LOUIS XIV, last illness of, (37) 159
LOUISIANA and child labor, **1169**—ab
medical news, **376, 675, 757, 840, 1163, 1369**
LOUISVILLE Eye, Ear, Nose and Throat Society organized, **296**
LOUSE, relapsing fever transmitted by, **1647**—E, (49) **1670, 2061**
LUETIN skin test in diagnosis of syphilis, (53) 862, (121) 1264, (146) **1329**
LUMBAR muscles, spasm of, *980
Puncture: See Rachicentesis
LUMINAL, **1541, 1792**
sodium, **1541, 1792**
tablets, **1957**
LUNCHES, school, in elementary and secondary schools, relative physical advantages of, (25) 1492
LUNGS, auscultation of early pathologic changes in, *2027
bottle exercise for, 459, (56) **631**
cancer, (50) 782, (61) **2071**
capacity, smallest, compatible with life, **1794**—E
circulation in, (86) 633
circulation in, as influenced by differential pressure, (85) 704
collapsed circulation in, (80) 249
complications of scarlet fever, (55) **631**, (35) 1191
Compression: See Pneumothorax, Artificial
congestion, primary, (126) 1589
diphtheric infection of, chronic, in woman of 62, (162) 562
diseases, municipal sanatorium for, **533**
echinococcosis, (158) 1502
elementary lesions in, (72) 867
embolism, (65) 1493
embolism, operative treatment, **1473**
emphysema, carbon dioxid eliminated with, proportion of, (126) 560
emphysema minute-volume and alveolar air in, (19) **397**
fat embolism of, causes, (134) 1750
fistulas into, (219) 564
gangrene, (118) 1749
Hemorrhage: See Hemoptysis
hydatid in cicatrix and in, (3) 1264
induced paralysis of diaphragm in disease of, (124) 1405
infections, acute, specific treatment, (130) 85
infections, of pleura and, acute, etiology, diagnosis and treatment, (54) 1666
injuries to pleura and, (65) 1834
intrathoracic surgery, literature on, **928**

LUNGS, mechanical predisposition of, to tuberculosis, (76) **1267**
operative treatment of cavity in, (73) **703**
peripheral action of certain drugs with special reference to, (65) 1188
pneumococcus abscess of, in children, (25) 1583
pneumococcus infection of, in children, chronic, (4) 2067
reaction of, to intrabronchial insufflation of killed virulent pneumococci and of plain sterile bouillon, (42) **1261**
roentgenoscopy in disease of, (26) 480
secondary polycythemia in diseases of, prognostic significance of, (25) 1837
special training in diseases of, value to general practitioner, **1317**—C
stab wounds of, treatment, (58) **2071**
surgery, experimental research on, (64) **1333**
surgery, medical aspects of, (94) **1581**
syphilis, **1915**—ab
Tuberculosis: See Tuberculosis, Lung
tumors, (110) 1673
tumors, diagnosed by upper bronchoscopy, (41) 943
LUPUS, blunders to be avoided in treatment of, (128) 91
erythematosus disseminatus, (100) 242
Home in Vienna, **460**
nose, (83) 1194
nose, nascent iodin treatment, (7) 1494
LYMPH circulation, Asellius and discovery of, (40) 782
-node and gland, **1560**
-nodes, bronchial, enlarged, diagnosis of, (1) **80**, (99) **250**
-nodes, bronchial, enlarged, roentgenoscopy, (105) 1195
-nodes, bronchial, suppuration of, metastatic abscess in brain, after, (81) 704
-nodes, cervical, in children, (103) 242
-nodes, cervical, tuberculosis of, tuberculin in, (155) **243**
-nodes, cervical, tuberculous, conservative treatment based on their pathology, (107) 242
-nodes, cervical, tuberculous, tonsil removed in, necessity for, (156) **1752**
-nodes, cubital, enlargement of, (125) **1932**
-nodes, development and disappearance of, (56) 166, (131) 870
-nodes, endothelioma of, (32) **1981**
-nodes, extract in enlarged tonsils and adenoids in children, (6) 2067
-nodes, extract in immunizaton against tuberculosis, (147) 92
-nodes, mediastinal, tuberculous, in children, (197) **873**
-nodes, mesentery, tuberculous, simulating appendicitis, (30, 31) **239**
-nodes, suppurative, acute, abdominal, due to diplostreptococcus, autopsy, (8) 1738
-nodes, swollen, at elbow, (125) **1932**
-nodes, thoracic, tuberculous in children, diagnosis, (84) 1743
-nodes, tuberculous, histogenesis of, (111) 251
-nodes, tuberculous, perforation into bronchus, (130) 1116
-nodes, tuberculous, resection of, at bifurcation to relieve trachea stenosis, (68) 1035
passages, endotheliomas of, (166) 872
system, trypanosomes and spirochetes are parasites of, rather than of blood, (59) **1986**
system, tuberculin introduced directly into, action of, (127) **1932**
vessels of vulva and vagina, (59) 1111
LYMPHANGITIS, pancreatic, and chronic pancreatitis, *1
tuberculous, extensive, tuberculosis of stomach with, (44) **1107**
LYMPHATISM predisposes to stomach ulcer, (87) **1268**
LYMPHOCYTOSIS, characteristic, in chronic articular rheumatism, (63) 1986
of infection, (3) 1025, (105) 1749
LYMPHOGRANULOMA, cosinophilia, intense, in cancer and, (169) 562
LYMPHORRHEA, treatment, (79) **867**
LYMPHOSARCOMA mediastinum, (42) 160
radiotherapy of, (22) 1634
LYMPHURIA, clinical evidence of, (59) 1922

## M

McCABE resigns, **526**—E
MACALLUM and Folin's uric acid reagent, composition of, **617**
McDOWELL, Ephraim, father of ovariotomy, his life and work, (35) 1665 (25) 1264
MACKENRODT ligaments, nature of,
McLAUGHLIN electric belt, sale of, a swindle, **1473**
McNEAL'S velvet skin depilatory, **1243**—P
MACULA, hole at, (84) 945
hole at, due to traumatism, (146) 243
inflammation of, (3) 474
MADAGASCAR, disease in, (24) 631
MADELUNG'S deformity, (89) 406
MAGNESIA mixtures, **70**
MAGNESIUM, inorganic metabolism in pneumonia with special reference to calcium and, (52) **241**
intake, high, effect on calcium retention by swine, (71) 1028
perhydrol, **1792**
sulphate, general anesthesia with, mechanism of, (59) 2071
sulphate in chorea, (166) 1271
sulphate in eclampsia, (191) 873, (153) **1271**
sulphate in tetanus, (75) **1036**, (15) 1982
MAGNET for removing fragments of iron from interior of eye, (135) 243
MAIGNEN institute, **537**—P
pulv, **537**—P
MAIL-ORDER house, enlightened stand of, **144**—P
school, Cunningham's, **1243**—P
MAIMONIDES the physician, (64) 863
MAINE state board March report, **1488**
state board November report, **154**
MAIZE, phosphorus compounds of, effect of diplodia zeae and some other fungi on, (74) 1107
MALAR bone, fractures of, depressed, replacing, *278
MALARIA, (67) 83
amorphous cinchona alkaloid in, value of, (19) 1330
aphasia, transient, from, (128) 407
apoplectic, (62) 553
carbon dioxid and, (156) **708**
cerebellar syndrome in, (125) 952
chills at irregular intervals usually pronounced as originating from, (43) 1028
chronic, and malarial relapse, **1486**—ab
cisterns and, at Jerusalem, (56) 1585
congenital, (57) 1111
Congress on, **1471**
hemoglobin metabolism in, (4) **401**
Hemoglobinuria: See Blackwater Fever
in Alabama, studies of, (144) **1329**
in India and birth- and death-rate, (30) 631
meteorology of, (27) 165
mosquito and, in Greenwick, **919**—ab
mosquito catching in dwellings in prophylaxis of, (12) 1026
mosquito net as protector against, in 1888, (57) **2070**
plasmodia, cultivation of, after method of Bass and Johns, *42, (74) 167, (85) 1987
plasmodia, cultivation of one generation of, in vitro by Bass method, (5) 401
plasmodia, extracellular relation of, to red blood corpuscle, (27) **941**
plasmodia, recent observations on, **1822**—ab
plasmodium, teleologic working theory of asymbiotic relations of, to its alternative hosts—man and anopheles mosquito, (17) 1033
prophylaxis, **516**—T
relapses, pathogenesis of, (70) 783
relapses, etiology of, (35) **1920**
sand-fly fever and, differentiation, (24) 323
spider's web and, (18) 1837
spleen, spontaneous rupture of, in, (11) 316
sub-tertian, complicating pregnancy, (78) 88
tertian, cultivation of germ of, (115) 869
transmission of human, species of anophelines in, **1822**—ab
tuberculosis confused with, (119) 1836
MALFORMATION, absence of both thumbs, congenital, (31) 787
MALFORMATION, combination of, unusual, (80) 482
heart, congenital, (199) 874
neck, congenital, (45) 866
MALIGNANT Growth: See Tumor, Malignant
MALINGERING, (12) 786, (5) 1582
and valetudinarianism, prevention of, (4) 1582
in accident and disease, (12) **699**
prevention under national insurance act, (31) 1110
MALLEOLUS, fracture of, (72) 1499
MALLORY'S connective tissue stain for demonstrating variation in thyroid colloid, value of, (26) **1578**
MALNUTRITION in breast-fed infants, (69) 1262
infants, **750**—E
infants, feeding in, clinical studies, (26) 551
MALOCCLUSION and abnormal breathing, (42) 696
MALPRACTICE, action for services in another state met by charge of, admissibility and weight of evidence in, **1908**—Ml
case, admissibility of evidence in, **471**—Ml
case, unjust decision, **1014**—C
liability extended by concealment, **2064**—Ml
liability for, sufficient allegations to show, **395**—Ml, **1490**—Ml
relation of physician and patient existed and question for jury of, **2064**—Ml
suit against well-known surgeon for, failure of, **1087**
suit, irrational, verdict, **1014**—C
suits, (106) 250
suits from use of phylacogens, risk of, **465**—C
suits, physician and patient in prevention of, (91) 1108
suits, state associations do not insure against but defend, **928**
MALTA FEVER, cases in Arizona, (26) **1740**
protracted, (84) 558
MANDIBLE: See Jaw
MANGANESE, does it occur in blood? **674**—E
in organs of animals, (24) 946
in tissues of vertebrates, molluscs, insects, etc., (24) 1925
normally in blood, (43) **866**
poisoning, *646
MANILA, bubonic plague in, *2042
Medical Bulletin, suspension of, **1970**
MANITOU Springs Hot Iron Club, advertising through vital statistics and morbidity record, **910**—E
MANNITE, ferments attacking, (41) 246
MANOLA, **1092**—P
MANOMETER findings in jugular vein, (118) 91
for therapeutic artificial pneumothorax, (157) 1198
MANSON, Sir Patrick, testimonial to, **62**
MANUAL adjustment, therapeutic possibilities of, (71) 1107
MANUFACTURERS attempt to lower standing of physicians, **609**
MARASMUS: See also Anemia in Children
MARASMUS children, metabolism of, (171) 1753
in infants, cod-liver oil for, (82) 319
MARINE Hospital at Berck-Sur-Mer for crippled children mostly, (38) 239
MARK White's Goiter Treatment, **1319**
MARMOREK-SERUM in serotherapy of tuberculosis, (61) 1840
MARRIAGE and childbirth, 20th century problems on, (14) 556
consanguineous, (84) **1587**
of epileptics, **2061**
state regulation of, **1562**—ME
MARYLAND homeopathic December report, **468**
medical news, **59, 136, 215, 293, 376, 528, 676, 757, 841, 912, 1005, 1084, 1163, 1235, 1309, 1369, 1468, 1549, 1714, 1890, 1968**
state board December report, **543**
MASK, aspiration, Kuhn's, (66) **632**
aspiration, Kuhn's, simple substitute for, **768**—C
for protection against pneumonic plague, determining efficacy of various, (112) 85
MASSACHUSETTS medical news, **136, 293, 376, 455, 528, 676, 757, 841, 1005, 1163, 1369, 1549, 1714, 1968**
state board November report, **692**
MASSACHUSETTS state board of health, work of, in investigation of acute anterior poliomyelitis, (13) 475
MASSAGE, (116) 1836
adrenal, effects on blood-pressure, *1777
and massage operators in Pittsburgh, (146) 479
for pelvic inflammatory diseases, old, (147) 638, *966
in various disorders in children, value of, (9) **1258**
pressure, compressed-air apparatus for, in hospitals, (134) 1501
the verb, **1814**
treatment by movement and, relation to fractures, (15) 1495
treatment of injury by mobilization and, (19) 699
MASSEURS, when are they liable for practice of medicine, **1022**—Ml
MASTICATION, philosophy of, *979, (107) 1923
MASTOID, blood-clot in operations on, acute and chronic, value of, (66) 477
cells, diseases of middle ear and, based on study of cases of diphtheria, scarlet fever and measles, (49) 696
lesion, face paralysis from, (49) 324
operation, after-treatment, (10) 81
operation and infant temporal bone, (37) 1326
operation, epithelial grafting as means of effecting sure and rapid healing of cavity left by complete, (9) 81
operation, history of, (188) 1272
operation, prognosis of, (29) 1027
operation, radical, (124) 162
operation, radical, curet for bridge in, (112) 1328
operation, radical, scarlet red as dressing after, (24) 1399
process, empyema of, tardy, (68) **404**
process, sinus thrombosis, lateral, primary, without involvement of tympanum or, (22) 81
wound, postoperative, tihial bone transplantation in, (49) **862**
MASTOIDITIS, otitis media, suppurative, acute and chronic, complicated by, significance of fever in, (15) 1837
MATAS' method of endo-aneurysmorrhaphy for traumatic femoral aneurysm, (40) 81
MATERIA MEDICA, limited, **1913**—ab
new, and new chemistry, (78) **628**
MATERNITY benefit laws, (58) 867
hospital, secret, municipal, **1806**
municipal supervision of, (116) 242
MAXILLARY Bone: See Jaw
MAYNARD, swindler, brought to bay, **1726**—C
MAYR wonderful stomach remedy, **1175**
MEAL, bismuth, considerations of, (48) 631
test, hypersecretion after, in diagnosis of stomach ulcer, (61) **325**
MEASLES, disinfection in, **930**—ab
dissemination, prevention of, **1977**
periodic cycles of virulence, (55) 1982
pneumonia in, (126) **1405**
prevention of whooping-cough and, (113) 1263
rash, (125) **1337**
rash development in, new observations on, **1462**—E
MEAT digestion test, Schmidt's, (60) 1035
inspection of milk and, (39) 1741
MEATOTOMY, (61) **553, *1359**
ureteral, feasibility of, experimental study of, *20
MECHANICS, pain in relation to, (40) 160
MECHANOTHERAPY in acute pleurisy, (40) 1746
MECONIUM from medicolegal standpoint, (205) 1754
MEDIASTINOPERICARDITIS, cardiolysis for, (15) 239
MEDIASTINUM, lymphosarcoma of, (42) 160
tumors, early signs of, (31) 244
MEDICAL Economics: See Economics, Medical
MEDICAL Education: See Education, Medical
MEDICAL Practice Act: See Medicine, Practice Act
MEDICATION, bad, **280**—T
correct, **689**
MEDICINE, altruism in, (118) 699
and liberty, (6) 479
and surgery at Panama-Pacific International Exposition, **843**
as life-work, **617**

MEDICINE as therapeutic agent, relative position of, (96) 161
botany and, **374**—E
British medical practice act, **1903**
business side of, **852**
domestic, sense and nonsense of, (104) 1029
economic condition of, plan for betterment of, (53) 782
empiricism in, (115) **85**
esthetics of, (11) 1329
history of, in South, (69) 783
history of, Pagel collection of books on, in Washington University Medical School, (100) 1835
history of, revised, **449**—E
history of, seventeenth century, *709, *814, *884
idealism in, (51) 627
in Canal Zone, (82) 629, *806
in Mexico, **1247**
in twentieth century, **205**—ab
law and, **906**—E
newspapers and, **452**—E
practice act, and what constitutes a violation thereof, **938**—Ml
practice act, validity of indictment and, **939**—Ml
practice during recent trip abroad in surgery and, (6) 322
practice law, in Michigan, (42) 552
practice of, adventure in, (70) 1262
practice of, and police power of state, **777**—ab
practice of, as religious matter, **472**—Ml
practice of, cooperation in, **1810**—C
practice of, new penal code of Austria and, **222**
practice of, present position and prospects of, (35) 324
practice of, reciprocal relations of Maryland and Pennsylvania with other states, **309**
practice of, unlawful, **622**—Ml
practice of, unlawful, evidence supporting conviction of, **1660**—Ml
practice of, what constitutes, **1181**—Ml
practice of, without license not a continuing offense, **693**—Ml
practicing, unlawfully, with certificate, court affirms conviction of, **1908**—Ml
preventive, (20) 1395, (15) 1668
preventive, future of, **1083**—ab
preventive, mind hygiene in widening sphere of, (2) 1258
preventive, or conservation of human life, (78) 1743
preventive, philosophy of, (84) 1922
preventive, physician's opportunity in, (31) 1980
preventive, teaching in higher institutions of learning, desirability of, (20) 1980
progress in, (30) 552, *743
psychology, experimental, and, (75) 623
rational, road to, (69) 1834
romance of, (11) 86
scholarship in, (50) 82
science and culture, **525**—E
southern, and its problems, (113) 85
surgery and, differences between, (51) 1261
teaching general, *1049
to-day, (45) 944
trend of, (57) 160
vitalism in practice of, (3) 163
MEDICOLEGAL aspects in medical profession, (33) 2067
aspects of inguinal hernia, (95) 1397
matters, training for police in, in their line of work, (133) 952
relations of physician and patient, **1178**—ME
standpoint, meconium from, (205) 1754
test for poisonous alkaloids, (77) 1036
MEDICOSURGICAL transition period, (79) 399
MEDITERRANEAN FEVER: See Malta Fever
MEGACOLON, (135) 1750
congenital, (160) **1271**
MEIGS, position of, on behavior of muscle, restatement of, **688**—C
MEIOSTAGMIN and epiphanin reactions in diagnosis of cancer, (46) **1921**
reaction, (134) 1196
technic for, (127) 251, (141) 1674, (115) 1931
MELANCHOLIA, sodium salts in, (21) 2069
two interesting cases, (10) 1663
MELANOMA, black urine with, (48) **321**
MELANOMA in rectum, primary, (38) **1584**
MELANOSARCOMA: See Sarcoma, Melanotic
MELANOSIS, benign, supplementary report, *1358
of mucosa of large intestine, (205) 874
MELENA NEONATORUM, hemorrhagic erosions in stomach in connection with, (65) 325
intramuscular injection of defibrinated human blood in severest form of, (109) 1930
origin of, (179) 562
serotherapy of, (139) **486**
MELTZER'S insufflation in respiratory paralysis during operations on brain, advantages of, (52) **1927**
MEMBRANE, amniotic, grafts of, *973, (109) **1029**
and membrane formation in nose and throat, (61) 477
Corti's, development of, its structure and attachments, (7) **1918**
pericecal, and movable cecum, **148**—ab
MEMORY, effect of psychophysical attitudes on, (32) 1920
impairment of, treatment, (72) **404**
MENDEL, law in reference to heredity, (48) **82**
laws govern hemophilia, (86) 1841
MENIERE symptom complex, (75) 1922
MENINGEAL artery, middle, traumatic rupture of, without skull fracture, after history of, *1418
MENINGES, accidental exposure of, during intranasal operations, (21) 165
affection of, in lung tuberculosis in adults, variations of clinical picture of, (52) 1028
cerebrospinal fluid in disease of, (92) 1500
hemorrhage from, in newborn infant, operative treatment, (46) **866**
metastasis in spine and, simulating cerebral syphilis in course of previously latent gastric cancer, (41) 557
MENINGITIS and meningococcus septicemia in young man with joint and visceral lesions from congenital syphilis, (34) 947
cerebrospinal, bacteriology and pathology of, **1249**—ab
cerebrospinal, epidemic, **466**, (128) 478, *659, (48) 782, (73) 783, (73) 1107
cerebrospinal, epidemic, differential diagnosis and treatment, *820
cerebrospinal, epidemic, diphtheria antitoxin in, (160) 1675
cerebrospinal, epidemic, in Louisiana, (84) 1667
cerebrospinal, epidemic, prophylactic vaccination against, *1289
cerebrospinal, epidemic, serotherapy of, 1300 cases, (74) 783, (27) **1578**, (85) 1667, (170) 1676
cerebrospinal, epidemic, subdural injection of antimeningitis serum in, accidents following, *1937
cerebrospinal, epidemic type of, in children below two years of age, *1755
cerebrospinal, experimental, irrigation of spinal canal as preliminary to introduction of Flexner's antimeningitis serum in, *828
cerebrospinal, fulminating, in Jamaica, (9) **1398**
cerebrospinal, fulminating, intestines in, (124) 1931
cerebrospinal, sporadic, recovery, *664
cerebrospinal, with deductions, (98) 1029
children, curable, (46) 557
drainage of cisterna magna for, (1) **940**
infants, (67) 1028
infants, due to typhoid bacillus, (54) **1188**
infants, from influenza bacillus, fatal, (185) 1676
influenzal, (14) 1831
influenzal, complicated by pneumonia recovery, **1915**—ab, (73) 1922
otitic, operative treatment, indications for and results, (81) 1396
otitic origin, treatment, (27) 631
otitic, serous, with septic thrombosis of left lateral sinus and internal jugular vein, operation for, (8) 479
MENINGITIS, otogenous, curability of, (132) 485
pneumococcus, with normal cerebrospinal fluid, *972
poliomyelitis and, analogy between, **1380**—ab
purulent, sinus thrombosis with, (32) 781
serous, history of, (87) 1587
serum, danger in, possible source of, *1348
syphilitic, plus hysteric amaurosis, (100) 793
syphilitic, rapidly developing, acute, **140**
tuberculous, (52) 87, (96) 399
tuberculous, and tuberculosis of uropoietic system, correlation between, in Vienna, **533**
tuberculous, causing pseudo-eclampsia, (29) **1745**
tuberculous, conditions favoring development of, (97) **950**
tuberculous, etiologic factors in, (118) **407**
tuberculous, experimental, effects of subdural injections of leukocytes on development and course of, (45) **241**
tuberculous, glycosuria in, (37) **402**
tuberculous, history, symptoms, prognosis, (170) 1753
tuberculous, primary focus with, (83) **1987**
MENINGOCOCCUS septicemia and meningitis in young man with joint and visceral lesions from congenital syphilis, (34) 947
serotherapy of gonorrheal arthritis, (36) **1984**
vaccine, **665, 1074**
MENINGO-ENCEPHALOCELE and myelocele, (11) 864
MENINGOMYELITIS, spinal decompression for, **1392**—ab
MENINGOMYELOCELE, (53) 1982
MENOPAUSE, artificial, causes of disturbances in, (94) **90**
disturbances at, (84) **950**
hemorrhages and prophylaxis of cancer, (143) **638**
neurasthenia in relation to puberty and, (25) 1330
symptoms of, research on, (108) **1269**
MENSTRUATION and corpus luteum production, time relations between, (138) 637
disorders of, in school girls, **1390**—ab
hemorrhage, excessive, during, treatment, (93) 1672
in gouty diathesis, (65) **1112**
menstrual and intermenstrual passive congestion of uterus and ovaries, (46) 1746
tuberculous origin of disturbances in, (67) 404
vicarious, supplementary or, (69) 1113
MENTAL Diseases: See Mind, Diseases of
MENTAL healing, identity of all systems of, and basic principle of psychotherapy, (21) 1105
MERCURY, Argyll Robertson pupil becoming normal after salvarsan and, *664
bichlorid poisoning, **2061**
bichlorid poisoning by antiseptic tablets, **1727**—C
bichlorid, protection against deadly, and German pharmacopeia, **1083**—E
bichlorid, recovery after taking 8¾ grains of, (10) 555
bichlorid tablets, composition of, **147**
colloid, carbuncles cured by, (13) 555
elimination of, **1708**—E
index of blood, (58) **632**
injections of, in diseases of vegetable parasitic origin, (40) **862**
intramuscular injections of, in syphilis of nervous system, (79) 1667
no appreciable influence from, on growth of mouse cancers, (136) 1674
poisoning, acute nephritis from, operative treatment, experimental research on, (71) 867
puerperal septicemia, (44) **246**
refound in air and dust of rooms where mercury is handled, (167) 1198
salvarsan vs., (91, 115) 242, (202) 874
signs of intoxication after injections of proprietary, containing, (95) 704
MESBE in tuberculosis, disappointing experiences with, (110) 328, (89) 704
MESENTERY, chyle cysts, multiple, in girl of 7, volvulus and perforation, (144) 350
cysts, (81) 558
lymph-nodes, tuberculosis, simulating appendicitis, (30, 31) **239**
obstruction of blood-vessels of, experimental and clinical study of, (153) 1502
MESOTHORIUM and radium for tumors, (107) 90
rays, cancer cured by Roentgen rays and, **1972**
METABOLISM, albumin, in fever, (105) 1335
bacterial, and internal medicine, (12) **1980**
calcium, and etiology of rachitis, (101) **1403**
calcium and phosphorus, in two boys, (65) 2071
calcium, and tuberculosis, (98) 1749
carbohydrate, disturbances of, in pregnancy and eclampsia, (105) **1269**
carbohydrate, in anemia, (117) 560
carbohydrate, liver and pancreas, (80) 1113
children, more active, (129) 1337
children, with complete absence of bile from intestines, (5) **1576**
cholesterin, (86) 1929
dwarf, (52) **318**
endogenous and exogenous purins in monkey, (79) 161
experiments on parathyroidectomized dogs, (42) 1665
fat, (136) 1406
fat, and adrenals, (99) 1403
fat, and nitrogen, in congenital absence of bile-ducts, (6) **238**
fat, calcium and nitrogen in infants, (70) 1986
fats, functions of liver in, experiments bearing on, (76) **1029**
features of, common to man and anthropoid ape, **1160**—E
gas, of bacteria, (72) 161
hemoglobin, in malaria, (4) **401**
hydantoin derivatives in, behavior of, (88) 1327
in osteomalacia, (89) 868
in pellagra, (7) **1739**
infant, importance of laws of physics and chemistry in study of, (72) 2071
influence of ingestion of food on, (116) 1501
inorganic, in pneumonia, special reference to calcium and magnesium, (52) **241**
intermediary, of amino-acids, (97) 1327
marasmic children, (171) 1753
minerals in rachitis, (109) 705
nuclein, in gout, (137) 560
of matter and energy in infants, (86) 950
pellagra, studies in, **1961**—E
phosphorus, and tuberculosis, (34) **481**
pituitary extract treatment and, (99) 1749
protein, from standpoint of blood and tissue analysis, (31) 626
protein, in infants fed on protein milk, (3) **1324**
protein, of normal pregnancy and normal puerperium, (126) **321**
protein, utilization of ammonia in, (47) 1665
pulse-rate and, **2049**—E
purin, (48) 1665
purin, and purins of some tumors in domestic animals, **2021**—ab
purins, pharmacologic action of bromin ions on, (101) 170
METALS in cancer, (80) 1402
METASTASES, bone, blood in cancer with, (27) 1109
bone-marrow, and anemia in stomach cancer, (27) **788**
pressing on nerve plexuses, pain due to, intractable and persistent, relief of, *267
sarcoma of femur, mixed toxins for, with epithelioma developing at site of Roentgen-ray dermatitis ten and a half years later, **2025**—ab
superficial, in diagnosis of deep-seated malignant tumors, (99) 399
tumor, production and growth of, **2021**—ab
METATARSUS, dislocation of, (4) 1108
fractures, multiple technic for treatment, (105) 483
fractures of fifth by inversion of foot, (37) 398
METCHNIKOFF and old age theories, **206**—E

METHYL alcohol, an act to amend public health law in relation to sale of, **2004, 2008**
alcohol and blood, **1466—E**
alcohol blindness, ***1762**
alcohol, intoxication from peptids and, biochemical differential diagnosis of, (109) 869
alcohol poison, **1231—E**
alcohol poisoning, articles on, **1247**
alcohol poisoning, cases of, **1479—C**
green-pyronin section stain, history of, (126) 1270
METRANOIKTER for dysmenorrhea and sterility, (57) 1982
METRIC system in Middle West, **135—E**
METRORRHAGIA due to atheroma of uterus blood-vessels, (19) **695**
MEXICO, medicine in, practice of, **1247**
registration in, **1558—C**
MEYERS BROTHERS' Druggist and fraudulent advertising, **838**
MICAJAH'S uterine wafers, **65—P**
MICE, group of, with exceptional resistance to mouse cancer, (52) 1187
MICHIGAN medical news, **377, 676, 912, 1163, 1370, 1469, 1549, 1968**
state board October report, **772**
MICROCOCCUS: See also Bacteria
MICROCOCCUS catarrhalis, genito-urinary tract, infection by, (80) 944
symbiosis, **1961—E**
MICRO-ORGANISMS, Brownian movements are due to, (154) 1198
pathogenic, variability of, (111) 559
MICROSCOPY, clinical, books on, **540**
MICTURITION: See Urination
MIDWIFE, average, does she meet requirements of patient in confinement? (38) 1326
elimination of, ***32**
French statistics of physicians, pharmacists, dentists and, **917**
in Massachusetts, anomalous position of, (18) 1105
in Michigan, (67) 241
in Pennsylvania, (143) 479
problem and immigration, (18) 1980
registered, a necessity, (17) 1105
scientific training of, necessity of, (75) 319
teaching of, (81) 1193
teaching of, and prevention of infant mortality, (14) 158
MIDWIFERY as branch of surgery, necessity of recognizing, (9) 1190
MIGRAINE, (97) **635**
optimistic view of, (80) 1107
scintillating scotomata associated with, (91) 864
MIKULICZ' disease in connection with leukemia and pseudoleukemia, (130) 1932
MILITARY service, influence of school life on fitness for, **299**
service, university studies and three-year term of **1087**
surgeons to met in Denver, **1311**
MILK, (56) 398
absence of, in primipara, (8) **396**
action of ultraviolet rays on, **1162—E**
anaphylaxis to, (150) 1751
and promotion of public health, (69) 553
aspiration of, in nursing, (210) **874**
breast, action of shaking up on, (102) 1335
breast, amount of milk sugar in, (94) 250
breast, hemagglutinins in, transmission of, (60) 791
breast, salol-splitting ferments in, significance in salol medication, (120) 407
calculating percentage modifications, short method of, (43) 81
cellular elements in, **1885—E**
certified, production of, (21) 1492
commission, medical, of Boston, (22) 1492
composition of, factors affecting, **752—E**
condensed, sweetened, arrests infant's vomiting, 20 cases, (59) 1266
cow's, and stage of lactation, **596—E**
cow's, bacillus abortus in, (35) 1981
cow's, differentiating reaction in human milk and, (108) 1195
cow's, idiosyncrasy in infants to, (74) 2071
cow's, pasteurized, infant with scurvy fed on, (33) 1395
cure, Karell's, in asystole, (130) 407
MILK dealers, unique organization of, (11) 1184
desiccated, (63) 867
differentiation of spastic strictures in stomach and duodenum, (118) **1336**
finest, in world, **806—ab**
graded, in New York, **1153—ab**
grades of, **521—E**
graphic feeding chart method for calculating percentages and caloric values, (44) 81
inspection of meat and, (39) 1741
mixtures, caloric value of, determining, **228**
of beriberic women, action on frog's heart, (56) **82**
of Indian buffaloes, **1069—ab**
of vaccinated cow, human tuberculosis bacilli in, (19) 786
ordinance, Chicago, new, essentials of, (57) **398**
paratyphoid epidemic traced to, (136) 952
pasteurization and bacteria which may survive it, **1462—E**
pasteurization, control of temperatures in, (15) 1184, **1504—ab**
pasteurization, effect on bacteria in, **689**
protection of, (10) 1919
protein, as corrective of digestive disturbances, **547—ab**, (2) **1324**
protein, inexpensive modification of, (149) **1751**
protein, protein metabolism in infants fed on, (3) **1324**
publicity as factor in securing and enforcing ordinances providing for control of, (115) 1836
raw versus boiled, ***575**
regulations in Fall River, Mass., **1169—ab**
secretion, physiology of, (50) 1264
sediment test, **53—E**
stations or infant mortality, (19) 1664
sterilization, boiling and pasteurization of, ***875**
streptococci from human throat and, statistical study of, (37) **1106**
superheated and heated, effects on infant's nutrition, (4) **940**
-supply, (20, 21) 1492
-supply and streptococcus sore throat, Baltimore epidemic, (39, 41) 398
-supply, local, sanitary control of, through local official agencies, (73) 83
-supply of Ohio, municipal control of, (82) 864
-supply of San Francisco, bacterial content, (30) 317
-supply of Springfield, Mass., improving, methods employed and results obtained in, (36) 695
syphilitic women and infectiousness of their, (60) **1986**
tests for examination of, (41) 477
typhoid epidemic due to, ***1950**
typhoid treated without, (57) **552**
-weed as stimulant for heart, (73) **949**
MIND defect, acquired, (11) 1744
deficiency bill and proposed extension to Ireland, (21) 1264, (41) 1265
disease, **380**
disease, early institutional treatment, necessity of, (52) 944
disease, forms of, in cases with no gross lesions in brain at autopsy, (17) 551
disease in successive generations, anticipations of, (1) **1581**
disease, induced abortion in, (103) 406
disease, responsibility in, (30) 1400
disease, unusual recoveries in, (23) **1495**
disorders, facilitating early treatment of, (17) 1395
emotions in relation to, (5) 1668
gynecologic diseases in relation to mental diseases, (136) 92, (141) 560, (154) 1031
hygiene in widening sphere of preventive medicine, (2) 1258
inferiority, constitutional, (67) 1107
influence of internal secretion on, (130) 91
literature on nervous and mental diseases, (28) 700
organic basis of, (164) 1118
serodiagnosis in disease of, (63) **949, 1813**
suggestion by transference, (34) 1838
MINE accidents, prevention of, American Mine Safety Association and, **1081—E**
danger from explosion of gases in, (211) **874**
gases, resuscitation from, committee on, **2002**
MINERAL, metabolism of, in rachitis, (109) 705
mud at Homburg, (95) 950
springs, Arkansas, medical subjects of interest in South, especially, (76) 319
springs of Saratoga, (84) 1107
waters, salts from, (127) 1196
MINISTER, what is opportunity of, to assist in public health work and how to secure his active assistance, (95, 96) 1029
MINNESOTA medical news, **455, 528, 676, 912, 1084, 1469, 1803**
reciprocal relations of, **927**
state board April report, **1566**
state board January report, **930**
MINOR son away from home, sufficiency of evidence and right of recovery for attendance on, **939—M1**
MIRROR writing and associated movements without paralysis, (50) 1921
MISSIONARY, Medical, China, Association, **1820—ab**
MISSISSIPPI medical news, **676, 1469**
state board October report, **78**
State Medical Association officers elected, **1390—ab**
MISSOURI medical news, **455, 528, 676, 841, 1163, 1370, 1648, 1714, 1968**
state board February report, **1906**
state board October report, **469**
Valley physicians to meet, **606**
MONILETHRIX, (4) **1031**
MONKEY and man, **1160—E**
MONOCHORD, (110) 1328
MONOCLE instead of spectacles, indications for wearing, (126) 1196
MONSOON, influence on eclampsia, (23) **323**
MONSTER, double, (67) 1193
trunkless, (55) 1034
MONTANA medical news, **377, 913, 1164, 1714, 1890**
state board April report, **1322**
MONTESSORI method from physician's viewpoint, (30) 1395
MORAL and mental training for war, (99) 1397
deficiency and physical development, ***1351**
MORBID dread, (138) 1406
MORBIDITY and morphology, composite study of incidence of disease and physical form in New Orleans, (36) **159**
reports and public health administration, (16) 1831
reports, not mortality statistics, index to prevalence of disease, **463—C**
MORON and study of alien defectives, ***105**
MORPHIN, action on defecation, mechanism of, (102) 328
addiction, inadequacy of Bishop's antitoxin hypothesis to explain symptomatology in, **688—C**
addiction, scopolamin in, disadvantages of use of, (89) **1748**
and hyoscin (scopolamin) in labor, **1814**
constipation and, **1711—E**
detection in body, **466**
habit, prevalence of, **1363—E**
in general practice (78) 1493
intravenous injection of ergot and, in hemoptysis, (118) 1843
law and sale of, **208**
MORPHOLOGY and morbidity, composite study of incidence of disease and physical form in New Orleans, (36) **159**
MORTALITY in Prussia, **609**
Infant: See Infant Mortality
of middle life in great cities, **140**
rates, existing, fallacies of, (24) 1105
statistics on tuberculosis, misleading, (17) 1831
MOSQUITO: See also Anopheles
MOSQUITO and leishmania, (144) **252**
anopheles, asymbiotic relations of malarial plasmodium to man and, telcologic working theory of, (17) 1033
catching in dwellings in prophylaxis of malaria, (12) 1026
destruction of, **1245**
fish to destroy **1348—ab**, **1812—C**
larvae, sex of, (6) 401
MOSQUITO, malaria and, in Greenwick, **919—ab**
net as protector against malaria in 1888, (57) **2070**
-proof and storm-proof house for tropics, new, (3) **1397**
MOTHERS, Imperial Institute for care of Infants and, **845**
impressions on, or accidental coincidences, which? (140) 162
nursing, and typhoid vaccine, **1560**
nursing, care of, and preparatory treatment for breast nursing, (15) 396
passage of carbon dioxid from, to fetus, (56) 867
quadruplets and their, (125) 1673
MOTHERSILL'S seasick remedy, **1319**
MOTORISTS, women, **597—E**
MOUNTAIN sickness, transient upset of kidney functioning, (167) 1675
MOUTH breathing, persistent, following adenoidectomies, (51) 696
condition of, as cause of disease, **692—ab**
dermoids of floor of, (96) 1500
eczema of, as manifestation of congenital syphilis, (24) **1330**
from diagnostic standpoint, (97) 629
gag with permanently attached tube for continuous etherization and new tonsil grasp, (111) 1328
healthy, necessity of, in treatment and prevention of diseases, (66) 83
herpes of face and, in relation to infections with colon communis bacilli in women, **1234—E**
hygiene, (111) 320, (32) 1260
infection and constitutional infection, (25) 781
infections, etiology and effect on vital organs, ***503**
infectious diseases treated through, neglect of, (79) 628
inspection in treatment of patients, value of, **1680—ab**
Leishmaniasis, Indian, (13) 946
mucous membrane disturbances of tongue and, in pernicious anemia, (103) 698
neuroses of throat and, (27) 317
prophylaxis, (54) 696
tongue and, in disease, **147**
tumor of pharynx and, malignant, operative treatment, (21) **1583**, (36) 1669
tumor of tongue and, malignant, (105) **1029**
MOVEMENTS, mirror writing and other associated, without paralysis, (50) 1921
of upper extremities, neurologic case demonstrating associated, (83) 629
MOVING Picture: See Cinematograph
MUCH granules, **1247**
-Holzmann psychosis test, **1813**
technic for examination of sputum, (59) 1332
MUCOCELE anterior ethmoidal cells, (23) 244
appendix, removal of, (70) 1167
gall bladder, (12) 1264
MUCOUS MEMBRANE and bloodstream as alternative routes of infection, (9) **1329**
electrical operative treatments for diseases of skin and, (41) 1110
genito-urinary tract, exudative diathesis in, manifestations of, (107) 1195
iodin for, in gastro-intestinal operations, (138) 1197
melanosis of, of large intestine, (205) 874
nose, leishmaniosis of, ***898**
tongue and mouth, disturbances of, in pernicious anemia, (103) 698
MUCUS, duodenal, in vomit, (66) 325
extractor in asphyxia neonatorum, (3) 322
MUMFORD'S "Table Talk" and the American Medical Association, **77—ab, 222—ab**
MUMPS: See Parotitis
MUNICH Hospital, centennial of, **1311**
MUNICIPALITY liable for typhoid in water, **70**
MURPHY button to effect duodenojejunostomy after gastrojejunostomy (12) **317**
MUSCLE, biceps, sarcoma of both, primary, (23) 401
brain in training, participation of, (57) 632
changes brought about by intermuscular injection of calves with virus of contagious pleuropneumonia, (114) 1836

MUSCLE changes in electric responses in, with diseases of various organs, (106) 90
creatin content of, under normal condition, relation to urinary creatinin, (29) 626
debility of, adrenal organotherapy in, (48) **790**
degeneration and osteoma, (62) 398
degeneration and rigidity in lung tuberculosis, theory of, **1241**—ab
drainage, sub-temporal, by aid of silver wire drainage mats in congenital hydrocephalus, (7) **1104**
dystrophy of bone and, dwarf growth from, (74) 867
electrical testing of, (22) 630
eye, development of prootic head somites and, in chelydra serpentina, (4) 474
eye, paralysis of, in children, (160) **92**
eye, technic of advancement, (143) 243
flap to arrest hemorrhage from various sinuses of dura mater, (109) 1842
grafting of bone and, **1473**
heart, (94) 161
heart, lipins of, of ox, (93) 1327
levator ani, intra-abdominal myorrhaphy of, for anteversion of uterus, (100) 328
lumbar, spasm of, ***980**
ossifying disease, traumatic, (98) **90**
plain, in guinea-pig, anaphylactic reaction of, (35) **861**
plastic operation on, for face paralysis, (43) 1926
plastic operation on parasacral hernia, (115) 483
position of Meigs on behavior of, restatement of, **688**—C
quadriceps transplantation in paralysis, (34) **781**
re-education of, in tabetics, (144) **252**, (85) **634**
research on, with aid of filament galvanometer, (128) 485
sarcoma, primary, (161) **1118**
spinal, atrophy of, progressive, spinal cord changes with, (90) 1672
spinal, sign of pleurisy, (17) **2069**
supraspinatus, tuberculosis of, (7) 1491
tensor tympani, contraction of, volitional, (51) 2070
toxic action of extracts of normal organs and, (108) 869
weakness in back, hygiene of, (157) **872**
MUSEUM Association, Medical, **1552**
of natural history, coccaceae in collection of, systematic study of, (44) 1920
of Royal College of Surgeons of England, Hunterian oration on Hunter and Lister and, (1) 945
MUSHROOMS, permitting in nephritis, inadvisability of, (92) 1587
poisoning, **1154**—T
poisoning by inhalation, (115) **1336**
MYALGIA thermica, and character and genesis of thermic myospasms, (130) 401
MYASTHENIA, bulbo-spinal, post-operative, case of (46) 1034
gravis, pathology of, **1910**—ab
thymectomy in exophthalmic goiter with, (150) **561**
MYATONIA, congenital, (46) **701**, (213) 1754
MYCETOMA in America, ***1339**
MYCOSES, treatment, (87) 704
MYELITIS, migrating, (90) **327**
neuritis and, of psychic origin, **176**—ab
MYELOCELE and meningo-encephalocele, (11) 864
MYELOMA, multiple, (144) 162, (18) **1744**
multiple, association with Bence-Jones' albumose in urine, (15) 1330
multiple, with numerous spontaneous fractures and albumosuria, (14) 625
MYIASIS due to eristalis, critical study of, (20) 1739
MYOCARDITIS, chronic, spontaneous rupture of mitral valve in (136) 252
pain and other clinical manifestations of, **1483**—ab
MYOCARDIUM involvement, certain physical signs of, (9) 1108
toxic changes in, histogenesis of, (122) 1270
MYOCLONUS, ocular, (26) 556
MYOFIBROMA, uterus, accompanied by pregnancy, (143) 322
MYOMA and tuberculosis of female genitals, (121) 1589
MYOMA, breast and genitals, roentgenotherapy of cancers and, (87) 1841
influence on blood-supply of uterus, special reference to abnormal uterine bleeding, (85) **783**
pregnancy in uterus with, size of adult's head, (89) 169
uterus cervix, 132 cases, (147) 162
uterus, 18½ lbs., and gall-bladder calculus, (52) 477
uterus, mucous polypi with, (20) 556
uterus, roentgenotherapy for, (166) 487
uterus, roentgenotherapy of, relation between sarcoma and myoma of uterus and its bearing on, (102) **1263**
MYOPIA, etiology of, 500 cases, (22) 1399
treatment, (94) 1334
MYORRHAPHY, intra-abdominal, of levator ani for anteversion of uterus, (100) 328
MYOSITIS from excessive use of group of muscles involved, (141) 1197
ossifying, progressive, multiple, (44) **948**
ossifying, traumatic, ***203**, (6) **1104**
MYOTONIA, atrophic, (94) **1841**
MYRINGOTOMY in acute otitis media, inadequacy of drainage obtained by, method of overcoming difficulty, (36) 943
MYXEDEMA: See also Acromegaly, Cretinism; Goiter, Exophthalmic; Infantilism
MYXEDEMA, (22) 556
cerebellar motor symptoms in, (134) **1844**
congenital, in children, thyroid grafted into spleen or tibia in, (121) **1405**
recovery and seven years' after-care notes, (8) 1979
thyroid treatment in, thirteen years of, (61) **1266**
MYXOFIBROMA of nasopharynx, (24) 81
MYXOMA, congenital, of feet, (3) 1576
MYXOSPORIDIA in gall-bladder of fishes, effects of, (7) 401

## N

NAILS, dystrophy of hair and, three cases in a family, ***27**
occluding third bronchial ramus, upper bronchoscopy, recovery, (135) 1030
NAMES, fanciful, of secret products, **453**—E
nostrums with misleading **526**—E
NAPHTHALIN poisoning, (100) 635
NAPOLEON THE GREAT, post-mortem examination of, history and nature of certain specimens alleged to have been obtained at, (4) 479
NARCOLEPSY, case of, (104) 869
NARCOSIS, lipoids in, particularly lecithin, (41) **627**
NARCOTICS, abuse of, **679**
addiction, treatment, ***1933**
bill introduced in Congress, **310**—ME
influence of fats on action of, **56**—E
NASOPHARYNX, diphtheria of ear and, (59) 1580
myxofibroma, (24) 81
sarcoma, (41) 240
tumors, access to, by transverse pharyngotomy, (88) 483
NATIONAL Association for Prevention of Infant Mortality, **1805**
Association for Study and Prevention of Tuberculosis, meeting in Washington, **1311**
Conference of Charities and Correction meeting, **1471**
guard regimental surgeon, problems of, on maneuver campaign, (96) 478
League for Medical Freedom and national department of health or organized medicine vs. organized quackery, (64) 553
League for Medical Freedom and their subsidized newspapers, the great industrial iconoclasts of the century, (98) 84
mercantile rating and credit agency, **310**
NATURE, blunders made by, (63) 1262, (92) 1835
NAVICULAR bone, fracture of, in children, (61) 702
NAVY, athletics and health in, **131**—E
British, health of, **531**
tuberculosis in, (110) 794
United States, hospital construction in, recent, (122) 400
United States, hospital ship for, plans and description of, (125) 401
United States, sanitation in, advances in, (56) 944
NEBRASKA medical news, **156, 528, 678, 913, 1084, 1164, 1469, 1648, 1714**
state board February and March report, **1488**
state board November report, **154**
NECK, abscess in, deep, treatment, (198) 1754
cysts and fistulas in, (45) **948**
cysts of congenital origin, (9) 1744
malformations, congenital, (45) 866
NECROPSY blood findings in diphtheria, (186) 1753
examinations in United States, ***1784**
in medical education and practice, past and present position of, ***1784**
statistics of, in large hospitals of United States and abroad, ***1784**
NECROSIS, cartilage, arthritis deformans due to, (53) 948
fat, tumor from, (109) 559
of fat tissue after suturing, (136) 330
pancreas, abscess in omentum sac after, (139) 1750
symmetrical, of cortex of kidneys with puerperal eclampsia and suppression of urine, (21) **1837**
vertebrae, following scarlet fever, (12) 164
NEEDLE for locating foreign bodies in soft parts, (82) 168
found in intestine and appendix during hysterectomy, (12) **535**, (23) 1033
holder for submucous resection of nose septum, ***1295**
lumbar-puncture, new, ***1204**
sewing-machine, impacted, duodenotomy for removal of, (64) 1326
NEGRI bodies in hydrophobia, (49) 240, (40) 866
NEGRO and Caucasian, therapeutic comparison, medicinal and otherwise, as between, (80) 783
laborers, arthritis, acute, among, on Canal Zone, 100 cases, ***1065**
leukoderma in, excessive, **1246**
paralysis agitans in, ***43**
relation to public health in South, (10) 1492
spotted, family of, **673**—E
syphilis, annular, papular, in, ***1420**
venereal diseases in, special reference to gonorrhea, (66) 1922
NEMATODES, cancer induced in rats by feeding with, (94) 1748, (130) **1844**
in hyperplastic thyroids of dogs, **2022**—ab
NEOPLASMS: See Tumors
NEOSALVARSAN, (75) 1742, **2061**
absorption of arsenic following intramuscular injections of salvarsan and, (53) **241**
and salvarsan in congenital syphilis, (185) **873**
and salvarsan in pregnancy and puerperium, (55) 1111, (43) **1331**
by-effects of, **919**—ab
experiences with, (68) 1107
in parasyphilis of nervous system, **1818**—ab
in parenchymatous keratitis, no benefit from, (106) 635, (128) 636
in syphilis, intravenous administration, (5) 1329, (30) 1920
injection of, technic for, (59) **1193**
intoxication from, severe, (112) 1037
more toxic than salvarsan, (52) 1985
parasite-attracting action of atoxyl and, (168) 562
NEPHELOMETRY in study of proteases and nucleases (58) 318
NEPHRECTOMY, (106) 161
after history of cases, **1474**
for polycystic condition of kidney, (16) 1324, (73) 1499
for tuberculosis of kidney, unilateral, danger in future pregnancy another argument in favor of, (37) **1496**
six, (150) 1674
with bilateral kidney tuberculosis, (138) **408**
NEPHRITIS, (55) 477
active expiration as sign of, (181) 1753
NEPHRITIS, acute, from mercury poisoning, operative treatment, experimental research on, (71) 867
research on, (71) 867
acute, operative treatment, (70) **558**
acute, with uremia due to salvarsan, (84) 629
arterial hypertension in, pathogenesis of, (192) 563
children, acute, primary and secondary, protoclysis as curative and prophylactic agent in, (152) **243**
chronic, (74) 1580
chronic, alternating pulse in, (36) 789
chronic, dietetics and treatment, **1732**—ab
chronic, protein-free diet in, favorable influence of periods of, (48) **1833**
diagnosis, ***980**
edema and, colloid-chemical theory, ***345**, ***348**
edema of liver and, **602**—E
elimination of nitrogen in, intravenous administration of diuretics, (78) 704
experimental, acute, glomerular lesions in, in rabbit, (41) 1981
helminths in boy aged 5 causes toxic, (137) 252
hematuria, unilateral, in chronic, (24) **552**
hydruric, chronic, hepatic, asystole in, (32) 1033
hypertension due to, clinical and experimental studies, (1) **1738**
internal treatment, (73) 1580
interstitial, chronic, (52) 1395
kidney functioning in, (185) **1753**
latent, induced albuminuria as test for, (120) **952**
leukocytes in acute infectious diseases and, destruction of, (39) **1838**
mushrooms permitted in, inadvisability of, (92) 1587
nitrogen retention in, **368**—E
operative treatment, (73) **1193**, (90) **1195**
othygroma nephriticum, ***123**
polyuria with subacute, experimental, (86) 1402
prognosis in, (154) **1675**
rest in, **1732**—ab
retention of water, salt or nitrogen in, (52) 701
serotherapy in, (122) **251**
symptoms, causes of some, (55) 160
syphilitic, acute, soon after infection, (83) **1037**
syphilitic, spirochetes in urine with, (109) 406
theobromin sodium salicylate in acute experimental nephritis, therapeutic value of, (6) **1979**
transmissibility of, **616**
treatment, (136) **560** ***1682**
with ascites, bilateral hydrothorax and general edema in secondary syphilis, (18) 1330
NEPHROLITHIASIS, seminal calculi simulating, (98) 1262
NEPHROLYSINS, (86) 249
NEPHROPEXY and nephroptosis, ***643**
fascia hammock for, (62) 1332
lumbar, technic and experimental and clinical experiences, (164) 1271
NEPHROPTOSIS and nephropexy, ***643**
NEPHROSIS, chronic, in children, (107) **705**
NEPHROTOMY, dangers of, (106) 559
NERVE, acoustic, affections of, curable, (106) 1328
auditory, Wassermann reaction and salvarsan in diagnosis and treatment of syphilis in ear, nose and throat affections, special reference to, (11) 81
blocking and local anesthesia, (50) 1839
blocking at a distance, pain abolished after operation by, (35) 1832
blocking, brachial plexus, injury from, (77) **2072**
blocking for painful laryngitis, (37) **700**
cells, new formation of, in isolated part of nervous portion of hypophysis-tumor in acromegaly with diabetes, (2) **1663**
cranial, fifth, in tic douloureux, dealing with peripheral branches, new method, (48) **1028**
dental, inferior, tic douloureaux of, operative treatment, (62) 696
ganglia in heart, morbid histology of, (51) **1188**

NERVE ganglion, course virus of herpes zoster takes to reach, (47) 1187
grafting, (47) **324**
grafting, improved technic for, (104) **170**
irritability of, excessive, in tetany, (123) 1115
leg, effectual and harmless blocking of, technic for, (64) **703**
lesion in certain pathologic conditions of blood-vessels, indications of, (21) 1983
mental, ethyl chlorid anesthesia of, (107) 1842
oculomotor, bilateral, from softening in each oculomotorius nucleus, **1910**—ab
oculomotor, paralysis of, cyclic, (117) 1931
of cauda equina, disease of, peculiar and undescribed, **1819**—ab
optic, atrophy of, after injection of olive oil and lanolin for removal of wrinkles, (83) 553
optic, atrophy of, familial, (143) **707**, (135) 952
optic, atrophy of, with steeple and pointed skulls, (104) 328
optic, ganglionic glioneuroma of, ***363**
optic, tumor of, microscopic demonstrations of, (28) 397
paralysis of sixth, anatomic predisposition to, as complication of spinal anesthesia, (158) 708
paralysis, recurrent, due to circulatory lesions, recent therapeutic measures, (43) 862
phrenic, paralysis of, after blocking brachial plexus, (156) **1675**
plexuses, pain due to metastases pressing on, intractable and persistent, relief of, ***267**
radial, paralysis of, postoperative, prevention of, (36) **947**
Root, Spinal Section of: See Rhizotomy
sciatic, blocking, technic for, (103) **951**, (142) 1406
sciatic, dispesition of femoral artery and, anatomic considerations of, (23) 1191
superficial, and technic for local anesthesia, (132) 1501
superficial, non-medullated, (83) 1402
supply of inferior turbinal as shown by vital staining, (17) **865**
suprascapular, paralysis of traumatic, isolated, (105) 869
surgery, rational, (77) **793**
suture of, after-effects of, (47) 1839
tissue, growth outside of organism, (90) 89
tissue, preserving for subsequent chemical examination, two methods of, comparison, (91) 1327
trigeminal, segmental distribution of spinal root nucleus of, (32) **861**
tumors of large, associated with fibroma molluscum, largest specimen on record, **936**—ab
vagus, circulation disturbances from sudden contraction of, (57) **702**
vagus, influence on faradized auricles in dog's heart, (43) 1261
vagus, reflex stimulation of, in treatment of disease, (31) 324
NERVOUS and mental diseases, early institutional treatment, necessity of, (52) 944
and mental diseases, literature on, (28) 700
and mental symptoms in Addison's disease, (13) 243
and vascular disease in syphilitics, (97) **1403**
conditions, functional, (65) 863
conditions, general, index of, **1800**—E
diseases and epilepsy, crotalin in, (94) 399
diseases, associated, of women, (78) 1580
diseases, increased, in army, causes of, **533**
disorders, functional, roentgenoscopy of gastro-intestinal tract in some types of, **1911**—ab
system and alcohol, (132) 91
system and internal secretion, (90) 1193
system and salvarsan, (61) 1586
system as affecting symptomatology of disease and influence of disturbance in its functions on morbidity, (11) 551
NERVOUS system, autonomic, in children, atropin, pilocarpin or epinephrin tests for, (121) 1931
system, autonomic, in course of lung tuberculosis, (133) 1674
system, central, and heat regulation, **520**—E
system, central, chemical differentiation of, (90, 91) 1327
system, central, destructive influence of long-continued minute doses of intestine poisons on, in rabbits and guinea-pigs, (30) 1926
system, central, eye-strain simulating grave organic disease of, (72) 88
system, central, peripheral lesions affecting, operative treatment, (119) **952**
system, central, predisposition of, to disease, (96) **1588**
system, central, spirochetes in, in progressive paralysis and tabes, (75) **1586**
system, central, syphilitis of, (188) 488
system, central, syphilis of, direct treatment, **1576**—ab
system, central, syphilis of, salvarsan in, (38) 1741
system, central, syphilitic origin of, diseases of, (83) 327
system, drug action, selective, on, aid to diagnosis, **1484**—ab
system, main regulation of heat loss by control of, over cutaneous circulation and sweat-glands, **1794**—E
system, organic diseases of, and alveolar pyorrhea, possible relationship of, ***1779**
system, parasyphilis, early signs of tabes dorsalis and, (77) 1667
system, parasyphilis, neosalvarsan in, **1818**—ab
system, parasyphilis, rarer manifestations of, (11) **629**
system, peripheral, and lung tuberculosis, (58) 552
system, peripheral, angioma of, (67) 702
system, sensory changes in diseases of, diagnostic value of, (10) 1744
system, sexual disorders and disease of, (119) 1328
system, sympathetic, literature on, **147**
system, syphilis, (127) 699
system, syphilis, in infants and children, (22) 86
system, syphilis, intramuscular injection of mercury in, (79) 1667
system, tuberculosis with disorders of, (50) 480
NERVOUSNESS in children, prevention, (165) 163, (38) 696
NEURALGIA, epinephrin in arthralgia and, (97) **1335**
from calcification of gasserian ganglion, **183**—ab
hyoscin-morphin anesthesia for alcohol injection in, (26) 1330
pathology of, (126) 1328
trifacial, (51) 324, **1388**—ab
trifacial, alcohol injection in, (74) **1036**
trifacial, alcohol injection into gasserian ganglion in, new method of treatment, ***1354**, **1725**—C, (59) **1840, 2061**
trifacial and facial hemispasm, treatment, (46) 631
trifacial, electrolysis in, (90) **950**
trifacial, high-frequency currents in, (14) 243
trifacial, superficial injection of osmic acid and alcohol in, (71) 1666
NEURASTHENIA, **900**—T, (63) **1112**
causative and curative factors, (25) 475
diagnosis, (37) 1400
diagnosis, prognosis and treatment, (30) 1496
diet for, roasted wheat grains in, (129) 1116
influence of motor insufficiency of stomach in headache and, (98) 242
morbid conditions with symptoms resembling, differential diagnosis, (116) 1668
puberty and menopause in relation to, (25) 1330
sexual, (143) **1502**
sexual, in men, ***1869**
sexual, psychotherapy in, (47) 1326
surgeon's diagnosis in, (22) **1027**
NEURITIS, brachial plexus, and polyneuritis following pneumonia, (91) **704**
brachial plexus, symmetric, primary, as symptom of tardy syphilis, (114) 407
in children, multiple, (79) 1262
of psychic origin, **176**—ab
post-typhoidal, unusual case, (36) 1832
retrobulbar, of toxemic origin, (147) 243
ulnar, following typhoid, (183) 488
NEUROBLASTOMA, recurrent, of scapular region, ***337**
NEURO-EPITHELIOMA, gliomatous, (167) 872
NEUROFIBROMATOSIS, general, elephantiasis neurofibromatosis of foot with, (8) 1491
NEUROFIBROSARCOMATOSIS, peripheral, multiple, two cases of, (154) 1502
NEUROLOGY, (15, 17) 323, (22) 630
case histories in, (32) **1492**
hematology in service of, (151) 870
in seventeenth century, (142) 1674
of visual system, (56, 63, 65) 87, (30, 34, 38) 324, (35, 39, 44) 631, (31, 33) 866
sensory disturbances, (19) 630
NEUROPLASTY in spastic contractures, (9) 1491
NEUROSIS, anxiety, and anxiety hysteria, relation between, (31) 1920
diaphragm-heart, (88) **634**
from fright, treatment, (99) **635**
heart, (126) **485**
heart, psychogenic, sexual, (77) 1671, (86) **1987**
industrial, nature and treatment, (106) 1029
mouth and throat, (27) 317
psychoses and, (8) 551
traumatic, (117) **91**, (23) 2067
traumatic, dragging through 18 years' litigation for damages, (57) **1986**
traumatic, retrospect and forecast, (13) **941**, **1393**—ab
unconscious factors in, (48) 1982
NEVADA state board May report, **1826**
NEVI, carbon dioxid in, (48) 160
maternus removed by carbon dioxid, **1813**
pigmented, melanotic sarcomas due to irritation of, ***341**
NEW HAMPSHIRE medical news, **1549, 1715**
state board December report, **692**
NEW JERSEY medical news, **677, 758, 841, 1470, 1715, 1803, 1890**
NEW MEXICO medical news, **913, 1890**
state board January report, **1179**
state board October report, **154**
NEW YORK action of, on Friedmann Institute shows need of endowing boards of health with power to cope with such situations, **1800**—E
division, M. R. C. U. S. Army, (91) 1189
medical news, **60, 137, 215, 294, 377, 456, 528, 677, 758, 842, 913, 1005, 1084, 1164, 1235, 1310, 1370, 1469, 1550, 1648, 1715, 1803, 1891, 1969**
NEWSPAPERS, absurd mistakes in medical matters in, **1230**—E
and nostrum advertising, **599**—E, **613**—P, **671**—E
and reports of unauthenticated cures, **452**—E
and suicide, **1713**—E
correctly classifies Friedmann, **1713**—E
fakes and digestible bread, **521**—E, **1379**—C
layman and medical advertisements, **599**—E
sensationalism and science, **211**—E
NIPPLE, epithelioma, primary, in girl of 11, (11) **2068**
retraction of, non-malignant, (102) 1108
NITROBENZOL poisoning, (195) 1754
NITROGEN and fat metabolism in congenital absence of bile ducts, (6) **238**
balance, effect of ligation of renal arteries on, (44) 1741
excretion subsequent to ligation of successive branches of renal arteries, (45) **1665**
in nephritis, elimination of intravenous administration of diuretics, (78) 704
metabolism of fat, calcium and, in infants, (70) 1986
NITROGEN, residual, technic for removing albumin and determining, in organic fluids, (139) 1116
retention in nephritis, **368**—E
retention of salt and, in bottle-fed infants, (47) 247
retention of water, salt or, in nephritis, (52) 701
NITROGENOUS bodies in blood of cachectic infants, (51) 247
compounds in feces and infantilism, nature and origin of, (47) 240
NITROUS OXID-OXYGEN and ether vapor anesthetics, improved technic of, (72) 83
anesthesia, (86) 242, (127) 401, (71, 72), 783, (58) 1262
anesthesia, advantages and disadvantages of, from surgical viewpoint, (86) 242
as anesthetic for dentistry and surgical purposes, (8) 164
essence of orange ether and sequestration in general anesthesia for operations in upright position, (72) 1922
NODE of Ranvier, function of, theoretic considerations of, (33) 861
NOGUCHI butyric acid test, **1813**
NOISE and insomnia, (43) 398
eliminating from Baltimore, (45) 398
loud, injurious effects on organ of hearing, (44) 398
NOMA, (61) 944, (82) 1987
NORTH AMERICAN and nostrum advertising, **671**—E
NORTH CAROLINA medical news, **60, 295, 456, 914, 1236, 1470, 1715, 1969**
NORTH DAKOTA medical news, **529, 1236, 1371, 1550, 1715**
state board January report, **930**
NORTH PACIFIC Surgical Society, new officers, **218**
NORTHEAST Pediatric Society meets, **457**
NORTHWESTERN surgeons elect officers, **139**
NORWAY, first death after salvarsan injection in, (134) 1932
mortality from tuberculosis in insane asylums and prisons of, (209) 874
poliomyelitis, acute, in, (103) **1037**
NOSE, aches and pains connected with eye and, (2) 945
bismuth paste in ear and, (101) 399
cancer of accessory cavities and, nine operative cases, (71) 1927
chloroform anesthesia in surgery, (68) 628, (30) 861
cough caused by throat and nose reflexes, (28) 861
deformities and paraffin prosthesis, (54) 1111
deformities, correction of, ***179**, (77) 1499
deformities within, their attendant sequelae, (129) 1836
diphtheria bacilli in secretions of throat and, in infants with nutritional disturbances, (111) **1269**
diphtheria in public schools, (56) 1580
dressings, use and comparison of, (97) 698
dysmenorrhea relieved by treatment of, **1736**—ab
eye disturbances due to diseases of, (14) 1739
eye symptoms from disease of accessory sinuses and, (109) 794, (99) 1667
Hemorrhage: See Epistaxis
hot air and iodoform in conservative treatment of some conditions of ear and, ***1946**
influence on pulmonary râles, (78) **864**
journals on eye, ear, throat and, **1320**
leishmaniasis of mucosa of, ***898**
lupus, (83) 1194
lupus, nascent iodin treatment, (7) 1494
membranes and membrane formation in throat and, (61) 477
meninges, exposure, accidental, during operations on, (21) 165
morphologic changes in face and, due to development of brain, (7) 81
narrow, (43) 552
obstruction, breast-nursing and orthodontia, **301**—ab
obstruction, defects due to, (71) **477**
obstruction, orthodontia for, plea for early recognition and correction of faulty maxillary development (107) 161

NOSE obstruction, throat and ear diseases due to, (39) 781
operations, minor, on ear, throat and, (137) 1590
operations on, for headache, (35) **2070**
operations on interior of, (158) 486
operations on throat, ear and, after-treatment, (26) 165
packing, efficient and easily removable, (58) 1028
restoration of, by pedunculated flap of skin over sternum, (71) **703**
restored by rhinoplasty with finger, ***730**
rhinoplasty and bone transplantation for restoring entire, case of, ***728**
screw worm in, (114) 1667
secretion, finding virus of poliomyelitis in, human carrier, ***1611**
septum, (83) 399
septum, deficiency of, interventricular or interauricular, (50) 1326
septum deviated, its influence on general health, surgical treatment, (27) 1105
septum, perforation of, causes, (68) 1396
septum, sloughing of, after submucous resection, (15) 941
septum, submucous resection of, (132, 133) 162, (32) 943, **1250—ab**
septum, submucous resection of, blunt dissector for, (134) 243
septum, submucous resection of, needle-holder for, ***1295**
septum, suturing after submucous resection instead of packing, (17) 941
sexual apparatus in connection with ear, throat and, (112) 1030
sinuses, accessory, (77) 1834
sinuses, accessory, disease of, (113) 1030
sinuses, accessory, disease of, modern history of, (33) 933
sinuses, accessory, disease of, surgical management, (134) 162
sinuses, accessory, inflammation of, acute, treatment, (90 1108
sinuses, accessory, inflammatory affections of, in children, (37) **696**
sinuses, accessory, sections of temporal bone-dry specimens showing, exhibitions of, (82) 1107
sinuses, suppuration in, (34) 1110
sinuses, suppuration of, diffuse osteomyelitis from, (9) 479, (15) 1109
source of infection in chorea and acute rheumatism, (68) 1986
specialist, ethical problems confronting, (111) 1189, (107) 1328
surgeon, needs of, in general hospitals, (146, 152) 1030, (15, 48) 1395, (82) 1580
syphilis of throat and, (112) 400
teeth growing in fossa of, (55) 862
throat and, (54) 1395
throat and ear, affections of, including accessory sinuses, conservation in treating, (100) 320
tumors of, treatment, (127) 1038
turbinate, enlarged inferior, operation, technic of, (212) 1754
turbinates, operation on inferior and middle, indications for, (92) 1667
Wassermann reaction and salvarsan in diagnosis and treatment of syphilis in affections of ear, throat and, special reference to auditory nerve, (11) 81
work in general practice, (37) 1110
NOSTRUM: See also Patent Medicines; Proprietary Medicines
NOSTRUM advertising, Advance of Chicago drops, **1801—E**
advertising in Birmingham Ledger, **1899—P**
advertising in medical journals, **53—E, 57—E, 65—P**
advertising in medical journals and editorials in same journal, **1368—E**
advertising in newspapers, **599—E, 671—E**
advertising in religious press and American Medical Association, **1161—E**
and insurance act, large decreases in sales, **1238**
and Quackery, second edition of, **851**
British government committee on, **1238, 1311, 1472, 1718, 1970**
Detroit Saturday Night's fight against, **1711—E**
evil and lay press, **613—P**
NOSTRUM evil, public and profession on, **602—E**
evil, what local society can do in combating, **688—C**
evil, world-wide movement against, **1725—P**
fanciful names of, **453—E, 526—E**
in Australia, **844**
vender, improper use of medical certificate by, **1086**
NOVELS, physician and medical matters in recent plays and, (128) 1501
NOVOCAIN and sodium injection for sciatica, (133) **560**
injection, sequel to, (19) 86
serum as solvent for, **147**
solution, old, injury from, (116) 1749
NUCLEASES, (60) 313
nephelometry in study of proteases and, (58) 318
NUCLEI test, Schmidt's, of pancreas functioning, (142) **1117**
NUCLEIN metabolism in gout, (137) 560
NUCLEOPROTEIN of plague bacillus, attempt to separate antigen from, by filtration through gelatin, (21) 1744
NURITO, **1319**
NURSES, correspondence schools for, **1712—E**
trained, in Austria, (119) 1931
visiting, and tuberculosis control, (77) 242
working conditions of, improved, **221**
NURSING, color problem in South Africa, **1894**
problems of, (80) 477
Rhode Island College of, get-rich-quick scheme of, **600—E**
NUTRITION, accessory factors in, recent work on, (6) 2066
and growth of children, (169) 1753
and immunity **1651**
and lipoids, **669—E**
anomaly in, congenital, new, **668—E**
colostrum as, (67) 2071
disorders of, infant, pathology of, and enzymes, **600—E**
effect on production of enzyme tannase, (80) 1327
fats and carbohydrates in, double function of, their nutritive properties, **548—ab**
infant's, effects of heated and superheated milk on, (4) **940**
infant's, influence of psychic factors on (99) **1930**
investigation of Illinois Pellagra Commission, **833—E**
nonsense in leading articles on, in British scientific journal, **1642—E**
of eggs of Schistosomum japonicum and changes they undergo under action of various physical and chemical agents, (48) 1111
parsimony in, (33) **1492**
problems in, (26) 1980
simplified, striking experiment in, **1464—E**
NUTS, "Hell-oil," poisoning from, (144) 1502
NYSTAGMUS and paracoustic vertigo, (21) 81
as focal symptom, (138) 560
in febrile diseases, (75) 703
miner's, should a man with, work? (20) 1109
produced by galvanism of individual semicircular canals (38) 943
sympathetic, in erysipelas, (68) 949

## O

OBESITY, electric treatment of, (71) **1036**
hypertrophy of parotid in, (78) **168**
OBSESSIONS, phobias in relation to, (85) 406
OBSTETRICIAN, physician as gynecologist and, (134) 699
responsibilities of, and ultimate results of faulty technic, (142) 322
OBSTETRICS: See also Labor
OBSTETRICS, (109) 698, **1390—ab**
advancement of, (2) 396, (53) 552
anesthesia, (104) 161
cases, 200, deductions from and unusual cases, (95) 1108
early-day, among Indians, experiences in, (137) 699
ergot, application of active principles of, (122) 1038
expedients, serviceable, three, (62) 83
forceps, high, when is operation justifiable? (39) 1326
OBSTETRICS, forceps, history of, (69) 1327
gynecology and, 1887-1912, (26) 323
in country, (79) 1743
modern, (108) 698
operations, conduct in acute chronic endocarditis, **1736—ab**
operations without consent of husband, liability for, **615**
paralysis and face presentation, connection between, (106) 1195
pelvis contraction, problems in, ***4**
pituitary extract in, (111) 406, (52) 557, (59) 791, (94) 793, (35) 866
roentgenotherapy in gynecology and, (93) **406**
rubber dilating bag, new, (105) **1263**
surgery, (80) 1580
teaching and practice, past, present and future, (137) 85
tetany in, (76) **1747**
treatment, radical and conservative methods in, (51) 1107
OBSTIPATION, chronic, operative treatment, (59) 404
colonic dilatation, congenital and acquired, in, (118) 320
OCCIPITO-POSTERIOR position, (53) 1326
OCCUPATION in treatment of insane, (18) 1395
of parents and physical development of infant at birth, (178) **562**
tax, liability to, after exemption, **1323—Ml**
OCCUPATIONAL DISEASES: See Industrial Diseases
OCULISTS, specialists with particular reference to optometrists and, (99) 1835
ODIN'S alleged discovery of cancer germ, **463—P**
ODONTOID PROCESS of axis, fracture of, (97) 704
of axis, fracture of, with intermittent pressure paralysis, (32) 81
OFFICE and residence, combined, for physician, **390**
business methods, (100) 698
OHIO medical news, **60, 456, 529, 758, 842, 1005, 1165, 1236, 1371, 1550, 1648, 1715, 1803, 1969**
state board December examination report, **1018**
state board January reciprocity report, **1179**
state board October reciprocity report, **1179**
OIL, camphorated, subcutaneous injection of, (141) **330**
in abdomen surgery, (43) 166
injections into knee-joint by open incision method, **1917—ab**
injections into peritoneum, injury from, (104) **1404**
injections into ureter for ureter calculus, (78) 83
of chenopodium in ankylostomiasis, efficiency of, (131) **706**
of cloves and picric acid preparation of catgut, (157) 162
OINTMENT in granulating wounds, treatment, (76) 1493
OKLAHOMA medical news, **138, 677, 1550, 1716**
state board April report, **1659**
state board January report, **854**
state board October report, **78**
OLD Age: See Senility
OLECRANON, fracture of patella and, subcutaneous suture of, (51) 701
OLIVE OIL and lanolin, injection of, for removal of wrinkles, atrophy of optic nerve following, (83) 553
sterilization of, (86) **2072**
tablets, Edward's, **1378—P**
OLSHAUSEN method of ventrosuspension, objection to, ***1701**
OMAHA, Electro-Oxygen Institute of, **2060—P**
OMENTUM, abscess in, after necrosis of pancreas, (139) 1750
cuff for perforated stomach and duodenum ulcer, (103) 1403
cysts, (25) 1185
for plastic operations in abdomen, (96) 559
great, functions of, (122) 1843
migration of, causes of, ***1292**
permeability of intestine wall for bacteria and protecting action of, (155) 1502
tumors, (66) 1840, (23) 2069
ONYCHIA, diphtherial, and diphtheria of stomach, (11) **1837**
OPEN-AIR schools, (21) 1980
treatment, physiology of, (19) **1837**
window schoolrooms, (13) **1919**
OPERATING-room for modern hospitals which provide for spectators, ***1847**
OPERATING-room, illuminating, improved apparatus for, ***1846**
-table for rhinologists, ***1951**
OPERATIONS, abdominal, postoperative and preliminary treatment, (36) 1579
advice to patients leaving hospital after, ***1133**
after-treatment of, **1249—ab**, (109) 1397
ascaris lumbricoides as complication of, ***1953**
blood-pressure before, during and after, under local and general anesthesia, **1737—ab**
complications following, (34) 1832
cosmetic, technic for, and treatment, (146) 1502
death rate from, means and methods of reducing, (87) 1494
diet before and following, (88) **1500**
electric lights, focusing several, on field of, method, (17) 316
estimate patient's resisting power before attempting, (56) **1670**
exercises after, ***1202**
gynecologic, conduct of pregnancy and labor and, in acute and chronic affections of heart, **1737—ab**
joining causes of action for unauthorized and unskillful performance of, **1829—Ml**
management of patient before and after, **1299—T**
pain abolished after, with nerve block at a distance, (35) 1832
patients examined before, (48) 1926
plastic, cheek defect repaired by, (9) **1105**, (97) 1841
plastic, fascia lata for, (70) 1333
plastic, muscle flap to arrest hemorrhage from various sinuses of dura mater, (109) 1842
plastic, on esophagus, flap from stomach wall for, (118) 1038, (111) 1842
plastic, on muscles for face paralysis, (43) 1926
plastic, providing new outer covering for scrotum and penis, (73) 867
plastic, recent progress in, (77) 1927
preparation of field of, symposium on, (120) 1404
rectum and vagina, shelf for, ***1537**
suction hand-valve for clearing operative field, ***897**
sufficiency of consent to, before examination, measures of, damages, **1829—Ml**
technic, (23) 1740
OPHTHALMIA electrica, (104) 1835
gonorrheal, gonococcus vaccines in, (48) 944
gonorrheal, infection with, tardy, (164) 562
migratory, followed by recovery of useful vision, (148) 243
neonatorum, administrative standards, (15) 860
neonatorum and blindness, (141) 478
neonatorum, bill for act entitled an act for prevention of, **2004**
neonatorum, control of, in Massachusetts, (15) **475, 779—ab**
neonatorum in London, (12) 1982
neonatorum, non-gonorrheal, (84) 633
purulent, metastatic, (89) 1107
sympathetic, (112) 1667
sympathic, blood changes in, (31) 943
OPHTHALMOLOGIST, eugenics from viewpoint of, (126) 699
training of, improved, (5) 1393
OPHTHALMOLOGY, American Academy of Otology and, meeting of, **1006**
and general medicine, contact points between, (130) 1836
aseptic, antiseptic and prophylactic measures in, observations made in various British and continental hospitals, (16) 786
immunotherapy in otolaryngology and, (92) 1494
International Congress on, **606**
iodin in, advantages of, (55) **1746**
local anesthesia in, (92) 242
notes on, (208) 874
postgraduate classes in, **1168**
prospects and retrospects, (51) 1326
section of British Medical Association and Oxford Ophthalmologic Congress at Birmingham, impressions of, (96) 1397
teaching, in America, (135) 478
year's progress in, (34) 552

OPHTHALMOMETER forming a corneal microscope, accessory to, (5) 780
OPHTHALMOSCOPY in pregnancy, importance of, (24) 861
post-mortem, (45) 1579
OPIUM, action on defecation, mechanism of, (102) 328
addict, greater consideration for, plea for, (47) 862
evil a national responsibility, **1887**—E
fiend, (105) 1108
in pellagra, **1486**—ab
law and sale of, **298**
measures against, **1719**
pharmacologic study of, its elements and substitutes, (87) 1114
Russian move against, **1659**
use in children, (105) 1037
OÖPHORECTOMY: See Ovariotomy
OPSONIC index in plague vaccination, (26) **1745**
index, influence of hormones on, (71) 249
methods and tuberculosis, (37) **481**
OPSONINS, behavior of agglutinins and, in animals after castration or injection of extract of testicles, (141) 252
in puerperal infection, (150) **163**
OPTIC disk in purulent otitis, complications, (36) 1028
Nerve: See Nerve, Optic
OPTOMETRISTS, specialists with particular reference to oculists and, (99) 1835
OPTOMETRY and dentistry, (82) 553
and general practitioner, (140) 322
bill, why physicians should actively fight, (93) 161
ORA serrata, research on, (193) 488
ORANGE-ETHER anesthesia, essence of, (106) 1397
essence of, nitrous oxid gas and sequestration in general anesthesia for operations in upright position, (72) 1922
ORBIT, accessory sinus disease in relation to eye and, (94) 1923
cellulitis of, (71) 1493
foreign bodies in eye or, (133) 243, (86) 554
hematoma of left, modified Kronlein's operation for, (4) 945
steel passing through eyeball into, (142) 243
tumors, plea for operation, (3) 945
tumors, radiotherapy in, (69) 1396
ORCHITIS ascribed to strain, (101) 705
rheumatic, acute, *1608
ORDINANCE, valid, of board of health, **79**—MI
OREGON medical news, **676, 1236, 1550**
state board January report, **1385**
state board July report, **78**
ORGANIZATION, full, of medical profession, necessity for, **1249**—ab
medical, in England, **1657**—ME
public health, cooperation among, **1080**—E
ORGANOTHERAPY: See also Extracts
ORGANOTHERAPY, adrenal, (26) 1038
adrenal, in muscular debility, (48) **790**
experimental, (128) 1196
in dysmenorrhea, (78) 950
scientific basis of, (36) 866
to date, (139) 707
ORIENTAL SORE, vibrio in, (106) 1842
ORIGINAL package evil in advertising, **1317**—P
ORNITHODORUS moubata, resistance of, to various sheep-dips, (2) 401
ORTHODIAGRAPH, persistent ductus botalli and diagnosis by, (14) 1258
ORTHODONTIA, (3) 940
breast-nursing and nose obstruction, **301**—ab
for nose obstruction, plea for early recognition and correction of faulty maxillary development, (107) 161
ORTHOPEDIC principles for use in general practice, (35) 239
surgeon, crippled children in relation to community from standpoint of, (74) 477
surgery section, **65**
surgery, spontaneous gangrene and allied conditions in, (6) **859**
table and fracture, *1850
treatment at right time, (220) 564
OS CALCIS: See Heel Bone
OS COXAE innominatum, left, complete detachment and dislocation of, in boy, (2) 322
OSLER'S sign and certain skin phenomena sometimes associated with heart disease, (21) 1924
OSTEITIS and periostitis, (116) 1328
deformans, (99) 242, (63) 1666
post-typhoid, suppurative, 13 years after enteric fever, (14) 699
OSTEOARTHROPATHY, vertebral, (5) 859
OSTEOGENESIS imperfecta, (3) 550
OSTEOMA in front of hip-joint, (40) **947**
muscle degeneration and, (62) 398
superior maxilla, unusual case of, (34) 943
OSTEOMALACIA, (30) 787
and rachitis, etiology and treatment, (89) **1334**
metabolism in, (89) 868
symptomatology of rachitis and, in Japan, (66) 1193
OSTEOMYELITIS, (150) 1502
aberrant and recurrent, (22) 401
acute, (157) **243**
blood-borne, experimental research on, (78) 1840
bone transplantation in, *2030
digits, tuberculous, (16) **1919**
diffuse, from nasal sinus suppuration, (9) 479, (19) 865, (15) 1109
hemophilic arthritis simulating, (64) 1266
hemorrhagic, non-suppurative, chronic, (21) **625**
leukocyte count in tuberculosis of bones and, in children, diagnostic significance of, (19) **1492**
long bones, localized, (13) **1577**
seashore treatment of, (4) **1491**
spine, eight cases, (42) 86
OSTEOPATHS and death certificates in New York, **1717**
diploma, registration of, not enough, state need not prove practice by any system or method, **1257**—MI
one danger from, **920**—ab
OSTEOPATHY, legal status of, present, **1018**—ME
OSTEOSARCOMA: See Bones, Tumors
OSTEOTOMY, femur, lower end of, in permanent flexion of knee-joint, **1917**—ab
OSTWALD, International Institute of Chemistry proposed by, and opposed by chemical houses, **1229**—E
OTHYGROMA nephriticum, *123
OTITIS, encephalic infection in, paths of, (10) **629**
external, ichthyol and phenol in, *742
media, acute, afebrile sinus thrombosis and cerebellum abscess complicating, (87) 399
media, catarrhal, chronic, eustachian tube in relation to, (47) 782
media, chronic, eustachian tube in, (17) 81
media, catarrhal, non-suppurative, (79) 1834
media, myringotomy in, inadequacy of drainage obtained by, method of overcoming difficulty, (36) 943
media, prevention of, (102) 1189
media, suppurative, acute, (29) 1260
media, suppurative, mastoiditis complicating acute and chronic, significance of fever in, (15) 1837
media, syphilitic, (66) **791**
purulent, optic disk in, its complications, (36) 1028
OTOLARYNGOLOGIST and general surgeon, combination operations between, (64) 398
OTOLARYNGOLOGY, immuno-therapy in ophthalmology and, (92) 1494
year's progress in, (33) 552
OTOLOGY, American Academy of Ophthalmology and, meeting of, **1006**
from medical point of view, (73) 863
local anesthesia in, (92) 242
suction hyperemia in, (215) 1754
OTOSCLEROSIS, deafness due to, (130) 162
OUTDOOR life, purpose of, from patient's viewpoint, (51) 627
OUT-PATIENT Department: See Dispensary
OVARIOTOMY, Ephraim McDowell, father of, his life and work, (35) 1665
grave of Jane Crawford, first subject of, **67**—C, **228**—C
selection of women for life insurance risks on whom hysterectomy and, have been performed, (82) 83
OVARY, abscess of fallopian tube and typhotuberculous, (86) **783**
appendicitis, chronic, and disease of, (41) **1331**
biology of, experimental, **1228**—E
calcareous fibroid, large, with absence of uterus ligaments and, (21) 695
cysts, differential diagnosis, (157) 708
cysts, etiology, pathology and treatment, relation to child-bearing, (128) 320
cysts, gelatinous, pseudomyxoma of peritoneum arising from perforation of, and associated with similar cystic disease of vermiform appendix, (34) 86
cysts, surgery for, conservative, disadvantages of, (42) 1926
cysts with twisted pedicle, (111) 1835
effects of secretion of corpus luteum and, (98) 328
fetus developing in, (29) **1669**
fibrosarcoma, primary, (28) 1264, (49) 1265
grafting, (149) 1406
hernia of fallopian tubes and, (98) 1500
inflammation of fallopian tubes and, treatment, (57) 791
influence as organ of internal secretion, (6) **1324**
influence on uterus and on general metabolism, (35) **1265**
lipins of corpus luteum and, (61) **319**
menstrual and intermenstrual passive congestion of uterus and, (46) 1746
operations on, conservative, 112 cases, (14) **396**
parotitis, epidemic, involvement of, *859
pseudomyxoma in peritoneum involving appendix and, (106) 1269
roentgenotherapy of, in exophthalmic goiter, (113) **1931**
sarcoma, in infant, (51) 1192
secretions of breast and, internal, interrelations between, (124) **706**
sterilization of women, temporary, by walling off, with broad ligament, (92) **1748**
teratoma, removed at age of 50, (55) 1332
tuberculosis of fallopian tube or, lesions of intestines with, (68) **1266**
tumors and pregnancy, **1373**
tumors, pregnancy and labor complicated by, (123) **321**
OVUM, feces examination for, (54) 948
retention of, (120) 705
sterility and abortion in relation to, (31) 402
tubal, earliest recorded, (14) **158**
OWEN BILL, (68) 553
new, **1308**—E
new, text of, **1320**—ME
printers favor, **212**—E
Senate declines to consider, **453**—E
OXALURIA, **1959**—E
and phosphaturia, alternating case of, (3, 4) 1329
of bacterial origin, (169) 1272
OXFORD Ophthalmologic Congress and ophthalmologic section of British Medical Association at Birmingham, impressions of, (96) 1397
OXIDATIONS, rate of, in unfertilized egg of sea urchin, (41) 1665
OXYDASE reaction, (100) 1588
reaction in differentiation of acute leukemias, (18) **1924**
reaction in placenta, (79) 950
OXYGEN, absorption of, by growing cultures of bacillus coli and bacillus welchii, (73) 161
as adjuvant in general anesthesia, (40) 1110
direct application of, in intestinal diseases, (162) **487**
in asphyxia in newborn infant, (100) **1195**
localization in animal tissues, (104) 1500
-poor air in anemia, (123) **560**
subcutaneous injection in permanently weak pulse, (52) **1401**
OXYGENATION in blood-vessel walls, destruction of epinephrin and constrictor substances of serum by, (96) 319
OXYPATHOR fraud, **226**—P
OXYTOCIES, modern, untoward by-effects with, (158) 1675
OXYURIS, appendicitis in relation to, (137) 870, (71) 1188, (130) **1750**
OYSTERS, infection from, (48) 403
polluted, and typhoid, **916**
OZENA and atrophic rhinitis, treatment, successful, (93) 1922
modern treatment, (76) 558, (46) **1985**
OZONE as medicine, **1094**
chemical study of water and, (156) 1198
in gastro-intestinal tract, therapeutic action of, (64) 1035
in glycosuria, (54) **1332, 1559**

## P

PACIFIC coast, advertising specialists on, **1809**—P
PACKING, nose, efficient and easily removable, (58) 1028
PAGEL collection of books on history of medicine in Washington University Medical School, (100) 1835
PAGET'S Disease of Bones: See Osteitis Deformans
PAGET'S Disease of Nipples: See Nipples
PAIN, abdomen, in infants, (23) **1583**
abolishing, after operations with nerve block a distance, (35) 1832
in diagnosis of pelvic inflammatory conditions, (140) **1197**
in epigastrium, causes of, (200) **1754**
mechanics in relation to, (46) 160
PALFYN, Jan, (103) 320
PALM buds as food, (124) 1589
roentgenotherapy of diseases of, (9) 1982
PALMIN test, Ehrmann's, for pancreas functioning, **1487**—ab
PAMPHLETS issued by various organizations, value of, **543**—ME
public health, **1253**—ME
PANAMA Canal Zone: See Canal Zone
PAN-AMERICAN Medical Congress, **617**
PANCREAS, accessory, surgical significance of, (28) **1832**
calculi, (137) 1406
Cammidge reaction in diagnosis of disease of, (150) 92, (146) 1116, (141) 1270
cancer of liver or, (42) 631
contusion, (149) 707
cyst, **237**—ab, (18) 946, (110) 1404
cyst with acute symptoms, (19) 946
disease, (94) 1588
ferments of, in feces as aid in diagnosis of disease of, (204) 1754
ferments of, in infants in acute intestinal indigestion, (5) 1103
functional activity of, diagnosis by ferment analyses of duodenum contents and feces, (9) 1025
functioning, Ehrmann's palmin test for, **1487**—ab
functioning, Schmidt's nuclei test of, (142) **1117**
hemorrhage in, (133) 1501
influence on digestion and absorption of fats, (143) 252
intoxication from, (161) 872
Islands of Langerhans, importance of, (128) 1279
juice of, in epinephrin glycosuria, modification of, (148) 1502
juice of, no reflux of, into stomach of infant, (128) 1337
lipomatosis of, (40) 1741
liver and carbohydrate metabolism, (80) 1113
necrosis of, abscess in omentum sac after, (139) 1750
resection of, experimental, and pancreato-enterostomy, (75) 1927
trypsin-secreting capacity of, (182) 488
tuberculous cyst originating in, (135) **322**
PANCREATITIS, (33) 402, (63) 1580
acute, (131) 1030, (80) 1333, **1389**—ab
acute, diagnosis of, (140) 1270
acute, high intestine obstruction and postoperative ileus, (93) 1581
chronic, (133) **1750**
chronic, and pancreatic lymphangitis, *1
chronic and subacute, diagnosis and treatment, (71) **697**
chronic, management of, (74) 399
diabetes in acute partial, (47) **1192**
hemorrhagic, acute, (125) 484, (215) **564**
surgical treatment of cholelithiasis and, (132) 401
PANCREATO-ENTEROSTOMY and resection of pancreas, experimental, (75) 1927

PANHYSTERECTOMY and cesarean section in elephantiasis of vulva, (14) 479
PANSINUSITIS, bilateral, operation, thrombosis, meningitis, recovery, (99) 1581
PANTOPON, action on defecation, mechanism of, (102) 328
PAPAYAN'S Bell, **682**—P
PAPER, sensitized, for roentgenotherapy, (69) 1986
PAPILLOMA, epiglottis, large, removed by fulguration, (85) 399
lip, lower, malignant, (108) **1668**
or cancer of thyroid, (61) 1927
vesical, high frequency cauterization in, value of, (19) 860
PARACASEIN and ash-free casein, method of preparing, (81) 1327
molecules and molecular weights of casein and, valency of, (84) 1327
PARACASEINATES and basic calcium caseinate, preparation and composition of, (82) 1327
and caseinates, unsaturated or acid, preparation and composition of, (83) 1327
PARACELSUS and history of medicine, **449**—E
PARAFFIN for wounds, (131) **91**
liquid, sterilization of, (86) **2072**
prosthesis and deformity of nose, (54) 1111
PARALDEHYD, anesthetic effects of intravenous injection of, (9) **316**
poisoning, (57) **404**
tetanus treated by intravenous injections of, and copious injections of normal salt, (27) 556
PARALYSIS agitans in negroes, ***43**
and deformities following poliomyelitis, treatment, (124) 1264
arm and shoulder, of poliomyelitis, (67) 1580
birth, (31) 1745
bladder, in poliomyelitis, (139) 330
bulbar and pseudobulbar, (33) 324
diaphragm after anesthesia of brachial plexus, (136) 1197
diphtheritic, (36) 1034
early, (87) 864
early, correction in article on, **541**
early, recognition, differential diagnosis and medicological considerations, ***352**
extra-pyramidal, (212) **874**
eye muscles in children, (160) **92**
face, (97) **793**
face, from mastoid lesion, (49) 324
face, peripheral, (82) 558
face, plastic operation on muscles for, (43) 1926
face, postdiphtheric, recovery under antitoxin, (97) 1195
focal symptoms in, (125) 1264
following extension for fracture of femur, (72) **633**
foot, osteoplastic fixation of, (104) 951
gastro-intestinal, postoperative, (51) 862, (62) 1035
general, abortive forms of tabes and, (91) **1930**
general, and tabes, atypical forms of, considered in light of serodiagnosis, (71) 241
general, blood-serum in, hemolytic properties of, (102) 1269
general, diagnosis, early (33) 1496, (40) 1670
general, etiology and early diagnosis, (56) 1742
general, in children, (88) 558
general, laboratory aids in diagnosis, (57) 1742
general, of insane, (13) 1330, (110) 1397
general, of insane, eye symptoms in, (20) **551**
general, of insane, its prophylaxis and treatment, (19) 1744
general, prophylaxis, (78) 1667
general, remissions in, statistical study of, (31) **1665**
general, salvarsan in, ***429**
general, symptomatology and clinical types in, (55) 1742
in dog simulating poliomyelitis, (28) 1578
induced, of diaphragm, in lung disease, (124) **1405**
Infantile: See also Poliomyelitis, Acute Anterior
intermittent pressure, fracture of odontoid process of axis with, (32) 81
ischemic, **617**, (104) 705, (65) 867
PARALYSIS, ischemic, and contracture, experimental research on, (127) 870
juvenile, **1575**—ab
Landry's, **1102**—ab
Landry's, due to salvarsan intoxication, **1301**—ab
leg, anatomic explanation of many cases of weak or painful backs and, (17) 475, (1) 859
mirror writing and other associated movements without, (50) 1921
muscles of leg, total, deformity from gravity, (58) 1746
muscular, eccentric movements in treatment, (7) **786**
nuclei, hypoglossal, (60) 1188
obstetric, and face presentation, connection between, (106) 1195
oculomotor, bilateral, from softening in each oculomotorius nucleus, **1910**—ab
oculmotor, cyclic, (117) 1931
periodic, (3) **1581**
phrenic nerve after blocking brachial plexus, (156) **1675**
progressive, etiology of, (83) **2072**
progressive, nucleinic acid in, (129) 251
progressive, treatment, (79) **1671**
pupil, hemianopic, and hemiopic prism phenomenon, (32) 397
quadriceps transplantation in, (34) **781**
radial nerve, postoperative, prevention of, (36) 947
recurrent nerve, due to circulatory lesions, recent therapeutic measures, (43) 862
recurrent, with heart stenosis, (25) 2069
residual, of poliomyelitis, implantation of silk tendons in, results from, (2) 1491
respiratory, Meltzer's insufflation anesthesia in, during operations on brain, advantages of, (52) **1927**
serodifferentiation of progressive dementia praecox and, (135) 560
sixth nerve, anatomic predisposition to, as complication of spinal anesthesia, (158) 708
spastic, Foerster operation for, **1917**—ab
spastic, in children, treatment, (103) **1672**
spastic, operative treatment, (150) 485
spastic, rhizotomy and operation to reduce force of antagonistic muscles, (135) 1844
spastic, Stoffel's method of operative treatment, (131) **485**
spastic treatment, (3) 629
spine, flaccid, which attacked Louis Pasteur in early maturity and similarity to attack of acute epidemic poliomyelitis, (64) 1922
spirochaeta pallida in brain in general, (43) **626**, **1002**—E, (61) **1188**, (28) 1583, (75) 1586, **1650**
traumatic, isolated, of suprascapular nerve, (105) 869
treatment, (73) 791
urine retention in, strychnin in, (101) **794**
vasomotor, late, due to epinephrin, (5) 785
vocal cord, right, temporary, with sensory disturbance on left side of body, (68) **241**
PARAMELITENSIS fever, (15) 946
PARANOIA, modern conceptions of, (60) 627, (59) 1262
PARAPHENYLENDIAMIN in hair-dyes, untoward effects of, **229**
PARAPHRONIA, emotional, (88) 242
PARAPLEGIA in Hodgkin's disease, laminectomy and roentgenotherapy in, (141) 1329
spastic, with cutaneous reflex of defense occurring in Pott's disease, ***269**
spastic, with rhizotomy for pain and spasticity, ***981**
subluxation of lumbosacral joint as cause of, (6) 1491
PARASITES, action and influence of, in body, (202) 564
human, trichostrongylus colubriformis, a, (21) 1669
in syphilis found by jelly method, (45) **243**, ***1225**
intestinal, and diseases found in Guam, (155) 479
intestinal, in Costa Rico, (16) 1191
intestinal, in tropical pathology, is importance of exaggerated? **1823**—ab
intracellular, developing into spirochetes, (2) 243
PARASITES of cockroaches, cancer induced in rats by feeding with, (52) **948**
PARASYPHILIS, nervous system, early signs of tabes dorsalis and, (77) 1667
nervous system, neosalvarsan in, **1818**—ab
nervous system, rarer manifestations of, (11) **629**
passing of, (43) 1579
PARATHYROID, (68) 167
do they functionate in intrauterine life? (84) 783
PARATYPHOID, anatomy of, pathologic, (134) 1270
and typhoid vaccination with live attenuated vaccines; mixed vaccines, (19) **1109**
appendicitis, (53) 1670
bacilli not producing gas, (106) 869
cholecystitis, (49) **552**
epidemic, bacteriology of, (28) **781**
epidemic, traced to milk-supply, (136) 952
infection, (79) 88, (70) **1671**, (12) 1923
infection and appendicitis, (99) 1672
PARCEL post, reprints cannot be shipped by, **1095**
PARENCHYMATOUS organs, hemostasis in resection of, (151) 1502
PARENTS, age of, factor in heredity, **616**
education for, (9) 780
occupation of, and physical development of infant at birth, (178) **562**
PARESIS: See Paralysis, General
PARIS letter, **63**, **140**, **221**, **298**, **380**, **459**, **532**, **679**, **844**, **917**, **1009**, **1087**, **1166**, **1239**, **1311**, **1373**, **1472**, **1552**, **1650**, **1719**, **1805**, **1895**, **1970**
Medical School, damages of four hundred dollars imposed on, **1895**
medical schools, poverty of, **1239**
PARKS, national, (131) 1750
PAROTID, hypertrophy of, in obese, (78) **168**
tumor in, (5) 1982
tumor in, embryonal predisposition to, (66) 702
PAROTITIS and sterility, (119) 1589
atrophy of testicles after, (145) **252**
epidemic, ovary involved in, ***359**
eye complications in, interesting case, (80) 1581
recurring, (98) 1195
PARTNER, retiring, may sell his influence and good will, **623**—MI
PARTURIENTS, creatinin and creatin eliminated from urine in, (71) 482
PARTURITION: See Labor
PASADYNE, **766**—P
PASSIFLORA incarnata, Daniel's concentrated tincture of, **766**—P
PASTEUR, Louis, flaccid spine paralysis which attacked, in early maturity and similarity to attack of acute epidemic poliomyelitis, (64) 1922
treatment of hydrophobia, **1732**—ab
PASTEURIZATION, control of temperatures in, (15) 1184
effect on bacteria in milk, **689**
efficient, and bacteria which may survive it, **1462**—E
PATELLA, dislocation, recurring, familial, (62) 867
dislocation, traumatic, (102) 1397
fracture in tabes, (32) **166**
fracture of olecranon and, subcutaneous suture of, (51) 701
fracture treatment, (64) 1193, (55) 1326
PATENT MEDICINE: See also Nostrums; Proprietary Medicines
PATENT MEDICINE, advertised, and physicians, **671**—E
advertising, **134**—E, **144**—P
and fallacious inductive reasoning, **674**—E
and proprietaries in Italy, **1503**—ab
and public health, **614**—ab
attitude of drug journals toward, **837**—E
council on, suggestion that one be appointed by American Pharmaceutical Association, **1547**—E
man, solicitude of, **1466**—E
proprietary remedies and, **379**
select committee of, **1466**—E, **1477**—P
sincerity of physician in advising concerning, **687**—P
successful business and, **134**—E
PATENTED, can living tuberculosis bacilli be? (167) **487**
PATENTS and medical apparatus, **1239**
PATHOLOGY and bacteriology, year's progress in, (32) 552
clinical literature on, recent, (31) 700
diagnosis and treatment of borderline lesions, **2065**—ab
PATIENT, advice to, leaving hospital after surgical operations, ***1133**
and physician, confidential communications between, (120) 242
before and after operation, management of, **1299**—T
compulsory admission into hospitals, **1807**
examination before operation, (48) 1926
relation of physician and, existed and question of malpractice for jury, **2064**—MI
resisting powers of, estimate before attempting operation, (56) **1679**
wealthy, and professional fees, **909**—E
PAUL SEGOND foundation, **917**
PAVY and diabetes, **1159**—E
PEDIATRICIAN as dietetist, (140) 1030
PEDIATRICS, (127) 1030
foundations of modern, (75) 1113
mineral waters in, (97) 169
PEDICULI and pigmented areas on skin, connection between, (166) 1198
capitis, method of rapidly exterminating, (25) **244**
PEKING Medical Conference, **1820**—ab
PELLAGRA, (68) 83, (130) 1030, (78) 1189, (122) 1328, (50) 1742
as public health problem, (53) **1742**
blood findings in, (10) **1259**
cholecystitis as complication of, (22) 475
distribution in United States, **129**—E
early and undeveloped cases, (145) 1329
epidemology, **1089**—ab, ***1423**, **1823**—ab
etiology, **1485**—ab
gastro-intestinal tract in, ***889**
in Eastern Kentucky, (54) **1742**
in Maine, recent work on etiology of disease, (13) 551
in New York State, (104) 320
in Pecos Valley, (54) 1580
induced in monkey, (63) 944, ***1948**
infectious-dietetic hypothesis of, **130**—E
insanity and, (52) **1742**
lesions resembling, experimental production of, (31) 1186
metabolism in, (7) **1739**, **1961**—E
opium in, **1486**—ab
prevention of, (67) 1327
psychoses with, (31) **1492**
specific treatment, (117) 1030
stable fly, as one of possible factors in causation of, ***271**
symptoms and diagnosis, (51) 1742
treatment, (43) 240 (103) 399
PELVIS abscess, drainage in pyosalpinx and, **1485**—ab
abscess, grape seeds in, (126) 1836
abscess, rectum section for, in men, (55) **1666**
cellulitis, (75) 1327, (4) 1923
cellulitis, following Wertheim's operation, (56) **247**
contracted, correction of, (139) **637**, (133) **1337**, (83) **1672**
contracted, labor with, (39) 2070
contracted, moderate degrees of, their obstetric problems, ***4**
contracted, unusual forms of, (68) 1193
cyst, epidermoid, unusual symptoms with, (108) 951
disease and psychiatry, (154) **1031**, (139) 1406
examination in doubtful cases through vagina incision, (48) 1741
fetal, development of, (176) 562
fracture and dislocation of, (110) **170**
inflammation, auto-inoculation in, (24) 556
inflammatory diseases, old, massage for, ***966**
injuries of floor of, due to labor, (13) **158**
leukocyte count in suppurative conditions in, prognostic value of, (86) **1397**
ossification centers in fetus in, (173) 872
phlebitis of, operative treatment, (101) **90**
slanting, mechanism of development of, (108) 1335
vacuum capsules for applying heat in chronic disease of, (153) 708
PEMPHIGUS, malignant, intravenous injection of 20 c.c. fresh human serum in, (157) **1752**

PENAL code of Austria, new, and medical practice, **222**
discipline and physical defects, (132) 699
PENIS, accessory passages in, and gonorrhea, (91) 1748
fibrous or ossified plaques in, (111) **1404**
ligation of, for lost power of erection, **1246**
plastic operation providing new outer covering for scrotum and, (73) 867
PENNSYLVANIA medical news, **61, 138, 217, 295, 378, 457, 529, 677, 759, 842, 914, 1006, 1085, 1165, 1236, 1310, 1371, 1470, 1551, 1648, 1716, 1803, 1892, 1969**
PENTOSES, action of leukocytes on some hexoses and, (80) 1028
PEORIA conference on child welfare, **755**—E
PEPSIN, ferment-arresting action of thiocyanic acid in respect to, (138) 252
further research, (160) 1198
quantitative determination of, by using colloidal suspension of egg albumin, (38) 1832
PEPTIDS, intoxication from methyl alcohol and, biochemical differential diagnosis of, (109) 869
PEPTONE, immunization against anticoagulating action of, research on, (32) 1330
inhibiting influence of, on coagulation, (26) 946
PERCUSSION and auscultation, principles of, (26) 1109
new method of, (124) 560
resonant, (183) **1272**
PERICARDITIS, excrescences with, (162) 872
incipient, early sign of, (58) 1332
suppurative, temporary arrest of heart beats following incision of pericardium for, (10) 1104
PERICARDIUM, roentgenography of adhesion of, (50) 631
temporary arrest of heart beats following incision of, for suppurative pericarditis, (10) 1104
PERICOLITIS, (1) **555**
membranous, **1101**—ab
membranous, and allied conditions of illeocecal region, (11) 1104
membranous, mucous colitis and appendicitis, corelation of, **149**—ab
mebranous, or Jackson's membrane, (61) 1107
tuberculous colitis and, (71) **1671**
PERIGASTRITIS, lesions in stomach walls secondary to, (71) 1499
PERIMETER, electric, practical, (75) 1396
PERINEORRHAPHY with figure-of-eight suture, ***894**
PERINEUM, hemorrhage from, spontaneous, (127) 407
protection and repair of, ***351,** (30) 1260, (18) 1324
PERIODONTAL disease, morbid anatomy of, (22) 1583
PERIOSTEUM, function of, ***983**
PERIOSTITIS and osteitis, (116) 1328
PERIPHERAL stasis, (27) **1838**
PERITONEUM, (83) 161
access to spine through, (98) 869
adhesions, (24) **1109**
adhesions of insidious toxic group, (114) 1328
flap, transplanted, (147) 707
infections of, surgical treatment with reference to immediate sterilization of same, (138) 1030
inflammation back of, (60) 702
normal and pathologic physiology of, (79) 558
oil injected into, injury from, (104) **1404**
pseudomyxoma, (66) **248**
pseudomyxoma, arising from perforation of gelatinous ovary cyst and associated with similar cystic disease of vermiform appendix, (34) 86
pseudomyxoma, involving ovaries and appendix, (106) 1269
surgery, (1) 163
toxic action of urine in, (89) 249
tuberculosis, general, female sterility as salient feature of, (15) 556, (43) **631**
PERITONITIS after laminaria dilatation, (93) 1841
appendicular, from bacteriologic standpoint, (52) 166
appendicular, treatment, (65) 791
appendix changes in general infection and, (168) 488
PERITONITIS, bacillus coli communis infection causing fatal, ***1297**
bile, (49) 1585
bile, without perforation of biliary tract, (73) 249, (59) **325**
diffuse and general, early diagnosis, (19) 1395
ether in, **1971**
general, cholecystitis, perforative, acute, complicated by, (83) 1396
idiopathic, (7) 1831
plastic, general, (101) 1262
pneumococcus, secondary, with abscess in spleen, (116) 951
postoperative, treatment, (68) **1499**
suppurative, pointing at umbilicus, incision and cure in three cases, **1250**—ab
treatment, tentative research on, (118) 705
tuberculous, (91) 945
tuberculous, chronic jaundice from old, (66) **1266**
tuberculous, developing after labor, (70) 1113
tuberculous, direct sunlight in, (53) 247, (27) 1191
tuberculous, how does laparotomy cure? (17) **695**
tuberculous, without effusion, (16) 2069
uterus septus with hyperemesis, interruption of pregnancy at 3½ months followed by, (23) 695
PERMANGANATE, cholera treated by transfusion and, (67) **167**
for snake-bite, (21) **323**
PERSON, plaintiff not allowed to show, unless injuries are visible, **1731**—MI
PERSONALITY and outcome in 200 consecutive cases, (8) 1663
integration and disintegration of, (9, 13) 1923
PERSPIRATION, absence of, unilateral, **1320**
PERTUSSIN, **766**—P
PERTUSSIS: See Whooping Cough
PESSARY, strangulation of anterior lip of uterus cervix by, (185) 563
PETROLATUM as substitute for Beck's paste, **1488**—ab
in constipation, **1320**
liquid, prescribing thymol in, **1814**
PETROLEUM fumes, irritation of eyes by, **69**
PETROMYZON dorsatus or larval land-locked petromyzon marinus, (39) 1260
PETROUS bone, extradural abscess at apex of, (24) 1583
PFEIFFER'S modification of Tsuchiya's method and Claudius' method for quantitative determination of albumin in urine, (85) 1671
PHAGOCYTES source of hemolysins, (47) 1034
PHAGOCYTOSIS of tuberculosis bacilli in sputum, influence of iodid medication on, (91) **1114**
PHARMACEUTICAL specialty house, effrontery of, in advertising, **380**
PHARMACIST, cooperation between physician and, through prescribing pharmacopeial and national formulary preparations, (11) 1577
French statistics of physicians, midwives, dentists and, **917**
physician and proprietary medicine, (12) 1577
responsibility of, when prescription calls for heavy dose, **1319**
what he thinks of sarsaparilla fetish, 1975—P
PHARMACOLOGY, research in, trend of thought in recent, (1) 2067, (9) 2068
respiratory center, (53) **1922**
snake's heart, (55) 1922
PHARMACOPEIA, useful, ***1427, 1726**—C
United States, proposed ninth decennial revision of, absurdities and commercialism of, **1913**—ab, ***2039**
PHARMACOTHERAPY, pneumococcus infections, (19, 26) 244
PHARYNGITIS, pseudomembranous, acute articular rheumatism consecutive to, (199) 1754
PHARYNGOTOMY, transverse, access to tumors in nasopharynx by, (88) 483
PHARYNX, currettage, in adults, (25) 861
diphtheria, atypical, ***1412**
infection by aspergillus niger, ***900**
Leishmaniasis, Indian, (13) 946
lymph ring, hypertrophy of, as cause in production of epilepsy, (93) 1494
PHARYNX, nasal, of child, cystic polypus in, (67) 1666
phlebitis, (15) 1264
tumor of mouth and, malignant, operative treatment, (21) **1583,** (36) 1669
varices in, (146) 92
PHENOL and ichthyol in external otitis, ***742**
coefficient, limitations in standardization of disinfectants, (32) 695
crude, as larvicide, experiments in British Guiana, (31) 165
in urine after use of phenolized gauze, (152) 252
poisoning, physiologic antidote to, (48) 696
PHENOLPHTHALEIN as laxative and its general compatibility, **466**
dose of 1.8 gm. did not hurt child, (100) 1037
spectrum, (144) 707
PHENOLSULPHONEPHTHALEIN Test: See Test, Phenolsulphonephthalein
PHILADELPHIA, municipal charities of, **1082**—E
PHILIPPINE general hospital, anesthesia in, experiences in, (8) 1394
general hospital, pathologic examinations for year from surgical clinic of, (105) 1581
infantile beriberi in, (27) 1665
physiologic activity of white men in, **1821**—ab
PHLEBITIS during course of uterus fibroma, (54) 701
pelvis, operative treatment, (101) **90**
pharynx, (15) 1264
puerperal, citric acid to check coagulation in, (51) **403**
puerperal, operable, (89) 89
puerperal, operative treatment, general principles and results, (52) 557
PHLEGMON in small intestine, (64) 1402
ligneous, of abdomen wall, ***1039, 1318**—C
on arm, technic for treatment, (147) **486**
woody, cure of, under serotherapy, (104) 1195
PHLORHIZIN, influence on dogs with Eck's fistula, (77, 78) 1028
PHOBIA, hysteric, in children, treatment, (12) 1398
obsessions in relation to, (85) 406
PHOSPHATES and indicanuria, (117) 698
PHOSPHATURIA and oxaluria, alternating, case of, (3, 4) 1329
PHOSPHORUS, action in rachitis, (84) 1671
and calcium metabolism in two boys, (65) 2071
and iodin contents, size and physiologic activity of fetus thyroid, (46) **1665**
biologic importance of, (163) **1752**
compounds of maize, effect of diplodia zeae and some other fungi on, (74) 1107
compounds, organic, **1958**—E
content of blood of normal and parathyroidectomized dogs, (43) 1665
in epilepsy, (86) **1268**
matches under Hughes-Esch bill, **850**
metabolism and tuberculosis, (34) **481**
PHRENICOTOMY, no scientific basis for, (160) 1752
PHRENOCARDIA, (77) 1671, (86) **1987**
diagnostic features of, (27) 1027
PHTHISIS: See Tuberculosis, Lung
PHYLACOGENS, (43) 160, **615**—C
death due to administration of, ***588**
do untoward results follow use of Schafer's vaccines or, **308**
gonorrhea, chronic, treated with, (91) 319
malpractice suits from use of, risk of, **465**—C
menace to vaccine therapy, **602**—E
misstatement concerning, **615**—C, **688**—C
the personal animosity plea, **849**—P
therapy, irrationality of, **523**—E
warning and protest, **373**—E, **384**—P
PHYSICAL agents, therapeutic, few of, **1249**—ab
development and moral deficiency, ***1351**
education, International Congress of, **1167**
PHYSICAL insolvency, (20) 780
measures, circulation disturbances treated by, **1553**
therapy and psychotherapy, **926**—C
therapy from modern point of view, (95) 629
training in U. S. naval service, (148) 479
PHYSICIAN: See also Medicine, Practice of; Profession, Medical
PHYSICIANS, American, in dangerous posts, **130**—E
American Society for Physicians' Study Travels, **66**—C, **457, 1095, 1372, 1560, 1717**
American Surgeons and, Congress of, meeting in Washington, **1311**
and his money easily parted, **929**—ME
and medical matters in recent novels and plays, (128) 1501
and patient in prevention of malpractice suits, (91) 1108
as obstetrician and gynecologist, (134) 699
as public servant, (62) 1493
attending, failure to call as witnesses, **396**—MI
attending, opinions on insanity, restricts to, **545**
confidential communications between patient and, (120) 242
consulting a, not an illness, **544**—MI
conviction of, for Roentgen-ray injuries, **533**
cooperation between pharmacist and, through prescribing pharmacopeial and national formulary preparations, (11) 1577
cooperation of, and election of physicians to state legislature, **538**—C
credulity of, and nostrums, **1472**
damages against, for visiting patient without her consent, **1893**
deaths abroad, **219, 844**
deaths in 1912, **54**—E
distribution in Paris, **844**
duty of, in education, (28) 2067
duty to each other or medical ethics, (23) 1395
duty to prevent infection, **310**
epidemics and wholesale poisonings in relation to, (121) 329
family, and insane patient, (92) 1108
foreign, fear of competition of, in France, **1553**
French statistics of pharmacists, midwives, dentists and, **917**
future of, (123) 242
future of, in relation to advances in public hygiene, **152**—ab
future of, in relation to national medical insurance, **153**—ab
general, observations of, on entering institutional work, (151) 1030
general, value of special training in lung diseases to, **1317**—C
healthfulness of country and yet a field for young, **1233**—E
home in Marienbad for diseased, **460**
how many graduate, qualify and die annually? **852**
impersonation of dead, **1087**
in Austria in 1912, number and distribution of, **1374**
in Germany in 1912, **381**
in Indian service, **454**—E, **458**
in public affairs, **1388**—ab
in times of peril, **1080**—E
infant welfare work and, (48) 1746
insurance company asking support of, **1656**
itinerant, validity and construction of provisions relative to, **1100**—MI
keeping up to date, **526**—E
legal questions affecting, (123) 484
licensing of, up-hill fight for better laws, **911**—E
manufacturers attempt to lower standing of, **609**
medicolegal relations of patient and, **1178**—ME
mutual aid society for wives and children of, **1806**
national medical insurance as affecting future of, (124) 242
needed in mountains of North Carolina, **1479**—C
of to-day, (70) 1834
office and residence, combined, for, **390**
office business methods, (100) 698
patent medicines and, **671**—E
pharmacist and proprietary medicine, (12) **1577**
picked out for easy mark, **600**—E
preventive medicine and, (31) 1980

PHYSICIANS, proportion of, to population, 388
public health and, (56) 1834
recent advances and aids for, (62) 1107
relation he should sustain to city clinic, (44) 944
relation of physician and, existed and question of malpractice for jury, 2064—Ml
responsibility of, 1166
rewards for professional courage, 1167
selection of, and services recoverable for in injury case, 313—Ml
shortcomings of, (107) 1108
social legislation and, (57) 1107
specialist in relation to, (23) 780
state-supported, in small towns, 1089
telephone exchange, 1162—E
true, (22) 780
vacation, (20) 1919
PHYSICS, laws of, as they affect vital processes and disease, (143) 408
PHYSIOLOGIC therapeutics, (93) 242
PHYSIOLOGY at Harvard medical school, 1870-1871, (32) 239
experimental value to community, 454—ab
in medical examinations, 609
PHYSIOPATHOLOGY of adrenals, (139) 1338
PHYSIOTHERAPY Congress, International, 219, 1650, 1720
PIA MATER, cerebral, punctiform hemorrhagic pigmentation of, (24) 1395
glioma of, diffuse, (1) 1663
PICTURES, Moving: See Cinematograph
PICTURES of American Medical Association officers, 1889—E
PIESER-LIVINGSTON gluten flour, 923—P
PIG, fetal, brain of albino rat at birth compared with that of, (90) 1327
PIGMENTATION, hemorrhagic, punctiform, of cerebral pia mater, (24) 1395
PILOCARPIN, atropin or epinephrin tests for autonomic nervous system in children, (121) 1931
PIN embedded in bronchus, extraction of, (51) 1746
PINEAL GLAND, functions of, (64) 1666
tumor, (134) 1590, (46) 1839
tumor, abnormal sexual development in infant probably due to, (25) 1260
PIPETS, apparatus for filling, new, *663
PITUITARY BODY: See Hypophysis Cerebri
PITUITARY EXTRACT and epinephrin in therapeutics, (135) 1406
diuretic action of, (116) 1589
in obstetrics, (111) 406, (51) 557, (35) 866, (59) 791, (94) 793, (90) 945
in surgical shock, (35) 1740
in uterus inertia, 1733—ab
metabolism under, (99) 1749
retards labor, (139) 1197
spinal injections of, (184) 488
where to obtain preparations of, 309
PITUITARY liquid, 1957
PITUITRIN diuresis and vascular conditions, (56) 1922
rupture of uterus under, (79) 2072
PITYRIASIS rosea, clinical manifestations of, (161) 479
PLACENTA, angioma of, (95) 328
cause of certain anomalies in, (72) 482
delivery of membranes and, (78) 1107
estimation of duration of pregnancy from histologic findings in, (190) 873, (154) 1271
low implantation of, (52) 403
oxydase reaction in, (79) 950
praevia, (148) 1030
praevia, anatomic bases for, treatment, (63) 1840
praevia, central, abdominal cesarean section in eclampsia and, (64) 944, (33) 1187
praevia, cesarean section for, (16) 556, (20) 1185, (86) 1834
praevia, etiology, (134) 330
praevia, mechanism and treatment, (6) 158
praevia, prophylaxis, (117) 1115
praevia, treatment, (63) 1402
retained, of extra-uterine pregnancy, (24) 1191
tumors, (42) 1331
PLAGUE and cholera germs, action of ultraviolet rays on, (140) 1338
bacilli, attempt to separate antigen from nucleoprotein of, by filtration through gelatin, (21) 1744
PLAGUE bacilli, avirulent, mixed with agar, immunization of guinea-pigs by vaccination with, (110) 84
bacilli, infection of guinea-pigs, monkeys and rats with doses of, ranging from one bacillus upward, (111) 84
bacilli, inoculated into body cavity, susceptibility of cockroaches to, (113) 1836
bacteriology, (106) 84
clinical observations, (105) 84
diagnosis, (124) 1030
eradication in Porto Rico, *1527
immunity, mechanism of, (24) 1745
in Manila, *2042
in sixth century, (137) 1674
investigation in India, 1372, (20) 1744
-like organism from rat, (31) 695
nucleoprotein, immunity consequent on inoculation of, onset and duration of, (25) 1744
pathology, (107) 85
pneumonic, and plague immunization, (101, 112) 84
pneumonic, efficacy of various masks for protection against, experiments to determine, (112) 85
pneumonic, in Brazil, (93) 249
pneumonic, influence of atmospheric temperature on spread of, (103) 84
pneumonic, method of transmission of infection in, (102) 84
pneumonic, protective inoculation against, (109) 85
pneumonic, susceptibility of animals to, (108) 84
pneumonic, transmission of, work of Strong and Teague, 130—E
prophylaxis of, (125) 1030
pseudotubercle and, relationship as evidenced by vaccination experiments, (23) 1744
septicemic, primary and pneumonic, portal of entry of infection and method of development of lesions in, (104) 84
serums, antitoxic, preparation of, (27) 1745
symptoms and clinical diagnosis, (123) 1030
vaccination, opsonic index in, (26) 1745
PLAINTIFF not allowed to show person unless injuries are visible, 1731—Ml
PLANT nutriments converted into human foodstuffs by animals, 904—E
tissues, diastase and starch of, (49) 318
PLASMA, action of serum and, on certain objects used in biological test for epinephrin, comparison, (35) 626
cells in kidneys, (125) 1270
oxalated, coagulation of, with cases of purpura, experimental observations on, (21) 1259
studies, 473—ab
PLASMOGENESIS, research on, (160) 708
PLASTER-OF-PARIS as surgical dressing, uses of, (88) 1494
casts, (84) 1029
in mechanical treatment of tuberculosis of spine, (42) 480
-jackets, corrective, for scoliosis, (60) 1580
splint, *1620
PLATO, views of Freud and, on etiology and treatment of hysteria, (15) 1577
PLAYGROUNDS, value to community, (101) 1923
PLAYS, physician and medical matters in recent novels and, (128) 1501
PLETHORA, polycythemia with, and splenomegaly, (16) 1399
PLEURA, absorption by, (130) 1337
boring rib to drain effusion in, (106) 484
diseases of, (21) 86
effusions in, complete removal by regulation of intrathoracic pressure during aspiration, (27) 323
effusions in, due to artificial pneumothorax, *494, (113) 951
empyema in, bilateral, opening chest on both sides for, successful, (98) 793
infections of lungs and, acute, etiology, diagnosis and treatment, (54) 1666
injuries to lungs and, (65) 1834
reaction in, to tuberculin, (141) 408
sarcomas, (169) 872
PLEURA, traumatic extravasation of blood in joints and, behavior of, (145) 561
tumor, malignant, primary, clinical and pathologic report of case, (5) 694
PLEURISY, (146) 638, (111) 1263
acute, prognosis in, 121—ab
adhesions after, active respiratory exercises to ward off, (96) 1930
adhesions following disturbances from, (135) 1196
mechanotherapy in acute, (40) 1746
pulsating effusion with, (149) 1198
serofibrinous, autoserotherapy in, *962
spinalis muscle sign of, (17) 2069
tubercle in relation to, (31) 86
PLEUROPNEUMONIA, contagious, muscle changes from intermuscular injection of calves with virus of, (114) 1836
PLUTO concentrated spring water, 1013—P
PNEUMATURIA and apparent subsidence of glycosuria in diabetes mellitus with bladder disease, (149) 1674
PNEUMOBACILLUS, sero-agglutination of, (78) 1499
PNEUMOCOCCUS abscess of lung in children, (25) 1583
action on blood, (30) 1578
changes from passage through animals, negative results of research on, (28) 1926
do not proliferate in blood in pneumonia, (25) 1926
for puerperal infection, importance of, (177) 873
infection, associated, (66) 1747
infections, chemotherapy of, 447—E
infections, combined drug and serotherapy in experimental, (125) 1116
infections of lungs in children, chronic, (4) 2067
infections of throat, three fatal cases, (25) 1399
infections, pharmacotherapy of, (19, 26) 244
infections, serodiagnosis of, (197) 1754
meningitis with normal cerebrospinal fluid, *972
non-virulent, pneumonia lesions made by intrabronchial insufflation of, (29) 942
peritonitis, secondary, with abscess in spleen, (116) 951
sepsis from gall-bladder calculus, (118) 1115
vaccine, 665, 1074, 1461
virulent, killed, reaction of lungs to intrabronchial insufflation of plain sterile bouillon and, (42) 1261
PNEUMONIA, (45) 552, (123) 1328, (31) 1740
acute, during treatment with arsenic, (10) 865
brachial-plexus neuritis and polyneuritis following, (91) 704
camphor in, (98) 1672
camphor, intravenous injection of saturated solution of, benefit from, (122) 1501
catarrhal, (123) 1328
diagnosis of appendicitis and, differential, (86) 1189
experimental, 389
experimental, in rabbits, (17, 18) 2067
fulminating, four cases from public institution, (22) 1925
giant-cell, (9) 1979
heart in, 996—T
herpes zoster complicating bronchitis or, (147) 1502
in Brazil, (180) 488
in children, (44) 1265, (36) 1926
in measles, (126) 1405
influenzal meningitis complicated by, recovery, (73) 1922, 1915—ab
initial chill and acute congestion in, cause of, 389
inorganic metabolism in, special reference to calcium and magnesium, (52) 241
lesions made by intrabronchial insufflation of non-virulent pneumococci, (29) 942
lobar, acute, (126) 478
lobar, blood and sputum in, (111) 1030
lobar, cultures from sputum and blood in, (22) 941
lobar, differential diagnosis, (62) 1262
PNEUMONIA, lobar, pulse-rate with blood-pressure in, value of studying (103) 1397
lobar, treatment, (107) 698
open-air sanatoria and, (94) 84
open-air treatment, (79) 783
paralysis of bladder and sudden death in, (67) 1746
pneumococci do not proliferate in blood in, (25) 1926
prevention, 836—E
quinin in lobar and lobular, improvements in, 1914—ab
salicylic acid applied to thorax in, (107) 794
serotherapy, (4) 80
treatment, (69) 83, (132) 1328, 1731—ab
tuberculous, acute, recovery, (18) 1583
PNEUMONOTOMY for foreign body, (19) 479
PNEUMOTHORAX, artificial, (38) 556, (64) 1586, (63, 64) 1107
artificial, embolism during, fatal, (69) 632
artificial, in lung tuberculosis, (49, 54) 82, (41) 166, (21) 244, (35) 480, (112) 483, 532, (62) 627, (60) 696, (55) 949, 1167, (57) 1266, (49) 1401, (43) 1497, (72) 1671
artificial, in lung tuberculosis, Forlanini method for, (34) 239
artificial, in tuberculosis by injection of nitrogen, (55) 88
artificial, influence on mechanism of respiration in children, (103) 1335
artificial, necropsy after, (49) 948, (47) 1584
artificial, pleural effusion due to, *494, (113) 951
artificial, production of, and gas embolism, (122) 1836
artificial, technic, (155) 486, (46) 1584
artificial, therapeutic, manometer for, (157) 1198
operative, technic for avoiding, (50) 403
spontaneous, after induced pneumothorax, (42) 2070
POISONING, alcohol, chronic, cirrhosis of liver after, experimental, (132) 560
arsenic, after salvarsan, (137) 485
arsenic, during treatment of syphilis, (90) 406
arsenic, evidences of, 1710—E, 1901—C
arsenic, from wall paint, (118) 1931
atropin, mental symptoms in, duration of, (33) 1028
botulismus, (129) 706
brass, industrial, brass founder's ague, (9) 1738
camphor, (149) 330
cantharidin, experimental, kidney lesion of, (25) 1578
carbon monoxid, *737
carbon monoxid, cause of anemia in city infants, (67) 1112
carbon monoxid, of woman eight months pregnant and of fetus, (56) 1111
cocain, (24) 401
colocynth, (15) 2068
from pudding, (97) 1037
"Hell-oil" nuts, (144) 1502
label, needed amendment, 1547—E
lead, acute, (68) 1586
lead, and spinal cord disease, (72) 949
lead, chronic, with multiple aneurysm, case of, (16) 1668
lead, from drinking-water, chronic, (48) 1107
lead, household, 1239
lead, in storage battery works, prophylaxis of, (98) 1841
lead, in workers on brass, (116) 1269
lead, Wassermann reaction in, (10) 1668
lithium, *722
manganese, *646
mercury, acute nephritis from, operative treatment, experimental research on, (71) 867
mercury bichlorid, 2061
mercury bichlorid, by antiseptic tablets, 1727—C
methyl-alcohol, articles on, 1247
methyl-alcohol, cases of, 1479—C
mushroom, 1154—T
mushroom, by inhalation, (115) 1336
naphthalin, (100) 635
nitrobenzol, (195) 1754
non-corrosive, by mouth, epinephrin in emergency treatment, (4) 785

POISONING, oak, experimental study, (18) 1739
paraldehyd, (57) **404**
phenol, physiologic antidote to, (48) 696
sodium nitrite, (150) 330
sulphur dioxid fumes, **1246**
tobacco, fatal case, (20) **941**
wholesale, physician in epidemics and, (121) 329
POLARIMETER test of liver functioning, (144) **638**
POLARISCOPE findings in cataracts, (77) 1586
microscopic examination of feces with, (51) 1497
POLICE and health departments, cooperation between, need for more general, (13) 1492
power of state and practice of medicine, **777**—ab
training for, in medicolegal matters in their line of work, (133) 952
POLIOMYELITIS, acute anterior, (33) 317, (57) 863, (29) **2067,** (52) **2070**
acute anterior, aborted forms and preparalytic stage of, observed in Buffalo epidemic, (49) **1921**
acute anterior, deformities following, causation and treatment, (16) 1744
acute anterior, diagnosis, (86) 406
acute anterior, due to bite of dog infected with rabies, (137) 1329
acute anterior, early stages of, (94) **406**
acute anterior, etiology of, (117) **636**
acute anterior, in California, (21) 1919
acute anterior, in Norway, (103) **1037**
acute anterior, in Switzerland, (114) **91**
acute anterior, incubation period with, (85) **1268**
acute anterior, neglected, **1917**—ab
acute anterior, prognosis in, **1575**—ab
acute anterior, transmission by fomites and flies, (105) **635**
acute anterior, work of Massachusetts state board of health in investigation of, (13) 475
anterior, intra-articular silk ligaments in paralytic joints of, (1) **1491**
carrier of, in nose secretion, four months after acute stage of second attack of poliomyelitis, ***1611**
cultivation of virus of, ***362**
epidemiology of, (6) 1184
experience with, as health officer for Parish of Morehouse during 1911, (82) 1667
in guinea-pigs, ***982**
insects and, **55**—E
meningitis and, analogy between, **1380**—ab
paralysis and deformities following treatment, (124) 1264
paralysis in dog simulating, (28) 1578
paralysis of arm and shoulder, (67) 1580
paralysis of bladder in, (139) 330
paralysis, residual, of, implantation of silk tendons in, results from, (2) 1491
paralytic type of rabies and, **146**—C
preparalytic symptom of, new, ***813**
transmission by stable-fly, (38) 86
transmission experiments with virus of, ***1611**
transmission, mode of, ***1612**
transmission to monkeys of virus from English cases of, (17) **946**
variola and, (125) 1328
virus of, demonstrated in throat of healthy persons, ***201**
vital statistics law in Kentucky and, **56**—E
POLYARTHRITIS, chronic with enlargement of spleen and fever in children, (84) 406
POLYCYTHEMIA: See also Erythremia
POLYCYTHEMIA, (20) 1495
chronic, (16) 1399
or erythremia with chronic cyanosis and splenomegaly, (23) 158
secondary, and heart disease, (55) **1497**
secondary, in heart and lung cases, prognostic significance of, (25) 1837
venesection in, advantages of, (128) 1116
POLYCYTHEMIA with plethora and splenomegaly, (16) 1399
POLYGRAPH in heart disease, (8) 1108
POLYMORPH neutrophil leukocytes, qualitative and quantitative effect on, with tuberculin in tuberculosis, (8) **555**
POLYNEURITIS and brachial-plexus neuritis following pneumonia, (91) **704**
delirium due to, Korsakoff's psychosis, (9) 1663
from pregnancy auto-intoxication, (204) 564
of birds, dietary factors in, **1543**—E
of legs following tubal abortion and local ischemia in legs, (54) **1266**
POLYPS, bleeding, in rectum, (34) **1583**
cystic, in nasal pharynx of child, (67) 1666
growth in cystitis, (91) 483
rectum or sigmoid flexure, (113) 1335
mucous, uterus, large mass of, with myomata, (20) 556
urethra, persistence of chronic gonorrhea explained by, (63) 1671
POLYURIA, chlorids in simple, elimination of, and influence of sodium bicarbonate, (58) 1402
chronic, cause of, ***1884**—E
in diabetes insipidus, mechanism of, (179) 1753
induced, (97) **90**
with subacute nephritis, experimental, (86) 1402
PONCET'S inflammatory tuberculosis, (42) **1584**
POPULATION, effect of size of, on rate of selection of new bacterial races, experiment to illustrate, (25) 401
of Ireland, **1894**
POROCEPHALIASIS in man, (17) 244, (26) 1400
PORPHYRINS in pathology, **998**—E
PORTER'S method of correcting faulty position of fetus head, (203) 874
POSITION, abrupt change of, during febrile diseases, dangers of, (131) **1038**
after delivery, (64) **1112**
dorsal decubitus after birth of head, necessity for, (123) 1038
effect of change of, without active muscular exertion, on arterial and venous blood-pressures, (2) **1979**
POSOLOGY, **383**—ab
POSTGRADUATE classes in ophthalmology, **1168**
instruction, problem of, (12) 860
study abroad, **1175, 1727**
teaching, international conference on, **458**
work in our city clinics, (44) 944
work in Vienna, (71) 1262
POST-INTELLIGENCER rejects fraudulent medical advertising, **1810**—P
POST MORTEM: See Necropsy
POSTOPERATIVE CARE: See Operation
POSTPARTUM and antepartum hemorrhages, (33) 1579
POSTURE, man's, its evolution and diseases, (47, 52) 1265
POTASSIUM and sodium in living tissues, (42) 866
chlorid, salt perfusion of respiratory center in frogs and effect of calcium chlorid and, (57) 1922
citrate and aspirin, compatibility of, **390**
iodid in urine, test for, original, ***1621**
POTATO, nutrient possibilities of, **128**—E
POTTER'S walnut juice hair stain, **229**—C
POTT'S DISEASE: See Spine
POUCH of Douglas, abscess in, (116) 483
PRACTICE, contract, conflicts in regard to, **300**
contract, in England under insurance act, (63) 1028
contract, in new South Wales, (9) 1668
contract, proprietary medicinal articles and their substitutes in, (70) 949
of Medicine: See Medicine, Practice of
PRAYER treatment by Hindu, unlawful practice of medicine, **622**—Ml
PRECANCEROUS lesions, (85) 242
PRECIPITIN reaction, colloidal protection in certain phases of, possible importance of, (40) 1260
PREGNANCY, albuminuria in, remote prognosis of, (36) **246**
albuminuria likely to recur in successive, (1) **1831**
albuminuria, signification of, determining, (17) **1983**
ammonia coefficient in, (11) 1831
antitrypsin content of blood with cancer and, (174) 562
appendicitis during, (10) 1831
auto-intoxication, polyneuritis from, (204) 564
blood-pressure, high, in, (35) **245**
blood-test for, **309**
breast secretion independent of, (10) 164
cancer of uterus in, (89) 697
carbon monoxid poisoning of woman eight months pregnant, and of fetus, (56) 1111
care of breast during lactation and, (102) 1029
changes in adrenals after castration and in, (71) 1747
cholelithiasis and cholecystitis associated with, (28) **1665**
corpus luteum and, (47) 1985
dermatitis, scrotherapy of, (33) **2069**
diabetes mellitus and, treatment, **1913**—ab
disturbances of carbohydrate metabolism in eclampsia and, (105) **1269**
double uterus, bladder, vagina and vulva with successive full time, (11) **946**
duration of, estimation of, from histologic findings in placenta, (190) 873, (154) 1271
electrocardiogram during, (144) 1406
extrachorial, (95) 559
extra-uterine, (141) 162, (87, 90) 319, (29, 32) 1496
extra-uterine and intra-uterine, combined, **1480**
extra-uterine, at term with normal child, (86) **89, 151**—ab
extra-uterine, attempts to induce abortion in, (154) 92
extra-uterine, diagnosis, (4) 396, (75) 553, (12) 694
extra-uterine, diagnosis and treatment, (82) 1189, (102) **1842**
extra-uterine, earliest recorded tubal ovum, (14) **158**
extra-uterine, etiology, (52) 160
extra-uterine, five patients operated on second time for, (80) 553
extra-uterine, influence on blood-supply of uterus, **1736**—ab
extra-uterine, interstitial, (155) 1271
extra-uterine, management of grave emergency cases of, (27) **81**
extra-uterine, multiple and bilateral, ***1766**
extra-uterine, operation three months after term, recovery, (8) 1324
extra-uterine or tubal, (113) 320
extra-uterine, ovarian, (74) 482, (171) 562, (29) **1669**
extra-uterine, ovarian, histologic study of, (36) 1496
extra-uterine, ovarian, primary, ruptured very early, (14) 1330
extra-uterine, ovarian, with full-time fetus, (24) 1033
extra-uterine, retained placenta of, (24) 1191
extra-uterine, ruptured sac in, (121) 242
extra-uterine, tubal, (50) 1493, (19) 1577
extra-uterine, tubal, diagnosis, (80) 950
extra-uterine, tubal, double, (67) 696
extra-uterine, tubal, recurring, (82) 950, (148) 1751
extra-uterine, tubal, ruptured, transfusion in, (13) 860
extra-uterine, tubal, with serious symptoms without rupture, (9) **786**
extra-uterine, twice in same patient, (3) 1668
eye symptoms in albuminuria of, important, (53) 160
fallopian tubes, ligation of, followed by, **1484**—ab
fallopian tubes, one ovary and greater part of other removed and followed by, (53) 477
future, danger in, another argument in favor of nephrectomy for unilateral tuberculosis of kidney, (37) **1496**
PREGNANCY, gastro-intestinal diseases complicating, (135) 699
gynecologic operations during labor and, in acute and chronic affections of heart, **1737**—ab
hydronephrosis, acute, (6) 1264
hypothesis cerebri after castration and during, in women and animals, (73) 482
immunology of, (21) 1033
in adenomyoma of uterus, (121) 320
in diabetes, (69) 319
in diverticulum of uterus, (94) 328
in uterus with myoma size of adult's head, (89) 169
interstitial, (88) 629
irritability of neuromuscular system in, (151) **1752**
malaria, complicating, (78) 88
ophthalmoscope in, importance of, (24) 861
ovary tumors complicating labor and, (123) **321, 1373**
Piccoli operation for puerperal inversion of uterus, followed by, (113) **1588**
Prochownick's diet in, **617, 928**
prolonged, relation to some cerebrum lesions and feebleminedness, (15) 158
protein metabolism of normal puerperium and, (126) **321**
pyelitis, serology of, (70) 1747
rupture of amniotic sac at seventh month of, continuing to term, (85) 868
salvarsan and neosalvarsan for women during, (55) 1111, (43) **1331**
salvarsan for syphilis in women during, **679,** (53) 1111
serodiagnosis, (180) **562,** (87) 868, (87) **950,** (107) **951,** (131) 1116, (88) **1396,** (69, 86) **1586,** (193) **1754,** (56) **1839,** (91) 1841, (114) 1931, ***1947**
serodiagnosis, dialysis technic for, unreliability of, (111) 1335
serodiagnosis, history of, (74) 1586
simulating extra-uterine fetation of pus-tube, (12) 158
striae formation during, factors in, **1735**—ab
sugar in urine during, significance and treatment, (25) 86
syncytial cells evidence of, **540**
syphilis in, incomplete forms of, (39) 1584
syphilis in, treatment, (34) **788**
toxemia, (1, 2) **1031, 1227**—T, (17) 1324
toxemia, excretion of amylolytic ferments in urine during, (30) **1745**
toxemia, fulminant, (9) 322
toxemia, new method of treating, (107) **320**
toxemia, with convulsions, treatment, conservative, (45) 1028
toxicosis, injection of Ringer's solution for, (80) **793**
tuberculosis and, (50) **948,** (115) **1115,** (13) 1324, (83) 1494
twin, in double uterus, (34) 1492
urinalysis in, significance of, (29) 1740
uterus fibroids complicating, (74) 553
uterus myfibromata with, (143) 322
uterus septus with hyperemesis, interruption of, at 3½ months followed by peritonitis, (23) 695
uterus, spontaneous rupture of, at third month of, (166) 562
viscosity of blood in relation to arterial tension during puerperium and, (88) 89
vomiting, (140) **637**
vomiting, pernicious, (11) 164, (12) 479, (18) 556
vomiting, uncontrollable, and uterus retroversion, (51) **1111**
vomiting, uncontrollable, epinephrin in, (53) 325
vomiting, uncontrollable, serotherapy for, (45) **403,** (154) 1117
Wassermann reaction during puerperium and, (123) 706
PRESBYOPIA, treatment, (48) 1265
PRESCRIPTION calling for heavy dosage, responsibility of pharmacist, **1319**
cooperation between physician and pharmacist through prescribing pharmacopeial and national formulary preparations, (11) 1577
for liver trouble, criticism of, **1812**
nonsense, **1427**—T, **1792**—T
of consultant, criticism of, **1655**
publicity of, enforced by new medical practice act of Great Britain, **375**—E

PRESCRIPTION, significance of stroke across R at head of, **689**
typewritten, **1560**
writing, (110) 320
PRESERVATION of anatomic specimens in sugar solutions, (54) **1586**
PRESSURE, intrathoracic, removal of pleural effusions, complete, by regulation of, during aspiration, (27) **323**
negative, in long bones of dog, (127) 485
negative, in thorax, (95) 1403
positive (Meltzer), and diaphragm rupture, subcutaneous, (83) **783**
PREVENTABLE deaths, economic loss from, **54**—E
PREVENTION, rôle of, **615**—ab
PREVENTORIUMS, tuberculosis, **1570**—ab
PRIEST-HEALER in court, **917**
PRINTERS favor Owen bill, **212**—E
ink advertising bill, **1377**—P
ink bill, Dr. Wiley defends, **1646**—E
PRIVILEGE and competency of witnesses, construction of amended statutes with reference to, **1829**—Ml
not waived nor statute modified, **1830**—Ml
PRIZE, De Roaldes, **457**
for means to cure typhoid carriers, **1804**
PROCHOWNICK'S diet in pregnancy, **617, 928**
PROCTOCLYSIS as curative and prophylactic agent in primary and secondary acute nephritis in children, (152) **243**
experimental study, **151**—ab
with sugar solution in diabetes, (100) **1841**
PROFESSION: See also Medicine, Practice; Physician
PROFESSION, and medical education, **776**—ab, ff**1389**—ab
and public, **777**—ab, (17) 1495
and the sick man, (40) 1028
and trade-unionism, **1166, 1238**
candidate for sucker list, **929**—ME
cooperation of laity and, in public health matters, appeal for, (93) 945
detrimental effect of present system of hospital administration on interests of, (46) 1265
from socialist viewpoint, **1166**
in 1912, **460**
legal aspects pertaining to, (33) 2067
organization of, (2) 1264
organization of, full, necessity for, **1249**—ab
secrecy of, and industrial accidents, **1719**
PROFESSORSHIP, age limit of, in university, of Budapest, **1972**
PROGLOTTIDES, v-shaped, taenia saginata with, **1821**—ab
PROLIN in animal body, fate of, (62) 318
PROPAGANDA FOR REFORM, (159) 486, (99) 1841
in Italy, **1503**—ab
PROPERTY destroyed by health officers, towns not liable for, **157**—Ml
PROPRIETARY evil, **387**—C
evil from lay standpoint, **375**—E
evil in Great Britain, **1557**—P
foods in infant feeding, uses and abuses of, (14) 1668
medicinal articles, their substitutes in contract practice, (70) 949
medicine, pharmacist and physician, (12) **1577**
one objection to prescribing, **1378**—P
prescribing, and managing detail man, **1812**—C
remedies and dermatologist, **1243**—P
PROSTATE, adenomata, (101) 242
adenomata of thyroid and, growth centers of benign blastomata with special reference to, (45) 627
and verumontanum, diseases of, diagnosis and treatment, (62) 1028
at birth, its fetal development, ***110**
atrophy of, (152) **1674**
circular knife for, (91) 793
elements in urethrorrhea, (94) 633
enlargement of, chronic retention with, mechanism of, (63) 558
enucleation of, total, series of 236 cases of, performed during two years, (21) **1495**
giant cells in thyroid and, (119) 1270
hypertrophy, (42) 166, (71) 1742
PROSTATE, hypertrophy, diagnosis, (139) 1030
hypertrophy, treatment, (115) 1667
perineal enucleation of, simple, (95) **84**
punch operation for small prostatic bars and contracture of prostatic orifice, ***253**
silver nitrate injections, effect of, **1656**
surgery, (26) 1105, (128) **1750**
urethra obstruction by, 26 cases, (38) 1187
PROSTATECTOMY, (88) 161, (59) 247, (82) 1396
by composite method, (91) 1396
gas embolism during, fatal, (43) 701
in aged, (28) 1920
indications for, (130) **1038**
local anesthesia for, **1488**—ab
perineal, finger enucleator for, (64) 1671
perineal, immediate closure in, (134) **322**
suprapubic, (8) 864
suprapubic, after-treatment, (107) 1262
suprapubic, technic for, (146) 1674
suspension of bladder, (22) 1105
technic, improved, (45) **1400**
urinals for bladder fistulas and after, (71) 791
Wilm's technic for, (131) 329
PROSTATITIS, (106) 794
PROSTATOTOMY by method of Goldschmidt, ***259**
PROSTITUTION abroad, treatment, **1977**
among Munich girls under age, (160) 562
and social diseases, (70) 319, (60) 782
in Japan, (94) 629
in New York City, (61) 1922
venereal diseases vs., (65) 1327
PROTEASES, nephelometry in study of nucleases and, (58) 318
PROTEIN assimilation, **1183**—ab, **1546**—E
compound, preparation and properties of, (59) 318
extraction from desiccated tissue by aqueous solvent, rate of, (86) 1327
free diet in chronic nephritis, favorable influence of periods of, (48) **1833**
in rice, protective, destruction of, **227**—C
is specificity of anaphylaxis reaction dependent on chemical constitution of, or on their biologic relations? (38) **1921**
metabolism from standpoint of blood and tissue analysis, (31) 626
metabolism in infants fed on protein milk, (3) **1324**
metabolism of normal pregnancy and normal puerperium, (126) **321**
metabolism, utilization of ammonia in, (47) 1665
milk as corrective of digestive disturbances, **547**—ab, (2) **1324**
milk, inexpensive modification of, (149) **1751**
racemization of, and their derivatives resulting from tautomeric change, (77) 161
refractive indices of solutions of certain, (53) 318
serum, blood relationship of animals as displayed in composition of, (75) 161
serum of horse, rabbit, rat and ox compared to their content of various, in normal and fasting condition, (75) 161
PROTEINURIA, Bence-Jones, (21) 946
Bence-Jones, in conditions other than myelomatosis, instance associated with metastatic cancer, (33) 159
PROTEUS group, putrefaction with special reference to, (76) 161
PROTONUCLEIN, danger of, **384**—P
PROTOPLASM cell, (108) 794
water absorption by, colloid-chemical theory of, ***348**
PROTOZOA, granulomatous local infection due to, new, **290**—E
-like structures in blood in blackwater fever, (36) 1745
PRURITUS ani, (95) 1923
vaccine therapy of, (54) **791**
PRUSSIAN universities, admission of foreigners to, **917**
PSEUDO-APPENDICITIS, (96) 1037
PSEUDO-ARTHROSIS after fracture of ankle, (57) 166
osteoplastic operation for, (99) 559
PSEUDOCHOREA, blood-picture in, (110) 705
PSEUDODIPHTHERIA bacilli in middle-ear disease, (45) 790
PSEUDO-ECLAMPSIA, two cases, (29) **1745**
PSEUDOFRACTURES of transverse processes, (14) 1982
PSYCHO-EPILEPSY, (70) 1922
PSEUDOGLIOMA in children, (90) 1581
PSEUDOHERMAPHRODITE, endothelioma of undescended testis in male, (26) 1264
PSEUDOHERMAPHRODITISM, case of, ***825,** (27) 1264
PSEUDOHYPOPYON, syphilitic, (4) 780
PSEUDOLEUKEMIA, (153) 486, (114) 698
and leukemia, (96) **793**
Mikulicz's disease in connection with leukemia and, (130) 1932
paraplegia in, laminectomy and roentgenotherapy in, (141) 1329
PSEUDOMEMBRANES, diphtheric, spiral wire to remove, (148) **486**
PSEUDOMYXOMA of peritoneum, (66) **248**
of peritoneum arising from perforation of gelatinous ovary cyst and associated with similar cystic disease of vermiform appendix, (34) 86
of peritoneum involving ovaries and appendix, (106) 1269
PSEUDOSPRUE due to Flexner-like bacillus, (25) 165
PSEUDOTETANUS, Escherich's, (182) 873
PSEUDOTUBERCLE, plague in relation to, as evidenced by vaccination experiments, (23) **1744**
PSEUDOVARIOLA, (110) 1835
PSORIASIS, (115) **91,** (80) 1262
a true skin disease, (92) 1268
can it be cured? (102) **1328**
treatment, (50) 87
PSYCHANALYSIS, (194) 488
and society, (69) 399
hysteria, (36) 1665, (34) 1920
interpretation of imaginative creations by, **464**—C
what is it? (52) 1493
PSYCHASTHENIA, juvenile, management of, treatment, (104) 629
PSYCHIATRY and gynecology, (112) 328, (134) 706, (99) 1037, (72) 1193, (139) 1406
in India, (16) 164
in large cities, (48) 1326
sociologic phases of, **283**—ab
teaching of, ***1054, *1874**
PSYCHIC factors, influence on infants' nutrition, (99) **1930**
PSYCHOLOGY clinics, need of, in connection with public schools, (27) 1260
examination, headquarters for, **761**
experimental, and medicine, (75) 628
in medical education, (67) 399
medical, diploma in, established at University of Cambridge, **140**
of animals, (101) 635
of blunders in bibliography, (133) **1406**
of moving-picture exhibitions, (200) **874**
PSYCHONEUROSES, (117) 1335
acquired, local diseases amenable to surgical treatment as cause of, (111) 1667
and general practitioner, (98) 698
functional, (95) 242
treatment, (56) 404
PSYCHOSES: See also Insanity, Neurasthenia, Neuroses
PSYCHOSES, auto-intoxication and, methods of treatment, (119) 85
functional, of senile period, (85) 864
in twins, (122) 162
involution, arteriosclerosis probably not important factor in etiology and prognosis of, (47) 81
manic depressive, series of attacks in, (140) 408
Much-Holzmann test, **1813**
neuroses and certain, (8) 551
pellagra with, (31) **1492**
psychogenic, (90) 1667
toxic-infectious, problem of, (55) 782
PSYCHOSEXUAL anesthesia, analysis of, in psychopathic personality, (14) 551
PSYCHOTHERAPY, (5) 322, (45) 477, (22) 1330, (89) **1587**
PSYCHOTHERAPY and physical therapy, **926**—C
basic principle of, and identity of all systems of mental healing, (21) 1105
ethics and, (77) 249
for children, (130) **1196**
fundamental principles of, (87) 242, (74) 326
in lung tuberculosis, (107) 1835
in sexual neurasthenia, (47) 1326
legitimate use of, (10) 551
practical, ***657,** (46) 1326
PTOMAIN producing bacteria in human intestinal flora, (22) 946
PTOSIS: See also Enteroptosis; Gastroenteroptosis; Gastroptosis; Splanchnoptosis
PTOSIS, abdominal organs, exercises for, ***654**
and atony of stomach, (136) 870
in gynecology, (37) 239
of eyelid, fascia graft for, (89) 793
PUBERTY, neurasthenia in relation to menopause and, (25) 1330
premature, (88) 868
psychic anorexia at, (92) **1334**
PUBIOTOMY, (12) 946, (144) 1751
PUBLIC Health Service changes are still being published, **389**
Health Service, Friedmann treatment of tuberculosis investigated by, **1572**—ab
Health Service not a medical monopoly, (13) 1026
Health Service, report of, **1086**
Health Service, United States, how it can help eradication of preventable diseases in Kentucky, (88) **1029**
PUBLICATIONS, medical, conservation of energy in, (64) **2071**
PUDDING, poisoning from, (97) 1037
PUERPERAL INFECTION and hemolytic streptococcus, (149) **162**
diagnosis, (88) 1107
mercury in, (44) **246**—ab
opinions desired on treatment, **538**—C
pneumococci for, importance of, (177) 873
prevention and treatment, (88) 319
puerperium in relation to, (21) 1330
salvarsan in, (41) 1584
surgical treatment, (89) 629, (8) 1831
treatment, ***1944**
treatment at Sloane Hospital for women, (21) **1185**
vaccines and opsonins in, (150) **163**
PUERPERIUM, abscess, intramural, during, (74) 863
care of, or involution of uterus, (41) **1028**
early rising in, (96) **328,** (80) **868**
herpes zoster in, (150) 708
management of, (141) 322, (21) 1330, (56) 1493
non-toxicity of urine during, (109) **1588**
physiology and pathology of, (46) 477
prognosis of, based on vagina bacteriologic findings, (105) 951
protein metabolism of normal pregnancy and, (126) **321**
salvarsan and neosalvarsan in pregnancy and, (43) **1331**
scarlet fever in, hemiplegia from, (52) 324
thrombophlebitis, treatment, **1838**—ab
tuberculosis in relation to, (13) 1324
viscosity of blood in relation to arterial tension during pregnancy and, (88) 89
Wassermann reaction during pregnancy and, (123) 706
PULMOTOR, **309**
infant, apparatus for artificial respiration on asphyxiated newborn, (11) 694, **1735**—ab
PULSE, alternating, in chronic nephritis, (36) 789
and blood-pressure in children between 6 and 14, (168) 1198
at high altitudes, (87) 1748
electric registration of movements of blood-vessel walls with, (154) 708
fever and sweating, relations between, (112) 951
in heart disease, influence of sequestration of venous blood on, (76) **1194**
jugular, (32) 631
kidney index and urea index, (60) 558
permanently weak, oxygen in, subcutaneous injection, (52) **1401**

PULSE, persisting, in asphyxia neonatorum, sphygmomanometer for determining, (55) **1401**
-rate and metabolism, **2049**—E
-rate with blood-pressure in croupous pneumonia, value of studying, (103) 1397
venous, examination of, clinical importance of, (91) 1988
weakness of, permanent, (61) **1746**
PUNCH operation for small prostatic bars and contracture of prostatic orifice, ***253**
PUNCTURE, needle, of maxillary sinus, diagnostic and therapeutic value of, (98) 1581
PUPIL, Argyll Robertson, becoming normal after mercury and salvarsan, ***664**
equality of, significance of, (77) 1327
paralysis, hemianopic, and hemiopic prism phenomenon, (32) 397
reactions in differential diagnosis, improved technic for estimating, (94) 704
PURE gluten food company, **924**—P
PURGATIVES, different effects of, (114) 320
saline, action of, mode of, (78) 1747
PURGING, strong, effect on blood-pressure and heart, ***436**
PURIN bases in blood, (135) 92
bodies and uric acid in urine, determination of, (111) 1037
elimination of, bases in health and disease, (82) 704
exogenous and endogenous, metabolism of, in monkey, (79) 161
metabolism, (48) 1665
metabolism and purins of some tumors in domestic animals, **2021**—ab
metabolism, pharmacologic action of hromin ions on, (101) 170
researches on, (28) 626, (95) 1327, (44) 1665
PURPURA, **473**—ab
abdominal, (126) 1337
chronic, animal serum in, (3) 624
coagulation of oxalated plasma with cases of, experimental observations on. (21) 1259
hemorrhagic diseases with, (43) 1746
Henoch's, with intussusception, laparotomy, recovery, (12) **1330**
symmetrical area of, on left and zona on right arm, (83) 89
PUTREFACTION with special reference to proteus group, (76) 161
PYELITIS, (124) 870
pregnancy, serology of, (70) 1747
PYELOGRAPHY in diagnosis of surgical diseases of kidney, value of, (66) 1982
PYELOTOMY for removal of kidney calculi, **315**—ab, ***1145**
with incision of anterior wall of kidney pelvis, (133) 637
wound, management of, (131) **1337**
PYEMIA, skin tuberculosis, extensive, with death from, (51) 1666
PYLEPHLEBITIS, suppurative, **236**—ab
PYLOROSPASM, (109) 1335
and stomach ulcer, (83) **1587**
duodenal sound in, (115) 636
with stomach tetany, gastro-enterostomy for, (87) 1922
PYLORUS, exclusion, (83) 482
exclusion, technic for, (149) **1117**, (74) 1927
obstruction and normal stomach of infants, (19) 317
obstruction of jejunum and, due to gall-bladder calculus, (49) 1982
obstruction with comparative study of normal stomach of infants, **74**—ab
permeability of, after gastro-enterostomy, (163) **708**
reflex, significance in true and pseudopyloric stenosis in infants, (2) 1103
spasm of, and congenital pyloric stenosis, (90) 399
stenosis, benign, (67) 1982
stenosis, congenital, in infant with development of hour-glass stomach, (83) 406
stenosis, congenital, operative treatment, (183) 563
stenosis, hypertrophic, congenital, three cases, (59) 1396
stenosis, hypertrophic, in adults, (29) 631
stenosis in infants, (24) **695**
tape instead of cord for tying off, advantages of, (63) 1746
ulcer, chronic, diagnosis and treatment, (112) **1930**
PYORRHEA alveolaris, **2061**
PYORRHEA, alveolar, and organic diseases of nervous system, possible relation between, ***1779**
alveolaris, vaccines for, causes of, (51) 82, (33) 239
PYOSALPINX, drainage in pelvic abscess and, **1485**—ab
PYRAMIDAL tract in albino rat, (6) 1918
PYREXIA, (40) **86**
syphilis, visceral, tertiary, with extreme cachexia and, possibly case of, (29) 1838
PYRAMIDINS, nucleosides, (96) 1327
researches on, (95) 1327
PYURIA and bacilluria, (70) 88
intermittent, due to infection of prostatic utricle, ***1073**

## Q

QUACKERY in England, **611**—ab
publicity best cure for, **674**—E
transferring vitality to women and girls, **382**
triumph of, (36) 324
tuberculosis and, (162) 1198
QUACKS, clearing Texas of, **1905**
QUADRICEPS transplantation in paralysis, (34) **781**
QUADRUPLETS and their mothers, (125) 1673
QUARANTINE in maritime cities of United States, ***194**
maritime, (73) 1982
state and federal, combine, **843**
QUININ, action of, **540**
action on leukocytes, (97) **320**
anaphylaxis to, (59) 944, (174) 1676
and urea hydrochlorid, **147**
and urea hydrochlorid as local anesthetic in anorectal surgery, (132) 1836
deafness following dose of, total, (80) 1922
hypodermic administration of, indications and contra-indications, (62) 944
in lobar and lobular pneumonia, improvements in, **1914**—ab
influence on hemoglobin metabolism in malaria, (4) **401**
injection, subcutaneous, technic for, (60) 1193

## R

RABIES: See Hydrophobia
RACE degeneracy, sources of, (205) 564
RACHICENTESIS, (22) 630
aid to diagnosis, (5) **940**
and epinephrin in epilepsy, (166) 1675
cerebrum hemorrhage, diagnosis by means of, (47) **1741**
for severe headache in infectious diseases, (53) **1034**
needle for, new, ***1204**
with rachitic pelvis, difficulties of, (156) 1271
RACHITIS, (127) **560**, (58) **791**
and osteomalacia, etiology and treatment, (89) **1334**
asthma, chronic, in, (148) 1270
etiology of, and metabolism of calcium, (101) **1403**
in newborn infants, (116) 1404
metabolism of minerals in, (109) 705
phosphorus, action in, (84) 1671
symptomatology of osteomalacia and, in Japan, (66) 1193
tendency to spasmophilia and, in twins, (116) 251
RADIO-ACTIVITY as potent element in mineral waters, overestimation of, (44) 2070
induced, action of, (124) 636
of some wells and thermal springs in Bombay presidency and in Baroda state, (22) 323
RADIOGRAPHY: See Roentgenography
RADIOTHERAPY, (81) 477, (141) 1502, **1650**, (184) 1676, (33) 1745
at St. Joachimstal, (105) **1842**
biochemical reaction to, active principle in, (79) 1193
cancer, (76) 249, (159) 562, (170) 872, (132) 1116, (144) **1197**
cancer, superficial, ***1694**
fibro-angioma, (45) 86
in gynecology, (61) 87, (93) 793
lymphosarcoma, (22) 1664
present status of, (186) 1272
skin diseases, (73) 1035
technic for, (129) 329
tumor of orbit, (69) 1396
uterine fibromas, (89) 1500
uterus fibromas, technic and results in 193 cases, (56) 867
RADISH juice in gall-bladder calculus, (145) 1502
RADIUM and mesothorium treatment of tumors, (107) 90
RADIUM and Roentgen rays, literature on, recent, (27) 700
biologic action of, (98) 1588
in arthritis deformans, **2061**
in surgery, **1574**—ab
in United States, **1882**—E
influence on blood-pressure and blood-count, (152) 1502
Institute, work of, from August, 1911, to December, 1912, (12) **630**
, loaned to practitioners, (149) 870
not causal factor in goiter, **1798**—E
patients treated by, in Royal Infirmary, Edinburgh, during 1912, (11) 1264, (37) 1265
water, (94) 1108
RADIUS dislocation of carpus and, complete, dorsal, traumatic, primary, (85) 1396
fracture of head of, (103) 483
fracture of lower extremity of, longitudinal, ***123**, ***1537**
fracture of ulna with dislocation of head of, (31) 1583
fracture, sprain, of lower end of, and juxta-epiphyseal sprain, **935**—ab
tendovaginitis with stenosis at styloid process of, operative treatment, (196) **488**
RAILWAY hospital associations, (75) **83**
hospital in Mexico, **297**
sanitation, **836**—E
sanitation, committee on, **2002**
street, abulance-car, first, **1726**—C
surgeons meet, **61**, **1552**
RALES, pulmonary, influence of nose on, (78) **864**
RASH: See Eruption
RAT, albino, brain of, at birth, compared with that of fetal pig, (90) 1327
albino, pyramidal tract in, (6) 1918
cell reaction in, (145) 1270
-proof buildings, **1466**—E
stomachs, nematodes in cancer in, (130) **1844**
tumor and roach parasites, establishment of causal relation between, **1077**—E
RATTLESNAKE Venom: See Crotalin
RAYNAUD'S disease, (72) 399
syndrome and syphilis, (8) 785
RAYS: See also Roentgen Rays; Ultraviolet Rays
RAYS, light, absorbed, in internal tuberculosis, (214) 874
light, stored, for internal tuberculosis, (148) 252
REACTION, Abelin's, for salvarsan in urine, **1094**
acetone, in children, clinical availability of, (93) 1195
albumin, comparative merits of, (118) **951**
albumin, dissolved, for stomach cancer, (66) 1666
albumin, in spinal fluid, effect of spinal cord compression on, (50) **324**
albumin, in sputum in tuberculosis, ***440**, **1481**
Cammidge, (150) 92, (146) 1116, (141) 1270
cell, in rats, (145) 1270
chemical, quantitative, for control of positive Wassermann results, (51) 1982
cobra venom, technic of, **1247**, **1657**
cow's milk and human milk, (108) 1195
diagnostic, four, (134) 1038
epiphanin, technic for, (149) 485
Jarisch-Herxheimer, in ear after treatment with salvarsan, (14) 1837
Klausnor, nature of, **1078**—E
luetin, in syphilis, (121) 1264, (146) **1329**, **1560**, ***1855**
lungs, to intrabronchial insufflation of killed virulent pneumococci and of plain sterile bouillon, (42) **1261**
meiostagmin, (134) 1196
meiostagmin and epiphanin, in diagnosis of cancer, (46) **1921**
meiostagmin, technic for, (127) 251, (141) 1674, (115) 1931
of toxins, **1093**
oxydase, (100) 1588
oxydase, in differentiation of acute leukemias, (18) **1924**
oxydase, in placenta, (79) 950
precipitation, in syphilis, (150) 252
precipitin, colloidal protection in certain phases of, possible importance of, (40) 1260
Russo, occurrence of, **1175**
Russo, urinary typhoid test, modification of, and use in 1,000 cases, (44) **1833**
skin, cancer, (34) **159**
REACTION, skin, in exudative diathesis, (95) 1195
skin, under influence of injected serum and colloidal substances, modification of, (104) **1842**
stasis, in arteriosclerosis, (78) **1402**
tuberculin, diagnostic, practical significance of, (44) 696
tuberculin from bovine tubercle bacilli in children with surgical tuberculosis, (92) **1988**
tuberculin, human and bovine, in children, (177) **1753**
tuberculin, in pleura, (141) **408**
tuberculin, local, research on, (51) 948
tuberculin, refractory phase in, (43) 1584
tuberculin salve, (111) 1673
tuberculin, skin, general reaction to, (123) **952**
tuberculin, skin, in children (16) **401**
tuberculin, skin, in prophylaxis of tuberculosis, (133) 706
tuberculin, subcutaneous, for adults, superior reliability of, (157) 92
tuberculin, subsequent history of 1,000 patients who received, (29) 1980
tuberculin, value and efficiency of, (49) 1493
urobilinogen, in urine early in scarlet fever, (129) **1750**
Wassermann, and cobra venom test for syphilis, **1657**
Wassermann, and congenital syphilis, (9) 238
Wassermann, and diagnosis and treatment of syphilis, (80) 1189
Wassermann, and salvarsan in diagnosis and treatment of syphilis in ear, nose and throat affections, (11) 81
Wassermann, details in, (52) 1666
Wassermann, during pregnancy and puerperium, (123) 706
Wassermann, effect of antisyphilitic remedies on, (115) 400
Wassermann, in diabetes mellitus and its relation to acidosis, ***1139**
Wassermann, in internal diseases, (88) 406
Wassermann, in Johns Hopkins Hospital, (27) 1980
Wassermann, in lead poisoning, (10) 1668
Wassermann, in prophylaxis of syphilis in general, (91) 950
Wassermann, in 200 consecutive admissions to Danvers State Hospital, results, (35) 1260
Wassermann, interpretation of results of, (50) 398, ***565**
Wassermann, length of latent period in, (95) 1929
Wassermann, modification of technic, (21) **397**, (67) 1840, (5) **1979**
Wassermann, new and apparently accurate modification of, (13) **1394**
Wassermann, positive, necessity for specific treatment for syphilitics contemplating matrimony with, (103) 1269
Wassermann, positive, with sarcoma, (146) **252**
Wassermann, properties of guinea-pig serum interfering with, (100) 1672
Wassermann, results of 14,000 in Michael Reese Hospital, (60) 160
Wassermann, salvarsan in significance of, value of, **2061**
Wassermann, skin reaction in syphilis in relation to, (119) 636, (120) 1336
Wassermann, sources of error in, (62) **863**, (92) 1114, (123) 1749
Wassermann, value of, (4) 624
Wassermann, what practitioner should know of, (89) 1667
Weil test for syphilis, technic, **1247**
RECIPROCITY act, no appeal from board's decision under, **1257**—M1
and educational standards, **1639**
RECKLINHAUSEN'S disease with hypernephroma, (130) 1270
RECORDS, clinical, hospital, ***1205**
RECTUM, anesthesia in operations on, local, (74) 83
cancer, (70) 867, (51) 1265, (140) 1406
cancer, combined operation for, (55) **1192**
cancer, diagnosis and treatment, (14) 630
cancer, intramural spread of, (3) **1108**
cancer of colon and, irremovable, appendicostomy instead of colostomy for obstruction due to, (3) **555**

RECTUM, cancer of sigmoid flexure and ampulla of, diagnosis, early, (75) **950**
cancer, two patients surviving many years with, simple and successful method of dressing inguinal anus, ***1418**
common diseases of, operation, when required in, without general anesthesia or pain, (69) 1493
elecetricity in diseases of, (74) 1493
hemorrhages, method of controlling, ***1619**
hyperpyrexia in, in children, (104) **1037**
medication by, (59) 557, **770**
plug of mucus and epithelium, intestine stenosis in newborn infant with, (82) 406
polyps, bleeding, in, (34) **1583**
polyps in sigmoid flexure or, (113) 1335
quinin and area hydroehlorid as local anesthetic in surgery of anus and, (132) 1836
section for pelvis abseess in men, (55) **1666**
serotherapy by, occasionally effcctual, (38) 1191, (60) 1266
serum and toxin administered by, action of, (111) 1749
shelf for operations on vagina and, ***1537**
skin flap to interpose between urethra and, for fistula, (36) 166
sliding, in cure of various defects, (62) 1982
strictures, congenital, (60) 632
surgery of anus and, (27) 86
temperature in axilla and, comparison of, (47) **2070**
tuberculosis, surgical, of colon, anal canal and, (44) 480
tumors, melanotic, primary, (56) **701**, (38) **1584**
RECURRENT FEVER: See Relapsing Fever
RECURRENCES, nature and cause of, experimental research on, (180) **1753**
RED CROSS missions and cholera mission, return from Bulgaria, **222**
REFLEX, antagonistic, tibialis anticus, (90) **1748**
bone, diagnostic importance, (64) **404**
nose and throat, causing cough, (28) 861
phenomena from helminths, (103) **794**
pyloric, significance in true and pseudopyloric stenosis in infants, (2) **1103**
uterus, (136) 699
vasomotor, elicited by heat and cold from regions devoid of temperature sensibility, (36, 37) 1832
REFRACTION, analysis of 13,000 cases for errors of, (18) 1577
errors of, and genius, **1562**—ab
errors of, modern treatment, (99) 785
sociologic aspects of errors of, (140) 478, (6) 780
REFRIGERATORS, efficiency of, (28) 1795
REFUSE disposal work, need for more accurate data in, (20) 239
house treatment of, (22) 239
incineration of, (28) 239
materials, (21) 239
municipal, collection of, (23) 239
municipal, disposal by burial method, (25) 239
REID, fetal peritoneal folds of Jannesco, Treves and, relation to Jackson's membrane and Lane's kink, (77) **1396**
RELAPSING FEVER in Darjeeling district, (25) 523
in Persia, (91) 1114
malignant granuloma with, Pel-Ebstein type, (184) 873
transmitted by louse, (49) **1670**, **1647**—E, **2061**
RELIGIOUS matter, practice of medicine as, **472**—Ml
press, nostrum advertising in, and influence of American Medical Association, **1161**—E
RENAUT, Professor, anniversary of, **1009**
RESEARCH, medical, encouragement of, **1244**—C
medical, encouragement of, by payment for contributed articles on scientific subjects, **906**—E
medical, in medical education, value of, **1888**—E
medical, protection of, report of committee for, **2009**
medical, South African institute for, **1472**
RESEARCH, methods of, available in study of medical problems, (23) 556
society and medical school, (67) 477
spirit of, in medicine, (55) **82**
under national insurance act, **1007**
RESORCIN, sensitiveness to, unusual, ***2035**
RESORTS, sanitation at, and vacation season, **1232**—E
RESPIRATION, artificial, devices for, **1182**—ab
artificial, effective, simple devices for, in emergencies, ***1407**
circulation and, **1542**—E
circulation and, in epilepsy, (43) **1833**
exercises, (44) **1497**
exercises, technic for, (41) 1746
in children, influence of artificial pneumothorax on mechanism of, (103) 1335
in children, relation to and influence of normal and abnormal dental arches on, (39) 696
inadequate, in anemia, means for improvement, (134) **1116**
rate in disease of respiratory tract, (123) **407**
types of, in health and in acidosis, (184) 1753
utilization of forces of, in scoliosis, (107) **1335**
RESPIRATORY center, pharmacology of, (53) **1922**
center, salt perfusion of, in frogs and effect of calcium chlorid and potassium chlorid, (57) 1922
interchanges, influence of exclusion of liver on, (82) 249
system, (6) 80
tract, diet errors and disturbances of upper, (89) 399
tract, diphtheria, chronic, (39) **1331**
tract, foreign bodies in esophagus and, (35) 1579, (131) 1932
tract infection, prevention of, in schools, (32) 159
tract, respiration rate in disease of, (123) **407**
tract, tuberculosis of upper, campaign against, **221**
tract, upper, diseases of, in singers and public speakers, treatment, (38) **160**
tract, upper, more familiarity with, plea for, (98) 320
RESPIRAZONE, **1899**—P
RESPONSIBILITY in certain forms of unsoundness of mind, (30) 1400
REST-cures in theory and practice, (74) **88**
in nephritis, **1732**
Nature's remedy, (64) 1742
RESUSCITATION from electric shock, report of committee on, **2009**
from mine gases, committee on, **2002**
RETINA blood-vessels, central, effect of chronic glaucoma on, (35) 1028
changes in adolescents, (24) 397
detachment of, established treatment, results, (1) 780
structure of, in mammals, (138) 870
RETRACTION movements of eyes, acquired, (30) 397
REXALL orderlies and other Rexall products, **1243**—P
RHEOSTAT, light-carrier with lens and, for urethroscopy, ***182**
RHEUMATICIDE, **66**—P
RHEUMATISM, (112) 1263
acute, articular, autotherapy in, (12) 940
acute, articular, consecutive to pseudomembranous pharyngitis, (199) 1754
acute, articular, spinal cord complications in, (94) 1929
acute, inflammatory, salicylic acid in, (8) **1264**
acute, tonsillitis as factor in, (183) **1676**
articular, blood-picture in, (110) 705
articular, chronic, characteristic lymphocytosis in, (63) 1986
children, (21) 700, (59) 1028, (23) 1264
classification and diagnosis, (27) 1920
conditions commonly called, (39) 160
germ, ***1223**
gonorrheal, management of, (64) 241
nodose, (74) **949**
nose as source of infection in acute, (68) 1986
orchitis due to, acute, ***1608**
thorium X in anemia, leukemia and, (82) 1113
REHUMATISM, tuberculous, (6) 629
tuberculous, and chronic arthritis, (53) **1401**
RHINITIS: See also Colds
RHINITIS, acute, anaerobe associated with, ***2033**
atrophic, and ozena, treatment, successful, (93) 1922
atrophic, drainage of accessory sinuses in, (100) 1581
fibrinous, (109) 1328
posterior in infants, (24) **2069**
RHINOLOGISTS, operating-table for, ***1951**
RHINOLOGY, dental aspects of, (16) 1109
laryngology and, in general practice, (104) 399
RHINOPLASTY, finger in, improved technic, (154) 162
nose entirely restored by bone transplantation and, ***728**
with finger, ***730**
RHIZOTOMY, (67) 867
erythomelalgia, (76) 1840
gastric crises in tabes dorsalis, (18) 239, (147) **561**, (62) **1111**
for herpes, mal perforant, hyperchlorhydria and membranous colitis, (58) **167**
for pain and spasticity in spastic paraplegia, ***981**
in spastic paralysis and operation to reduce force of antagonist muscles, (135) 1844
RHODE ISLAND College of Nursing, get rich quick scheme of the, **600**—E
state board April report, **1322**
state board January report, **543**
RHUS poison, experimental study, (18) 1739
RIBS, absence of, congenital, ***895**
boring of, to drain effusion in, (106) **484**
cartilage, transplantation into pedunculated skin flaps, (34) **1325**
wedge resection of, to reduce thorax in lung tuberculosis, (165) **487**
RICE, protein in, protective, destruction of, **227**—C
RICHET has fifth anniversary, **221**
RICIN, antibodies for, (50) 1670
RICKETS: See Rachitis
RIGG'S Disease: See Pyorrhea, Alveolar
RINGER'S solution, pregnancy toxicosis cured with injection of, (80) **793**
RINNÉ, Weber and Schwaback tests, prognostic value of, (82) 477
RIPENING, artificial, of bitter fruits, **601**—E
"ROB," syphilis specific, (43) 1982
ROCHE'S syrup thicol, **1974**—P
ROCKEFELLER Institute and American universities, study at, **1473**
Sanitary Commission for eradication of hookworm, **851**
RODS as color-perceptive organs, (37) 1028
ROENTGEN RAY, action on dog's thymus, (54) 247
action on fetus membranes, (110) 1588
and radium, literature on, recent, (27) 700
and tuberculin in recognition of early lung tuberculosis, (67) 1396
burn, cumulative, (115) 328
burns, severe, (93) **869**
dermatitis, epithelioma developing at site of, **2025**—ab
dermatitis from standpoint of general practitioner, (94) 1268
Diagnosis: See Roentgenoscopy
enhancing action of fluroescent drugs by, (140) 252
exposure of adrenals to, effect on blood-pressure, (150) **1198**
exposure of spleen, leukocytolysis induced by, curative action of, (45) 1985
exposures, shriveling of thymus in six dogs under, (92) 89
generator, improved, (95) 1189
in progressive medicine, (91) 629
injuries, physician convicted for, **533**
liability of employers for injuries from, applied on their demand, **1908**—Ml
measurement of permanent teeth before eruption to provide for early regulation of dental arch, (110) 161
moving pictures, technic for, (120) 870
power, new unit of, (25) **1664**
scar, ulcers of scalp in, operation for, new, (45) **1670**
ROENTGEN RAY, what it should mean to physician, (113) 1667
ROENTGENOGRAM admissible in evidence, **623**—Ml
mediotarsal subluxation as shown by, (33) 81
ROENTGENOGRAPHY, adhesion of pericardium, (50) 631
age determination by, Rotch method of, (147) 479
barium sulphate in, **389**
clinical factors in, (72) 1666
duodenum ulcer, **1374**
duodenum ulcer diagnosed by means of, serial, (87) 1667
foreign bodies in eyeball, (89) 554
heart disease, (96) **698**
instantaneous, from medical standpoint, (59) 1586
kidney and ureter calculus, (75) **550**
seminal ducts and vas deferens by injecting collargol, ***800**
stomach motility in infants studied by, (1) **1576**
technic for, (103) 250 (72) 1586
ROENTGENOSCOPY, (44) 240, (11) 555, (113) 560, (9) 2066
alimentary aberrations, (45, 53) **82**
and illumination of stomach from within, comparison of findings with, (63) 325
aneurysm of abdominal aorta, value of, (119) 1264
appendix, (79) 1586
appendix shows it actively movable, (127) 1501
bladder tumors, (100) 1262
bronchial lymph-nodes, enlarged, (105) 1195
cancer of esophagus, new technic, ***1283**
colon functioning, (102) 1588
digestive tract, important points in, (30) 1186
duodenum disease, (138) 1750
duodenum, technic for, (80) 2072
during irrigation of colon, (85) **793**
epithelioma, **1389**—ab
extraction of bullet under, improved technic for, (103) 1588
findings, deposits of iodipin interfering with, (91) 327
foreign bodies, value of, (70) 83
gastro-intestinal lesions, value of, (83) 864
gastro-intestinal tract in types of so-called functional nervous disorders, value of, **1911**—ab
gastro-intestinal tract, palpation and, (79) 249
heart, (68) 1671
heart, hypertrophy of left, incipient, (58) 1671
heart in exophthalmic goiter, (120) 560
heart valves, topography of, revealed by, (7) **624**
hernias, (80) 1927
infant diseases, (31) 1191
intrathoracic goiter and thymus hyperplasia, ***117**
kidney pelvis, complications from, (144) **1338**
kidneys, technic for, (73) 558
large intestine with tumors in kidney region, (101) 950
lung disease, (26) **480**
lung tuberculosis in infants, (52) 247
malposition of stomach and large intestine, (73) 1189
normal stomach in right decubitus, (53) 1746
primary focus in lung, (73) **1267**
stomach diseases, (120) 699
stomach ulcer, (102) 1403
thorax lesions, (117) 1836
tuberculosis in children, value of, (37) 86, (34) 1926
tuberculosis of hilus in children, (98) 950
ROENTGENOTHERAPY, actinomycosis, (146) **707**
cancer about eye, (46) 1580
cancer cured by mesothorium rays and, **1972**
cancer of breast, primary, inoperable, (67) 1493
department, new, at cancer hospital, **916**
dosage, (151) 252
effectual stimulant in simple anemia in girl of 7, (50) 247
epithelioma, massive doses, (92) 1189
exophthalmic goiter, (68) 1666
genital and breast cancers and myomas, (87) 1841
in gynecology, (109) 90, (92) 249, (93) **406**, (175) 562, (93) 793, (107) 1269

ROENTGENOTHERAPY, intrathoracic goiter and thymus hyperplasia, *117
ovaries in exopthalmic goiter, (113) 1931
palm diseases, (9) 1982
paraplegia in Hodgkin's disease treated by laminectomy and, (141) 1329
sensitized paper for, (69) 1986
skin affections, abuse of, (30) 1665
stomach cancer, extensive exposure of, to permit of, (153) 1752
technic, modified, (119) 1196
thymus enlargement, (48) 247
tuberculosis, (81) 1037
tuberculosis, benefit from, (61) 949
tuberculosis, surgical, (110) 483, (109) 1404
uterus cancer, (140) 92
uterus fibromas, (135) 252, (38) 1496
uterus hemorrhage, (147) 1751, (2) 1831
uterus myomas, (166) 487
uterus myomas, relation between sarcoma and myoma of uterus and its bearing on, (102) 1263
ROGER'S method, modification of, for liver abscess, (26) 165
ROME letter, 141, 534
ROOM overcrowding and lodger evil, (26) 695
ROTCH method of roentgenographic age determination, (147) 479
ROULEAUX formation by human red blood-corpuscles, cause of, (17) 786
ROUND LIGAMENTS, intraperitoneal shortening of, (188) 563
shortening, new method, *1042
ventrosuspension of uterus by, *1701
ROUSSEAU, Jean Jacques, cause of death of, 608
ROUX gastro-jejuno-esophagostomy, modified technic for, (102) 951, (40) 1497
ROYAL Life Insurance Company asking support of physicians, 1656
Medical Society, function of, in medical education, (27) 402
RUBBER GLOVES, (92) 793
defective, (71) 404
moisture collecting in, (87) 169, (194) 1754
torn, infection from, danger of, (75) 1462
RUBIDIUM in Adelholz waters, (73) 1586
von RUCK'S new tuberculoproteins, animal experiments with, *1936
treatment of tuberculosis, U. S. Senate asked to investigate, 1816—ab
RUHEMANN uricometer for uric acid estimation, *44
RUSH, Benjamin, Dr., pioneer investigator of effects of alcohol and tobacco on man, (92) 1581
RUSSIAN Uterine Cancer Commission, report of, (117) 1038
RUSSO REACTION: See Reaction, Russo
RYFKOGEL and Stewart methods in surgery of epithelioma of lip, 926—C

## S

SACCHARIN conference, international, 6
SACCHAROSE, hydrolizing of, (42) 246
test, alimentary, for infants, (36) 1191
SACRUM, abnormal tuft of hair over, and plica neuropathica, (33) 244
tumors, ventral, 314—ab
SAFETY-RAZOR blade as scalpel, 67—C
to cut Thiersch grafts, 1245—C
SAHLI'S pocket sphygmobolometer, *1211
SALICYLATE of iron, (45) 1111
toxicity of, study based on clinical statistics, *957, (43) 1741
SALIVA, enzyme content of, 839—E
glycyltryptophan splitting agent in human, (17) 158
peptolytic power of gastric juice and, special reference to diagnosis of cancer, (19) 158
SALKOWSKI and Kojo urine test for diagnosis of cancer, (80) 1499
SALOL-splitting ferment in breast milk, significance in salol medication, (120) 407
SALPINGITIS, gonorrheal, cytologic examination of pus unreliable for diagnosis, (90) 169
uterine and tubal injection in, *656
SALT fever, (153) 562
from mineral waters, (127) 1196
SALT infusion and venesection in skin disease, (138) 485
infusion, technic for, (150) 1117
injections, subcutaneous, simple and rapid method for administering, (3) 786
perfusion of respiratory center in frogs and effect of calcium chlorid and potassium chlorid, (57) 1922
purgatives, mode of action of, (78) 1747
retention of nitrogen and, in bottle-fed infants, (47) 247
retention of water, nitrogen or, in nephritis, (52) 701
solution, injection of, drop method, (49) 2070
solution, virulent, as virus in manufacturing hog cholera serum, (37) 1920
tetanus treated by intravenous injections of paraldehyd and copious injections of normal, (27) 556
SALVARSAN, Abelen's reaction for, 1094
absorption of arsenic following intramuscular injections of neosalvarsan and, (53) 241
administration, (170) 163, (138) 1329
administration, technic for, (70) 167, (81) 1267, (79) 1499
and nervous system, (61) 1586
anemia, cryptogenetic, pernicious, and, (65) 1666
anemia, pernicious, and, (7) 479, (7) 243
apparatus and technic for intravenous injection of, simple, (103) 478
apparatus, ball-valve for administration of, (50) 1028
apparatus for administration of, new and simple,, *1782
Argyll Robertson pupil becoming normal after mercury and, *664
arsenic poisoning after, (137) 485
asthma and, (104) 1189
brain syphilis, recovery following use of, *1296
by-effects from glass of vials with, (119) 1336
cerebrospinal fluid examined for arsenic following administration of, (69) 241
cerebrospinal fluid in latent syphilis and under, (117) 1269
cerebrum symptoms under, (124) 1673
chorea and, (46) 247
dangers and complications of, (32) 1983
deafness due to, *742
distilled water vs., in syphilis, (19) 1399
ear and, 344—ab, (82) 633, (94) 1114, (169) 1118, (56) 1982
epileptiform attacks after, 1209—ab
experiences with, (5) 1264
exploratory injection of, (123) 1673
eye lesion following two intravenous injections of, but relieved by further use, *1359
fatalities after, (81) 1402, 2026—ab
fatality in Norway, (134) 1932
frambesia, (119) 484, (104) 1397
in abortion of syphilis, (110) 406
in general practice, (40) 1395
in significance of Wassermann reaction, value of, 2061
intoxication, Landry's, paralysis due to, 1301—ab
intravenous injection of, gravity and syringe method for, combined, *824
intravenous injection of, technic and results, (21) 941
Jarisch-Herxheimer reaction in ear after treatment with, (14) 1837
last views on, (122) 478
mercury vs., (91, 115) 242, (202) 874
neosalvarsan and, for pregnant and parturient women and newborn infants, (55) 1111, (43) 1331
neosalvarsan and, in congenital syphilis, (185) 873
neosalvarsan more toxic than, (52) 1985
nephritis, acute, with uremia due to, (84) 629
oily injections of, a warning, *1618
paralysis, general, *429
pharmacologic action of, experimental research on, (102) 170
pregnancy and, 679, (34) 788, (53) 1111
puerperal fever and, (41) 1584
reinfection with syphilis after, (93) 1268
relapses, intravenous administrations in sublimate, hyrgolum, oxycyanid and sublamin in, (81) 864
report on, (141) 707
research on, (172) 872
SALVARSAN, 606 laboratory, 304—P
syphilis, (81) 319, (101) 478, (14) 786, (57) 1332, (25) 1740, (67) 1834, (97) 1929
syphilis, first 1,000 patients treated at Royal Naval Hospital at Plymouth, (13) 699
syphilis, neurorecurrence, nine cases with one fatality, (73) 326
syphilis of central nervous system, (38) 1741
treatment, experimental, (120) 1673
use to oculist and laryngologist, (47) 552
Vincent's angina, 69
Wassermann reaction and, in diagnosis and treatment of syphilis in ear, nose and throat affections, special reference to auditory nerve, (11) 81
SALVE, tuberculin, reaction, (111) 1673
SANATOGEN, 672—E
advertising of, 213—E
SANATORIUM and hospitals for tuberculosis, (3) 1918
benefit in Ireland, (11) 786, (37) 866
company another get-rich-quick scheme, 848—P
in preventing spread of tuberculosis, (112) 90
lung tuberculosis, treatment and after-care at, (28) 480
municipal, for lung diseases, 533
of future, (8) 1025
or home? (89) 477
seaside, for children, (122) 1336
state, for tuberculous versus free specific treatment, (88) 1987
treatment of lung tuberculosis, (14) 323, (43) 696
treatment of lung tuberculosis in civil hospital, (23) 1669
tuberculosis, not a source of danger to neighborhood, (109) 1189
SAND-FLY fever, diagnosis, differentiation from malaria, (24) 323
SAN FRANCISCO, municipal clinic of, (107) 1029
SANITARY condition of Cleveland water-supply, (58) 83
conferences, international, results, (126) 85
control of local milk-supplies through local official agencies, (73) 83
engineer, 148—ME
engineer, qualifications of, for administrative public health work, plea for more general recognition of, (14) 1026
improvement in Cuba as demonstrated by statistical data, (12) 1184
inspection, remedial and constructive, (78) 783
instruction of soldiers in India, (37) 944
organization of army in India in war, (18) 1033
preparations of Austrians in event of war, 918
survey of Lake Michigan along Wisconsin shore, (59) 83
SANITATION and hygiene in school of medicine of Syracuse University, course of, (26) 1492
at resorts, vacation season and, 1232—E
home, (68) 1327, (76) 1982
in Canal Zone, 852, *953
in Canal Zone and sanitation in tropics generally, 1569—ab
in Canal Zone, Trinidad and British Guiana, (7) 1397
in smaller Filipine towns, (2) 1394
in United States navy, advances in, (56) 944
larger aspects of, 1367—E
public, (138) 322
public housekeeping with reference to, (106) 629
public school, and state board of health, (87) 1743
railway, 836—E
rural, 1389—ab
school, (66) 1327, (75) 1982
state and local legislation and what it may accomplish for, 1487—ab
sweatshops, danger to consumers, 1712—E
vs. climate, (58) 863
SAPHENOUS vein, drainage of ascites into, direct, (69) 1333, 1559
SAPONIN, influence of cholesterin and, on action of enzymes, (169) 1198
SAPREMIA, gangrene in status epilepticus with death from, (133) 478
SAPROPHYTIC bacterium in hog pathogenic for man, (81) 326
cocci, behavior of, in regard to Gram's stain, (16) 2066
SARATOGA, mineral springs of, (84) 1107
SARCOMA, (24) 1919
and myoma of uterus, relation between, its bearing on roentgenotherapy of uterine myomas, (102) 1263
biceps muscles, primary, (23) 401
bones, long, surgical treatment, (57) 88
brain, *30
breast, in male, (142) 330
chicken, variations in, due to filterable agent, (42) 626, (55) 1586
femur, with metastasis, mixed toxins for, with epithelioma developing at site of Roentgen-ray dermatitis, 2025—ab
intestines, small, primary, (135) 1337
jaw, upper, (114) 1404
kidney, large kidney calculus associated with, (20) 946
knee, (90) 249
melanotic, due to irritation of pigmented nevi, *341
melanotic, of clitoris, (75) 1747
metastatic, in heart, (135) 1590
muscles, primary, (161) 1118
periosteal, of fibula with unusually rapid though typical complications, (26) 1583
nasopharynx, (41) 240
ovary, in infant, (51) 1192
pleura, (169) 872
rat, immunization against, passive, 2020—ab
rat, transplantable, effect of fulguration and non-carbohydrate diet on, 2021—ab
sclera, rarity of, *1766
serum, 70
spleen, primary, (38) 81
stomach, resection of, successful, (125) 329
thyroid, coexisting infection and, 316—ab, (23) 1325
tunica vaginalis, (100) 869
uterus, (55) 1028, (29) 1264
Wassermann reaction, positive, with, (146) 252
SARCOSPORIDIA, granular substance of, in non-malignant epithelial tumors, (45) 1034
SARSAPARILLA fetish, what pharmacist thinks of, 1975—P
SCABIES, (215) 874
transmission from horse to man, (137) 1844
SCALP and skin diseases, experiences in Tripoli with, (207) 1754
defects of newborn infant, (125) 706
development limited to skull and, arrest of, (62) 1193
ulcers of, in Roentgen-ray scar, operation for, new, (45) 1670
SCANDINAVIAN countries, diabetes mellitus in, prevalence of, (206) 874
SCAPHOID bone, pure dislocation of articulation of astragalus with, 12th case on record, (106) 705
carpal, fracture of, with luxation of semilunar, *1536
carpal, fracture of, with palpable deformity, *1536
scapula and syndrome, connection with syphilis in ascendants, (100) 1328
scapula as sign of physical inferiority, (128) 329
scapula, normal variation in man, (22) 158
SCAPULA, cracking sound, (48) 1839
inchondroma, (86) 1922
neuroblastoma, recurrent, *337
SCARLET FEVER, (59) 553, (155) 871, (96) 1269
and angina, (81) 406
appendicitis in, (86) 1334
complications, (33) 1926
ear complications in, (91) 1587
epidemiology, (209) 564
etiology, research on, negative to date, (100) 1930
in Holland, 379
in puerperium, hemiplegia from, (52) 324
inclusion bodies in, (2) 479, 759—E, (82) 1402, (81) 1587, (115) 1589
is desquamatory stage contagious? (115) 698
liver insufficiency in, (71) 1986
lung complications of, (55) 631, (35) 1191
necrosis of vertebrae following, (12) 164

SCARLET FEVER, spread of, (16) **941**
transmission to animals, experiments on, (67) 248, (22) **1578**
uremia due to, with blindness, (54) **631**
urobilinogen reaction in urine early in, (112) 1115, (129) **1750**
SCARLET RED, action on roentgenized skin, (27) 865
and amidoazotoluol, elinical value of, (70) 1402
as dressing after radical mastoid operation, (24) 1399
in ulcer of stomach and duodenum, **1915**—ab
thickening of Thiersch grafts, excessive, due to component of, (28) **1980**
SCHAFER'S vaccines, do untoward results follow use of phylacogens or, **308**
SCHAUDINN, budding and other changes described by, for entamoeba histolytica seen in a race of E. tetragena, ***1220**
SCHISTOSOMA hematobia, (8) 85
SCHLATTER'S disease of tibia, (62) **702**
SCHMIDT'S antimeristem for cancer, **766**—P
meat digestion test, (60) **1035**
nuclei test of pancreas functioning, (142) **1117**
SCHOLARSHIPS for medical students entering army, **1896**
in medicine, (50) 82
SCHOOL: See also Colleges, Education, Medical; University
SCHOOL, children, Colorado method for examination and care of, (10) 780, (67) 863
clinics, (102) 1923
correspondence, for nurses, **1712**—E
diphtheria epidemics in, (96) **634**
disinfection of, **388**—C, (45) 782
divided, **931**—ab
for cripples in Cleveland, management, maintenance and efficiency of, (12) 780
fresh air in hospitals and, prophylactic and therapeutic value of, including sunlight therapy, (42) **1982**
health organization in, **779**—ab
health supervision of, state provisions for, **1904**—ME
Hygiene, International Congress on, **1237**
hygienic, explanation of provision to secure, **1256**—Ml
life, influence on fitness for military service, **299**
lunches in elementary and secondary schools, relative physical advantages of, (25) 1492
medical, academic, relation to medical community, (18) 1919
medical, and research society, (67) 477
medical, army, commencement at, **1893**
medical, children's hospital and the public, (23) 860
medical, improvement in, **690**—ab
medical inspection, (99) 629, (73) 697, **1322**—ab, (41) 1395, (22) 1980, **1973**
medical inspection and dental caries, (57) 696
medical inspection of country, plan for, (107) 629
medical inspection of, from standpoint of educator, (31) 159
medical inspection of, from viewpoint of health officer, (30) 159
medical inspection of, function of, in checking retardation, (84) 319
medical inspection of, in rural communities, **70**—ME, (107) 629
medical inspection of, in South Carolina, (148) 1329
medical inspection of, what not to expect at this time of, (45) 318
medical, organization of, **774**—ab, (63) 1326
medical, Paris, poverty of, **1239**
medical, pioneer, in Illinois, (52) 398
medical supervision of, as state wide proposition, (83) 319
medical, system of intercommunication arranged among London hospitals and, **915**
open-air, value in fighting tuberculosis, **1090**—ab, (21) 1980
open-window in, (13) **1919**
public, need of psychologic clinics in connection with, (27) 1260
SCHOOL sanitation, (66) 1327, (75) 1982
sanitation and state board of health, (87) 1743
seating and scoliosis, (93) 629
single session each day in, **1807**
teeth hygiene in, (115) 794
tuberculosis and, (207) 564
ventilation, experiment in, (23) 1831
SCHWABACK, Weber and Rinné tests, prognostic value of, (82) 477
SCIATIC NERVE, blocking, (103) **951**
blocking, technic for, (142) 1406
disposition of femoral artery and, anatomic considerations of, (23) 1191
SCIATICA, detection of simulation in alleged, (105) **328**
epidural injections in, (133) **560**
extension in treatment, (115) **1842**
treatment, (103) 161
SCIENCE and agricultural experiment stations, **1156**—E
and newspaper sensationalism, **211**—E
SCISSORS, iris, new, ***1226**
SCLERA decompression for intra-ocular tension, (30) 781
sarcoma of, rarity of, ***1766**
SCLEREMA adiposum, (128) 1030
SCLEROCORNEAL margin, dermoid at, two cases, (16) 1739
SCLERODERMA inusitatum, (73) 944
with subcutaneous calcareous deposits, (21) 1399
SCLEROMA in Russia, (127) 329
SCLEROSIS: See also Arterics, Diseases of
SCLEROSIS, amyotrophic lateral, and epilepsy, **1319**
coronary, **203**—T
SCOLIOSIS, Abbott's method of correction, (79) 1671, (102) 1672
Abbott's method of correction, necessity for modifying technic, (49) 247, (28) 1191
apparatus for exercising back in, (70) 791
congenital, (7) 859, (105) 1403, (64) 1498, (18) **1664**
correction of, (67) 1986
correction of fixed types of, complicated by visceral derangements, **1817**—ab
diagnosis and treatment, (15) 1744
from malformation of fifth lumbar vertebra, treatment, (61) **1498**
measurement of, (42) **1497**
normal positions of spine in relation to, **1817**—ab
plaster jackets, corrective, for, (60) 1580
respiration in, utilization of forces of, (107) **1335**
rotation treatment, **1817**—ab
school seating in relation to, (93) 629, (44) 782
sciatic, condition frequently called, (3) **1491**
symposium on, **1817**—ab
treatment, (44) 160, (17) 1264, (83) 1841
SCOLIOSOMETER for measurement of scoliosis, (42) **1497**
SCOPOLAMIN for morphin addiction, disadvantages of use of, (89) **1748**
in general anesthesia, danger of, (112) **1588**
in labor, **1814**
-pantopon "exploratory twilight sleep", unreliability and by-effects of, (157) 1271
SCORBUTUS, infantile, (37) 1034, (38) **1331**
infantile, blood and bone marrow changes in, (57) **1498**
infantile, early forms of, (136) **1116**
infantile, in infant fed on pasteurized cow's milk, (33) 1395
infantile, in school children, (52) **791**
infantile, in which swollen joints resembled acute articular rheumatism, ***279**
SCOTOMA, scintillating, associated with migraine, (91) 864
SCREW driver, safety, and screws for Lane plates, (79) 83
worm in nose, (114) 1667
SCROFULA: See Tuberculosis, Lymph Nodes
SCROTUM, plastic operation providing new outer covering for penis and, (73) 867
SCURVY: See Scorbutus
SEAL, Pribilof fur, spermiogenesis of, (9) 1918
SEA-SHORE from therapeutic standpoint, (133) **1116**
SEA-SHORE sanatorium for children, (122) 1336
treatment of osteomyelitis, (4) **1491**
SEASICK remedy, Mothersill's, **1319**
SEASICKNESS, Girard treatment for, **1903**
SEA-URCHIN, rate of oxidations in unfertilized egg of, (41) 1665
SEA-WATER treatment, literature on, **69**
SEARS, ROEBUCK & CO., and patent medicine advertising, **134**—E, **144**—P
SEATTLE SUN and quacks, **1809**—P
SEBORRHEA, lip, lower, its relationship to epithelioma, (102) **698**
SECRECY, medical, binding nature of, **1720**
SECRETARIES, county, pleasures of, (65) 398
good, should be given life sentences, **57**—E
of surgical, gynecologic and obstetric societies, **540**
SECRETIONS, breast and ovary, internal, interrelations between, (124) **706**
glandular, toxic action of, as factor in syndrome of ileus, (61) 1193
internal, and dermatology, (1) **1982**
internal, and glycosuria, (137) 1932
internal, has breast an? (100) 950
internal, how far have we got with clinical use of? (58) 1982
internal, influence of ovary as organ of, (6) **1324**
internal, influence on dentition, (101) 559
internal, influence on mind, (130) 91
internal, of testicles, experimental research on, (203) 1754
milk, physiology of, (50) 1264
stomach, **1305**—E
stomach, depressing influence of emotions on, (66) **1986**
stomach during digestion, research on, (158) 1198
stomach motility and, influence of electric stimuli on, (89) 1402
thyroid, perverted, and exophthalmic goiter, high-frequency electricity in, (1) **694**
vagina, puerperal, streptococci in, (191) 1754
SECTARIANISM, medical, ***331, 539**—C, (102) 629
SECTION of Spinal Nerve Roots: See Rhizotomy
SECTIONS, celloidin, rapid method for, ***363**
SEDIMENTATION and agglutination and their bearing on water storage, (22) 786
SELECT Committee on Patent Medicines, 1466—E, 1477—P
SELENIUM vanadian, in cancer, (97) 399
SEMINAL calculi simulating nephrolithiasis, (98) 1262
ducts, roentgenography of vas deferens and, by injecting collargol, ***801**
emissions, involuntary, and impotency, (64) 1028
SEMON, Sir Felix, work and influence on laryngology, (14) 1109, (23) 1399
SENATOR from Oregon, Dr. Harry Lane selected as, **212**—E
SENILITY again deferred, **206**—E
arterial, premature, (77) 319
functional psychoses of, (85) 864
premature, and ateleiosis, (15) 699
SENSORY changes in diseases of nervous system, diagnostic value of, (10) 1744
disturbances, (19) 630
ganglia of birds, histology of, (7) 474
SEPSIS: See Septicemia
SEPTIC TANKS and disposal of sewage in general, (162) 1502
and sewage-disposal plants, literature on, **1481**
SEPTICEMIA, acute, due to bacillus pyocyaneus, (1) **1329**, (11) 1923
bacillus, proteus group, isolated from case of, (14) **2068**
chronic, influence on eye disease, (19) 1983
diphtheria, (5) 1324
gonococcus, fatal case, (109) 242
in infectious diseases, frequency of, (155) **1118**
meningococcus, and meningitis in young man with joint and visceral lesions from congenital syphilis, (34) 947
SEPTICEMIA pneumococcus, from gallbladder calculus, (118) **1115**
Puerperal: See Puerperal Infection
secondary, in convalescence from typhoid, (96) **169**
tetragenus, (80) **1987**
vaccine therapy of, (14) 1744
SEPTICOPYEMIA, acute, (36) 1395
SEPTUM: See Nose, Septum
SERO-AGGLUTINATION of pneumobacillus, (78) 1499
SERO-ANAPHYLAXIS and special forms of tuberculosis, (50) 701
SERODIAGNOSIS, Abderhalden technic, (63) **949**
Abderhalden's, for dementia praecox, technic of, **1727**
cancer, (122) 484, (69) 867, (120) **1116**, (52) **1585**, (86) 1586, (97) 1588, (56) **1839**, (103) **1842**, (31) 2069
chemicals simulating, (154) 1751
dementia praecox and paralysis, (135) 560
echinococcosis, (101) 869
echinococcosis and helminthiasis in general (162) 1271
Emery technic, 820 cases of, on 461 patients, (128) 401
goiter, (138) 1674
gonococcus vulvovaginitis, (4) 1324
gonorrhea, (75) **697**, (53) 398, (69) **1666**
leprosy, (123) 1501
pneumococcus infection, (197) 1754
pregnancy, **309**, (180) **562**, (87) 868, (107) **951**, (131) 1116, (88) **1396**, (69, 86) **1586**, (193) **1754**, (56) **1839**, (91) **1841**, (114) 1931, ***1947**
pregnancy and tumors in genitalia, (87) **950**
pregnancy dermatitis, (33) **2069**
pregnancy, dialysis technic for, unreliability of, (111) 1335
pregnancy, history of, (74) 1586
streptococcus, gonococcus and other bacteria in infective deforming arthritis and arthritis deformans, ***1208**
syphilis, (158) 92, (79) 404, (143) 870, (64) 949, **1016**, (57) 1035, (116) 1335, (101) 1672
syphilis applied to cerebrospinal fluid, (114) 1335
syphilis at ophthalmic clinic, (98) 1334
syphilis, technic for, (88) 249, (139) 1674
syphilis with cadaver serum, (17) 1259
tabes and general paralysis, atypical forms of, considered in light of, (71) 241
tuberculosis, surgical, (91) 559, (133) 560
tuberculosis, value of, (40) 402
tumors, (129) 485, (90) **1841**
SEROLOGY, absorption and digestion in light of, (140) 707, (149) 1270
of pregnancy pyelitis, (70) 1747
SEROTHERAPY: See also Autoserotherapy
SEROTHERAPY and vaccine therapy, (4) 1668
and vaccine therapy defined, ***1459**
antitoxin in blood of diphtheria patients after, (76) 326
cerebrospinal meningitis, (74) **783**, (27) **1578**, (170) 1676
drug and, combined in experimental pneumococcus infection, (125) 1116
eclampsia, (151, 152) **1117**
erysipelas, (90) 1587
hemopoietic, (79) 1987
melena neonatorum, (139) **485**
meningococcus, of gonorrheal arthritis, (36) **1984**
nephritis, (122) **251**
pemphigus, malignant, cured by intravenous injection of 20 c.c. fresh human, (157) **1752**
pneumonia, (4) **80**
principles of, (106) 1189
rectal, inefficiency of, (64) 867
rectal, occasionally effectual, (38) 1191, (60) 1266
skin diseases, (66) **167**
small-pox, **380**
tetanus after symptoms have developed, ***363**
tetanus, prophylaxis, (111) 794, (114) **1196**
tetanus, successful, incubation fifteen days, (116) 794

SEROTHERAPY, tuberculosis, (143) 1030, (138) 1116, (29) 1395, (61) 1840
typhoid, efficacy in pure cases, (40) 1331
vomiting of pregnancy, (45) **403**, (154) 1117
woody phlegmon cured under, (104) 1195
SERUM, action of, on toxins of aqueous extracts of organs, (110) 90
action of plasma and, on certain objects used in biological test for epinephrin, comparison, (35) **626**
action of toxin and, administered by rectum, (111) 1749
anaphylaxis, (112) **1750**
and colloidal substances, injected, skin reaction under influence of, modification of, (104) **1842**
animal, in chronic purpura, (3) 624
animal, simple, in surgery and therapeutics, (63) **1193**
antidiphthericum and antidiphtheric globulins, **45, 1074**
antigonococcus, **1227**
antimeningitis, subdural injection in cerebrospinal epidemic meningitis, accidents following, ***1937**
antimeningococcus, **1074**
antimeningococcus, in gonorrheal urethritis, (55) **247**
antistaphylococcic, polyvalent, potent, preparation and employment of, ***1070**
antistreptococcus, **1227**
antistreptococcus, used locally in vaccinal ulcers, (7) **940**
antitetanic, in tetanus, (81) 1262
Blood: See Blood Serum
cancer, inhibition of hemolysis by, (48) **627**
cholera, hog, virulent salt solution as virus in manufacturing, (37) 1920
destruction of epinephrin and constrictor substances of, by oxygenation in blood-vessel walls, (96) 319
ferments in, of insane, (110) 1335
fetal, to cause onset of labor, (75) **1107**
guinea-pig, properties of, interfering with Wassermann reaction, (100) 1672
guinea-pig, toxic action of, in contact with kaolin, (30) 946
horse, in hemorrhagic disease of newborn infant, ***1154**
horse, hemorrhage controlled by local application of, ***721**
horse, normal, **1227**
horse, rabbit, rat and ox, compared to their content of various proteins in normal and fasting condition, (75) 161
infected wounds at time of injury treated with use of iodin and, (63) 783
meningitis, danger in, possible source of, ***1348**
plague, antitoxic, preparation of, (27) **1745**
proteins, blood relationship of animals as displayed in composition of, (75) 161
sarcoma, **70**
vaccines are given in infections instead of, **1727**
SEWAGE and garbage disposal in Germany, (44) 1395
disposal, country water supply and, **540**
disposal in general, and septic tanks, (162) 1502
disposal plants and septic tank, literature on, **1481**
pollution of Great Lakes, (66) 863
SEWER-GAS and its effects, articles on, **1977**
SEX apparatus and ear, nose and throat, (112) 1030
bearing on operation in appendicitis, (27) 1033
characteristics, secondary, present status of knowledge of, (60) **949**
development in infant, abnormal, probably due to tumor of pineal gland, (25) 1260
disorders and disease of nervous system, (119) 1328
disorders in male, (64) 1028
emotion of, and color sense, (2) 85, (70) 399
ethics, medical orientation, (106) 478
fetishism, (122) 1196
function, elements of abnormality and perversion of, (60) 477
hygiene and prophylaxis, education in, **1231**—E
SEX hygiene, instruction in, (57) 1395
instruction in school, ***357**
laxity, misinformation on, **291**—E
organs, infantile, stimulation of development of, **1319**
organs, intestine disturbances from, (40) 557
physiology of sexual glands, (181) 1272
powers of resistance of, in infancy, **1010**
predetermination of, (97) 328, **539**
problems of today, (79) 1922
proportion of males and females born, (137) **1337, 1902**
SEXOLOGY, medical society for, work outlined for, (90) 1929
SHAMPOOS, dry, dangers from, **1719**
SHARPLESS digestible bread, **1379**—C
SHEEP-SHEARS, modified, in surgery, ***1784**
SHELF for rectum and vagina operations, ***1537**
SHIPS, emergency lighting plant for, **1957**
hygiene of, below decks, (108) 1397
SHOCK, (59) 87, (15) 630
during anesthesia, (10) 1923
management of, (115) 1397
surgical, nature of, treatment, (72) 697
surgical, pituitary extract in, (35) 1740
theories and experimental data to date, (14) **475**
therapy of, experimental study, **238**—ab
SHOULDER and arm paralysis of poliomyelitis, (67) 1580
-joints, ankylosis of vertebrae, hip and, (87) **1987**
-joint dislocation, reduction of, procedure for, (6) 1923
-joint dislocation, unreduced, old, reduction of, (20) 625
-joint subluxation of, in infants and children, (31) 1745
SIGMOID, adhesion, **150**—ab
diverticulitis, **1101**—ab
flexure, cancer of ampulla of rectum and, diagnosis of, early, (75) **950**
flexure, kinking of, (128) 1843
flexure, movable and abnormally long, (104) 635
flexure, polyps in rectum or, (113) 1335
flexure, volvulus of, (153) 1329
SIGN, leg, new, (72) **326**
SILK, fine, for ligature and suture material, ***1119**
ligaments, intra-articular, in paralytic joints of poliomyelitis anterior, (1) **1491**
tendons, implantation of, in residual paralysis of poliomyelitis, results from, (2) 1491
SILVER foil in surgery, ***1119**
nitrate, applied within eustachian tube for tinnitus, (19) 81
nitrate, gonorrheal conjunctivitis aborted by two per cent, solution of, (91) 1494
nitrate prostatic injections, effect of, **1656**
SIMS, MARION, (136) **706**, (85) 950
and southern gynecologists, **285**—E
SINGULTUS: See Hiccup
SINUSES, accessory, affections of ear, throat, nose and, conservation in treating, (100) 320
accessory, cancer of nose and, nine operative cases, (71) 1927
accessory, disease, visual symptoms of, (91) 554, (94) 1923
accessory, drainage in atrophic rhinitis, (100) 1581
accessory, eye disturbances due to disease of nose and, (99) 1667
accessory, infections of, spirochete associated with, ***1781**
accessory, nose disease of, surgical management, (134) 162
accessory, nose, inflammatory affections of, in children, (37) **696**
bone abscesses and, tuberculous, tuberculin in, (75) **1493**
cavernosus, anatomy of, (66) 867
cavernosus, of skull, injury of, treatment, (39) 1497
frontal, operation, what is best type of radical, (12) 81
lateral, septic thrombosis of left, and internal jugular vein, serous otitic meningitis with, operation for, (8) 479
maxillary, needle puncture of, diagnostic and therapeutic value of, (98) 1581
posterior, diseases of, and painful conditions of ear, (86) 399
SINUSES, sphenoid, exploratory opening of, (102) 1581
sphenoidal, ethmoidal, maxillary and frontal, analyses of 76 consecutive operations on, (18) 865
Thrombosis: See Thrombosis, Sinus
SINUSITIS, (34) 1579
frontal, extradural abscess complicating, (108) 1328
frontal, with suppuration, (78) 1927
treatment, (121) 1196
SITTING-OUT bag for fresh-air classes, new, (75) 242
SKIN, actinic sunlight in chronic lesions of, (40) 1187
action on blood-supply of brain by heat stimuli applied to, (45) 2070
and scalp diseases, experiences in Tripoli with, (207) 1754
autolysates of, of animals yielding vaccine, immunizing action of, (144) 92
Cancer: See epithelioma
corrosion from benzin, (69) 949
dietetics and diseases of, (96) **1334**
digestive disturbances as factor in diseases of, (163) 1502, (8) 1582
discoloration of, from gold jewelry, **1094**
disease and cardiovascular disturbances, (15) 1923
disease and cleanliness in institutions **1656**
disease, blood-borne, pathogenesis of, (159) **1198**
electrical operative treatments for diseases of mucous membrane and, (41) 1110
flaps, pedunculated, from chest to cover defects in fingers, (98) 704
flaps to interpose between urethra and rectum for fistula, (36) 166
germs in, pathogenic, distribution of, (46) 166
grafting, amniotic membranes for, ***973**, (109) **1029, 1977**
grafting operation for cancer of breast, developments in, ***416**
grafting without dressings, ***1526**
industrial diseases of, exclusive of so-called trade eczemas, (153) 243
phenomena sometimes associated with heart disease, Osler's sign and, (21) 1924
pigmented, areas on, and pediculus, connection between, (166) 1198
radiotherapy of disease of, (73) 1035
rare diseases of, (4) **1031**
reaction in cancer, (34) **159**
reaction in exudation diathesis, (95) 1195
reaction in syphilis, (119) 636
reaction in syphilis, relation to Wasserman reaction, (120) 1336
reaction, luetin, in diagnosing syphilis, (146) **1329**
reaction to tuberculin in children, (16) **401**
reaction under influence of injected serum and colloidal substances, modification of, (104) **1842**
roentgenized, action of scarlet red on, (27) 865
roentgenotherapy of diseases of, abuse of, (30) 1665
serotherapy of diseases of, (66) 167
sterilization, iodin for, (142) 1197
sterilization with benzin, hematuria five to ten days after, (96) 1749
sterilization with benzin-iodin and iodin methods, (42) **1028**
syphilis of, acquired, classification and nomenclature of, (98) 1328
tuberculin test, general reaction to, (123) **952**
tuberculosis, diagnosis, (34) 317
tuberculosis, extensive, with death from pyemia, (51) 1666
tumors, lymphoid, multiple, (101) 1328
venesection plus salt infusion in disease of, (138) 485
SKULL: See also Brain
SKULL, arrest of development limited to scalp and, (62) 1193
atrophy of optic nerve with steeple and pointed, (104) 328
bone or periosteum flap for gap in dura or, (83) 168
bulging or depression of, congenital, with spina bifida and encephalocele, (132) 1270
defects in dura mater and, to cover, (132) 637
depressions, senile, (174) 488
development, research on, (164) 1753
fracture, air in cerebrum ventricles following, **1024**—ab
SKULL fractures, depressed, of newborn infant, immediate treatment, (13) 694, (40) 1326
gunshot wounds, treatment, (116) 328
injury of venous sinuses of, treatment, (39) 1497
ivory exostosis of, (66) 319
of Descartes, **532**
specimens in research work on, request for, **1814**
surgery, emergency, **1487**—ab
sutures, gaping of, from brain tumor, (76) 867
SLAUGHTER-HOUSE in India, sanitary requirements in construction of, (24) **1669**
SLEEPINESS, (67) 88
SLEEPING cars, steel, ventilation of, (20) **397**
SICKNESS: See Trypanosomiasis
SLUDER method of tonsillectomy, (58) 398
SMALL-POX, **919**—ab, (49) 1107
abortive types of, (20) 1664
and cholera among Turkish refugees, **222**
diagnosis and vaccination, series of cases, (47) 160
eruption in, rare, and probably undescribed, (29) **165**
holds liner at quarantine, **1472**
in Hamilton, Canada, **607**
iodin for, (17) **164**
serotherapy in, **380**
vaccination and, (57) 782
SMITH operation and cataract, (64) 1396
operation for extraction of lens in capsule, (62) 160
SMITH, Theobald, on vaccines, **1646**—E
SMOKE, effects on health and comfort, (61) 1493
SNAKE bite, permanganate for, (21) **323**
heart, pharmacology of, (55) 1922
SNARE, tonsil guillotine and, new, ***650**
tonsil, new, ***2043**
SNUFF habits and tobacco-chewing among children, **1561**—ab
SOCIAL ethics, teaching of, relation to conservation of children, (24) 1492
Evil: See Gonorrhea; Prostitution; Syphilis; Venereal Diseases
influence of impure air, **1090**—ab
legislation and physician, (57) 1107
organism, disease of, (121) 85
service adopted by churches, program of, **1001**—E
service and public health, **1025**—ab
SOCIETY, different civilization levels in modern, (25) 159
local, what it can do in combating nostrum evil, **688**—C
of Clinical Surgery meets in New Orleans, **1085**
surgical, gynecologic and obstetric, secretaries of, **540**
SOCKS for soldiers, (104) 478
SODIUM and novocain injection for sciatica, (133) **560**
and potassium in living tissues, (42) 866
bicarbonate, elimination of chlorids in simple polyuria and influence of, (58) 1402
bicarbonate, influence on acetonuria, experimental research on, (125) 251
chlorid, influence on hydrochloric acid secretion by stomach, (90) **477**
fluorid, articles on, **1381**
fluorid, attenuated tubercle bacilli in tuberculosis treated with, (45) **1497**
glycerophosphate, **442**
hyposulphite, therapeutic effects of, **390**
iodid in small doses, sedative action of, (57) 324
nitrite poisoning, (150) 330
salicylate, absorption of, (70) 404
salicylate, commercial, purity of, ***1137**
salicylate, commercial use of, **229**
salts for melancholia, (21) 2069
SOLAR PLEXUS, stretching of, for gastric crises of tabes, (80) 1840
SOLDIERS, effects of beerless exchange on morals and health of, (42) **862**
ex-confederate, constitutionality of law imposing license tax and exempting, **1256**—Ml
sick and wounded, in war, relief of, (13, 16, 20) 1264
SOMATIC delusions, somatic sources of, (68) 399

SOMITES, head, prootic, development of eye muscles and, in chelydra serpentina, (4) 474
SOMNOFORM inhaler, new, (6) 1668
SOOT deposit, daily, in Indianapolis, estimation, (14) 1184
SORES, Bagdad, showing apparently long incubation period, (28) 1669
SOUL, biology of, (162) 1118
SOUND, bone conduction of, with normal hearing, (111) 635
duodenum, (126) 407
duodenum, in pylorospasm, (115) 636
SOUTH African Institute for Medical Research, **1472**
SOUTH CAROLINA medical news, **530, 759, 1372**
state board June report, **619**
SOUTH DAKOTA medical news, **530, 1803**
state board January report, **1906**
SOUTH, medicine in, history of, (69) 783
SPANGLER'S rattlesnake-venom for epilepsy, **1001**—E
SPASM of bronchial musculature, dyspnea from, in spasmophilic diathesis, (131) 1196
SPASMOPHILIA in adults (182) **1753**
tendency to rachitis and, in twins, (116) 251
with repeated absences, case of, (44) 1187
SPEAKERS' Bureau, educational work of, **1095**—ME
SPECIALISM, dangers of, (35) 781
in general hospital, (25) 1980
pros and cons of, (9) 1324
SPECIALIST, **453**—E
advertising, on Pacific coast, **1809**—P
in relation to general medicine, (27) 2067
making of, (37) 1492
making of, with particular reference to oculists and optometrists, (99) 1835
physician in relation to, (23) 780
SPECIMENS, anatomic, preservation of, improved technic for, (110) **1931**
anatomic, preservation of, in sugar solutions, (54) **1585**
in research work on skull, request for, **1814**
SPECTACLES: See Glasses
SPECULUM, improvements in, (130) 1328
SPEECH Defects: See also Stammering and Stuttering
SPEECH defects, (72) 477, (44) 862, (72) 1396
disorder, treatment, (25) **552**
physiology of, (67) 1266
without larynx, ***1601**
SPENGLER'S rapid precipitation method for estimation of approximate immunity against tuberculosis, modification of, (34) 1400
SPERMATIC CORD, torsion of, ***1783**
SPERMIOGENESIS of Pribilof fur seal, (9) 1918
SPHINGOMYELIN, components of, (19) 2066
SPHYGMOBOLOMETER and energometer, (107) 1749
pocket, Sahli's, ***1211**
technic and findings, (90) 1402
SPHYGMAMANOMETER for determining persisting pulse in asphyxia neonatorum, (55) **1401**
in examinations for life insurance, additional report on, (76) 83
in general practice, (75) 1666
SPICA, short, in hip-joint disease, (63) 1742
SPIDER'S web and malaria, (18) 1837
SPINA BIFIDA, (86) 161
congenital bulging or depression of skull with encephalocele and, (132) 1270
fascia graft to correct, (33) 1191
influence on prolapse of genitalia, (59) 398
occulta, (1) 1324
unusual forms of, two, (12) **1190**
SPINAL CORD changes with progressive atrophy of spinal muscles, (90) 1672
complications in acute articular rheumatism, (94) 1929
compression, effect on albumin reaction in spinal fluid, (50) **324**
concussion of, and allied conditions, experimental investigation of, (13) **1983**
decompression, for meningomyelitis, **1392**—ab
degeneration, combined, subacute, (99) **698**
SPINAL CORD disease and lead poisoning, (72) **949**
effusion of blood in, from indirect trauma, (140) 330
irrigation of, as preliminary to introduction of Flexner's antimeningitic serum, ***828**
lipomatosis of, sub-dural, diffuse, in infants, (29) 1665
Puncture: See Rachicentesis
section of anterolateral column, for relief of pain due to metastases pressing on nerve plexuses, ***267**
surgery of, (106) 1500
termination of, **465**
tumor, **1391**—ab
tumor, diagnosis, (55) 2070
tumor, extradural, removal of, **1819**—ab
tumor, intradural, removal, (51) 1028
tumor, intrathecal, removed from lumbar region of, (7) 1743
tumor with intermittent symptoms, (136) 1590
SPINE, access to, through peritoneum, (98) 869
ankylosis of, (78) 553, (87) **1987**
anomalies in orthostatic albuminuria, correction of, (138) 1270.
intestines compressed between gravid uterus and, (189) 563
Lateral Curvature of: See Scoliosis
lesion, cranium injury with, (63) 398
metastasis in meninges and, simulating cerebral syphilis in course of previously latent gastric cancer, (41) 557
normal positions of, relation to scoliosis, **1817**—ab
osteomyelitis of, eight cases, (42) 86
paralysis, flaccid, which attacked Louis Pasteur in early maturity and similarity to attack of acute epidemic poliomyelitis, (64) 1922
Pott's disease, abscesses in, (63) **1498**
Pott's disease, treatment, analysis of 116 cases, (28) **245**
surgery, (142) 1329
surgery, experiences in, (82) **783**
syphilitic lesions in, (121) 952
tuberculosis of, plaster-of-Paris in mechanical treatment of, (42) 480
typhoid, pathology of, (11) 940
vertebra, fracture of, laminectomy for, with necropsy, (149) 638
vertebra, necrosis of, following scarlet fever, (12) 164
SPIROCHAETA didelphis, (105) 170
pallida, cultivation of, (32) **476**
pallida in brain in general paralysis, (43) **626, 1002**—E, (61) **1188,** (28) 1583, (75) **1586, 1650**
pallida in cerebrospinal fluid, demonstration of, ***108**
SPIROCHETES and trypanosomes are parasites of lymph rather than of blood, (59) **1986**
antimony in trypanosome disease and, (86) 1113
associated with infections of accessory sinuses, ***1781**
in cultures, resistance of, to action of chemical and physical agents, (67) **1188**
in urine with syphilitic nephritis, (109) 406
intracellular parasite developing into, (2) 243
SPIROCHETOSIS, (58) **696**
SPLANCHNOPTOSIS: See also Gastroptosis; Gastroenteroptosis; Ptosis
SPLANCHNOPTOSIS and arthritis, relationships between, (49) 1028, (20) 1105, (8) 940
exercises for, ***654**
points in, (71) 1982
SPLEEN, abscess in, pneumococcus peritonitis with, secondary, (116) 951
blood-vessels, disease of, (172) 488
contusion of, internal hemorrhage on seventh day after, (116) 1673
cysts, (29) **1832**
enlargement, chronic polyarthritis with fever and in children, (84) 406
enlargement, chronic, with cirrhosis of liver and ascites, (124) **952**
enlargement, diagnosis of diseases associated with, (24) **781**
extract, Roentgen ray treated, in tuberculosis, (134) **92**
extract, therapeutic action of, (23) 946
floating, with twisted pedicle, celiotomy, splenectomy, (7) **158**
SPLEEN leukocytolysis induced by Roentgen exposures of, curative action of, (45) 1985
pancreatic transplantation in, (23) **941**
rupture of, from slight trauma in typhoid, (66) 1586
rupture of liver and, operation, recovery, (36) 402
rupture, spontaneous, (139) 952
rupture, spontaneous, in malaria, (11) 316
rupture, traumatic, splenectomy, (10) 316
sarcoma, primary, (38) 81
surgery, (89) **1262**
torsion of, simulating ovarian tumor, splenectomy, recovery, (31) 1264
tumors in, metastatic, (169) 488
SPLENECTOMY and splenic anemia, (4) 1264
celiotomy and, in floating spleen with twisted pedicle, (7) **158**
effect on acquired hemolytic jaundice with anemia of pernicious type (167) 1271, (81) 1987
in primary splenomegaly of Gaucher type, successful, (31) 1395
in traumatic rupture of spleen, (10) 316
on dog, influence of phorhizin on, (78) 1028
torsion of spleen simulating ovarian tumor, (31) 1264
SPLENOMEGALY and polycythemia with plethora, (16) 1399
hemolytic jaundice with, (47) 398
pathology of, operative and autopsy material from Mayo Clinic, (90) 1262
polycythemia or erythremia with chronic cyanosis and, (23) 158
primary, of Gaucher type, splenectomy in, successful, (31) 1395
SPLINT for fractured clavicle, (26) **781**
Hodgen's, for fractures, Brown's modification of, **1248**—ab
plaster-of-Paris, ***1620**
SPONDYLITIS, tuberculous, treatment, (32) 1191
tuberculous, treatment at Leysin, Switzerland, (54) **167**
typhoid, in woman of 60, (50) 1746
SPONGE, gauze, removed from bladder, another from vagina, months after a Dührssen operation for uterus prolapse, ***1879**
loofa, in laparotomies, (137) 637
SPOROTHRIX, interagglutination experiments with various strains of, (36) 1106
synovitis, (99) 90
SPOROTRICHOSIS, (179) **1676, *1784**
blastomycosis and syphilis, clinical resemblance to, occasional, ***115**
generalized, with multiple nodules, (89) 558
third case on record in Russia, (127) **1844**
Schenckii, ***1142**
Schenkii in tissues and in artificial media, morphology of, (45) 1920
SPRAIN fracture of ligamentum patellae, rupture of, (16) 316
fracture of lower end of radius and juxta-epiphyseal sprain, **935**—ab
hot foot bath in, differentiation and treatment of, (46) 2070
lumbosacral, (68) 1922
SPRUE, fungi in, (23) 787
pseudo, due to Flexner-like bacillus, (25) 165
SPUTUM, abumin in, (79) **168,** (54) **1493**
albumin in, for early diagnosis of tuberculosis, importance of, (213) 874, (45) **1584**
albumin reaction in, **1481**
albumin reaction in, in tuberculosis, critical study, ***440**
blood and, in croupous pneumonia, (111) 1030
cultures from blood and, in lobar pneumonia, (22) **941**
disposal of organic wastes and, safe and clean, (26) 1395
examination, modern methods of, (145) 92, (47) 790, (74) 1671
Much technic for examination of, (59) 1332
phagocytosis of tuberculosis bacilli in, influence of iodid medication on, (91) **1114**
putrid, causes of, (92) 704
stain in tuberculosis, (169) **1676**
tuberculosis, bacillary fragments in, (117) 1749
tuberculosis bacilli in, bacteriologic examination of, (8) 1668
SPUTUM, tuberculosis bacilli in, changes of shape of, (93) 1334
tuberculosis bacilli in, concentration method of detecting, (129) 85
SQUILL as diuretic, special indications for, (56) **325**
SQUINT: See Strabismus
STABLE fly, transmission of poliomyelitis by, (38) 86
STAIN, bacteriologic, durable, (58) 948
connective tissue, Mallory's, for demonstrating variation in thyroid colloid, value of, (26) **1578**
glandular organs, (173) 488
Gram's, behavior of saprophytic cocci with regard to, (16) 2066
intra-vitam, of tuberculous guinea-pigs with fat soluble dyes, (46) 1106
methyl green-pyronin section, history of, (126) 1270
microchemical, for fat, (133) 485
vital, digestion traced by, **1721**
vital, of tuberculosis bacillus, experiments in, (33) **476**
STANCLEANU, intra-capsular operation for cataract after method of, (99) 1923
STAPHYLOCOCCUS cultures to cause diphtheria bacilli to disappear from carriers, **1544**—E
in feces, (28) 946
infections, dilute sulphuric acid administered internally for, (21) **1191**
pyogenes aureus, bouillon culture of, in diphtheria convalescents and bacillus carriers, (58) **783**
spray for diphtheria-carriers, ***1876,** (23) **1919**
vaccine, **665, 1074, 1461**
vaccine therapy, improved technic, (90) 633
STAPHYLOMA of cornea, peribulbar implantation cyst after removal of, (26) 397
STARCH, albumin and fat-splitting ferment, excretion of, in infants, (97) 406
and diastase of plant tissues, (49) 318
digestion of, (141) 1116
in diet in diabetes mellitus, (138) 92
STATE associations do not insure against, but defend malpractice suits, **928**
board examinations, statistics, **1641**—E
board, power of, to revoke license, **157**—MI
board statistics for 1912, **1623**
boards, should they require one or more years of college work? **933**—ab
care of crippled children, advantages of, (101) 1835
examining boards, harmony and uniformity in work of, **776**—ab
medical service, **531**
STATISTICIAN, public health, (68) **160**
STATISTICS, French, of physicians, pharmacists, midwives and dentists, **917**
morbidity, hospital, (93) **1189**
vital, and health conditions an advertising asset, **910**—E
vital, Austrian, **300**
vital, in Italy, **141**
vital, law in Illinois, improved, statistical studies and plea for, (50) 160
vital, law in Kentucky and poliomyelitis, **56**—E
vital law, model, committee on revision of, **2002, 2012**
vital, law, need for, in New Mexico, (115) 320
vital, legislation, progress in, **778**—ab
vital, morbidity reports and not, index to prevalence of disease, **463**—C
vital, new, **423**—ab
vital, of Boston, and foreign population, (8) 780
vital, practical value of, in South, (19) 1831
vital, reports, national, state and municipal, necessity for uniformity in, (15) 1831
vital, revision of model law on, report of committee on, **777**—ab
vital, two ways by which it may be made useful to health office, (18) 1831
vital, what they should be, **388**—ab
STATUS Epilepticus: See Epilepsy

STATUS lymphaticus, (65) **167**
STATUTE of frauds not involved in case made by physician, **396**—Ml
STEAM sterilization, modern, *1344
STEAMSHIP suit, government loses, **1804**
STEATORRHEA, family, congenital, (37) **557**
STEINMANN'S nail technic, extension by Bardenheuer's technic versus, for fracture, (100) 1114
STERILITY after cesarean section, (135) 330, (62) **1402**
and abortion in relation to ovum, (31) 402
and defects in development of uterus, (102) 90
artificially induced, unique case, (119) 162
in female, as salient feature of general tuberculosis of peritoneum, (15) 556, (43) **631**
in female without marked gross pathology, (152) **163**
in women, theory and practice of treatment, *93, (210) 564
metranoikter for dysmenorrhea and, (57) 1982
parotitis and, (119) 1589
produced by operations on fallopian tubes, difficulty of, (17) **1185**
remediable cause, **1318**—C
STERILIZATION: See also Disinfection
STERILIZATION, catgut, **1904**
hands, (178) 873
hands, bolus alba in, (143) 1406, (51) 1585
iodin, as now used at United States naval hospital, Norfolk, Va., (107) 1397
olive oil, glycerin and liquid paraffin, (86) **2072**
skin, in emergency work with special reference to benzin-iodin and iodin methods, (42) **1028**
skin, iodin for, (142) 1197
skin, with benzine, hematuria five to ten days after, (96) 1749
steam, modern, *1344
surgical, alcohol in, (128) 870
surgical materials, formaldehyd fumes in, (53) **702**
Unfit: See also Castration; Vasectomy
unfit, (146) 870
unfit, criminals, epileptics, imbeciles and insane, (97) 84, (62) 1834
unfit, operation for prevention of procreation as part of penalty for crime, **779**—Ml
women by walling off ovary with broad ligament, temporary, (92) **1748**
women, fallopian-tube, technic of, (133) **322**
women, tubal reimplantation as new operation for, in women, *1221
STERILIZER and douche-can, combination, portable, *279
field, rough and ready, (32) 1669
STERNUM, fracture of, (129) 952, (188) 1754
operations, local anesthesia for, (88) 1194
syphilis of, *515
STETHOSCOPE in physical diagnosis, (8) 624
STEVENS' consumption cure, **1086**
STEWART and Ryfkogel methods in surgery of epithelioma of lip, **926**—C
STILL-BIRTHS and infant mortality, (41) 631
STIMULANTS and athletics, (85) 1402
STOFFEL'S method, spastic paralysis operative treatment by, (131) **485**
STOKES' bile media for sending cultures to laboratories, experiences with, (29) 695
STOMOXYS calcitrans in transmission of trypanosoma evansi, (112) 1836
STORAGE battery works, lead poisoning in, prophylaxis of, (98) 1841
STOVAIN-STRYCHNIN spinal anesthesia, (84) 1499
STOMACH, absorption from, **369**—E
absorption from, reply to London, (80) 161
acidity, perforated capsule test for, (92) **634**
arteriosclerosis, (172) 1272
atony and ptosis, (136) 870
atropin in disease of, (125) **1843**
cancer, (65) 783, (81) 1743
cancer, analysis of 200 cases, (11) **1190**
STOMACH cancer, bone-marrow metastases and anemia in, (27) **788**
cancer, bound chlorin in gastric juice with, (92) 1403
cancer, cerebral syphilis in previously latent, simulated by metastasis in spine and meninges, (41) 557
cancer, clinical and post-mortem findings in, discrepancy between, (151) 1329
cancer, diagnosis, early, (72) 1580, (2, 69) **1982**
cancer, dissolved albumin test for, (66) 1666
cancer, hemophilia developing in course of, (45) 324
cancer in cardia, transpleural resection of, successful, (101) 1500
cancer, inoperable, extensive exposure of, to permit roentgenotherapy, (153) **1752**
cancer, operative treatment, (46) **1192**
cancer, tryptophan test for, unreliability of, (139) 252
content, free hydrochloric acid in, quantitative test for, (159) **1271**
cystosarcoma, primary, (136) 1337
digestion after operations on, (142) **1751**
Dilatation of; See Gastrectasis
diphtheria of, and diphtherial onychia, (11) **1837**
diseases, chronic, (124) 85
diseases, methods of investigating, (23) 86
fibroid of, with perforating ulcer, transgastric resection, recovery, (6) 396
fibromatosis of, in relation to ulcer and cancer, **2022**—ab
flap for plastic operation on esophagus, (118) 1038, (111) 1842
from standpoint of general practitioner, specialists and surgeon, (40) 552
gastric juice in cancer and nonmalignant disease of duodenum and, (19) **1924**
gastroptosis, influence of position of stomach on certain aspects of, *421
hair cast of, with gastrotomy, (33) 631
hemorrhage and other complications in labor, (8) 699
hemorrhagic erosions in, in connection with melona neonatorum, (65) 325
hour-glass, (76) 1499, (49) **1926**
hour-glass, pylorus stenosis, congenital, in infant with development of, (83) 406
hydrochloric acid formation in, seat of, **838**—E
hydrochloric acid secretion by, influence of sodium chlorid on, (90) **477**
in hunger, **448**—E
inhibitory phenomena of, **669**—E
injury from swallowed corrosive acids, (35) **1583**
lavage, technic for, estimation of its capacity, (109) 170
lesions in walls of, secondary to perigastritis, (71) 1499
malposition of large intestine and, roentgenoscopy showing, (73) 1189
Mayr's wonderful remedy, **1175**
motility and secretion, influence of electric stimuli on, (89) 1402
motility in infants, roentgenography of, (1) **1576**
motor disturbances, action of medical measures on, (218) 564
motor functions, (70) 628
motor functions, disturbances, (122) 699
motor functions, influence of internal treatment on disturbance in, (81) **1748**
motor insufficiency, influence in headache and neurasthenia, (98) 242
moving picture of, movements, pathologic, of, (78) 792
moving pictures of, simplified, (108) 1037
no reflux of pancreatic juice into, in infant, (128) **1337**
normal, **70**
normal, of infants and pylorus obstruction, **74**—ab, (19) **317**
operations on, local anesthesia for, (96) **483**
STOMACH perforation, diagnosis of, early, (89) **634**
resection, (189) 1272, (132) 1405, (75) **1194**
resection and gastro-enterostomy, indications and technic in, (20) **695**
resection, improved technic, (56) 791, (76) 1987
resection of transverse colon and, simultaneous, recovery in four out of five cases, (44) 1926
roentgenoscopy and illumination of, from within, comparison of findings with, (63) 325
roentgenoscopy of diseases of, (120) 699
roentgenoscopy of normal, in right decubitus, (53) 1746
rupture, bursting, of extraordinary extent, *1535
sagging, with dilatation of esophagus, (208) **564**
sarcoma, resection of, successful, (125) 329
secretin, **1305**—E
secretion, blotting paper capillary test for, (63) **1035**, (85) 1037, (143) **1338**, (85) 1747
secretion, depressing influence of emotions on, (66) **1986**
secretion during digestion, research on, (158) 1198
secretory activity of, in chronic appendicitis with gastric symptoms, (30) **245**
spastic strictures in duodenum and, milk differentiation of, (118) **1336**
surgical diseases of, diagnosis and treatment of some, (47) 696
suturing stump of intestine or, improved technic for, (139) 92
symptoms in incipient tuberculosis, (101) 629
tetany, pylorospasm with, cured by gastro-enterostomy, (87) 1922
trypsin in, (119) **1843**
tuberculosis, (75) **1267**, (108) **1500**
tuberculosis and cancer of, partial gastrectomy performed in, (5) **1738**
tuberculosis of intestine and, (45) 480
tuberculosis, with extensive tuberculous lymphangitis, (44) **1108**
tumor, non-malignant, operative removal of, (83) 1927
ulcer, (109) 785
ulcer and cancer, epigastric hernia with, frequency of, (34) 700
ulcer and pylorospasm, (83) **1587**
ulcer, callous, syphilis as factor in, (58) **1927**
ulcer, diagnosis, (136) 485
ulcer, experimental production of, (50) **1926**
ulcer, indirect treatment, **1503**—ab
ulcer, is it a frequent precursor of cancer? (29) 244, (15) **1919**, (8) 2066
ulcer, hypersecretion after test meal in diagnosis of, (61) **325**
ulcer, lymphatic diathesis predisposes to, (87) **1268**
ulcer near pylorus, chronic, (150) **638**
ulcer, non-surgical treatment, (50) 1395
ulcer of duodenum and, (150) 1329
ulcer of duodenum and, diagnosis and treatment, (68) 1982
ulcer of duodenum and, differential diagnosis, (134) 85, (59) **1035**
ulcer of duodenum and, gastro-enterostomy of, influence on, *881
ulcer of duodenum and, in relation to blood-vessel lesions, (1) **1979**
ulcer of duodenum and, method of operative procedure employed, (152) 1329
ulcer of duodenum and, perforated, (21) 1109, (80) 1494, (129) 1501, (32) **1832**
ulcer of duodenum and, perforated, omentum cuff for, (103) 1403
ulcer of duodenum and, perforated, treatment, (65) 1402
ulcer of duodenum and, scarlet red in, **1915**—ab
ulcer of duodenum and, secondary nature of, (151) 561
ulcer of spastic origin, (75) **792**
ulcer, perforated, operation for, encapsulated, suppurating chondritis following, (130) 1589
ulcer, perforation, (125) 870
ulcer, regional predisposition for, (120) 484
ulcer, roentgenoscopy, (102) 1403
STOMACH ulcer, saddle, closure of posterior edges of wound margin after excision of, how to simplify and make more accurate, (91) **784**
ulcer, surgery for, results, (42) 1579
ulcer, surgical aspect, (74) **1742**
ulcer without food retention, clinical analysis of 140 operatively demonstrated cases, (4) **1025**
STOMATITIS need not be expected during lactation, **616**
ulcerative, (123) 85
STOOL: See Feces
STORM havoc and danger of epidemics, **1003**—E
STRABISMUS, convergent, concomitant, (111) 478
convergent, concomitant, treatment, (133) 1038
question, (46) 696
STREET car accident, typical, (109) **328**
cleaning, elementary theory and principles of, (5) 1184
STREPTOCOCCUS arthritis in rabbits, experimental, (40) **1921**
from milk and from human throat, statistical study of, (37) **1106**
gonococcus and other bacteria in infective deforming arthritis and arthritis deformans, serodiagnosis of, *1208
group, interrelations in, special reference to anaphylaxis reactions, (41) **1921**
hemolytic, and puerperal septicemia, (149) **162**
in puerperal vagina secretion, (191) 1754
infections, chronic arthritis and therapeutic evidence of, (6) 1982
infections, dilute sulphuric acid administered internally for, (21) **1191**
infections of both eyes, (72) 1982
infective endocarditis, (35) **402**
sore throat, Baltimore epidemic of, milk-supply in relation to, (39) 398
sore throat epidemic, source of, **51**—E
vaccine, **1074**, **1541**
STREPTOMYCOSIS, teeth caries a, (86) 793
STREPTOTHRIX, classification of, especially in relation to bacteria, (55) 241
infection, series of 78 cases, (28) **788**
STRIAE formation during pregnancy, factors in, **1735**—ab
STROPHANTHIN, intravenous administration of, (103) 1749
STROPHANTHUS, congenital tolerance of rat to, (36) **861**
STRYCHNIN dosage, (41) **789**, (54) 1401
effect of digitalis and, on man, (40) **1833**
in retention of urine in paralysis, (101) **794**
resistance to, after castration, increased experimental, (94) **169**
STUDENTS, medical, entering army, scholarships for, **1896**
medical, protest against new curriculum, **845**
medical, rapid increase in number, **1240**, **1894**
medical, socicties of, meeting of, **1312**
medical, strike of, at Halle, **141**, **459**
university, sexual diseases among upper classmen of high schools and, **1897**
STUDY tour, medical, to America, 1912, (102) **869**
STUTTERING, intermittency in, causes of, (22) 2069
STYPTICS, fungi applied as, (5) 1108
SUBLAMIN, sublimate, hyrgolum and oxycyanid in salvarsan relapses, intravenous administrations of, (81) 864
SUBOXIDATION and uricolysis, (21) **158**
SUFFRAGETTES, militant, might be adjudged insane, **1162**—E
SUGAR, beet versus cane, (32) 324
blood examination for, technic of, **1480**
content of blood, **1228**—E, (96) **1672**
content of blood and abnormally high blood-pressure, (81) 633
content of blood and heat production, (41) 1984

SUGAR content in blood in diabetes, (93) 1403
content of blood in exophthalmic goiter, (103) 559
content of blood in fever, (114) 1501
disappearance of, after removal of tumors in diabetes, *661
disinfectant, sugar as local, (127) 1116
in heart disease, (27) 1583
in infant feeding, (175) 1753
in organism, presence and action of, (149) 1502
in uncontrollable vomiting in infants, (60) 1498, (35) 1926
milk, amount of, in breast milk, (94) 250
solution, infusion of, in prophylaxis of thrombosis, (77) 1840
solution, intravenous infusion of, to arrest hemorrhage, (101) 1841
solution, preservation of anatomic specimens in, (54) 1585
solution, proctoclysis with, in diabetes, (100) 1841
splitting ferment, excretion of, in infants, (96) 406
tolerance in pig, (55) 318
urine during pregnancy, significance and treatment, (25) 86
urine, test for, (54) 1985
SUGGESTION in hyperthyroidism, limitations of, 226—C
SUICIDE and newspapers, 1713—E
attempted, by Hara-Kiri method with recovery, (68) 1028
SULPHATES, ethereal, in urine, proportion of, solubility of uric acid in connection with, (158) 638
laxative action of, 1766—E
SULPHATID of brain, (54) 318
SULPHUR bodies of bacterial origin, bismuth salts used in media to detect formation of, (8) 1184
dioxid fumes, poisoning by, 1246
SULZER, on importance of industrial hygiene, 452—E
special message on public health, 835—E
SUNLIGHT, actinic, in chronic lesions of skin, (40) 1187
and fresh air in schools and hospitals, prophylactic and therapeutic value of, (42) 1982
direct, in non-tuberculous disease, (51) 1332
direct, in surgical tuberculosis, (111) 484, (152) 562, (79) 1840, (37) 1926
direct, in therapeutics, conditions which favor application of, (49) 1332
direct, in tuberculous peritonitis, (53) 247, (27) 1191
in bone disease, 1916—ab
in tropics, 208—E, 284—E
therapy, physico-biologic cases for, (39) 1984
SUPPURATION, diffuse, around bladder, (38) 701—ab
gelatin in acute and chronic, 519—ab
resistance of arteries to, (148) 1198
SUPRARENAL CAPSULE: See Adrenal
SUPRARENAL SUBSTANCE: See Epinephrin
SUPRASPINATUS muscle, tuberculosis of, (7) 1491
SURGEONS, American College of, 1471, 1552
American Physicians and, Congress of, meeting in Washington, 1311
barber, (9) 164, (12) 400
death of, from blood-poisoning due to operation, 1472
general, and otolaryngologist, combination operations between, (64) 398
General, annual report of, history of, with extracts, (58) 1493
general, country, review of 2½ years' work as, (6) 85
liability under contract to furnish services of particular, in case left to his assistant, 1730—MI
national guard regimental, problems of, on maneuver campaign, (96) 478
suit for malpractice against well-known, failure of, 1087
western, meeting of, 61
SURGERY and medicine at Panama-Pacific International Exposition, 843
and medicine, differences between, (51) 1261
aseptic, (126) 329
at David Sassoon Hospital, Poona, (20) 323
SURGERY, British Journal of, 1372
cathartics in, (69) 1107
clinic of Philippine General Hospital, pathologic examinations for year from, (105) 1581
Clinical, Society of, meets in New Orleans, 1085
competition in, (105) 785
conservatism in, *423
don'ts in, (28) 1033
every-day, (119) 699
for criminal tendencies, 368—E
German, (83) 1029
Gynecology and Obstetrics and the International Abstract of, 760
ideals of, (71) 399
impression of trip round world in regard to, (1) 322
in country hospitals, (12) 2066
lungs, experimental, (64) 1333
mode of access in, importance of, (44) 1331
operative, teaching of, (68) 88
physiologic, (119) 1673
practice during recent trip abroad in medicine and, (6) 322
safety in, (132) 1030
sheep-shears, modified, for, *1784
technic, (23) 1740
year's progress in, (31) 552
SUTURE and ligature material, *1119
artery, in infected wound, successful, (151) 1270
bladder, after high incision for calculi, immediate, (106) 407
blood-vessels, technic for, (130) 870
heart, 2024—ab
hernias, large, technic for, (148) 707
necrosis of fat tissue after, (136) 330
nerves, after-effects of, (47) 1839
of abdomen, improved technic for, (120) 1038
of skull, gaping of, from brain tumor, (76) 867
purse-string, for covering stump of appendix, simple method of introducing, *29
self-inverting, for appendix stump, (136) 321
stump of stomach or intestines, improved technic for, (139) 92
subcuticular, fixation of, (96) 783, (7) 1923
tension, adhesive support for, *1954
using two ends of, advantages in, (80) 864
wound, technic for, (74) 249
SWALLOWING, disturbances in, from disease of larynx, relief of, (141) 486
SWEAT, excessive, etiology and treatment, (100) 1189
fever and pulse, relations between, (112) 951
-glands, main regulation of heat loss by control of nervous system over cutaneous circulation and, 1794—E
in tuberculosis, (107) 170
SWEATSHOPS, insanitary, danger to consumers, 1712—E
SWIMMING-TANK conjunctivitis, (79) 634—ab
SWINDLER, Baker, arrested, 1717, 1893
Maynard brought to bay, 1726—C
who operates through medical profession, 1717
SYDENHAM and Harvey, work of, *884
SYMPHISIS, separation of, during labor, (76) 1189
SYMPHYSIOTOMY, subcutaneous, Frank's technic for, (73) 1747
SYMPTOMS, testing of, (36) 1838
SYNAPSE, interneurotic, in disease, (7) 1836
SYNCYTIUM nuclei in blood, eclampsia in intoxication from excess of, (174) 872
SYNESTHESIA, (33) 1920
SYNOVIA tendon sheaths, inflammation of, with concretions resembling rice, (42) 1984
SYNOVITIS, sporothrix, (99) 90
SYPHILIS, (106) 698, (77) 1493, (105) 1667, (70) 1742
alcoholism, tuberculosis and, (109) 1835
annular, papular, in negro, (46) 1187, *1420
aorta, (82) 1194, (109) 1269, (129) 1270
SYPHILIS, aorta, diagnosis and treatment, (18) 396
arsenic poisoning during treatment of, (90) 406
bladder, (148) 1674
blood-serum in, hemolytic properties in, (102) 1269
bones and joints in children, (27) 1496
brachial plexus neuritis, symmetric, primary, as symptom of, (114) 407
brain, recovery after use of salvarsan, *1296
cerebellar hemiplegia due to, (90) 558
cerebellar hemiplegia due to, clinical forms and diagnosis, (60) 1332
cerebrospinal fluid in, (56) 1746
cerebrospinal fluid in latent, and under salvarsan, (117) 1269
cerebrum, (107) 1500
cerebrum, metastasis in spine and meninges simulating, in course of previously latent gastric cancer, (41) 557
cerebrum, prognosis and therapy of, *1852
children, (86) 1743
chorea, originating from, 63
clinical resemblance of blastomycosis and, to sporotrichosis, *115
cobra venom test for, and Wassermann reaction, 1657
communication by drinking-cups, kissing, etc., (58) 944
congenital, (134) 952
congenital, and Wassermann reaction, (9) 238
congenital, diagnosis of, (43) 1111
congenital, eczema of mouth as manifestation of, (24) 1330
congenital, late forms of, (120) 329
congenital, meningococcus septicemia in young man with joint and visceral lesions from congenital syphilis, (34) 947
congenital, salvarsan and neosalvarsan in, (185) 873
contagious period in, length of, old rule still valid, (130) 560
contagiousness of latent, (102) 1195
cultivation of bacillus typhosus from spot in luetic typhoid subject after fastigium, (79) 944
deafness from, and sporadic congenital deafness, (15) 786, (13) 1190
diagnosis and treatment, (85) 1107
dispensary facilities for treatment, (67) 1742
distilled water vs. salvarsan in, (19) 1399
ear, (14) 81, (111) 400
economic questions related to, (109) 400
emetin in, 1896
eye, (110) 400
fertility in parents with, unusual, (17) 1668
heart involvement in, symptoms and diagnosis, 1483—ab
hygiene of, (116) 400
iliac artery changes in, (163) 872
in ascendants and connection with scaphoid scapula and its syndrome, (100) 1328
in pregnancy, incomplete forms of, (39) 1584
in pregnancy, treatment, (34) 788
infants, newborn, mechanism of sudden death of, (82) 868
infants, newborn, sudden death of, (81) 868
insanity and, 851
liver, hematemesis in, fatal, (28) 1109
Lopez cure for, 1317—P
luetin reaction in, (53) 862, (121) 1264, (146) 1329, *1855
lung, 1915—ab
matrimony and necessity for specific treatment, if Wassermann reaction is positive, (103) 1269
meningitis and hysteric amaurosis due to, (100) 793
meningitis due to, rapidly developing, acute, 140
milk of women with, infectiousness of, (60) 1986
neosalvarsan in, intravenous administration, (5) 1329
nephritis, acute, due to, soon after infection, (83) 1037
nephritis due to, spirochetes in urine with, (109) 406
SYPHILIS, nervous system, (127) 699
nervous system, central, (188) 488
nervous system, central, direct treatment, 1576—ab
nervous system, central, salvarsan in, (38) 1741
nervous system, disease of, originating from, (83) 327
nervous system in infants and children, (22) 86
nervous system, intramuscular injection of mercury in, (79) 1667
nose and throat, (112) 400
otitis media due to, (66) 791
parasites in, found by jelly method, (4, 5) 244
parasites of, recently described, *1225
precipitation reactions in, (150) 252
prognosis, (140) 952
progressive muscular dystrophy and, (46) 1982
prophylaxis, personal, (131) 1405
pseudohypopyon due to, (4) 780
quantitative precipitation in, (63) 791
Raynaud's syndrome and, (8) 785
recent progress in, (18) 86
recognition in circulatory disease, importance of, (114) 400
reinfection with, after salvarsan, (93) 1268
reinfection with, question of, (28) 2069
remedies, effect on Wassermann reaction, (115) 400
"Rob," (43) 1932
salvarsan, (81) 319, (101) 478, (14) 786, (57) 1332, (25) 1740, (67) 1834, (97) 1929
salvarsan and mercury in, (91) 242, (202) 874
salvarsan for, in pregnant women, 679, (53) 1111
salvarsan in abortion of, (110) 406
salvarsan in, first 1,000 patients treated at Royal Naval Hospital at Plymouth, (13) 699
salvarsan in, neurorecurrence, nine cases with one fatality, (73) 326
secondary, nephritis with ascites, bilateral hydrothorax and general edema in, (18) 1330
serodiagnosis, (158) 92, (79) 404, (143) 870, (64) 949, 1016, (57) 1035, (116) 1335, (101) 1672
serodiagnosis, applied to cerebrospinal fluid, (114) 1335
serodiagnosis, at ophthalmic clinic, (98) 1334
serodiagnosis, technic for, (88) 249
serodiagnosis, with cadaver serum, (17) 1259
skin, acquired, classification and nomenclature of, (98) 1328
skin reaction in, (119) 636
skin reaction in, relation to Wassermann reaction, (120) 1336
spine, (121) 952
sternum, *515
stomach ulcer and other tumors, syphilis as factors in, (58) 1927
tabes dorsalis due to, 540
thyroid, (47) 1926
treatment, (128) 699, (103) 1500, (131) 1674, (45) 1741
treatment, combined, (93) 1114
treatment, modern, (70) 632, (89) 1922, (50) 1982
vascular and nervous disease in, (97) 1403
visceral, tertiary, with pyrexia and extreme cachexia, probably case of, (29) 1838
Wassermann reaction and salvarsan in diagnosis and treatment of, in ear, nose and throat affections, special reference to auditory nerve, (11) 81
Wassermann reaction in prophylaxis of, in general, (91) 950
Wassermann reaction in relation to diagnosis and treatment of, (80) 1189
Wassermann reaction showing results of treatment, (50) 398
Weil test for, with cobra venom, technic of, 1247
SYRINGE and gravity method for intravenous injection of salvarsan, combined, *824
one-hand, (133) 330
rented instead of sold outright, (150) 871
SYRINGOMYELIA, (77) 1189
SYRUP cocillana compound, 537—P, 526—E
of lactucarium, Aubergier's, 538—P

## SOCIETIES

*Acad.—Academy.*
*Am.—American.*
*A.—Association.*
*Conf.—Conference.*
*Cong.—Congress.*
*Conv.—Convention.*
*Internat.—International.*
*M.—Medical, Medicine.*
*Phar.—Pharmaceutical.*
*S.—Society.*
*Surg.—Surgical, Surgery, Surgeons.*

Ala. State M. A., **1368, 1387**
Am. A. for Cancer Research, **2019**
Am. A. for Promoting Hygiene and Public Baths, **1717**
Am. Climatological A., **1717**
Am. Gynecological S., **226, 1733**
Am. Laryngological A., **1717**
Am. M. Coll. A., **391, 858, 931**
Am. Neurological A., **1818, 1909**
Am. Orthopedic A., **1817, 1916**
Am. Phys. and Surg. Cong., **1568, 1660**
Am. S. of Tropical M., **1820**
Am. Surg. A., **2022**
Am. Therapeutic S., **1913**
Ariz. M. A., **1801**
Ark. M. S., **1802**
British M. A., **607, 1805**
Cal. State M. S., **1368**
Chicago Surg. S., **935**
Conf. on Infant Mortality, **1804**
Conf. on M. Education, Legislation and Public Health, **391**
Conn. State M. S., **1802**
Federation of State Licensing Boards, **391**
Fla. M. A., **1713**
French Cong. of Gynecology, Obstetrics and Pediatrics, **1372**
Ga. M. A., **1368, 1731**
German Conv. on Internal M., **1720, 1806**
German Surg. A., **1312, 1374, 1473**
Internat. Cong. on Physiotherapy, **1553, 1650, 1720**
Internat. M. Cong. **1372, 1649, 1718, 1804, 1893, 1903, 1970**
Ia. State M. S., **1714**
La. State M. S., **1487**
Md. M. and Chirurgical Faculty, **1369**
Miss. State M. A., **1390, 1484**
Mo. State M. A., **1648**
Mo. Valley M. S., **1101**
Mont. State M. A., **1714**
National A. for the Study and Prevention of Tuberculosis, **1570**
National Drainage Congress, **1471**
Neb. State M. A., **1648**
New England Pediatric S., **74**
N. H. M. S., **1715**
N. J. Pediatric S., **74**
N. Y. Acad. of M., **152, 1182, 1911**
N. Y. Acad. of M., Section on Pediatrics, **74, 547**
N. Y. Co. M. S., **1250**
N. Y. Neurological S., **1023, 1396, 1575**
N. Y. State M. S., **1488, 1572**
N. C. M. S., **295**
N. Dak. State M. A., **1550, 1715**
Okla. State M. A., **1716**
Peking M. Conf., **1820**
Philadelphia Coll. of Phys., **395, 858, 1022**
Philadelphia Co. (Pa.) M. S., **473**
Philadelphia Pediatric S., **74**
S. C. M. A., **1372**
S. Dak. State M. A., **1803**
Southern Surg. and Gynecological A., **71, 150, 236**
Tenn. State M. A., **1248**
Tex. State M. A., **1649**
Western Surg. A., **198, 237, 314**
W. Va. State M. A., **1804**

## T

TABANUS, genus, 3 new African species of, (3) 401
TABES DORSALIS, **112—T**, (58) 1922
abortive forms of general paralysis and, (91) **1930**
and other parasyphilitic conditions of nervous system, early signs of, (77) 1667
atypical forms of general paralysis and, considered in light of serodiagnosis, (71) 241
blood-serum in, hemolytic properties of, (102) 1269
TABES DORSALIS, Frenkel treatment in, **927**
gastric crises of, (99) **1114**
gastric crises of, pathogenesis of, (40) 1579
gastric crises of, rhizotomy for, (18) 239, (147) **561**, (62) **1111**, (57) **1192**
gastric crises of, stretching solar plexus in, (80) 1840
fracture of patella in, (32) **166**
in young, (123) **1336**
juvenile, case of, (22) 1264, **1819**—ab
knee affection due to resection for, (206) 1754
monosymptomatic, (140) 243
pain in, diagnostic significance of, (60) 863
re-education of muscles in, (142) **252**, (85) **634**
spirochetes in central nervous system in progressive paralysis and, (75) **1586**
stomach disturbances in, (2) **1025**
syphilis cause of, **540**
without lymphocytosis, (75) 1262, (31) 1496
TABLE, operating, for rhinologists, ***1951**
operating, for use in animal research, (16) 1104
orthopedic, and fracture, ***1850**
TACHYCARDIA, high speed of auricles did not produce, (36) 556
paroxysmal, (80) 89, (42) 324, **748—T**, **1249**
paroxysmal, atrioventricular, mechanism of heart action in, (81) 249
TADPOLES, sterile, (33) 1330
TAENIA nana, infection with, (10) 940
saginata with v-shaped proglottides, **1821**—ab
TALIPES, (162) 479, (120) 1501
causes of outward bending of ankle and, (98) 1114
in young children, treatment, (15) 865
non-operative treatment, (109) **1115**
operative treatment, (147) 330, (108) 1588
painful, treatment, modern, (85) 2072
positive support in curative treatment, importance of, **1916**—ab
treatment, (43) 477, (143) **1329**
valgus, congenital, tendon transplantation for, (5) **1491**
valgus, pathogenesis of, (195) 873
TAMPON drainage of abdomen, indications for and results, (145) 870
TAPEWORM, eradication of, **309**
TAR, gas-works, epithelial proliferation induced by injection of, (43) **86**
TARIFF changes on drugs and surgical instruments, proposed, **1382**—ME
on surgical instruments, **1322**—ME, **1726**—C
TARSUS, mediotarsal subluxation as shown by roentgenogram, (33) 81
TARTAR emetic in venereal ulcerating granuloma, (147) **1406**
TATTOOING and erysipelas, (111) 1930
of cornea, accidental, by piece of lead from copying pencil, (91) 1581
statistical observations on, seen by recruiting surgeon, (157) 479
TEBESAPIN, tests of, unfavorable outcome of, (88) 704
TEETH and disease, (80) 319
at birth, (49) 1746
care of, in army, (143) 485
care of, in school, (115) 794
caries a streptomycosis, (86) 793
caries and general pathology, (54) 1034
caries and school inspection, (57) 696
development of, and occlusion as factors in development of face bones, (108) 161
extraction of, local anesthesia for, improved technic, (59) 1746
eyes in relation to, (123) 478
feeding in relation to, (40) 696
growing in nasal fossa, (55) 862
in relation to body, (53) 696
lung tuberculosis in relation to, (38) 631
mal-occlusion of, (109) 161
permanent, Roentgen-ray measurement of, before eruption to provide for early regulation of dental arch, (110) 161
TEETH, prophylaxis, (41) 696
TEETHING cause of disease in infants, (76) 944
period, (179) 1272
TELEPHONE exchange, physicians', **1162—E**
TEMPERATURE, abnormal, (30) 2067
influence of diathermia on, (41) 2070
moderately high, effect on infant, (26) 1260
of children, (119) **870**
rectum and axilla, comparison of, (47) **2070**
seasonal, and seasonal diseases, (7) 1184
technic for taking, (145) **486**
TEMPORAL BONE and its anomalies in infant at birth in 150 cases, (36) 1326
infant, and mastoid operation, (37) 1326
TENACULAR, tonsil, constructed on principle of double-tined corkscrew, .(111) 161
TENDON contractures, tenoplasty in, **539**
fiber, occlusion of large blood-vessel with strip of, (99) **793**
fixation, (13) 1104
regeneration, (43) **1187**
synovial, sheaths, inflammation of, with concretions resembling rice, (42) **1984**
transplantation for congenital talipes valgus, (5) **1491**
transplantation operations, (132) **321**
TENDOVAGINITIS with stenosis at styloid process of radius, operative cure of, (196) **488**
TENEMENT legislation, unwise, **146—C**
model, is it a failure? **52—E**
TENNESSEE medical news, **217, 759, 1236, 1649, 1803**
TENOPLASTY in contractures of tendons, **539**
TENSOR tympani muscle, volitional contraction of, (51) 2070
TERATOMA of jaw, upper, (71) 1333
of unusual size affecting testicle of horse, (18) 1399
on back of head, (53) 1266
ovary, removed at age of 50, (55) 1332
thyroid in fetus, (22) **1033**
TEST: See also Reaction
TEST, aceto-acetic acid, simple, new, (39) **1669**
acetone and diacetic acid, bedside, (48) 1034
acid, in therapeutics, (44) 1982
agglutination, macroscopic, for detecting fowls that are harboring bact. pullorum, value of, (56) 1187
atropin, pilocarpin or epinephrin, for autonomic nervous system in children, (121) 1931
blood coagulability, (157) **562**
blood-cryoscopy for determining kidney function, practical value of, ***188**
blood in feces, (100) 1334
blood, quantitative, (91) 1403
blotting-paper, for acidity of gastric juice, (63) **1035**, (85) 1037, (143) **1338**, (85) 1747
breakfasts, comparison of, (116) 407
Burnam, for formaldehyd in urine, ***662**
Burnam, for formalin excretion in urine, accuracy of, (32) **1740**
chemical, of serous fluids with uranium acetate, (143) 92
colorimetric, for determination of epinephrin, new, (57) 318
colorimetric, for determination of uric acid in blood, new, (56) **318**
copper sulphate, for urobilin, (86) 1037
Einhorn bead, for estimating digestion, (89) 1494
ferment, simple, of liver functioning, (144) **638**
for differentiating cortical and subcortical motor aphasia, unreliability of, (65) 1746
for feeblemindedness among immigrants, **908—E**
for invisible writing, (160) 1502
for latent nephritis, induced albuminuria as, (120) **952**
functional, of heart, (13) 780
functional, of internal ear, (50) 1985
TEST, hydrochloric acid in stomach content, quantitative, (159) **1271**
indol, determining small amounts of, (158) 1271
inoculation, in tuberculosis, improved technic for, (81) 792
kidney function, (114) 328, (18) 780, (36) 781
kidney function, indigocarmin as, in chromo-urethroscopies, results of 200, ***185**
kidney function, phenolsulphonephthalein for, (57) **83**, ***191**, (192) 873, (110) 1269, (112) 1336, (39) **1492, 1561**—ab, (39) 1492, **1561**—ab
kidney function, phenolsulphonephthalein, negative results with, (10) 624
kidney function, technic for, (121) **1673**
liver function, (14) 780
luetin, in diagnosis of syphilis, (53) 862
luetin, technic of, **852**
meat-digestion, Schmidt's, (60) **1035**
medicolegal, for poisonous alkaloids, (77) 1036
milk sediment, **53—E**
Much-Holzmann for psychosis, **1813**
Noguchi butyric acid, **1813**
occult blood, chemical, (78) 1327
palmin, Ehrmann's, for pancreas functioning, **1487**—ab
v. Pirquet, diagnostic value of, (4) 2066
potassium iodid in urine, original, ***1621**
Rinné, Weber and Schwaback, prognostic value of, (82) 477
saccharose, alimentary, for infants, (36) **1191**
Schmidt's nuclei, of pancreas functioning, (142) **1117**
stomach acidity with perforated capsule, (92) **634**
sugar in urine, (54) 1985
tebesapin, unfavorable outcome of, (88) 704
tryptophan, for stomach cancer, unreliability of, (139) 252, **967—E**
TUBERCULIN: See Reaction, Tuberculin
urea in urine, rapid, clinical, (92) **1327**
uric acid in urine, (78) 161
uric acid, rapid, **1957**
urine, for breast-milk feeding, (75) 1986
urine, Salkowski and Kojo, for diagnosis of cancer, (80) 1499
urochromogen in urine, **689**, (141) **871, 928**, (125) **1589**
Weil cobra venom, **1657, 1813**
Weil, cobra venom, technic of, **1247**
TESTICLES, atrophy of, after parotitis, (145) **252**
cancer, (185) 488
cancer, radical operation, (41) 402
chorion-epithelioma of retained, with multiple metastatic growths, (30) 1838
disease of thyroid, hypophysis and, simultaneously, (123) 1589
epithelium of urethra and, beware of injuring, (66) 558
in perineum, (93) 559
rabbit, influence of certain infections on, (87) 1672
resection, experimental, (98) 170
secretion, internal, experimental research on, (203) 1754
surgery, conservative, (92) 559
teratoma of unusual size affecting, in horse, (18) 1399
torsion of funiculum of retained, (208) 1754
tuberculosis of, bilateral, (33) 781
tuberculosis of, tuberculosis bacilli in urine with, (88) 1268
tuberculosis of tubules of, primary, (67) 632
tumors of epididymis and, (84) 1834
tumors of kidney, adrenal and, embryogenetic relationships of, **236**—ab, (26) **1325**
undescended, (55, 69) **1927**
undescended, Bevan's operation for, (39) 81
undescended, Davison's operation for, (66) 944
undescended, endothelioma of, in male pseudohermaphrodite, (26) 1264

TESTICLES, undescended, hernia complicated with, (56) 160
undescended, pathology of, (72) 1333
undescended, treatment (69) **1499**
TESTIMONY, expert, report of committee on, **777**—ab
medical, expert, and medical experts, (73) 1742
TETANUS, (35) 2067
antitetanic serum in, (81) 1262
epinephrin in diphtheria and, (26) **1926**
from gelatin, **1366**—E
intravenous injections of paraldehyd and copious injections of normal salt in, (27) 556
local, (109) **484**
magnesium sulphate for, (75) **1036**, (15) 1982
prophylaxis and therapy of, (137) 243
serotherapy in, after symptoms have developed, ***363**
serotherapy in prophylaxis of, (111) 794, (114) **1196**
serotherapy in, successful, incubation fifteen days, (116) 794
TETANY from obstetric-gynecologic point of view, (76) **1747**
in acute suppurative appendicitis in adult, (19) **1668**
irritability of nerves, excessive, in, (123) 1115
stomach, pylorospasm with, cured by gastro-enterostomy, (87) 1922
TETRAGENUS septicemia, (80) **1987**
TEXAS medical news, **296, 457, 530, 915, 1237, 1551, 1649, 1804**
state board June and November reports, **311**
THEOBROMIN sodium salicylate in acute experimental nephritis, therapeutic value of, (6) **1979**
THERAPEUTIC points, (64) 87, (29) 324
THERMOCAUTERIZATION in hemophilic hemorrhage, (108) **1931**
THERMOMETER, aseptic, **1902**
clinical, as vehicle of infection, **1467**—E, **1560**
THIERSCH flap for closing gap in urethra, (91) 249
grafts, safety-razor to cut, **1245**—C
grafts, thickening of, excessive, due to component of scarlet red, (28) **1980**
THIGH, gangrene of entire, and retroperitoneal rupture of appendix with extravasation into, ***1782**
THIOCOL and syrup thiocol, Roche, **1974**—P
THOMSEN'S DISEASE: See Myotonia Congenita
THORACOSCOPY findings in 71 cases, (68) **249**
THORAX, defective development of, (165) 1753
developing of, in prophylaxis of gynecologic disease, importance of, (64) 482
diagnosis of disease of, before percussion and auscultation were invented, (41) 1838
diseases which are amenable to surgical intervention, surgical aspects of, (95) 1581
intrathoracic surgery, literature on, **928**
operations, technic of, (96) 1581
pressure in, negative, (95) 1403
resection of wall of, under insufflation anesthesia, (87) 1037
roentgenoscopy of lesions, (117) 1836
salicylic acid applied to, in pneumonia, (107) **794**
slanting upper aperture of, (177) 488
surgery, (55) 166, (112) 698
tumors, (97) **1581**, (82) 1671
tumors, malignant, primary, diagnosis, (1) 1923
visual inspection of conditions inside abdomen and, direct, (68) **249**
wedge resection of ribs to reduce size of, in lung tuberculosis, (165) **487**
THOREMEDIN, **462**—P, **687**—P
THORIUM-X, chemical action of, on uric acid and other organic substances, (54) 404, (72) 1035, (78) 1193
duration of therapeutic action of, (108) 90
in anemia, leukemia and rheumatism, (82) 1113
in pernicious anemia, (55) 404, (49) 944
influence on seedlings, (113) 1196
THORIUM X, research on, (121) 1749
therapy and radium, (81) 477
THREADWORMS: See Oxyuris Vermicularis
THROAT and its value to general practitioner, (81) 1580
chloroform anesthesia in surgery of nose and, eight years of, (68) 628, (30) 861
hemorrhage, fatal, (3) **864**
in prophylaxis of tuberculosis, **1504**—ab
journals on nose, eye and ear, **1320**
membranes and membrane formation in nose and, (61) 477
minor operations on nose, ear and, (137) 1590
nasal obstruction causing diseases of ear and, (39) 781
neuroses of mouth and, (27) 317
nose and, (54) 1395
nose and ear, affections of, including accessory sinuses, conservation in treating, (100) 320
nose and ear work in general practice, (37) 1110
operations, after-treatment, (20) 165
pathology of, its importance for organism as a whole, (108) 1115
pneumococcus infection of, three fatal cases, (25) **1399**
reflexes of nose and, causing cough, (28) 861
sexual apparatus in connection with ear, nose and, (112) 1030
sore, and diphtheria, (130) 699
sore, epidemic, streptococci in, source of, **51**—E
sore, septic, epidemic (90) 1922
sore, septic, epidemic in Concord (N. H.), January, 1912, (48) 1920
sore, streptococci, Baltimore epidemic of, milk-supply in relation to, (39) 398
specialist, ethical problems confronting, (111) 1189, (107) 1328
streptococci from milk and human, statistical study, (37) **1106**
surgeon, needs of, in general hospitals, (146, 152) **1030**, (15, 48) 1395, (82) 1580
syphilis of nose and, (112) 400
Wassermann reaction and salvarsan in diagnosis and treatment of syphilis in affections of ear, nose and, special reference to auditory nerve, (11) 81
THROMBOPHLEBITIS in typhoid, symptomology of, (18) **158**
of external iliac vein, ***1523**
pelvic, septic, (7) **396**
postoperative, (13) **625**
puerperal, (8) **158**
puerperal treatment, **1737**—ab
THROMBOSIS and embolism after appendicitis operations, (96) **869**
and embolism after gynecologic operations, (64) **1928**
in malformed portal vein, (149) 561
meningitis following operation for bilateral pansinusitis, recovery, (99) 1581
pelvic, puerperal, exploratory laparotomy, ligature of left common iliac vein, (17) 556
septic, of left lateral sinus and internal jugular vein, serous otitic meningitis with, operation for, (8) 479
sinus, afebrile, and cerebellum abscess complicating acute otitis media in adult, (87) 399
sinus, and brain abscess, differential diagnosis between, treatment, (73) 242
sinus, cavernous, (35) 1110
sinus, cavernous, of otitic origin, (37) 943
sinus, lateral, primary, without involvment of mastoid process or tympanum, (22) 81
sinus, operation, recovery, (108) 320
sinus, with purulent meningitis, (32) 781
splenic vein, (88) **1114**
structure of, (123) 91
sugar solution in prophylaxis of, (77) **1840**
vena cava, inferior, case of, ***1878**
vulva and vagina, and hematomas, (40) 1584
THUMBS, congenital absence of both, (31) 787
THYMECTOMY, (1) **550**, **1474**
in exopthalmic goiter with myasthenia, (150) **561**
THYMOL in liquid petrolatum, prescribing, **1814**
THYMUS: See also Goiter; Status Lymphaticus
THYMUS, (82) 1834
and combination of thymus-hyperplasia with goiter, (96) 1923
as leukocyte producing organ, (64) 167
death and thymic tracheostenosis, ***571**
death in newborn infant, **1022**—ab, (5) 1831
elements of, (113) 251
enlarged, trachea displacement by, (105) 559
function, (19) 1324
histology, (1) **1184**
hyperplasia and intrathoracic goiter, Roentgen ray in, ***117**
Roentgen rays, action of, on thymus, in dog, (54) 247
roentgenotherapy of, enlargement of, (48) 247
shriveling of, in six dogs under Roentgen ray exposures, (92) 89
surgery, (1) **550**
with exopthalmic goiter, (99) 869
THYREOGLOBULIN, iodin-containing complex in, nature of, (75) **1028**
THYROID: See also Goiter; Parathyroid
THYROID, adenomas of prostate and, growth centers of benign blastomata with special reference to, (45) 627
and gastro-intestinal toxemia, (20) **1983**
bone tumors originating in, (95) **869**
cancer, effects of iodin in, (19) 1259
cancer or papilloma of, (61) 1927
colloid, Mallory's connective tissue stain for demonstrating variation in, value of, (26) **1578**
disease of testicles, hypophysis and, simultaneously, (123) 1589
embryologic, anatomic, histologic and clinical facts concerning, practical application, (121) 699
epithelial tumors of, benign, (44) 627
evolution of, (32) 1665
exopthalmic goiter and relation to, (77) 697
exophthalmic goiter, histology of, (73) 1402
extract, effectual in retraction of palmar aponeurosis, (33) 700
extract in myxedema, thirteen years of, (61) **1266**
fetal iodin and phosphorus contents, size and physiologic activity of, (46) **1665**
giant cells in prostate and, (119) 1270
grafted into spleen or tibia in children with congenital myxedema, (121) **1405**
hard tumefaction of, after partial thyroidectomy, (72) 1402
headache originating in, (138) 1338
hyperplastic, nematodes in, of dogs, **2022**—ab
hyperthyroidism and, (114) **85**
in epilepsy, (52) **1034**
influence of artificial stenosis of trachea on, (75) 1333
influence on blood-pressure, (35) 1838
insufficiency, some types of, (61) 83
iodin content of, **1000**—E
idoin content of, seasonal variation in, (63) **319**
laryngotracheal manifestations of disease of, (104) 1328
lymphatic foci in, (164) 872
operations, 103 consecutive, (92) 864
origin of hemorrhagic uterus disease, (104) **1930**
preparation containing, **384**—P
removal of, under local anesthesia, (31) 1031
sarcoma of, and coexisting infection, **316**—ab, (23) **1325**
secondary changes in, (38) **947**
secretion, perverted, and exopthalmic goiter, high-frequency electricity in, (1) **694**
superior, ligation of, for goiter under local anesthesia, (107) 1189
surgery of, special reference to exophthalmic goiter, (17, 25) 1109, (17) 1191
syphilis of, (47) **1926**
teratoma of, in fetus, (22) **1033**
tuberculosis, ligneous, (70) **1499**
tumors, mestastatic, nature of, (12) **551**
THYROIDECTOMY, partial, hard tumefaction of thyroid after, (72) 1402
THYROIDISM and clinical significance of its perversions, (41) 1492
and tuberculosis, (140) **871**
TIBIA, fractures of lower end of, in children, (87) 558
fracture of upper end, (47) 166
fractures, spiral, treatment, (19) **1920**
Schlatter's disease of, (62) **702**
TIC DOULOUREAUX of inferior dental nerve, operative treatment, (62) 696
peripheral branches of fifth cranial nerve in, new method of dealing with, (48) **1028**
TICK bite in British Columbia, (49) 160
new species of, (153) 92
TINNITUS aurium, (61) 160
aurium, determining factors in, (105) 1328
aurium, significance in certain diseases of ear, (131) 162
efficacy of atropin in, (125) 91
nitrate of silver applied within eustachian tube for, (19) 81
TISSUE, action of light on, (100) **407**
and blood analysis, protein metabolism from standpoint of, (31) 626
bacillus abortus, persistence of, in inoculated animals, (34) 1981
celloidin-paraffin method for embedding and handling, (64) **1262**
cells, deported, as possible source of cancer, (113) 90
connective, artificial activation of growth in vitro of, (46) 240
connective, constitutional inferiority of, (152) **1752**
connective, permanent life of, outside organism, (24) **942**
connective, stain, Mallory's, for demonstrating variation in thyroid colloid, value of, (26) 1578
cultivation, in vitro, (165) 872
desiccated, protein extraction from, by aqueous solvent, rate of, (86) 1327
destruction, desiccation process of, as applied to certain pathologic conditions, (86) 864
drying fluids and, new method, (30) **626**
growth, Dr. Carrel's study on influence of tissue juices on, **219**—E
life of, outside organism from embryologic standpoint, **1660**—ab
life of, outside organism from pathologic standpoint, **1661**—ab
life of, outside organism from physiologic standpoint, **1661**—ab
living, colloids in, (178) 1272
living outside organism, (63) 482, (102) 705, **1560**
living, why not digested by gastric juice, (61) 132
manganese in, in vertebrates, molluses, insects, etc., (24) 1925
morphologic changes in, with change in environment, (50) **1187**
nerve growth outside of organism, (90) 89
sporothrix Schenckii in artificial media and, morphology of, (45) 1920
subcutaneous, calcification, multiple, in, (1) **1189**
transplantability of, to embryo of foreign species, (47) **1261**
transplantation, **238**—ab
TOBACCO, angina pectoris due to, **1473**, (30) 1583
Benjamin Rush, pioneer investigator of effects of alcohol and, on man, (92) 1581
chewing and snuff habits among children, **1561**—ab
cigaret and, **617**
effect on heart, **828**—T
poisoning by, fatal case, (20) **941**
TOE, injuries of, and insurance against accidents, (118) 1196
substituted for finger, (113) 1037
TONGA compound, elixer of, **1478**—P
TONGALINE, **1466**—E, **1477**—P, **1478**—P
TONGUE, cancer, (18) 1264, (14) **1399**
cancer, under age of 30, (85) **1500**
fibro-angioma (39) 943
mouth and, in disease, **147**
mucous membrane disturbances of mouth and, in pernicious anemia, (103) 698
tumor of mouth and, malignant, (105) **1029**
vaccine pustule on, (70) 326
TONSIL and adenoid, (61) 696, (104) 698, (85) 1743

TONSIL and adenoids in children, cause of, and lymph-node extract for, (6) 2067
and adenoids, operation, lesson from case of, (137) 162
and adenoids, treated without operation, (5) 2067
and adenoids, treatment, (36) 1110
catarrh, chronic, from enlarged, (115) 407
clamps, new, *2044
dissector, new, (136) 162
enucleation and removal of adenoids under gas anesthesia, (15) 1399
grasp, new, and mouth gag with permanently attached tube for continuous etherization, (111) 1328
guillotine and snare, new, *650
hemostat, Corwin's, (113) 1328
operations on, significance of anomalous internal carotid artery in, *172
pharyngeal, (78) 1834
preserving integrity of contiguous structures when operating on, importance of, *439, (29) 861
removed in treating tuberculous lymph-nodes in neck, necessity for, (156) 1752
removing adenoids and, simple and satisfactory method for, (67) 1922
snare, new, *2043
surgery of, modern, (135) 162
tenacular, improved, constructed on principle of double tined corkscrew, (111) 161
typhoid bacilli on, (84) 1195
TONSILLECTOME, new, *827, *1620
TONSILLECTOMY, *742, (93) 1588
by alveolar eminence of mandible, *650
hemorrhage after, serious, (161) 1271
results of, (117) 1328
Sluder method of, (58) 398
technic for, (90) 1037
TONSILLITIS and acute rheumatism, (183) 1676
and adenoids in relation to other diseases, (40) 477
autogenous vaccine therapy in epidemic of acute arthritis and, 1813
chronic, (114) 636
pharyngeal, acute and subacute, 1487—ab
treatment, (39) 1187
TONSILLOTOMY and tonsillectomy, remote results of, (22) 865
TOOTH-PLATE impacted in esophagus 2½ years, removal through mouth, (38) 402
TORTICOLLIS, (64) 83
acute, rheumatic orchitis, acute, associated with erythema nodosum and, in child of 2½ years, *1608
spasmodic etiology of, *1421
spasmodic, tonic-clonic, (47) 1331
TOURNIQUET for intravenous work, new, (126) 162
TOXEMIA from alcohol, (126) 1030
gastro-intestinal, (4) 1190, (18) 1191, (22) 1837, (18, 30) 1983
gastro-intestinal, and thyroid, (20) 1983
gastro-intestinal, consequences and treatment from surgical viewpoint, (7) 1190
gastro-intestinal, skin indications of, (8) 1582
gastro-intestinal, symptoms and treatment, (6) 1190
pregnancy, (9) 322, (1, 2) 1031, 1227—T, (17) 1324
pregnancy, new method of treating, (107) 320
pregnancy with convulsions, treatment, conservative, (45) 1028
with asystolia, (82) 1499
TOXICOLOGY, physical constants in, (2) 1108
TOXINS, action of serums and, administered by rectum, (111) 1749
in expired air, experimental research on, (168) 1271
of aqueous extracts of organs, action of serum on, (110) 90
reactions of, 1095
soluble, preservation of, technic for, no impairment of properties after 7 years and 4 years, (44) 866
TRACHEA displacement by enlarged thymus, (105) 559
stenosis, artificial, influence on thyroid, (75) 1333
stenosis of larynx and, chronic treatment, (46) 1833
stenosis, resection of tuberculous lymph-nodes at bifurcation to relieve, (68) 1035
TRACHEA, stenosis, thymic, and thymus death, *571
stenosis, thymic origin, (76) 1333
TRACHEOBRONCHOSCOPY for removal of foreign body, (45) 1395
in diagnosis and treatment, (117) 1668
laryngoscopy and esophagoscopy, direct, (26) 401, (13) 786
TRACHEOTOMY, emergency, (140) 560, (69) 791
TRACHOMA, 1538—T
blastomycetes in conjunctivitis resembling, (80) 326
blindness in relation to, (137) 478
bodies, conjunctiva affections associated with, clinical course of (29) 397
changes of plica semilunaris conjunctivae and conjunctiva sclerae, clinical and pathologic histologic study, (23) 165.
immigrant and, dangers to America, (19) 1980
in United States, prevalence of, 2007
problem, (68) 1188
prophylaxis and therapy, *588
report on, 2004
surgical treament, (144) 243
with special reference to state of Minnesota, (41) 1187
TRADE-UNIONISM and medical profession, 1166, 1238
TRANSDUODENAL lavage, *586
TRANSFUSION, blood (98) 250, (32) 317
blood, after obstetric hemorrhage, (34) 245
blood, cannula for, *1284
blood, simple method of, *435
hemolytic and agglutinative, experimental, (38) 1981
TRANSMISSION, disease, limitations of specificity in, 675—E
of recurrent fever by louse, 1647—E
TRANSPLANTATION: See also Grafting
TRANSPLANTATION and grafting of bone, (109) 1263
autoplastic, into gastro-intestinal tract, gall-bladder changes following, (50) 1187
bone, nose entirely restored by rhinoplasty and, *728
bone or periosteum flap for gap in skull or dura, (83) 168
bone, osteomyelitis with, *2030
fat, (92) 483
graft, without periosteum, successful, *1533
intestine, artificial vagina by, (104) 242
of piece of cartilage into septum to prevent perforation after submucous resection, (82) 399
of tissues to embryo of foreign species, (47) 1261
of tumor of fowl producing cartilage and bone, (46) 1261
pancreatic, in spleen, (23) 941
peritoneum flap, (147) 707
quadriceps, in paralysis, (34) 781
rib cartilage into pedunculated skin flaps, experimental study, (34) 1325
spinal bone, and bone growth, experimental study, *1044
tendon, for congenital talipes valgus, (5) 1491
tendon, operations, (132) 321
tibial bone, in postoperative mastoid wound, (49) 862
tissues, 238—ab
toe substituted for finger, (113) 1037
TRANSPOSITION, large blood-vessels, (159) 1675
viscera, complete, *1296
TRAUMA, abdomen, differential diagnosis in, (81) 1834
and bone tuberculosis, 1917—ab
and lung tuberculosis from medico-legal point of view, (35) 398
effusion of blood in spinal cord from indirect, (140) 330
in connection with tumor growth, (132) 1590
neurosis due to, 1393—ab, (23) 2067
neurosis due to, dragging through 18 years' litigation for damages, (57) 1986
TRAVOIS, new, addition to equipment of ambulance companies, (114) 242
TRAXO and fruitola, 1016
TREMORS, anomalous, 1024—ab
TRENDELENBURG position, anesthesia and, *1273
TREPHINE, seleral, new, *2045
sclerocorneal, *1537
TREPONEMA calligyrum, cultivation of, from condylomata of man, (54) 241
in tropical sore, (151) 1406
Pallidum: See Spirochaeta Pallida
TREVES, fatal peritoneal folds of Jonnesco, Reid and, relation to Jackson's membrane and Lane's kink, (77) 1396
TRICHINOSIS, (18) 1492
articles on, 1175
trichocephalus treatment for, 1174
TRICHOSTRONYGYLUS colubriformis a human parasite, (21) 1669
TRINIDAD, sanitation at, (7) 1397
TROCHANTER minor, isolated tearing off of, (90) 483
TROPACOCAIN spinal anesthesia, heart block after, symptoms suggesting, (98) 1269
TROPICAL countries, iodin as antiseptic in, (7) 2067
diseases, exhibition at Ghent, 916
diseases, fund for research in, 1238
diseases in Republic of Columbia, (27) 1400
diseases in Tripoli, (15) 1191
diseases, value of prophylaxis in solving, 1797—E
medicine, congress in Orient on, 1311
medicine, course in, for training of internist, value of, 1820—ab
residence and copious water drinking, 611—ab
sore, treponema found in, (151) 1406
TROPICS, clothing in, 370—E
mosquito-proof and storm-proof house for, new, (3) 1397
sanitation in, generally, and sanitation in Canal Zone, 1569—ab
sunlight in, 208—E, 284—E
TRUSS, wrosted, (49) 782
TRYPANOSOMA contagious for mice, (40) 246
evansi, stomoxys calcitrans in transmission of, (112) 1836
rhodesiense and trypanosoma gambiense, measurements of, (2) 1397
rhodesiense in glossina morsitans, devolepment of, (9) 401
rhodesiense in glossina morsitans, influence of meteorologic conditions on development of, (6) 243
rhodesiense in rats, posterior nuclear forms of, (5) 1397
TRYPANOSOMES and spirochetes are parasites of lymph rather than of blood, (59) 1986
anemia, experimental, (21) 786
antimony in spirochete disease and, (86) 1113
causing disease in man and animals in Sebungwe district of Southern Rhodesia, (33) 1669
diseases, insoluble antimony salts in small doses effectual in, (60) 1840
of game and domestic stock in Northeastern Rhodesia, (8) 401
pathogenic immunization of large animals to, by avirulent strain, (29) 1578
TRYPANOSOMIASIS, (22) 860, 1822—ab
animal, in Lado and tsetse fly traps and alleged immune brood of cattle in Southern Kordofan, (6) 1397
in Portuguese Congo, apparent cures, (32) 1264
of domestic animals in Northern Nigeria, (1) 1397
with symptoms of sleeping-sickness, (116) 870
TRYPSIN in stomach, (119) 1843
in surgical tuberculosis, (43) 481
isolating, new method of, (39) 1665
-secreting capacity of pancreas, (182) 488
TRYPTOPHAN in feces, clinical significance of indican and uroroscin in urine and, (81) 2072
-splitting ferment in pathologic effusions, (83) 704
test for cancer, sources of error in, (139) 252, 907—E
TSETSE-FLY: See Glossina Mortisans
TSUCHIYA'S method, Pfeiffer's modification of, and Claudius' method for quantitative determination of albumin in urine, (85) 1671
TUBE, duodenum, its value as diagnostic and therapeutic agent, (96) 1667
TUBERCULAR and tuberculous, distinction between, 541
TUBERCULIDES, (94) 1835
papulonecrotic, in infants, (2) 2066
TUBERCULIN, ambulatory tuberculosis, chronic, advanced, results of, 395—ab
and Roentgen ray in recognition of early lung tuberculosis, (67) 1396
as specific cure, present evidence for and against use of, (1) 1743
bovine and human, reaction in children to, (177) 1753
by mouth is of doubtful value, 851
De Giaxa's, local action of, (128) 1932
development of susceptibility to tuberculosis in incubation stage, (68) 632
diagnosis and treatment, (86) 697, (34) 1745, (120) 1836
diagnosis of tuberculosis in children, (110) 1196
diagnostic and therapeutic value of, new form of, (46) 87
dispensaries of London, (7) 85
Dixon's, in advanced chronic ambulatory tuberculosis, results, *717
effect on neutrophil polymorphs, (8) 555
hypersensitiveness to tuberculoprotein and, (33) 1665
immunity and, (13) 401, (83) 792
in genitourinary tuberculosis, (97) 1923
in lung tuberculosis, (22) 1191, (12) 1582
in lung tuberculosis, small doses of, (39) 403
in lung tuberculosis, suspected "closed," provocative injection of old, alleged diagnostic value of (22) 480
in tuberculosis of cervical lymph-nodes, (155) 243
introduced directly into lymphatic system, action of, (127) 1932
nature of serums, vaccines and, their use in tuberculosis, (29) 1395
organic acid ratio of urine after, (6) 699
Reaction: See Reaction, Tuberculin
Rosenbach's, in tuberculosis, in children, (174) 1753
salve reaction, (111) 1673
salve, reaction to, clinical importance of, 500 cases, (48) 948
therapeutic value of, unmistakable clinical proof of, (68) 627
treatment, (15) 164, (96) 250, (73) 404, (38) 481, (5) 699, (37) 1187, 1560, 1574—ab
treatment, uniform method of, plea for, (2) 1743
varieties of, (4) 699
TUBERCULOMA of larynx, (17) 1399
TUBERCULO-PROTEIN, hypersensitiveness to, effect on subsequent infection with bacillus tuberculosis, (40) 398, (33) 1665
Von Ruck's new, animal experiments with, *1936
TUBERCULOSIS, (119) 1030, (49) 1326
acute, curable forms of, (159) 708
acute, developing after gynecologic operations, (187) 563
agglutinins, local, in diagnosis of, (53) 1332
albumin in sputum for early diagnosis of, importance of, (45) 1584
albumin reaction in sputum in, *440
alcoholism, syphilis and, (109) 1835
allyl sulphid in, (45) 1265
among Gurkhas, effect of overcrowding in barracks on, (19) 1033
among well-to-do, (68) 792
and public health in South Africa, (82) 242, (25) 625
anemia, pernicious, in, (51) 631
antibodies in, importance of, (122) 560, (119) 1501
antibodies produced in cattle, 1801—E
appendix, (45) 1926
arrested, (47) 86
arteries, large, *1413
artificially induced climatic conditions as adjunct to treatment in early stages, (142) 1030
ascitic fluid, tuberculous nature of, with cirrhosis, (62) 248
Association secretaries' meeting, 1717
asthma and, in children, (34) 1034
attendant, group of infants infected by, *1617
attenuated tubercle bacilli in, treated with sodium fluorid, (45) 1497
Bacillus: See Bacillus, Tuberculosis
bacteriology, in relation to its diagnosis, treatment and immunization against disease, (48) 866

TUBERCULOSIS, bacteriology, pathology and research in, (23) **480**
Bannerman's solution for, **1724**—P
bladder, (127) 1589
bladder, exclusion in, (87) 1333
blood-findings in, (74) **703**
bone abscesses and sinuses due to, tuberculin in, (75) **1493**
bone and joint, (118) **329,** (41) 480, (89) **1988**
bone and joint, experimental study, (30) **942**
bone and joint, in children, types of organism in series of, (3) **1494**
bone and joint, modern treatment, (69) 482
bone and joint, special institutions for treatment and care of, necessity for, (43) 2070
bone and trauma, **1917**—ab
bones, leukocyte count in osteomyelitis and, in children, diagnostic significance of, (19) **1492**
bovine and human, (7) 1668
bovine and human, Italian contributions to relations between, (95) 169
bovine, stringent measures against, **844**
bovine, transmission to man, (93) 169
breast, (15) 625
brushing of clothes and, **1805**
calcium metabolism and, (98) 1749
calcium salts abstracted from mother's blood by fetus cause of rapid progress in tuberculosis, (6) 1831
campaign against, (97) 1029
campaign against, in Christiania, (133) 1932
campaign against, in Spain, (177) 1272
campaign against, in United States, newer problems and newer phases of, (69) 628, (16) 1492, (22) **1831**
care and aftercare of patients with, (91) 1922
care of patients with far advanced, (21) 2067
children, (51) **481,** (212) 564 (85) **1195,** (139) **1502**
children, bacteriology of, (217) 564
children, modern combat against, (51) 87
children on Mediterranean coast, treatment, (26) 1191
children, Roentgen rays in diagnosis of, (37) 86
children, Rosenbach's tuberculin in, (174) 1753
children, tuberculin in diagnosis of, (110) 1196
climate in, (128) 85, (31) 480, (123) **1836**
clinic, St. Louis municipal, (91) **161**
colon and vicinity, (71) **1671**
colon, rectum and anal canal, surgical, (44) 480
colony, remarkable, (81) 242
common diseases mistaken for, consideration of, (59) 1326
compulsory declaration of, (85) 89, **608,** (132) 952
congenital, (78) **1586**
control and visiting nurse, (77) 242
control of careless and incorrigible patients, (11, 14) 1919
control of venereal diseases and, helps in, (77) 553
copper, effect of, on experimental, ***887**
copper in external, (91) 1268
cotton mill and, (71) 1327
cystitis due to, in elderly, (68) **558**
day camp for, (63) 863
death from, in fifth ward (Philadelphia) during 47 years, (27) **695**
death-rate, reduction in, 1871-1912, **1571**—ab
decline of, **1895**
diagnosis, earlier, (155) 1031
diagnosis, early, and internal antisepsis, (57) 1493
diagnosis, early, management among poor, (28) 1740
diagnosis, early, with special reference to its confusion with malaria, (119) 1836
diaphragm hernia, probably traumatic, in adult with, (44) 1584
dietetic treatment, (32) 480
dioradin in surgical, (7) 699
disease of the individual, (45) 696
dispensary and day camp in relation to campaign against, (81) 1107
dispensary, what is it? (47) 1670
TUBERCULOSIS, dispensary work in, results, (23) 317
drugs in, use and abuse of, (33) **480**
Duket cure, **1476**—P, **1646**—E
Duket cure, giving results of some investigations, **1653**—P
ear, (48) 480
economic cost of, revised estimate of, (52) 627
economic value to community of recent work against, (69) 944
economic viewpoint of, (98) 1397
educational campaign against, (83) 242
elbow excision for, end-result, (14) 1104
employees, care of, by corporations as employers, (83) 1922
endotoxins of living and dead tuberculosis bacilli in solution in active immunization against, relative value of, (50) 1107
examination of employees for, (85) 697
eye and, (49) 480
eye-strain in, (20) 475
femur, lower end of, (13) 1582, (41) 1670
final report of committee on, **1007**
finding early cases of, method for, **1570**—ab
forest reserves and, (79) 242
Friedmann alleged cure for, is it commercial or scientific proposition? **375**—E
Friedmann method of treating, newspaper puffs for, **845**
Friedmann treatment, **67**—C, **70, 309, 466, 532, 679,** (41) 782, **917, 1010,** (29) 1105, **1807,** (45) 1982
Friedmann treatment, and government, **1007**
Friedmann treatment, government report of, **672**—E
Friedmann treatment, investigation of, (108) 1835
Friedmann treatment, misapprehension as to novelty of, **753**—E
Friedmann treatment, public health service investigation of, **1572**—ab
genitalia, in female, **1101**—ab, (121) 1589
genitalia, in female, management of, **1101**—ab
genito-urinary and urinary, (46) 480
genito-urinary, in women, (116) **1115,** (31) 1325
genito-urinary, paths of infection in, (20) **865**
genito-urinary system from general practitioner's standpoint, (7) 2066
genito-urinary, tuberculin in, (97) **1923**
gold preparations in, (100) 1403, (97) **1672**
heart in, (201) 564
hemolytic jaundice in, (104) **793**
high altitudes in Andes, experimental, (162) 708
hip, mechanical treatment, results in, and hygiene, (3) **859**
home hospital for, one year's results at, **1571**—ab
home treatment, rules for living, (29) **480**
homeless patients with, compulsory detention of, (93) 1835
hospital, donates, **1472**
hospitals and sanatoria for, (3) 1918
hypophysis, (176) 488
immigration of people with, into United States, problem for every nation, (17) 1980
immunity, approximate, against, Spengler's rapid precipitation method for estimation of, modification of, (34) 1400
immunity through infection, (93) 478
immunity to, and branched forms of tuberculosis bacillus, ***993, 1002**—E
in early life, (108) 1029
in Ireland, (54) 480
in LaFayette county, ten years' survey of, (136) 85
in motion pictures, (76) 242
in navy, (110) 794
in Pennsylvania, department of health's activity in handling, (90) 864
in rural districts, prevention of, **1689**
in schools and colleges, (105) 478
in state legislatures, (61) 1666
TUBERCULOSIS, incipient, stomach symptoms in, (101) 629
industries in relation to, **1572**—ab
infants and children, diagnosis of, (125) 699
infants and children, pathology of, (17) 1583
infants, glandular or secondary form of, pathogenesis of, (60) 398
infants, prognosis of, (120) 636
infants, roentgenoscopy of, (34) 1926
infections in, routes of, (110) 251
inflammatory, (86) **1500**
inflammatory, Poncet's, (42) **1584**
inheritance in 442 families among workingmen, (63) **248**
inoculation tests in, improved technic for, (81) 792
intestines, perforation of, multiple, (51) 1034
introductory to advanced course on, (20) 401
joints, (110) 869
joints, diagnosis, (26) 1665
joints, treatment, (108) 1262
kidney, (164) 1502
kidney, bilateral, nephrectomy with, (138) **408**
kidney changes in, (77) 1267
kidney, chronic, (135) 85
kidney, cystoscopy in diagnosis of, value of, (77) 864
kidney, diagnosis, (44) 318
kidney, diagnosis and treatment, (75) 1671
kidney, diagnosis, early, (44) **1400**
kidney, in children, (42) 1034
kidney, in half of double, (144) 1674
kidney, indications and results of medical treatment, (38) **1034**
kidney, microscopic miliary tubercles of ureter mouth early sign of, (59) 1671
kidney, pseudo-healing of, (37) **166**
knee, in children, treatment, (113) 483
larynx, (47) 480, ***1518**
larynx in, (59) 482
larynx, incipient, (105) 399
larynx, treatment, (84) 161
latent, in children and adult tuberculosis, (82) 161
life insurance and, (58) 480
light rays for internal, (148) 252, (214) 874
ligneous, of thyroid, (70) **1499**
liver, surgical treatment, (85) **483**
liver, with jaundice, (95) **1667**
localized, treatment, (52) 480
lung, abortive, (90) **1835**
lung, accident and injury in relation to, from medicolegal point of view, (35) 398
lung, and peripheral nervous system, (58) 552
lung, and teeth, (38) 631
lung, antiseptic inhalation, continuous, in, (36) 480
lung, artificial pneumothorax in, (49, 54) 82, (41) 166, (21) **244,** (35) 480, (112) 483, **532,** (60) **696,** (55) **949, 1167,** (57) 1266, (43) 1497, (72) 1671
lung, artificial pneumothorax in, by injection of nitrogen, (55) **88**
lung, artificial pneumothorax in, Forlanini method for, (34) 239
lung, autonomic nervous system in course of, (133) 1674
lung, clinical study, (27) 1330
lung, "closed", tuberculin in, alleged diagnostic value of, (22) **480**
lung, crotalin in epilepsy and, action and administration of, (84) 1189
lung, diagnosis, (77) 1262
lung, diagnosis and treatment in early stages, (25) 480
lung, diagnosis, early, (32) 866, (112) 1189, (143) **1197,** (10) 1495
lung, eosinophilia in diagnosis and prognosis of, (120) **1843**
lung, graduated rest and exercise in, (30) 480, (54) **944**
lung, heart displacement with, (72) **1267**
lung, hematologic equilibrium in, (51) 1395
lung, hilus and peri-hilus, sequelae, (23) 630
lung, hilus, in children, roentgenoscopy of, (98) 950
lung, in aged, **1065**—ab
lung, in children, remineralization in, (59) 1498
lung, in dog, experimental, (23) 1578
lung, in infants, roentgenoscopy of, (52) 247
TUBERCULOSIS, lung, incipient, (113) 478
lung, individualizing, (121) 1836
lung, infection in, (37) **1981**
lung, infection of children in relation to adult, (60) 1666
lung, influence of contents of pulmonary artery on experimental (30) 1980
lung, marginal sounds in diagnosis of, (80) **83**
lung, mechanical predisposition of, (76) **1267**
lung, meningeal affection in, in adults, variations of clinical picture, (52) 1028
lung, muscle degeneration and rigidity in, theory of, **1241**—ab
lung, not ground for divorce, **1568**—Ml
lung, operative treatment, technic for and experiences with, (111) **1196**
lung, origin of, (118) 1836
lung, preliminary talk to patients undergoing treatment for, (74) 242
lung, primary focus in, (119) **251**
lung, primary focus in, roentgenoscopy of, (73) **1267**
lung, prognosis in, (124) 484, (18) 1109
lung, prognosis in, results with Arneth's method, (3) 1743
lung, psychotherapy in, (107) 1835
lung, sanatorium treatment and after-care, (28) 480
lung, sanatorium treatment, cases selected for, (14) 323
lung, sanatorium treatment, in civil hospital, (23) 1669
lung, seasonal variation of symptomatology of, (19) 1105
lung, selection of cases for institutional, domiciliary and dispensary treatment under national insurance act, (37) 324
lung, summary of 340 cases, (23) 1109
lung, treatment, (13) 323, (27) 480, (30) 1109
lung, treatment by class methods, six years of, (36) **239**
lung, treatment, specific methods, (36) 631
lung, tuberculin, (37) 1187, (22) **1191,** (12) **1582**
lung, tuberculin and Roentgen-ray in recognition of early, (67) 1396
lung, tuberculin in, small doses, (39) **403**
lung, wedge resection of ribs to reduce size of thorax in, (165) **487**
lung, with complete cavitation of left lung, (33) 1983
lymph-node, cervical, conservative treatment based on their pathology, (107) 242
lymph-node, cervical, tonsil removed in treating, necessity for, (156) **1752**
lymph-node, cervical, tuberculin in, (155) **243**
lymph-node extract in immunization against, (147) 92
lymph-node, histogenesis of, (111) 251
lymph-node, perforation into bronchus, (130) 1116
lymph-node, resection of, at bifurcation to relieve trachea stenosis, (68) 1035
mediastinal lymph nodes due to, in children, (197) **873**
meningitis due to, (96) 399
meningitis due to, causing pseudo-eclampsia, (29) **1745**
meningitis due to, conditions favoring development of, (97) **950**
meningitis due to, early symptoms of, (52) 87
meningitis due to, etiologic factors in, (118) **407**
meningitis due to, experimental, effects of subdural injections of leukocytes on development and course of, (45) **241**
meningitis due to, glycosuria in, (37) **402**
meningitis due to, history, symptoms, prognosis, (170) 1753
meningitis due to, primary focus with, (83) **1987**
menstruation disturbances originating from, (67) 404
mesbe in, disappointing experience with, (110) 328, (89) 704
mesentery lymph-nodes, simulating appendicitis, (30, 31) **239**

TUBERCULOSIS, miliary, acute, pulmonary form, atypical case, (30) 1027
mortality from, in insane asylums and prisons of Norway, (209) 874
mortality statistics on, misleading, (17) 1831
municipal control of, (87) 1262
myeloid leukemia and, (52) 631
National Association for Study and Prevention of, meeting in Washington, **1311**
naval hospital for, Las Animas, Colo., (151) 479
occupation with regard to, (124) **1336**
1,500 cases, (87) 1835
open-air schools in fighting, value of, **1090**—ab
opsonic method and, (37) **481**
orthostatic albuminuria and, (116) **1196,** (85) 1586
osteomyelitis of digits due to, (16) **1919**
ovary or fallopian tube, lesions of intestines with, (68) **1267**
passing of, (12) 1837
patients discharged from Mont Alto State Sanatorium in 1908 and 1909, ultimate results, **1570**—ab
peritoneum, general, female sterility as salient feature of, (15) 556, (43) **631**
peritonitis due to, (91) 945
peritonitis due to, developing after labor, (70) 1113
peritonitis due to, how does laparotomy cure? (17) **695**
peritonitis due to, jaundice, chronic, from old, (66) **1266**
peritonitis due to, sunlight in, (53) 247, (27) 1191
peritonitis due to, without effusion, (16) 2069
phosphorus metabolism and, (34) **481**
pneumonia due to, acute, recovery, (18) 1583
pneumothorax in, (49) 1401
Polynesian Islands, responsibility of Europe for spreading, (61) 248
Potters to fight, **139**
practical studies in, (64) 1834
pregnancy and, (50) **948,** (115) **1115,** (83) 1494
pregnancy, labor and puerperium in relation to, (13) 1324
prevention and relief of, examination of exposed, as factor in, **1575**—ab
prevention, education of public in, (55) 480
preventorium, **1570**—ab
problem from sociologic viewpoint, **1572**—ab
problem, medical side of, **1571**—ab
problem of country and small towns, **1570**—ab
prophylaxis, (163) 1118, (57) 1671
prophylaxis of, and tuberculosis bacilli in bile, (87) **634**
prophylaxis of, specific, (147) 1270
public health and, (57) 480, (27) 626, (15) 1492, **1571**—ab
public health and housing problem, (56) 480
puerperae and their children, what should be done with? (84) 697
quack practices and, (162) 1198
rain-bearing winds and prevalence of, (53) 480
reaction in those operated on for, (9) 1831
research on leprosy and, (137) 952
resisting powers of red blood-corpuscles not reduced in, (65) 1840
respiratory tract, upper, campaign against, **221**
rheumatism and, (6) 629
rheumatism due to, and chronic arthritis, (53) **1401**
Roentgen ray treated spleen extract in, (134) **92**
roentgenotherapy of, (110) 483, (61) **949,** (81) 1037, (109) **1404**
Von Ruck new cure, animal experiments with, ***1936**
von Ruck treatment, U. S. Senate asked to investigate, **1816**—ab
sanatorium in preventing spread of, (112) 90
sanatorium, not a source of danger for environment, (109) 1189
sanatorium treatment, (43) 696
school as factor in, (207) 564
sero-anaphylaxis and special forms of, (50) 701
TUBERCULOSIS, serodiagnosis in, value of, (40) **403**
serotherapy of, (143) 1030, (138) 1116, (29) 1395, (61) 1840
serums, vaccines and tubercnlins in, (29) 1395
skin, diagnosis, (34) 317
skin, extensive, with death from pyemia, (51) 1666
Spine: See also Spine, Pott's Disease
spine, plaster-of-paris in mechanical treatment of, (42) 480
spondylitis due to, treatment, (32) 1191
spondylitis due to, treatment at Leysin, Switzerland, (54) **167**
sputum, bacillary fragments in, (117) 1749
sputum stain in, (169) **1676**
state sanatoriums for tuberculous versus free specific treatment, (88) **1987**
Stevens' cure, **1086**
stomach, (75) **1267,** (108) **1500**
stomach and intestines, (45) 486
stomach, combined with cancer of stomach, partial gastrectomy performed in, (5) **1738**
stomach, with extensive tuberculous lymphangitis, (44) **1107**
sunlight in surgical, direct, (111) **484,** (152) **562,** (79) 1840, (37) 1926
suppurating, excision of hip-joint in 34 cases of, results, (7) **864**
supraspinatus muscle, (7) 1491
surgical, (65) 1262
surgical, biologic test in, (91) **559**
surgical, improved hygiene in management of, (83) 697
surgical, reaction to tuberculin from bovine tubercle bacilli in children with, (92) **1988**
surgical, relapses in, (114) **484**
surgical treatment, (40) 480
surgical, tuberculosis bacilli in circulating blood in, (105) **705**
sweat in, (107) 170
testicle, bilateral, (33) 781
testicle, tuberculosis bacilli in urine with, (88) 1268
testicle tubules, primary, (67) 632
thoracic lymph-node, in children, diagnosis, (84) 1743
throat in prophylaxis of, **1504**—ab
thyroidism and, (140) 871
Torquay tuberculin dispensary, treatment at, (39) **480**
treatment, (127) 85, (78) 1922
treatment, importance of general measures in, (156) 92
treatment of human, by branched form of tuberculosis bacillus, ***1294**
treatment of progressive cases, **1570**—ab
trypsin in surgical, (43) **481**
tuberculin and immunity to, (83) 792
tuberculin (Dixon's), in advanced chronic ambulatory, results, ***717**
tuberculin in advanced chronic, ambulatory, **395**—ab
tuberculin in diagnosis and treatment of, clinical value of, (120) **1836**
tuberculin in incubation stage of, development of susceptibility to, (68) 632
tuberculin in, new, controlled therapeutic use of, (5) **699**
tuberculin in, quantitative and qualitative effect on polymorph neutrophil leukocytes, (8) **555**
tuberculin in, varieties of, (4) **699**
tuberculin reaction cutaneous, in prophylaxis of, (133) 706
tuberculin therapy, (15) 164, (73) 404, (38) **481, 1560**
ulcer of ileum and cecum due to (33) 1106
urinary tract, (19) 323
uropoietic system and tuberculous meningitis, correlation between, in Vienna, **533**
vaccination of cattle against, (34) 1330
when one of family develops, (116) 320
with disorders of nervous system, (50) 480
TUBERCULOUS and tubercular, distinction between, **541**
TUMORS, abdomen, in children, (126) 952
abdomen wall, (75) 482
animal parasites in formation, **1077**—E
TUMORS, auricle, left, primary, pulsation in esophagus and in jugular vein in, (71) 1267
benign or malignant, diagnosis and treatment of border-line pathology, **2065**—ab
biology of, (16, 39) 86
bladder, early recognition of, (17) **860**
bladder, fulguration in, (14) **1395**
bladder, in workers with anilin dyes, (153) **1675**
bladder, recent cases at Massachusetts General Hospital, special reference to operative technic, (18) 860
bladder, roentgenoscopy of, (100) 1262
bone, (53) 1833
bone, of thyroid origin, (95) **869**
brain, ***1280**
brain, after history of, ***1418**
brain, base of, immediately behind hypophysis cerebri, **1023**—ab
brain, colloid, of third ventricle, death due to, (18) **479**
brain, eye disturbances with, (117) 794
brain, gaping of sutures of skull from, (76) 867
brain, opening up fourth ventricle and resection of vermiform process for, (78) **1113**
brain, operation, autopsy findings, (38) 398
brain, removal of, under local anesthesia, (115) 1269
brain, 63 cases, (163) 487
breast in men, (56) **1985**
breast, malignant, diagnosis and removal, (49) 477
breast, non-malignant, (63) 632
breast, special reference to cancer, (17) 239
carotid gland, (108) **484,** (121) **1843**
cerebellopontine angle, (52) 1746
cerebellopontine angle, surgery of, (140) 1750
cerebellopontine, diagnosed and located three years before death, (76) 1396
cerebellum, (4) **163**
cerebellum, operation for, (69) 249, (51) 1921
cerebral hemorrhages and, localization and removal of, consecutive displacement of cerebral hemisphere in, (22) 1324
cerebrum, causing pseudo-eclampsia, (29) **1745**
cerebrum, hemiplegia, gradually developing, due to, (54) 1107 (140) 1329
cerebrum, subcortical, tuberculous in nature, operation, recovery, (29) 1109
conus and cauda equina, giant, **1909**—ab
cystic, hemorrhage into cystic cavity from carcinomatous degeneration of, death due to, (114) 1263
diphtheria bacillus causing, (94) 1403
epithelial, non-malignant, granular substance of sarcosporidia in, (45) 1034
fallopian tube, malignant, primary, (41) 1741
fat necrosis cause of, (109) 559
formation and allied pathologic processes, (29) 402
genitalia, serodiagnosis of pregnancy and, (87) **950**
genito-urinary tract in anilin-dye workers, **206**—E
growth, trauma in connection with, (132) 1590
heart, (46) **790**
hyphophysis cerebri, and adiposity, (126) **91**
hypophysis cerebri, classification of (8) **1744**
hypophysis cerebri, and infantilism, (7) 1979
hypophysis cerebri, new formation of nerve cells in isolated part of nervous portion of, in acromegaly with diabetes, (2) **1663**
hypothesis cerebri, removal of, (81) **482**
in animals, biology of, (66) 1035
in cold-blooded animals, (123) 1404
in diabetes, disappearance of sugar after removal of, ***661**
influence of ultraviolet light on tumors due to filterable agent, **2021**—ab
inheritance of tendency to, experimental research on, (125) 1405
intestine, malignant, (4) 629
intracranial, after decompression, localization of, (122) 1264
TUMORS, intracranial, growth and survival period of, records of 500 cases, special reference to pathology of gliomata, (9) 629
intradural, spinal canal, removal, (51) 1028
intrathecal, removal from lumbar region of spinal cord, (7) 1743
kidney, (26) 787
kidney, adrenal and testicle, embryogenetic relationships of, **236** ab, (26) 1325
kidney and ureter, (10) **475**
kidney, malignant, clinical data on, ***274**
kidney region, roentgenoscopy of large intestine with, (101) 950
kidney, symptomatology of, 74 cases from Massachusetts General Hospital, (20) 860
lecithin and cholesterin influence of, on growth of, (28) **942**
lungs, (110) 1673
lungs, diagnosed by upper bronchoscopy, (41) 943
lymphoid of skin, multiple, (101) 1328
malignant, (108) 478
malignant, blood catalase in, (56) 1395
malignant, deep-seated, superficial metastatic growths in diagnosis of, (99) 399
malignant, early diagnosis in, necessity and means for, (55) 1262
malignant, family incidence of, (72) **863**
malignant, grafting and traumatic dissemination of cancer in operations for, ***512**
malignant, nature of, (105) 1189
malignant, produced from parasites of earthworm, (102) **242**
malignant, radio-active substances in, (159) 562
malignant, spontaneous cure, (137) 401
mediastinum, early signs of, (31) 244
metastases, production and growth of, **2021**—ab
metastatic, of thyroid, nature of, (12) **551**
mouth and pharynx, malignant, operative treatment, (21) **1583,** (36) **1669**
mouth and tongue, malignant, (105) **1029**
nasopharynx, access to, by transverse pharyngotomy, (88) 483
nerves associated with fibroma molluscum, largest specimen on record, **936**—ab
nose, treatment, (127) 1038
omentum, (66) 1840, (23) 2069
optic nerve, short clinical accounts with microscopic demonstration of two cases, (28) 397
orbit, plea for operation, (3) 945
orbit, radiotherapy of, (69) 1396
ovary, complicating pregnancy and labor, (123) **321, 1373**
parotid gland, (5) 1982
parotid gland, embryonal predisposition to, (66) 702
pineal gland, (134) 1590, (46) **1839**
pineal gland, abnormal physical and sexual development in infant probably due to, (25) 1260
placenta, (42) 1331
pleura, malignant, primary, clinical and pathologic report of case, (5) **694**
purins and purin metabolism of some, in domestic animals, **2021**—ab
radium and mesothorium for, (107) 90
rectum, melanotic, primary, (56) **701**
serodiagnosis of, (129) 485, (90) **1841**
spinal cord, (46) **1111, 1391**—ab
spinal cord, diagnosis, (55) 2070
spinal cord, extradural, removal of, **1819**—ab
spinal cord, with intermittent symptoms, (136) 1590
spleen, metastatic, (169) 488
stomach, non-malignant, operative removal of, (83) 1927
syphilis as factor in, (58) **1927**
testicle and epididymis, (84) 1834
thorax, (97) **1581,** (82) 1671
thorax, malignant, primary, diagnosis, (1) 1923
thyroid, epithelial, benign, (44) 627

TUMORS, transplantable, of fowl, producing cartilage and bone, (46) **1261**
uterus, and goiter, **1572**—ab
ventral, of sacrum, **314**—ab
TUNICA vaginalis, sarcoma of, (100) 869
TURBINATES, inferior, enlarged, technic for operating on, (212) 1754
inferior and middle, operation on, indications for, (92) 1667
TURBINOTOMY, indications and justification, (167) 163
TURNER, George, knighted by English King, **919**—ab
obesity cure, Mr. Turner explains, **614**—P
TWINS, manual removal of first placenta without discovery of second child, **928**
rachitis and spasmophilia in, tendency to, (116) 251
TYMPANUM, sinus thrombosis, lateral, primary, without involvement of mastoid process or, (22) 81
TYPHOID, agglutinability of bacillus, induced variations in, ***1141**
agglutination reaction and experimental immunity in, ***1764**
and paratyphoid vaccination with live attenuated vaccines; mixed vaccines, (19) **1109**
apyrexial, (2) 785
bacillus, anaphylatoxins and endotoxins of, (33) **626**
bacillus, hyperleukocytosis following, specific and extreme, in immunized rabbits, ***1950**
bacillus in alkaline medium, reduced agglutination of, (88) 1841
bacillus, meningitis in infant due to, (54) **1188**
bacillus on tonsils, (84) **1195**
bacillus suipesticus, causing typhoid-like disease in rabbits, clinical course and prophylactic vaccination, (33) 1981
bacillus, toxic split products of, (45) **1261**
carrier, ***183, 222**—ab, (54) 477, (80) **634,** (171) 1676
carriers, chronic, surgical method of clearing up, ***1293**
carriers, prize for means to cure, **1804**
chemotherapy of, **1364**—E
Cleveland in 1911, (60) 83
control of infection, ***6**
cultivation of bacillus typhosus from spot in luetic typhoid subject after fastigium, (79) 944
diagnosis, mistakes in, (85) 83
diet and treatment, (120) 400
diet, full, (72) 319
diet, high calory, (53) **1107**
diet, increased, arguments for and against, (46) **1493**
diet, low-caloric food values in, clinical experiments in, (106) **1668**
diet, restricted, (73) 319
does filtration of water avert danger of? **541**
ear in, **1241**—ab
epidemic due to milk, ***1950**
epidemic due to mistake in piping water, **1720**
epidemic in Belleville, Ill., (24) 1831
epidemic in Lincoln, Neb., 1911 and 1912, (28) 475
epidemiologic diagnosis and management of, (43) 1920
epidemiology of, (72) 553
epilepsy in, (75) 1499
frequency of, at summer resort and necessity for paying attention to sanitation, **1232**—E
from contaminated vegetables, danger of, **1303**—E
hemorrhage in, (131) 85
hemorrhage, treatment, **1733**—ab
hexamethylenamin in, (50) 1034
hospital experience with, during 46 years, (95) 1749
immunization, experimental, (163) 1675
in flood area, prophylactic measures against, first taken by Red Cross, **1174**—C
in large cities of United States, ***1702**
in rabbits, (121) 91, (63) 404
in United States, **1707**—E
infection, sanitary closet-cans in prevention of, **308**—C
infectiousness in, duration of, (122) 91
iodin in, (56) **557**
TYPHOID, laboratory diagnosis, (71) 319
milk-free treatment, (57) **552**
mortality, **2061**
municipality liable for water causing, **70**
neuritis following, (36) 1832
osteitis, suppurative, following, 13 years after enteric fever, (14) 699
oysters and, **916**
pain in cystic duct sign of, prognosis, (58) **247**
perforation in, operation for, early ***122**
perforation of intestines, (131) **408**
prevention of, (74) 319, (80) 628, (55) **1834**
prophylaxis, (59) 632
prophylaxis in British army in India and American army in United States, (90) 1189
recurring catarrhal jaundice with positive tests for, (50) 866
relapses, prognosis in, (138) **330**
rupture of spleen from slight trauma in, (66) 1586
rural, **510**—ab
rural origin of city, **1157**—E
septicemia, secondary, in convalescence from, (96) **169**—ab
serotherapy in, efficacy of, (40) 1331
spine, pathology of, (11) **940**
spondylitis in woman of 60, (50) 1746
surgical complications in abdomen during, (124) 1836
surgical complications, sequelae of, (47) 1493
test, urinary, Russo's, modification of, its use in 1,000 cases, and complete bibliography, (44) **1833**
thrombophlebitis in, symptomatology of, (18) **158**
transmission, modes of, (47) **701**
treachery of, (30) 1740
treatment, (56) 477, (70) 1327, (25) 1919
treatment in children, (72) 1493
ulna neuritis following, (183) 488
unusual case, (30) 1669
vaccination, (119) 320, **467,** (68) 783, (47) 1028, (123) **1264,** (35) 1330
vaccination as excuse, **57**—E
vaccination as state and municipal duty, (101) 1667
vaccination, experience with, (106) 242
vaccination in children, ***344**
vaccination, in India, successful, **62**
vaccination in Maryland, (43) 944
vaccination in prophylaxis and treatment of, value of and method of administration, (45) 1493
vaccination in United States, (45) **1331**
vaccination in United States army, **1167**
vaccination, prophylactic, (102) 320, (112) 1397
vaccination, variations in cholesterin content of blood under, (70) 1267
vaccine, **1074, 1541**
vaccine and nursing mother, **1560**
vaccine, effect of freezing on, (20) **1027**
vaccines, mixed, effect of, with regard to formation of agglutinins, (21) **1027**
walking, (129) **1844**
water pollution and, (71) **553**
TYPHUS: See also Brill's Disease
TYPHUS, (117) **400**
at Massachusetts General Hospital in last ten years, (16) **475**
in children, (79) 482
in United States, problem of, ***1845**
mild, in Michael Reese Hospital, (55) 398

U

ULCER, abdomen, excised from anterior wall of, pathologic data from, (30) **1832**
bladder, ***419**
bladder, callous, pathology and treatment, (118) **1328**
bladder, syphilitic, ***1943**
cornea, (100, 108) 785
duodenum, (91) **697, 1374,** (118) **1404,** (83) **1748**
duodenum, and cholecystitis, diagnosis, (110) 1189
duodenum, complications, **1573**—ab
duodenum, diagnosis, (98) 1108, (60) **1586**
duodenum, diagnosis and prognosis, **1573**—ab
ULCER, duodenum, diagnosis by serial roentgenography, (87) 1667
duodenum, etiology and morbid anatomy, **1573**—ab
duodenum, hemorrhage from erosion of gastroduodenal artery by, fatal, **151**—ab, (31) 1832
duodenum, in infants, (105) **1500**
duodenum, non-surgical treatment, **1573**—ab
duodenum, perforated, (58) 87, (7) 164, (120) 1264, (79) 1494
duodenum, perforation in, frequency of, seven cases, (42) **1265**
duodenum, roentgenography of, **1374**
duodenum, surgical treatment, **1574**—ab
duodenum, symposium on, **1573**—ab
fibromatosis of stomach in relation to cancer and, **2022**—ab
hypopyon, of cornea, treatment, (65) 1982
intestine, wide-spread, fatal case, (11) **1398**
leg, chronic, (100) 629
leg, chronic, basic fuchsin in, ***1680**
leg, office treatment, (197) **488**
peptic, gastro-enterostomy for, after-history, (6) **1108**
peptic, in jejunum, jejunocolic fistula from, after gastro-enterostomy, (51) 867
phagedenic, in Tripoli, (116) 1843
pylorus, chronic, diagnosis and treatment, (112) **1931**
scalp, in Roentgen-ray scar, operation for, new, (45) **1670**
stomach, (109) 785
stomach and duodenum, (150) 1329
stomach and duodenum, diagnosis and treatment, (68) 1982
stomach and duodenum, differential diagnosis, (134) 85, (59) **1035**
stomach and duodenum, in relation to blood-vessel lesions, (1) **1979**
stomach and duodenum, influence of gastro-enterostomy on, ***881**
stomach and duodenum, method of operative procedure employed, (152) 1329
stomach and duodenum, perforated, (21) 1109, (80) 1494, (129) 1501, (32) **1832**
stomach and duodenum, perforated, omentum cuff for, (103) 1403
stomach and duodenum, perforated, treatment, (65) 1402
stomach and duodenum, scarlet red in, **1915**—ab
stomach and duodenum, secondary nature of, (151) 561
stomach, and pylorospasm, (83) **1587**
stomach, callous, syphilis as factor in, (58) **1927**
stomach, cancer and, epigastric hernia with, frequency of, (34) 700
stomach cancer and, etiologic relationships between, (8) 2066
stomach, diagnosis of, (136) 485
stomach, experimental production of, (50) **1926**
stomach, hypersecretion after test meal in diagnosis of, (61) **325**
stomach, indirect treatment, **1503**—ab
stomach, lymphatic diathesis predisposes to, (87) **1268**
stomach, near pylorus, chronic, (159) **638**
stomach, non-surgical treatment, (50) 1395
stomach, of spastic origin, (75) **792**
stomach, operation for encapsulated, suppurating chondritis following, (130) 1589
stomach, operation for, results, (42) 1579
stomach, perforating, (125) 870
stomach, perforating, fibroid of stomach with, transgastric resection, recovery, (6) 396
stomach, regional predisposition for, (120) 484
stomach, roentgenoscopy of, (102) 1403
stomach, saddle, closure of posterior edges of wound margin after excision of, how to simplify and make more accurate, (91) **784**
stomach, surgical aspect of, (74) **1742**
stomach, transition into cancer, frequency of, (29) 244, (15) **1919**
stomach, without food retention, clinical analysis of 140 operatively demonstrated cases, (4) **1025**
ULCER, tuberculous, of ileum and cecum, (33) 1106
vaccinal, antistreptococcus serum used locally in, (7) **940**
varicose, Babcock's subcutaneous extraction method of treating, (136) 1844
varicose, circumcision of leg for, (40) **1838**
ULNA, fracture of upper third of, treatment, (49) **701**
fracture of, with dislocation of head of radius, (31) 1583
neuritis following typhoid, (183) 488
ULTRAMICROSCOPIC organisms in disease, (38) 866
ULTRAVIOLET RAYS, (134) 407
action on cholera and plague germs, (140) 1338
action on milk, **1162**—E
in sterilization of water, (214) 1754
influence on tumor caused by filterable agent, **2021**—ab
UMBILICAL CORD clamp, (137) 321
prolapse of, management of, (67) **482**
rupture of, (96) 1195
UMBILICUS, adenoma of, (91) 1037
UNCINARIASIS eradication, **851**
eradication, methods for, (25) 1831
eradication, progress of, **1545**—E
importation into California, (56) 1028
in Birmingham, (32) 1745
in Brazil, (129) 407
in navy, diagnosis and dosage in, (129) 401
in Porto Rico, economic aspects of, (5) 1025
oleum chenopodii in, efficiency of, (131) **706**
pathology and diagnosis, (104) 1108
treatment, **1485**—ab
UNDERDEVELOPMENT, some features, **1362**—E
UNITED DOCTORS, **674**—E, **682**—P
imitators of, **1900**—P
UNITED STATES Army: See Army, United States
UNITED STATES Government loses steamship suit, **1804**
naval disciplinary barracks, detention and probation system of punishment and classification of offenses of, personnel of, (100) 1397
Senate asked to investigate von Ruck treatment of tuberculosis, **1816**—ab
Senate asked to license Friedmann, **1313**—ab
UNIVERSE considered as single organism, (130) 952
UNIVERSITY: See also Education, Medical Schools
UNIVERSITY at Hamburg, **459**
German, foreigners as problem of, **608**
of Minnesota, reorganization of medical faculty of, **692**
of Missouri medical bulletins, **760**
UNKNOWN dead, identification records for, (20) 1831
UNREALITY, feeling of,. nature of, (26) 625
URACHUS, permeable, in boy of 16, (35) 166
URANIUM acetate, chemical tests of serous fluids with, (143) 92
UREA hydrochlorid and quinin, **147**
hydrochlorid and quinin as local anesthetic in anorectal surgery, (132) 1836
in blood and urine, constant ratio between, (42) **1400**
in urine, Folin's microchemical method for estimation of, (94) 1327
in urine, test for estimation of, clinical, rapid, (92) **1327**
index, (39) 789
index and pulse-kidney index, (60) 558
index in blood, (55) **324**
UREMIA, clinical manifestations of, (23) 475
nephritis, acute, with, due to salvarsan, (84) 629
respiratory disturbances in, (89) **327**
scarlatinal, with blindness, (54) **631**
URETER abscess, (133) 1836
and superior inlet, relations between, (71) 558
anomaly of kidney and, congenital, (13) **1399**

URETER, apparatus for injection and lavage of pelves of kidneys and, *184
calculus, bilateral, *114
calculus, diagnosis by wax-tipped whalebone filiform bougie used with Nitze cystoscope, (158) 162
calculus impacted in, fulguration for, *1534
calculus, incarcerated, (67) 1927
calculus, large, (3) 1982
calculus of kidney and, (89) 1835
calculus of kidney and, in shadow diagram of body, allotment of, (60) 1982
calculus of kidney and, 110 cases of, and ten cases simulating these conditions, (22) 317
calculus of kidney and, roentgenography of, (75) 558
calculus, oil injections into ureter for, (78) 83
calculus, operation for, (60) 1671
catheterization of, under direct visual inspection, (45) 701
catheterizing through open bladder, technic for, (39) 166
injuries, (18) 695
mouth, microscopic miliary tubercles at, early sign of incipient tuberculosis of kidneys, (59) 1671
obstruction, (44) 1028
obstruction or beginning of intermittent hydronephrosis, (21) 475
stricture of left, congenital, double, with movable calculus between points of constriction, (11) 475
supplementary, as cause of various affections of kidneys, (130) 1501
suture, end-to-end, technic for, (55) 1670
suturing incisions in kidney pelvis and, (34) 166
tumors of kidney and, (10) 475
URETEROPYELOGRAPHY, recent progress in, (37) 1395
URETEROVESICAL valve, function of, *20
URETHRA and periurethral lithiasis, (72) 944
bulbomembranous, impermeable stricture of, *262
calculus in bilharziasis, (145) 1674
calculus, prostatic division, *1952
cancer, (188) 873
caruncle, large, in girl of nine, *1281
double, (70) 1580
epithelium of testicles and, beware of injuring, (66) 558
foreign bodies in, (27) 1740
gonococci do not proliferate in only, (40) 166
gumma, (113) 400
irrigation of bladder and, (88) 1262
laceration, (90) 793
obstruction by prostate, 26 cases, (38) 1187
obstructions in, removal, (119) 400
polyps in, persistence of chronic gonorrhea explained by, (63) 1671
posterior, disease in, treatment, (89) 945
restoration of, with segment of vein, (117) 1843
rupture, (67) 1671
ruptures, retrograde catheterization in, (52) 696
skin flap to interpose between rectum and, for fistula, (36) 166
stenosis of posterior portion of, congenital, (187) 873
stricture, (102) 635
stricture, close, dense, excision and suture in treatment, (27) 1324
stricture, impassable, external urethrotomy in, method of performing, *1606
stricture, linear electrolysis for, (165) 1118
stricture of male, tight, internal and external urethrotomies for, comparison of, (110) 242
stricture, perineal fistulas, obstinate, following operation for, treatment and prevention of, (23) 625
strictures, tight and complicated, treatment, (29) 781
strictures, tight, dilatation of, causing retention, (98) 783
strictures, ultimate outcome of, (63) 1927
tannic acid, action on, 1656
Thiersch flap for closing gap in, (91) 249
trauma, (59) 166
URETHRITIS, chronic, 1074—T
chronic, 1,000 cases of a form of, experience with, *1940
consequences, (199) 563
gonococcal, acute, in male, (42) 782
gonorrheal, anterior, (32) 1838
gonorrheal, antimeningococcus serum in, (93) 89, (55) 247
gonorrheal, chronic, treatment, (152) 1406
gonorrheal, in infant boy, (18) 1668
old, flaring up of, during influenza, autovaccine therapy, (64) 558, (147) 1674
URETHRORRHEA, prostate elements in, (94) 633
URETHROSCOPE, operating, new, (122) 242
URETHROSCOPY by Goldschmidt's method, (200) 564
clinical significance of, (8) 474
light-carrier with lens and rheostat for, *182
URETHROTOME, new, (38) 782
URETHROTOMY, external and internal, for tight strictures of male urethra, comparison of, (110) 242
external, in impassable stricture of urethra, method of performing, *1606
URIC ACID: See Acid, Uric
URICOLYSIS and suboxidation, (21) 158
in human subject, (48) 1665
URICOMETER, Ruhemann, for uric acid estimation, *44
URINAL for bladder fistulas and after prostatectomy (71) 791
retention, after cystostomy, (65) 1671
URINALYSIS, clinical interpretation of results, (40) 631
hospital, (85) 1922
in pregnancy, significance of, (29) 1740
technic for, (126) 1501
URINARY TRACT, calculus in upper, (9, 12) 1495
colon bacillus infection of, experimental, (141) 1750
conditions in women with frequent or painful urination, (13) 1837
diseases, late diagnosis, penalties of, (23) 1105
diseases, surgical, diagnosis, (87) 161
infections in women, (28) 317
infections of upper, in infants and children, (14) 1577
lesions of upper, methods of diagnosis, (12) 1831
symptoms due to uterus fibroids, (97) 1108
tuberculosis, (19) 323
tuberculosis of, and tuberculous meningitis, correlation between, in Vienna, 533
URINATION, abnormally frequent, in acute infectious diseases, (7) 1987
frequency of, cured by ventrofixation of uterus, (10) 1031
painful, urinary conditions in women with frequent or, (13) 1837
URINE, acetone in, in children, elimination of, (92) 1195
acidity, intensity of, in normal and pathologic conditions, (46) 318
albumin in, quantitative determination of, by Claudius' method and Pfeiffer's modification of Tsuchiya's method for, (85) 1671
albumose, Bence-Jones', in, multiple myeloma associated with, (15) 1330
amino acid in, in health and disease, (140) 1116
amylolytic ferments in, quantitative estimation of, (20) 1924
black, with melanomas, (48) 324
collection of, from female babies, *2045
creatin, 1302—E
creatin and creatinin eliminated from, in parturients, (71) 482
creatinin and creatin in, in diabetes, estimation of, (73) 1028
diabetic, dialysis of, (95) 90
diphtheria bacilli in, (77) 327, (144) 871
ethereal sulphates in, proportion of, solubility of uric acid in connection with, (148) 638
excretion of amylolytic ferments in, during toxemias of pregnancy, (30) 1745
URINE, extremes of variation of concentration of ionized hydrogen in human, (72) 1028
fat excretion in, 1159—E
formaldehyd in, Burnam's test for, *662
formalin excretion in, Burnam's test, accuracy of, (32) 1740
formalin excretion in, in children and infants taking hexamethylenamin, factors which influence, (33) 1260
glucose in diabetics, action of lactic acid bacilli on percentage of, (87) 477
incontinence, in children, (30) 402
incontinence, operative treatment, (83) 950
indican and urorosein in, clinical significance of, (81) 2072
lipoids in, (133) 1196
naked-eye pathology of, (71) 83
non-toxicity of, during puerperium, (109) 1588
organic acid ratio of, after tuberculin, (6) 699
phenol in, after use of phenolized gauze, (152) 252
potassium iodid in, test for, original, *1621
residual, in old men, (68) 944
retention, (156) 1031
retention and chronic cystitis, drainage for, its beneficial effect on damaged kidneys, (31) 1400
retention in kidney, operative treatment, (43) 1034
retention in paralytics, strychnin in, (101) 794
salvarsan in, Abelan's reaction for, 1094
specific gravity of, in various diseases, (109) 1501
spirochetes in, with syphilitic nephritis, (109) 406
sugar in, during pregnancy, significance and treatment, (25) 86
sugar in, test for, (54) 1985
suppression, symmetrical necrosis of cortex of kidneys with puerperal eclampsia and, (21) 1837
test for breast-milk feeding, (75) 1986
test, Salkowski and Kojo, for diagnosis of cancer, (80) 1499
test, urochromogen, (125) 1589
toxic action of, in peritoneum, (89) 249
toxicity of, in acute infectious diseases, (87) 1195
toxicity of, in acute infectious diseases, antianaphylaxis in research on, (78) 326
tuberculosis bacilli in, with tuberculosis of testicle, (88) 1268
urea in blood and, constant ratio between, (42) 1400
urea in, Folin's michrochemical method for estimation of, (94) 1327
urea in, test for estimation of, clinical, rapid, (92) 1327
uric acid and purin bodies in, determination of, (111) 1037
uric acid in, method for colorimetric determination of, (78) 161, (74) 1028
urobilin and urobiligen in, in infant, (80) 406
urobilinogen in, functional activity of liver determined by, (112) 162, (117) 1673
urobilinogen in, scarlet fever differentiated by, (112) 1115, (129) 1750
urochomogen in, test for, 689, 928
UROBILIN, copper sulphate test for, (86) 1037
UROBILINOGEN and urobilin in infants' urine, (80) 406
in urine, functional activity of liver determined by, (112) 162, (117) 1673
in urine, scarlet fever differentiated by, (112) 1115, (129) 1750
test for, simple, (141) 871
UROCHROMOGEN in urine, test for, 689, 928, (125) 1589
UROLOGY, (33) 166
UROROSEIN and indican in urine, clinical significance of tryptophan in feces and, (81) 2072
UROTROPIN: See Hexamethylenamin
URTICARIA, epinephrin in, (6) 1026
in country children coming to Sydney, (12) 1668
UTAH medical news, 378, 678
UTERUS, adenomyoma, (28) 631
adenomyoma, pregnancy with, (121) 320
adnexa, puerperal lesions in broad ligaments and, (103) 90
anomalies in development of, (180) 873
anteversion, intra-abdominal myorrhapy of levator ani for, (100) 328
behavior of, in and after third stage of labor, (146) 1406
bicornis cause of chronic transverse presentation, (145) 1406
blood-supply of, influence of myomas on, special reference to abnormal uterine bleeding, (85) 783
blood-vessels, atheroma of, metrorrhagia due to, (19) 695
cancer, (125) 242, (62) 1742
cancer, after menopause, (91) 868
cancer, campaign against, (77) 168, (126) 251
Cancer Commission, Russian, report of, (117) 1038
cancer of cervix, cautery in radical treatment, (94) 1263
cancer of cervix, curability of, (54) 552
cancer of cervix, cystoscopy in determining operability of, (33) 788, (52) 1111
cancer of cervix, extended vaginal operation for, (95) 1262
cancer of cervix, laparotomy for, (52) 782
cancer of cervix, operation for, care of wound, (186) 563
cancer of cervix, Wertheim operation for, results after, (96) 1263
cancer of, in non-pregnant and pregnant, (89) 697
cancer of, mortality from, how may we reduce? *968
cancer of stump of, (192) 1754
cancer, operative indications with, (40) 1926
cancer, radical abdominal operation, (91, 92) 1262, (99) 1263
cancer, radical operation for, (93) 1262
cancer, roentgenotherapy of, (140) 92
cancer, tardy recurrence of, (65) 1498
cancer, urinary apparatus as guide to operability of, (90) 1500
cervix, amputation of, postoperative results, (84) 1397
cervix, diseases of, (95) 945
cervix, lacerated, non-surgical treatment, (110) 785
cervix, strangulation of anterior lip of, by pessary, (185) 563
cervix, vaginal, amputation of, technic of, (25) 1033
chorionic villi in wall of, eighteen years after last pregnancy, (16) 1185
contraction ring as cause of dystocia, (22) 1109, (12) 1744
curette, use and abuse of, (101) 1108
defects in development of, and sterility, (102) 90
discharges, bacillus, anaerobic, curved, motile, in, (38) 1106
diverticulum of, pregnancy in, (94) 328
double, cesarean section in double vagina and, (27) 1186
double, twin pregnancy in, (34) 1492
exotic flora of, in relation to fibroids and cancer, (1) 699
fibroids, (76) 553
fibroids complicating pregnancy, (74) 553
fibroids, complications of, demanding early diagnosis and immediate operation, (10) 396
fibroids, operations for, early, reasons for advising, (11) 396
fibroids, radical treatment, based on association with malignancy, (58) 1326
fibroids, urinary symptoms due to, (97) 1108
fibroma, phlebitis during course of, (54) 701
fibromas, radiotherapy for, technic and results in 193 cases, (55) 667
fibromas, roentgenotherapy of, (135) 252, (38) 1496, (89) 1500
fibromyoma, (71) 1580
fibromyoma, red degeneration of, (24) 1264
fibromyoma with unusual characters, (30) 1264
gravid, ductless gland in, (68) 1747

UTERUS, gravid, intestines compressed between spine and, (189) 563, (44) 1839
gravid, rupture of, in cesarean section scar, (126) 1673
gravid, with myoma size of adult's head, (89) 169
hands off, (133) 252, (151) 708
hands off, in third stage of labor, (111) 1115
hemorrhage, (143) **1751**
hemorrhages after menopause, (68) **482**
hemorrhages, drug treatment, (3) 1831
hemorrhages from non-pregnant uterus, surgical treatment, (4) 1831
hemorrhages from, of newborn infants, (115) 1673
hemorrhages, pathologic, (7) 1577
hemorrhages, roentgenotherapy of, (2) **1831**
hemorrhagic disease of, roentgenotherapy or vaporization in, (147) 1751
hemorrhage disease of, thyroid origin of, (104) **1930**
hydatidiform mole in, specimen of, (38) 1745
indirect fixation of, by operations on ligaments, advantages of, (55) 557
inertia, (32) 1579
inertia, pituitary extract in, **1733**—ab
inertia, treatment, **1733**—ab
inertia, under what conditions should it be treated by artificial delivery? **1734**—ab
infected, cesarean section on, (73) 1113
influence of extra-uterine pregnancy on blood-supply of, **1736**—ab
injury of, traumatic, severe, (122) 706
innervation of, (69) 1747
instrument perforates, and pulls down tube, (88) 169
inversion, (109) **1749**
inversion, acute, (44) 86, (64) **248**
inversion, childbirth after operative reduction of, (113) **1588**
inversion, chronic, (152) 486
involution of, or care of puerperium, (41) **1028**
ligament, calcareous fibroid, large, with absence of ovaries and, (21) 695
ligament, sensitive, short, significance and treatment, (90) 242
ligament, shortening uterosacral, (65) 1107
malformations, ***174**
malformations, operative treatment, (46) 403
menstrual and intermenstrual passive congestion of ovaries and, (46) 1746
misplacement, management of, (93) 1108
musculature of fallopian tubes and, outside of organism, pharmacologic research on, (172) 562
myofibromas accompanied by pregnancy, (143) 322
myoma and sarcoma of, relation between, its bearing on roentgenotherapy, (102) **1263**
myoma (18½ lbs.) and gall bladder calculus, (52) 477
myoma of cervix, 132 cases, (147) 162
myoma, roentgenotherapy for, (166) 587
perforation of, during treatment of abortion, (93) **328**
polypi, large mass of, with myomas, (20) 556
portio vaginalis of, investigation in relation to conception, (41) 324
prolapse, (62) 241
prolapse, complicated by hypertrophy of cervix, operation for, (4) 1494
prolapse, gauze sponges removed from bladder and vagina and months after a Duehrssen operation for, ***1879**
prolapse, hysterectomy for cure of, (11) 1324
prolapse, in elderly woman, cure of, new intra-abdominal technic, (95) **784**
prolapse, Le Fort's operation for, (13) 479
prolapse, operations for, compared, (42) 1187
UTERUS prolapse, operative treatment, (145) **479**, (73) **553**, (50) 557
reflexes, (136) 699
retroversion and uncontrollable vomiting of pregnancy, (51) **1111**
retroversion, occlusion of intestine by, (48) **1331**
retroversions, preference of operations for, (100) 1108
retroversions, surgical procedure for, new, (15) **695**
rupture, (106) 1262
rupture, spontaneous, and pulmonary embolism, (19) 556
rupture, under pituitrin, (79) **2072**
rupture, spontaneous, at third month of pregnancy, (166) 562
rupture, with extension of intestines, (11) 864
sarcoma, (55) 1028
sarcoma, early case, (29) 1264
septic treatment, (104) 785
septus with hyperemesis gravidarum, interruption of pregnancy at 3½ months followed by peritonitis, (23) 695
suspension, Gilliam operation for, (14) 694
tumors and goiter, **1572**—ab
vein, intraperitoneal hemorrhage during labor from rupture of, (114) 1588
ventrofixation, for frequency of urination, (10) 1031
ventrofixation, mishaps from, (113) 1842
ventrosuspension, by round ligaments, operation for, ***1701**
ventrosuspension, indication for cesarean section, (127) 242
wafer's, Micajah's, **65**—P
UTRICLE, prostatic, pyuria, intermittent, due to infection of, ***1073**
UVEAL tract diseases due to auto-intoxication (16) 1395

V

VACCINATION and local anaphylaxis, ***569**
Behring's, against diphtheria, (45) **1839, 1896, 2051**—E
Besredka's method of, (22) **1744**
dangerous, neglect of, **760**
diphtheria, **1720**, (58) **1986**, (32) **2069**
for various infections with living micro-organisms, (38) **1669**
gauze as scarifier in, **1318**—C
meningitis, prophylactic, ***1289**
of cattle against tuberculosis, (34) 1330
plague, opsonic index in, (26) **1745**
pseudotubercle and plague, relationship evidenced by experiments with, (23) 1744
small-pox and, (57) 782
small-pox with diagnosis and, series of cases, (47) 160
tuberculosis, (45) **1497**
typhoid, (119) 320, **467**, (47) 1028, (35) 1330
typhoid and paratyphoid, with live attenuated vaccines, (19) **1109**
typhoid, as state and municipal duty, (101) 1667
typhoid, experiences with, (106) 242
typhoid, in India, successful, **62**
typhoid, in Maryland, (43) 944
typhoid, in United States, (45) **1331**
typhoid, in United States army, **1167**
typhoid, no excuse for insanitary conditions, **57**—E
typhoid, variations in cholesterin content of blood under, (70) 1267
with avirulent plague bacilli mixed with agar, immunization of guinea-pigs with, (110) 84
VACCINE, **465**
acne, **1074**
and vaccine therapy, (39) **477**
attenuated, live, typhoid and paratyphoid vaccination with, (19) **1109**
autogenous, ***1539**
autogenous, in diagnosis and treatment of gonorrhea in female, (81) **950**
autolysates of skin of animals yielding, immunizing action of, (144) 92
bacillus coli, **1074, 1461**
bacillus pyocyaneus, **1074**
bacterial, in acute and chronic affections, **1733**—ab
bacterial, method for standardizing, ***1615**
VACCINE, diphtheria, bacillus, **1461**
fever and, (1) **785**
gonococcus, **1074, 1461**
gonococcus, in gonorrheal ophthalmia, (48) 944
gonorrheal arthritis, (175) 1272
in eye infections, (11) 1664
indiscriminate use of, **289**—E
instead of serums are given in infections, why, **1727**
meningococcus, **665, 1074**
nature of serums, tuberculins and, their use in tuberculosis, (29) 1395
pneumococcus, **665, 1074, 1461**
pustule on tongue, (70) 326
pyorrhea alveolaris, (51) 82
Schafer's, do untoward results follow use of phylacogens or, **308**
staphylococcus, **665, 1074, 1461**
streptococcus, **1074, 1541**
Theobald Smith on, **1646**—E
typhoid, **1074, 1541**
typhoid, and nursing mother, **1560**
typhoid, effect of freezing on, (20) **1027**
typhoid, in prophylaxis and treatment of typhoid, value of, method of administration, (45) 1493
typhoid, mixed, effect of, with regard to formation of agglutinins, (21) **1027**
typhoid, prophylactic value of, (102) 320
typhoid, use of, (68) 783
uses of, attempt to interpret, ***1591**
Vancott's, (105) 161
variola, research on, (60) 867
whooping-cough, (107) 478
VACCINE-THERAPY, (111) 90, (59) 948, (29) 1033
acne, (68) 319, **390**
acne, ionic, (136) 243
and bacteriology of distemper in horses, (21) 1578
and serotherapy, (4) 1668
and serotherapy defined, ***1459**
and vaccines, (39) **477**
articles in pamphlet form, **1903**
articles on, **1306**—E
autogenous, in epidemic of tonsillitis and acute arthritis, **1813**
bacterial, its indications and limitations, ***1298, *1360, *1459, *1539, *1621, *1704, *1791, *1880, *1955, *2046**
bronchitis, (8) 945
common colds and, (13) **1980**
current developments and problems in, **1914**—ab
erysipelas, (32) 700
erysipelas in infants, (88) 1189
gonorrhea, (91) 633
gonorrheal vaginitis, (34) **1496**
gonorrheal wart on face, (28) 1983
hay-fever, (32) 244, **1796**—E
influenza when old gonorrheal urethritis flares up, (147) 1674
of unusual infections, (51) **160**
pruritus, (54) **791**
principles and advanced methods in, (54) 398
puerperal infection, (150) **163**
pyorrhea alveolaris, (33) 239
recent work on, (38) 1110
rheumatoid arthritis, (26) **1983**
septicemia, (14) 1744
staphylococcus, improved technic, (90) 633
technic for inoculation, ***1621**
typhoid, (123) **1264**
typhoid in children, ***344**
typhoid, prophylactic, (112) 1397
whooping-cough, (5) **238**, (55) **1395**, (4) **1576**
VACCINIA and variola, etiologic relations between, (86) 558, ***1220**
blood in variola and, (134) 560
serpiginous, (83) 633
VAGINA, absence of, its reconstruction, (120) 478, (48) 557
artificial, and various procedures for correcting atresia vaginae, (28) 1745
artificial, by intestinal transplantation, (104) 242, (19) 625
bacteriologic findings, prognosis of puerperium based on, (105) 951
biologic factor in treatment, (106) **951**
cancer, primary, (58) **1111**
double, cesarean section in double uterus and, (27) **1186**
duplication of bladder, vulva and, with successive full-time pregnancy and labor in each uterus, (11) **946**
VAGINA, gauze sponge removed from bladder and, months after a Duehrssen operation for uterus prolapse, ***1879**
germs in, transmission to infant during labor, (181) 873
incision, pelvis examination in doubtful cases through, (48) 1741
lymphatics of vulva and, (59) 1111
obstetric laceration of roof of, (124) 1038
secretion, puerperal, streptococci in, (191) 1754
shelf for operations on rectum and, ***1537**
surgery, (46) 1395
thrombi of vulva and, and hematomas, (40) 1584
vaginofixation, mishaps from, (114) 1842
VAGINITIS, emphysematous, source of infection in, (77) 1987
gonorrheal, vaccine in, (34) **1496**
VAGOCLONIC symptoms, functional, attacks of, (153) 1406
VAGUS center, reflex stimulation of, in treatment of disease, (31) 324
nerve, circulation disturbances from sudden contraction of, (57) **702**
nerves, influence on faradized auricles in dog's heart, (43) 1261
VALETUDINARIANISM and malingering, prevention of, (4) 1582
VANADIUM, **212**—E, **225**—P
selenium in cancer, (97) 399
VANDERBILT University receives 1,000,000 dollars from Carnegie **1801**—E
VAQUEZ' disease, (16) 1399
VARICELLA: See Chicken-Pox
VARICES in Japan, (67) 1333
in pharynx, (146) 92
VARICOSE internal saphenous vein, resection of, (77) **558**
ulcers, Babcock's subcutaneous extraction method of treating, (126) 1844
ulcers, circumcision of leg for, (40) **1838**
veins, operation for, (60) **1927**
VARIOLA and poliomyelitis, (125) 1328
and vaccinia, etiologic relations between, (86) 558, ***1220**
blood in vaccinia and, (134) 560
vaccine, research on, (60) 867
VARIOLATION, historic evolution of, (21) **860**
VAS DEFERENS, roentgenography of seminal ducts and, by injecting collargol, ***800**
VASECTOMY, technic and effect on sexual intercourse, **769**
VAUGHAN, Victor, president elect, **2052**—E
VEAL, young, is it toxic? **834**—E, **1795**—E
VEGETABLE, contaminated, typhoid from, danger of, **1303**—E
diet in infant feeding, (156) 486
diet, physiologic value of, **1087**
digesting ferment, its application in infant feeding, (118) 251
medicinal value of fruits and, **147**
parasitic origin of diseases, deep injections of mercury for, (40) **862**
pulverized, (116) 636
VEIN anesthesia for operations on hand and foot, (48) **166**
anesthesia in 3745 cases, (49) **155**
iliac, external, thrombophlebitis of, ***1523**
iliac, left common, ligature of, in puerperal pelvic thrombosis, (17) 556
collateral circulation, (60) **325**
jugular, epithelioma inside, (82) 89
jugular, manometer findings in, (118) 91
jugular, pulsation in esophagus and, in tumor of left auricle, comparison of, (71) 1267
on hand, identification by, (109) 951
portal, malformed, thrombosis in, (149) 561
renal, implantation of, in vena cava in operative or other injury, (46) 947
rupture of, as industrial traumatism, (124) 407
saphenous, drainage of ascites into, direct, (69) **1333**
saphenous, internal, varicose, resection of, (77) **558**
splenic, thrombosis of, (88) **1114**
substitution of segment of, (65) 1333
urethra restored with segment of, (117) 1843

VEIN, uterus, intraperitoneal hemorrhage during labor from rupture of, (114) 1585
varicose, operation for, (60) **1927**
with arteriovenous aneurysm, importance of, experimental research on, (65) 702

VENA CAVA, implantation of renal vein in, in operative or other injury, (46) 947
inferior, occlusion of, from internal trauma, (7) **945**
thrombosis of inferior, case of, *1378

VENEREAL DISEASES, (66) 1742
among university students and upper classmen of high schools, **1897**
and general practitioner, (169) 163
hospital accommodation for treatment, (69) 1742
importance of, (34) 398
in army, **213**—E
in negro, special reference to gonorrhea, (66) 1922
outline for handling, **1357**—ab
prevention of, and general practitioner, (61) 782
prophylaxis, (121) 1328, (111) 1397
prophylaxis: why it sometimes fails, *1610
prostitution and, (65) 1327
rational treatment, (17) 630
treatment and pathology of, (71) 88
tuberculosis and, control of, helps in, (77) 553

VENESECTION, history of, (70) 863, (77) 944
in eclampsia, improved technic for, (142) **638**
in polycythemia, advantages of, (128) 1116
influence of subperitoneal injections of blood and, on red blood corpuscles, experimental study, (116) 560
plus salt infusion in skin disease, (138) 485

VENTILATION of moving-picture show as health problem, **1234**—E
of steel sleeping cars, (20) **397**
of war vessels, (124) 401
schoolroom, experiment in, (23) 1831

VERACITY, examination may be basis of opinion as to chastity but not, **545**—Ml

VERMONT medical news, **1717**
state board February repart, **1254**

VERONAL and other hypnotics, steps to check use of, **1008**

VERRUCA, gonorrheal, on face, vaccine therapy of, (28) 1983

VERRUGA, PERUVIAN, (76) 1586
comparative study in man and ape, (24) 158

VERTEBRAE: See Spine

VERTIGO, *1514
aural, non-suppurative, clinical and therapeutical study, (20) **244**
paracoustic, and nystagmus, (21) 81

VERUMONTANUM and prostate, diseases of, diagnosis and treatment, (62) 1028

VESICULITIS, seminal, chronic, (97) 1189

VETERINARY bulletin, tropical, **61**

VIBRIO in oriental sore, (106) 1842
non-pathogenic, properties and agglutinations of, (47) 1920

VICIOUS CIRCLE, breaking of, (6) 785
chronic, after gastro-enterostomy, especially with incarceration of loop in slit in mesocolon, (97) 483

VIENNA as clinical center, (67) 783
clinics, changes in organization, **1721**
letter, **64, 222, 300, 460, 533, 845, 918, 1168, 1240, 1375, 1474, 1554, 1721, 1807, 1896, 1973**
statistical data for 1912, **918**

VINCENT'S ANGINA, frequency and importance of its recognition, (88) **399**
in children, (84) 399
salvarsan in, **69**
treatment of, (47) 944, (50) 1585

VIRGINIA medical news, **217, 678, 1237, 1551**
state board December report, **854**

VIRUS, hog cholera, (43) 1106
hydrophobia, two methods for obtaining, (42) **1106**
virulent salt solution as, in manufacturing hog cholera serum, (37) 1920

VISCERA functioning, excessive, and morbid conditions in corresponding vascular system, experimental study of connection between, (71) 1113
inversion of, (80) 1747
inversion of, total, (131) 1270
transposition of, complete, *1296

VISCEROPTOSIS: See Splanchnoptosis

VISCOSITY, blood, influence of white blood corpuscles on, (62) 791
blood-pressure in relation to, (50) 791
blood, reduced in spontaneous gangrene, (113) **1404**

VISION: See Eye

VITALISM in practice of medicine, (66) 87, (3) 163
prevailing theories in regard to, (117) 328

VERTILIGO, case of, (70) 1493

VITREOUS, tolerance of, to dislocated lenses as index to reclination in given cases, (26) 317

VIVISECTION: See Animal Experimentation; Antivivisection

VOCAL art science from standpoint of use and abuse of voice, (66) 628
cord, paralysis of right, temporary, with sensory disturbance on left side of body, (68) **241**
training, standardization of, from teacher's standpoint, (65) 628

VOICE production and analysis, research work on, result of eighteen years of, (64) 628
production, need of standard in, (63) 628
singing, overcoming defect in, technic for, (89) 1037

VOLKMANN'S contracture, treatment, (29) **1325**
ischemic contracture of hand, (27) **1984**

VOLVULUS and perforation in multiple mesentery chyle cysts in girl of 7, (144) 330
cecum, intestinal obstruction, acute, due to, (25) **556**
intestine, in incarcerated hernia, (84) 1333
sigmoid flexure, (153) 1329

VOMICA in children, (29) 1191

VOMIT, duodenal mucus in, (66) 325

VOMITING, cyclic, in children, adrenal origin of, (32) **1926**
diarrhea with, symptoms from loss of fluids in, (56) 1402
infants, sweetened condensed milk arrests, 20 cases, (59) 1266
infants, treatment, (65) **248**, (110) **559**
infants, uncontrollable, sugar in, (60) **1498**, (35) **1926**
periodical, adrenal origin of, (62) **1266**
pernicious, of pregnancy, (18) 556, (140) **637**
pernicious, vaginal cesarean section in certain cases of, (86) 1834
pregnancy, uncontrollable, and uterus retroversion, (51) **1111**
pregnancy, uncontrollable, epinephrin in, (53) 325
pregnancy, uncontrollable, serotherapy of, (45) **403**, (154) 1117
recurrent, (51) **552**

VON NOORDEN'S impression of American conditions, **64**

VULSELLUM cervix forceps, double, *1952

VULVA, cancer, (179) 873
diphtheria, recurring, (117) 705
duplication of bladder, vagina and, with successive full-time pregnancy and labor in each uterus, (11) **946**
elephantiasis, cesarean section and panhysterectomy in, recovery of mother and child, (14) 479
elephantiasis, tuberculous, primary, (121) **706**
lymphatics of vagina and, (59) 1111
thrombi of vagina and, and hematomas, (40) 1584

VULVOVAGINITIS, gonorrheal, in children, cause of persistence of, (8) 238
gonorrheal, serodiagnosis of, (4) 1324
in children, (4) **1104**

W

WAGE earners, national insurance of, in Russia, (94) 950

WALDEYER'S ring, pathogenicity of, relative to ear disease, (76) 1834

WAR, Austrian sanitary preparations in event of, **918**

WAR, cost of health and, **831**—ab
moral and mental training for, (99) 1397

WART: See Verruca

WASHINGTON medical news, **678, 843, 1237**
state board January report, **772**

WASSERMANN Reaction: See Reaction, Wassermann

WASTE: See also Garbage

WASTE, city, collection and disposal of, and public health, (12) 1492
city, sanitary disposal of, (60) 1834

WATER absorption by protoplasm, colloid-chemical theory of, *348
agglutination and sedimentation and their bearing on, (22) 786
analysis, guides to, **769**
analysis, standard methods of, **374**—E
bacteria in, method of counting, (34) **1984**
bacterial examination of, **1709**—E
bacteriologic examination of, standard methods for, (17) 1492
Baltimore city, effect of chemical treatment on, (32) 1325
-borne disease, prevention of, in lake and river traffic, (46) **82**
chemical study of ozone and, (156) 1198
circus freak able to ingest and expel large quantities of, (93) **1937**, (125) 1749
contaminated, pathologic dangers to domestic animals from, (35) 695
distilled, hemoglobinuria from ingestion of, experimental, (107) **328**
distilled, vs. salvarsan in syphilis, (19) **1399**
drinking, copious, and tropical residence, **611**—ab
drinking, effects on meals, **146**—C
drinking, lead poisoning from, chronic, (48) 1107
drinking, origin of goiter, arguments against, (124) 1116, (104) 1749
drinking, purification of, literature on, **1813**
drinking, radio-activity of, and endemic goiter, no probable connection between, (104) 1749
filtration, does it avert danger of typhoid? **541**
harbor, pollution of, of New York, its bearing on health, (67) 553
mineral, action of alkalines and, (165) 1675
mineral, in pediatrics, (97) 169
mineral, natural and artificial, (201) 874
mineral, radio-activity as potent element in, overestimation of, (44) 2070
New York harbor, purification of, (61) 1742
pollution and typhoid, (71) 553
potability of, how determined in temporary camps, marches and maneuvers? (112) **242**
purification, (125) 478
purification, calcium hyperchlorites for, **211**—E, (60) 1107, **1480**
purification for large cities, methods of, *411
purification, hyperchlorite in strength of, **466**
retention of salt, nitrogen or, in nephritis, (52) 701
spring, concentrated, Pluto, **1013**—P
spring, hot, analysis of, new, **1542**—E
sterilization of, ultraviolet rays in, (214) 1754
supply, Cleveland, sanitary condition of, (58) 83
supply, country sewage disposal and, **540**
supply in Alaska, **1851**—ab
typhoid, epidemic due to mistake in piping, **1720**
typhoid in, municipality liable for, **70**
universal beverage, (190) 488

WEBER, Rinné and Schwaback tests, prognostic value of, (82) 477

WEDGE resection of ribs to reduce size of thorax in lung tuberculosis, (165) **487**

WEIGHT and height at different ages of applicants at recruiting station, Cleveland, (158) 479
body, method of increasing, (29) 1330, (37) 1745
curve of infant in relation to food, (29) 1185

WEIL cobra venom test, **1247, 1813**

WERTHEIM operation for cancer of cervix uterus, results after, (96) **1263**
operation, pelvic cellulitis following, (56) **247**

WEST Virginia medical news, **759, 1237, 1804**
state board November report, **154**

WESTERN University charged with being diploma mill, **760**

WHEAT grains, roasted, in diet for constipation, neurasthenia, heart disease, etc., (129) 1116

WHEY in catarrhal enteritis resembling dysentery, (94) 1195
in diarrhea in infants, (117) **1404**
in infant feeding, (107) 1673

WHISKY blends, **1814**

WHITEHEAD operation for hemorrhoids, 200 cases, (94) 783, (66) **1333**

WHOOPING-COUGH, (120) 1030
bacteriologic diagnosis, (76) 1671
Bordet-Gengou bacillus and, (49) **1187**
deviation of complement in, (68) 2071
nature and prevention, (136) 401
plea for better control of, *1677
prevention of measles and, (113) 1263
psychic factor in, (62) 404
vaccine therapy of, (5) **238**, (107) 478, (55) **1395**, (4) **1576**

WIESER, Count, an oculist, following Friedmann's methods, **1971**

WILEY, attitude of, on advertising, **1646**—E
for his old position, **68**—C

WILL power, can it be measured? (206) 564

WILM'S technic for prostatectomy, (131) 329

WILSON Brothers' gluten flour, **924**—P
Doctor, of national antartic expedition, 1910, career of, **760**
President, rises to emergency in flood districts, **1079**—E

WIRE, spiral, to remove diphtheric pseudomembranes, (148) **486**

WISCONSIN medical news, **218, 296, 378, 759, 1085, 1237, 1471, 1717**
state board January report, **1978**

WITNESSES, attending physicians, failure to call as, **396**—Ml
privilege and competency of, construction of amended statutes with reference to, **1829**—Ml

WOLFE graft used to correct total ectropion of upper eyelid, (85) 1580

WOMEN, appendicitis in, (81) 1927
clubs, what federation of, will do to conserve health and lives of women and children in Kentucky, (90) 1029
in industry in United States, (7) 780
in medical world, (117) 242
motorists, **597**—E
non-medical, at Berlin medical society, **141**
predisposition of, for goiter, (214) **564**
students in Germany and France, **1472**
working, effects of industrial strain on (1) **396, 428**—ab

WOOD'S cure for drunkenness, **229**

WORK as therapeutic measure, (54) 862
graduated, in lung tuberculosis, (54) **944**

WORKMEN'S compensation act, **380, 916**, (43) 1395, (66) 1498
compensation act, plea for medical reference versus inspection, (6) 1582
compensation and internal anthrax, (99) 1195
compensation laws and defective vision, **1075**—ab

WORMS, intestine obstruction due to, literature on, **310**
screw, in nose, (114) 1667

WOUND after operation for cancer of uterus cervix, care of, (186) 563
aseptic, fever and postoperative hyperthyroidism, identity of cause and their prevention, (133) 1030
closure, postoperative treatment of laparotomy with complete, (84) 83
diphtheria and diphtheroid, (79) 1333
fever, aseptic, and postoperative hyperthyroidism, identity of cause and prevention, (27) 1831

WOUND, fresh, iodin for, (102) **1835**
granulating, ointment in, treatment, (76) 1493
gunshot, non-penetrating, gangrene of intestine from, (62) 477
gunshot, of abdomen, **237**—ab, (67) 949, ***955**
gunshot, of abdomen in civil practice, (63) 1493
gunshot, of head, traumatic epilepsy after, (107) **1404**
gunshot, of intestines, (34) 81, (100) 1029
gunshot, of skull, treatment, (116) 328
gunshot, produced by modern projectiles, **761**, (102) **794**, (201) 1754
gunshot, prophylaxis of infection from, (81) **168**
gunshot, treatment, (50) 1332
heart, penetrating, operation for, (6) 1494
in Balkan campaign more serious than at first supposed, **1552**
WOUND, infected, at time of injury, treatment including iodin and serums, (63) 783
infected, suture of artery in, successful, (151) **1270**
infection in surgery, prophylaxis of, (126) **329**
margin after excision of saddle ulcer of stomach, closure of posterior edges of, how to simplify and make more accurate, (91) **784**
paraffin in, (131) **91**
pyelotomy, management of, (131) 1337
stab, of heart, (68) 1402
stab, of lungs, treatment, (58) **2071**
suturing, technic for, (74) 249
treatment, (189) 488
treatment, in peace and war, (96) 1841
WOUNDED, evacuation of, organization and equipment for, (113) 242
relief of sick and, in war, (26, 28, 30) 86
WRINKLES, atropy of optic nerve due to injection of olive oil and lanolin for removal of, (83) 553
face, and emotional grimace, (43) 402
WRIST bones, resection of, for ischemic contracture, (136) **1502**
injuries of, back-fire, and hyperextension, (38) 1265
radial dislocation of, (74) 1840
WRITING, invisible, tests for, (160) 1502
WRY NECK: See Torticollis
WYETH'S collyrium, **1557**—P
WYOMING medical news, **218**, **1006**, **1085**
state board March report, **1386**
state board October report, **469**

## X

XANTHOMA tuberosum multiplex, epithelioma of lip complicated by, (109) 629
XERODERMA pigmentosum, (103) 629
X-RAYS: See Roentgen ray

## Y

YANKAUER treatment in tubotympanic trouble, experiences with, (87) 1107
YAWS: See Frambesia
YEASTS, acid-destroying, influence of certain, on lactic bacteria, **1961**—E
action on yeast nucleic acid, (51) 318
YELLOW FEVER, condition of, throughout Mexican Republic, annual report, (13) 1184
dissemination and prevention of, (7) **1026**
etiology of, (128) 952
YOUNG Men's Christian Association, possibilities of concerted public health work by, (94) 1029

## Z

ZONA on right and symmetrical area of purpura on left arm, (83) 89
ZOSTER, face and leg, comparison of, ***1692**

# AUTHOR INDEX

In this Index, as in the Subject Index, the black-face type refers to reading-matter in THE JOURNAL; the light-face to articles in other journals and not abstracted in the Current Medical Literature Department. The asterisk (*) preceding the page reference indicates that the original article appeared in THE JOURNAL. The numbers in parentheses indicate the numbered paragraphs on the pages referred to. The numbers not in parentheses indicate pages.


## A

Aaron, C. D., *350
Abadie, J., (50) 557, (49) 701, (51) 1034
Abadie, P., (65) 867
Abbe, R., (105) 1029
Abbe, T., (87) 783
Abbott, A. W., (42) 1187
Abbott, E. G., 1817, (67) 1986
Abbott, G. H., (48) 629
Abbott, J. C., (84) 1743
Abbott, W. J., (17) 941, (62) 1326
Abderhalden, E., (116) 91, (131) 1116, (117) 1196, (74, 86) 1586
Abel, K., (77) 1193
Abell, G., (89) 1835
Abelmann, T. C. H., (71) 1666
Abels, H., (84) 868
Abercrombie, R., (7) 785
Abetti, M., (127) 407
Abrahams, A., (12) 2068
Abrahams, R., *1150
Abramovitz, M., *824
Achard, C., (35) 947, (47) 1034, (57) 1266, (44) 1985
Achard, H. J., (41) 782
Achland, T. D., (55) 480
Achs-Nagy, S., (79) 168
Adair, F. L., (137) 321
Adalid, E., (132) 407
Adami, J. G., (81) 161, 1573, (58) 1742, 1911, (25) 2067
Adams, B. O., (12) 1394
Adams, G. S., 1784
Adams, H. W., (54) 696
Adams, J. E., (24) 1109, (24) 1496
Adamson, H. G., (12) 1032
Adcock, D. C., (39) 781
Addison, O. L., (27) 1496
von Adelung, E., (18) 1739
Ader, H. F., (116) 162
Adie, H. A., (6) 401
Adler, H. M., (24) 625, (31) 1186, (22) 1739, (40) 1981
Adler, S., (84) 1402
Agawa, S., (84) 249
Agazzi, B., (99) 170
Ahlfeld, F., (175) 872, (75) 1402
v. Aichbergen, A. K., (80) 168
Aichel, O., (77) 1987
Aikins, W. H. B., (61) 87
Aikman, J., (96) 1189, (24) 1191
Aime, (29) 1191
Aimes, A., (51) 1332
Aitken, A. B., (13) 164
Aizner, (89) 793
Akerman, J., (132) 1590
Alamartine, H., (86) 1499, (36) 1583, (45) 1926, (43) 1984
Albee, F. H., *1044
Albert, H., (6) 1738
Albert, L. L., (50) 1028
Albertoni, P., (149) 1502
Albert-Weil, (50) 247
Alcindor, J., (34) 480
Alden, A. M., 1876
Alessandi, R., (159) 1118
Alexander, E. G., (29) 1324
Alexander, W., (74) 1035
Alfaro, G. A., (159) 708, (170) 1676, (213) 1754
Alger E. M., (80) 1107
Alglave, P., (18) 2069
Alilaire, E., (31) 1330
Allan, J., (17) 401, (133) 1328
Allan, W., *664, (78) 1262
Allard, E., (60) 1586
Allbutt, T. C., (31) 86, 587
Allegri, A., (140) 330
Allemann, A., (136) 706
Allen, A. R., (155) 243, (21) 1324
Allen, C. W., (117) 162, 1488
Allen, E. S., (51) 1493
Allen, H. W., (3) 1738
Allen, I. O., (64) 477
Allen, M. D., *1953
Allen, W. H., 1727
Allen, W. L., (38) 1187
Alles, E. C., (23) 244
Allison, N., (74) 477, (2) 1491
Allison, W. R., (57) 160
Allport, F., (75) 83, (147) 243, (84) 553, (146, 152) 1030, (15, 48) 1395, (82) 1580
von Almen, S. G., (69) 1922
Alperin, M. S., (140) 1197
Alter, F. W., (89) 1107
Althoff, H., (116) 1269
Altmann, J., (113) 1842
Altmann, K., (117) 1269
Alton, W. L. S., (13) 630
Alvarez, C., 1503
Alvarez, M. G., (134) 952, (179) 1272
Ambard, L., (55) 324
Amberg, E., (18) 81
Amberg, S., (51) 318
Ambrose, T., (4) 1264
Am Ende, C., (57) 1493
Amesse, J. W., (9) 1394
Ameuille, P., (72) 867
Ammann, R., (119) 329
Amoss, H. L., (34) 626
Anders, A., (51) 1187
Anders, J. M., 67, 1023
Andersen, K., (51) 948
Anderson, F. A., (10) 786
Anderson, H. B., 1915
Anderson, J., (6) 1743
Anderson, J. F., (38) 86, (95) 555, (31) 695, 1572, 1845
Anderson, R. J., (74) 161
Anderson, W., (24) 1837, (22) 1983
André, P., (35) 166
Andree, H., (115) 1269
Andresen, A. F. R., (72) 628, (42) 1579
Andrewes, F. W., (5) 1190
Andrews, A., (3) 1668
Andrews, H. R., (29, 32) 1496
Andrews, J. W., 315
Andrews, N., (153) 1031
Andriescu, C., (35) 1330
v. Angerer, C., (149) 485
Anglada, J., (41) 1034, (54) 1497
Angus, H. B., (29) 1109
Anitschkow, N., (122) 1270, (113) 1749
Antonelli, G., (167) 1271, (81) 1987
Antoni, E., (93) 1268
Aquino, P. B., (107) 794
Aragão, H. de B., (153) 92, (147, 151) 1406, (84) 2072
Arany, S. A., (28) 1330
Archambault, L., (2) 474, (1) 1258
Archibald, E., (71) 697, (5) 2066
Arena, G., (125) 952
Argañaraz, R., (124) 251
Argaud, R., (82) 89
Armand-Delille, P. F., (16) 2069
Armann, W. F., (10) 694
Armbrust, G., (130) 407
Armour, R. G., (38) 1741
Armstrong, A., 1016
Armstrong, G. E., (22) 1105
Armstrong, W. E. M., (28) 1983
Arnaud, L., (46) 1331, (35) 1583
Arnd, G., (75) 1036
Arneth, (121) 1749
Arnold, F. S., (38) 1838
Arnold, H. A., (84) 864
Arnold, H. D., 775, (12) 860
Arnold, H. L., (40) 1395
Arnold, J., (190) 563
Arnold, J. D., 539
Arnold, W., (116) 1196
Arnoldi, W., (80) 1671
Arnozan, X., (56, 57) 557
Arnsperger, H., (91) 327
Arnstein, A., (61) 2071
Aron, E., (55) 948, (51) 1985
Aronson, H., (108) 869, (87) 1194
Artamonoff, A., (83) 1987
Arteaga, J. F., (203) 564
Arthur, R., (5) 322
Artz, L., (168) 562, (98) 1588
Asehenheim, E., (97) 250, (70) 1986
Ascher, F., (104) 483
Aschoff, K. L., (132) 1116
Aschoff, L., (142) 560, (96) 1037
Ashburn, P. M., *1220
Ashby, H. T., (16) 630, (6) 2067
Ashford, B. K., (5) 1025
Assmann, H., (73) 326
Atanassiu, C. C., (58) 247
Atherholt, G. W., (18) 1831
Atkey, O., (27) 556
Aubertin, C., (40) 789, (42) 1191
Aubourg, P., (68) 1671
Aubrey, G. K., (44) 1111
Auer, E. M., *269
Auerbaeh, F., (131) 91
Auerbaeh, J., (87) 399
Auerbaeh, S., (34) 861
Aulde, J., (44) 1982
Austin, C. K., (108) 242
Austin, J. H., (10) 624, (78) 1028, (21) 1259
Austoni, A., (202) 1754
Austregesilo, A., (180) 488
Austrian, C. R., (40) 398, (33) 1665
Autenreith, W., (114) 328, 1561
Auvray, M., (39) 1497
Avery, O. T., (37) 1981
Avite, G., (138) 252
Axhausen, G., (53) 948
Ayers, E. A., (83) 319
Aynesworth, H. T., (32) 943
Ayres, B., 1014
Ayres, W., (60) 1922
Aytoun, J. H., (44) 86

## B

Babcock, K. C., 775
Babcock, W. W., (99) 399, (96) 1581, 1900, (49) 1982
Babitzki, P., (103) 951, (142) 1406, (92) 1672
Bachmann, R. A., *1154, *1610
Bachstez, E., (128) 636
Bacmeister, (75) 326, (98) 1403
Bacon, C. S., (84) 697
Badet, R., (64) 558
Badin, (65) 1671
Baehr, G., (86) 1402
Baer, B. F., (158) 243
Baer G., (73) 703, (132) 706
Baeslock, F. W., (29, 32) 475, (43) 1106
Baetge, P., (110) 1501
Baetz, W., *1065
Baetzner, W., (43) 480
Baginsky, A., (76, 77) 1113
Baglioni, G., (199) 1754
Bahr, F., (57) 166
Bailey, C. H., (42) 1832
Bailey, F. W., (85) 161
Bailey, P., (13) 941, 1393
Bailey, W. C., (60) 1666
Bain, W., (33) 1110
Bainbridge, W. S., (28) 1496
Baker F. C., (7) 1394
Baker, H. W., (49) 1833
Baker, M. N., (10) 1184, (11) 1492
Baker, S. J., (5) 550
Baketel, H. S., (91) 1189
Balard, P., (55) 1401, (49) 1746
Balas, D., (66) 1927
Balboni, G. M., (49, 54) 82, (34) 239
Baldwin, A., (27) 86
Baldwin, E. R., 1574
Baldwin, H., (19) 239
Baldwin, H. A., (3) 316
Baldwin, J. F., (154) 162, (104) 242, (3) 316, (62) 477
Baldy, J. M., 935
Balfour, A., (24) 787, (6) 1397
Balint, R., (106) 90
Ball, C. B., (25) 695
Ball, C. F., (114) 1923
Ball, C. P., (5) 1743
Ballance, C. A., (9) 81
Ballenger, E. G., (61) 553
Balliano, A., (67) 632
Ballin, M., (73) 1666
Ballin, M. J., (49) 862, (80) 1922
Balthazard, V., (56) 1111
Balu, A., (92) 1929
Balzer, F., (79) 1499
Bamberg, K., (173) 1753
Bamberger, A., (5) 238
Bandi, I., (143) 330, (14) 946, (33) 1264
Bandler, S. W., (11) 158, (23) 1027, (46) 1395
Bane, W. C., (63) 83
Bang, S., (46) 1584
Banister, J. B., (32) 787
Bankart, A. S. B., (15) 865, (19) 1583, (4) 1982
Baraeh, J. H., *569, (2) 1979
Barany, R., (113) 407, (142) 707, (86) 1672
Barbat, J. H., (70) 697
Barber, M. A., (103, 110-112) 84, (113) 1836
Barbier, H., (47) 247
Barbour, H. G., (39) 861
Barbour, H. V., (33) 2067
Barbour, L. P., (55) 1833
Barbour, P. F., (101) 161
Barchet, (94) 328
Barclay, W. F., (59) 627
Bard, L., (111) 794, (129) 952, (71) 1267
Bardach, B., (144) 707
Bardach, H., (124) 329
Bardeen, C. R., 931
Bardon, M., (40) 1838
Bardswell, N. D., (39) 402, (29) 480, (30) 1109, (22) 1191
Baright, H. E., (32) 1395
Barile, C., (104) 170
Barjon, F., (76) 1499
Barkan, A., (51) 1326
Barkan, H., (123) 1336, (12) 1664
Barker, A. E., (2) 555, (20) 700, (19) 1495
Barker, B. I., (29) 1395
Barker, L. F., (13) 239, (43) 398
Barker, O. D., (168) 163
Barkley, A. H., (53) 627
Barling, H. G., (29) 631
Barling, S., (12) 1329
Barlow, C. A., (151) 1030
Barnabo, V., (98) 170, (203) 1754
Barnard, H. E., (14) 1184
Barnes, B. F., (79) 864
Barnes, F. H., (52) 944
Barnes, H. L., (94) 84, 1570
Barnes, J. H., (79) 1580
Barnes, N. P., 1913
Barnett, C. E., (159) 162
Barney, J. D., (20) 860
Barnhill, J. F., (33) 552, (37) 1492
Baron, A., (80) 1927
Barr, J., (1) 1494
Barr, R. A., (92) 1922
Barratt, J. O. W., (18) 786, (27) 865
Barrenscheen, H. K., (181) 1753
Barreto, B., (196) 563, (150) 1406
Barrett, A. M., (1) 1663
Barrett, C. W., (123) 320
Barrett, J. W., 611
Barrett, W. E., (40) 1400
Barrie, G., (21) 625
Barrington-Ward, L. E., (3) 479, (25) 1583
Barrow, W., (99) 1029
Barrows, C. C., (73) 553
Barsony, T., (80) 1927
Bartel, J., (77) 949, (134) 1406
Bartels, C. D., (195) 488
Barthélemy, M., (53) 701
Bartlett, A. W., 1479
Bartlett, C. J., *176
Bartlett, E. A., (2) 694
Bartlett, W., (12, 17) 316, (136) 321, *511, (23) 551, 1846
Barton, J. L., 228
Bartow, B., (1) 1491, (67) 1580
Bashford, E. F., (77) 633
Bass, C. C., 1486, (85) 1667, 1822
Bass, F., (23) 1831
Bass, M. H., (3) 550, (14) 1258, *1608, (39) 1832
Bass, R., (135) 92
Bassal, (39) 1926
Bassett, V. H., (115) 1836
Bassett-Smith, P. W., (15) 946
Bassler, A., *801, (69) 863, *1283
Bassoe, P., (13) 1258
Bastian, H. C., (14) 86
Bastianelli, R., (131) 1337
Batavyal, K. L., (31) 1669
Bates, G., (50) 398
Bates, L. B., *898
Bates, M. E., (10) 780, (67) 863
Bates, U. C., *2032
Battle, I., (106) 1189
Battle, W. H., (11) 2068
Bauer, (108) 1195
Bauer, J., (120) 560, (138) 1674
Baughman, G., *351
Baum, (85) 327
Baumann, E. J., (44) 1665
Baumel, J., (53) 1034
Baumgartner, E., (86) 793
Baumm, P., (61) 791
Baur, J., (158) 1271
Baux, G., (52) 403
Bayer, C., (181) 563
Bayer, R., (99, 100) 869
Bayet, A., 919
Bayley, H. W., (32) 1983
Bayon, H., (43) 86
Baze, R. J., (93) 1108
Bazy, L., (34) 166, (80) 558, (44) 1400 (39) 1745
Bazy, P., (34) 166
Beaeh, S. J., (38) 1579
Beall, F. C., (131) 85, (106) 320
Bean, J. W., (11) 86

Bean, R. B., (26) **159**
Beard, G. M., **900**
Beard, J., (83) 1189
Beard, S. L., (102) 1029
de Beaujeu, A. J., (53) 1746
Beck, C., (107) 1195, (174) 1753
Beck, J. C., (11) 81, (64) 398
Beck, J. E., (125) 1030
Becker, P. F., (94) 1268
Becker, W., (70) 791
Beckers, W., (55) 791, (54) 1985
Beckman, E. H., (72) 1327, (34) 1832
Beckmann, W., (152) 486
Bedeschi, P., (157) **1118**
Bedford, P. W., (7) 1494
Beebe, S. P., **227, 2021**
Beer, E., *267, (76) 628
Beer, H., (137) 92
Beers, N. T., (70) 1493
Beeson, C. F., (54) 1580, (70) 1922
Béhague, A., (64) **248**
Behan, B. J., (127) 485
Behla, R., (53) 1985
Behne, O. J. W., (193) 1754
Behrend, E. B., (44) **1832**
Behrend, M. M., (105) 869
Behrenroth, E., (88) **633**
v. Behring, E., (45) **1839**, (58) **1986**
Beissy, (72) 558
Beitzke, H., (110) 251
Bel, G. S., (115) 162
Belak, A., (77) 404
Belfield, W. T., *800
Beling, C. C., (108) 1189
Bell, A. J., (62) 627
Bell, F. D., (11) 1184
Bell, J. M., **1101**
Bell, J. N., (2) **157**
Bell, W. B., (35) **1265**, (10) **1329**, (20) 1399, (14) 1582
Bellis, G. L., (155) 1031
Bellows, L. W., (140) 162
Below, N. A., (98) 328
Benard, H., (57) **247**
Bendell, J. L., (30) 81, *1537
Bendix, B., (153) 562, (175) **1753**
Benedek, L., (135) 560
Benedict, A. L., (90) **477**, (23) 1980
Benedict, F. G., (116) 1501
Benestad, G., (151) 330
Benfey, A., (102) 1037
Benjamin, A. E., **149**, (64) 160
Benjamin, E., (155) **871**
Bennett, A. B., (82) 477
Bennett, R. A., (39) **480**
Bensa, (64) 1671
Benthin, W., (105) **1269**
Bentley, B. J., (1) 629
Berard, L., (45) 1926, (43) **1984**
Beresnegowsky, N., (57) 1926
Berg, A. A., *881
Berger, H., (133) **1405**
v. Bergmann, G., (116) 636, (75) **792**
Bergmann, J., (153) 562
Bergmark, G., (141) **408**
Bériel, L., (71) 1499, (46) 1926
Bering, F., (120) **329**, (100) **406**
Berkeley, W. N., (64) 1666, (58) 1982
Berkeley-Hill, O., (22) 1330
Bernard, (169) 872
Bernard, L., (49) 1401
Berndt, F., (83) 168
Berner, O., (124) 1270, (181) 1676
Bernhard, O., (102) **1500**
Bernhardt, G., (111) 559
Bernheim, B. M., *360, (25, 26) **941**
Bernheim, M., **176**
Bernheim, S., **1090**
Bernoulli, E., (106) **1930**
Bernstein, E. J., (15) 1739
Bernstein, H. S., (5) **694**, (2) 1918
Bernstein, P., (68) **1333**
Berry, J., (17, 25) 1109, (17) 1191
Berry, J. M., (127) **320**
Berry, V., (97) 1108
Berry, W. D., (89) 319
Bertarelli, E., (93, 95) 169
Bertels, A., (116) 1038
Bertelsmann, R., (148) 707
Berthaut, (61) 1402
Berthelot, A., (22) 946
Bertog, J., (126) 1750
Bertolotti, (58) 1193
Bertolotti, M., (186) 1272
Bertrand, D. M., (22, 29) 946
Bertrand, G., (38, 42) **246**, (43) **866**, (24) 946, (24) 1925
de Besche, A., (217) 564, (85) 1194
Besredka, A., (48) 1670
Best, F., (78) 1747
Betke, P. M. R., (68) 1035
Bettmann, M., (52) **1926**
Beumer, F. W. C., (76) 703
Beuttner, O., (57) 791
Bevan, A. D., **690**, *974
Bevan, E. W., (33) 1669
Bevers, E. C., (35) 1983
Beyer, C., (46) **1497**
Beyer, T., (166) 562
Beyer, W., (76) 326, (111) 705, (144) **870**
Biekel, A., (82) 1113
Bickel, H., (64) **404**
Bie, V., (94) 1988
de Biehler, M., (50) 1192
Bier, A., (82) **482**
Bierbaum, K., (88) 1672
Biermann, (91) **704**
Bierring, W. L., (96) **698**, (80) 1834
Bierry, H., (41) 1984
Biesalski, K., (103) **1672**
Bigelow, O. P., (47) **1741**
Biggs, H. M., (66) 1742
Bignami, A., (70) 783
Biilmann, H. S., (135, 136) 1844
Bilancioni, G., (138) 1338
Billings, F., *495
Bindi, P., (125) 1038
Bing, R., (90) **327**
Bing, R., (90) **327, 2026**
Binney, H., (19) 860
Bird, M. D., (119) 699
Birdwood, G. T., (21) 1330
Birk, W., (99) **1930**
Bisgaard, A., (134) 1038
Bishop, E. S., *431
Bishop, L. F., *803, **1484, 1913**
Bishop, R. H., (14) 1492
Bith, H., (47) 403, (52) **867**
von Bitter, G., (93) 1195
Bittorf, A., (154) 708, (139) 1750
Bitzer, A. W., (120) 85
Bixby, E. M., *900
Bizarri, A., (96) **169**
Bjalokur, F., (61) 1035
Björkenheim, E. A., (76) 482, (124) 1038
Blachly, C. D., (135) 699
Black, C. E., (35) 81, (52) 398, *1698
Black, E. H., (8) **555**
Black, J. H., *1289
Black, K., (7) **1108**
Black, N. M., (82) 945, (75) 1396
Black, W. T., (86) 242
Blackader, A. D., **77**
Blackham, R. J., (57) 944
Blacklock, B., (1, 2) **401**, (5) 1397
Blackwell, E. M., (125) 401
Blad, A., (163) **708**
Blair, W. W., (139) 478
Blaizot, L., (49) **1670**
Blake, E. M., (146) 243
Blake, J. B., **2023**
Blake, J. D., (44) 944
Blakeway, H., (18) 1399
Blakey, H. B., (108) 1923
Blaksley, J. A., (189) 488
Blanchard, A. H., (112) 1923
Blanchard, R., (54) 1670
Blanchard, W., **1917**
Blaneo, S., (166) 1502
Blanc-Perducet, (46) 1034
Bland-Sutton, J., (1) 699
Blatteis, S. R., *811
Blauel, K., (75) 1333, (93) **1500**
Blech, G. M., *122
Blecher, A., (151) 1674
Bleek, T., (126) **706**
Bleynie, G., (41) 1584
Bloch, M., (63) 1266
Block, I., (90) 1929
Blohm, G. J., (169) 1198
Blomquist, A., (167) 1198
Bloodgood, J. C., **1737, 2019, 2065**
Bloomfield, A., (34) **159**
Bloss, J. R., (106) 785
Blount, W. J., (81) 783
Blue, R., **464**
Blühdorn, K., (110) **559**
Blum, L., (93) 1929
Blum, V., (5) 316, (12) 475
Blumberg, (92) **1748**
Blume, F., (13) **158**
Blumenfeld, S. S. S., (91) **1194**
Blumenthal, M., (90) 249
Boas, H., (202) 874
Boas, I., (67) **1035**, (48) **1585**
Boek, J. C., (94) 1327
Böeker, W., (89) 1194
Bodenstab, W. H., (73) 1327
Boeekel, A., (35) 166, (37) **1496**
Boehm, E., (22) **941**
Boehme, G. F., (86) 1189
Boehncke, K. E., (125) 1116, (85) **1929**
Boeri, G., (142) **252**
Bogason, P., (93) **1988**
Bogdanovitseh, M., (65) 1927
Boggess, W. P., (49) 1261
Boggs, R. H., (108) 478
Boggs, T. R., (33) 159
Bogoras, N., (59) **1926**
Boise, E., (61) 241
Boit, (130) **1337**
Boldt, H. J., (125) 242, *968, (87) 1189, **1252**
Bolduan, C. F., (18) 1027, (93) **1189**
Böling, W., (59) **1986**
Bollag, K., (90) **1334**
Bolling, L. A., (27) 1920
Bolognesi, G., (48) **1497**
Bonamy, (73) 867
Bond, C. J., (9) **1329**, (5) 1582
Bond, E. D., (8) 1663
Bond, G. D., (113) 1667
Bondy, O., (177) 873
Bone, E. D., (33) 398
Bongartz, H., (82) 1402
Bonhoeffer, K., (163) 487
Bonifield, C. L., (22) **695**
von Bonin, G., (30) **556**, (8) **1743**
Bonn, H. K., (39) **1492**
Bonnaire, E., (62) 1193
Bonnamour, S., (56) **324**, (48) 1034
Bonner, H., **1810**
Bonnet, P., (48) **324**, (56) 701, (38) **1583**
Bonney, C. W., (1) 316
Bonney, V., (25) 1033, (9) 1190
Bönninger, M., (66) **1986**
Bonnot, E., (38) 1832
Bonstedt, A., (153) 871
Bontemps, H., (81) 326, (86) **1194**
Boone, J. R., (58) 1262
Boothby, W. M., (156) 162, (8) **316**, (47) 1107
Boquel, A., (86) **89**
Borchardt, M., (148) **1117**
Borchers, E., (113) 328
Borden, C. B. C., (49) 696
Borden, W. C., **932**
Bordet, E., (50) 631
Bordier, H., (135) 252
Bornstein, M., *513
Boross, E., (67) 1927
Borszeky, K., (74) 1927
Bosanquet, W. C., (18) 630
Bose, C., (24) 401
Bossi, L. M., (136) 92, (134) 706, (72) 1193
Bosworth, A. W., (81-85) 1327
Botella, D. E., (215) 1754
Botella, E., (169) **1118**, (184) **1272**
Böttrich, E., (98) 1841
Bouchacourt, L., (80) **868**, (64) **1112**
Bouchut, L., (41) 1191
Bouloud, R., (39) 789
Bourne, A. W., (6) **1108**
Bourret, (70) 1113
Bouton, W. C., (20) 1395
Bovée, J. W., **151**, (7) **694**
Bovier, L., (50) 1746
de Bovis, R., (103) 90, (72, 73) 1113, (44) 1839
Bowditch, H. I., (36) **1740**
Bowen, J. T., (30) 1665
Bowes, L. M., *173
Bowles, F. H., (42) 160
Bowling, J. A., (90) 319
Bowman, J. G., (74) 1834
Boxwell, W., (62) 87, (5) 163
Boycott, A. E., (21) 786
Boyd, F. D., (109) 1667
Boyd, S., (16) 1582
Boynton, W. H., (114) 1836
Boys, C. E., (46) 552
Bozzotti, L., (98) 793
Braaseh, W. F., *20, *274, (37) 1395
Brackett, E. G., (26) 1665, **1917**
Bradburne, A. A., (20) 1191, (88) 1580
Bradford, E. H., **774**, (4) 859, (11) 860
Bradley, B., (6) **1031**
Bradley, E. B., (98) 1029
Bradley, H. C., *44, (47-50) **318**
Bradner, F. W., (121) 242
Brady, A. J., (23) 81
Brady, J. M., *972, (29) 1185
Brady, W., (100) 629, (95) 1835
Brahm, C., (69) **1586**
Brain, C. K. **1169**
Braine-Hartnell, C., (5) **1836**
Braislin, W. C., (19) 81
Braithwaite, L. R., (11) 1982
Bramwell, B., (12) 786, (4) 1582, (10) 1982
Brand, A., (76) 1262
Brand, A. T., (31) 324
Brandenberg, F., (114) **91**
Brandes, M., (95) 559, (83) 1333
Brannan, J. W., (106) 242, (42) 1982
Branth, J. H., (88) 1667
Brasher, C. W. J., (4) 1329
Braude, M., **1910**
Braun H., (131) 560
Braun, W., (114) **869**
Brav, A., (98) 629
Brayton, N. D., (25) 1740
Breese, H., (86) 319
Breisacher, L., (64) 1035
Breitner, B., (119) **1115**
Breitstein, L. I., (53) 1326
Bremener, M., (127) **1843**
Brenizer, A. G., (79) 553, (105) 1189
Brennecke, H. A., (89) 783
Brennemann, J., (4) 550, *575
Brenner, E. C., **1571**
Breslauer, F., (103) **705**
Bresslau, E., (99) 406
Breton, **1065**
Bretschneider, R., (122) 706
Brettauer, J., **1736**
Breus, C., (84) **793**
Brickner, S. M., (4) 396
Briggs, J. E., (16) 1980
Brill, A. A., (48) 1982
Brin, H., (65) 558
Brinch, T., (161) 92, (148) 252, (214) 874
Brisson, H., (55) 1111, (43) **1331**
Brister, E. E., (111) 320
Bristol, L. D., (41) **1579**
Bristow, A. T., **153**, (124) 242
Broadhead, G. L., (2) 396
Broca, A., (76) 867
Brock, A. J., (29) 402
Broek, L. S., (87) 1743
Broeq, (50) 87
Brodfeld, E., (90) 406, (103) 1269
Bromberg, P., (139) 1030
Bronfenbrenner, J., (67) **1188**
Bronson, E., (38) 861
Brooks, C. D., (44) 552, (31) 2067
Brooks, H., **301**, *359, **444**, (47) 627, **1483**
Brooks, O. M., (85) 1743
Brooks, P. B., (61) 782
Brooks, R. C., (9) **624**
Brooks, R. S., (26) **1744**
Brooksher, W. R., (7) 1577
Brosch, A., (88) 793
Brotherhood, J. S., *1205
Brotzen, S., (66) **632**
Broughton, L. E., **1387**
Broughton-Alcock, W., (38) **1669**
Broun, L., (54) 552, (52) 782
Brown, A. W., (26) 239
Brown, B. H., (77) 1580
Brown, F. F., **1169, 1344**
Brown, E. J., *1946
Brown, E. M., (66) 1028
Brown, G. V., (12) 1831
Brown, H. A., (123) 162, **1174**, (55) 1982
Brown, H. B., (37) 1326
Brown, H. H., (65) 628
Brown, H. R., (53) 1187
Brown, J. E., (94) 1923
Brown, J. S., (107) 242, (85) 1189
Brown, J. Y., **73**
Brown, L., (74) 242, (50) 627
Brown, P., (45) **81**, (53) **82**
Brown, P. K., (33) 317
Brown, R., (55) 1326
Brown, R. H., (82) 399
Brown, S. H., (91) 1581
Brown, W. L., (23) 86, (48) 87, (52) 1580, **1901**
Browning, W., (47) 1395
Bruce, H. A., (46) 398
Bruce, J. M., (18) 1109
Bruce, L. C., (23) **1495**
Bruek, C., (138) 485, (112) 636, (123) 1196
Bruck, F., (131) 1405
Brückner, J. M., (92) 1037, (176) 1753
Bruegel, C., (78) 792
Brüggemann, A., (120) **1115**
Brugsch, T., (137) 560
Brumpt, E., (57) 1111, (42) 1838
Brun, H., (56) 791
Brünell, (141) **870**
Bruner, W. E., (123) 478
Brüning, H., (104) 1335
v. Brunn, M., (105) **328**
v. Brunn, W., (56) 1585, (188) **1754**
Bruns, O., (80) 249, (86) 633
Brunton, L., (49) 791
Brush, E. N., (8) 1979
Bruusgaard, E., (159) **1198**
Bruyant, **1065**
Bryan, G., (23) 2067
Bryan, J. H., (24) 81, (86) 399
Bryan, W. A., (85) 242, (151) **1329**
Bryant, J. D., (62) 1666
Bryant, W. S., *878
Buch, A., (92) **1988**
Buch, M., (154) 871
Buchanan, J. D., (5) 1264
Buehanan, J. J., (143) 162, (64) 1326, *1343
Buchanan, L. G. C., (140) 322
Buehbinder, J. R., *1782
Bucholz, C. H., (1) 1393, (3) **1491**
Buchsbaum, M., *363
Buckingham, E. M., (10) 1919
Buckle, L., **146**
Buckley, A. C., (85) 864
Bucklin, C. A., (110) 242
Buckner, G. D., (34) **1106**
Bucky, G., (109) 1037
v. Budisavljevic, J., (62) 2071
Buerger, L., *419, (118) **1328**, (68) 1493, (59) 1671
Buettner, W., (140) 707, (149) 1270
Buford, C. G., *1281
Buhlig, W. H., (86) 697
Bull, C. G., (51) **240**, (45) **1261**
Bull, C. P., (96) 1835
Bull, P., (96) **869**
Bullard, W. N., (52) 82
Bullock, E. S., (43) 696
Bülow-Hansen, V., (147) 330
Bulson, A. E., (38) 1492
Bumm, E., (140) **92**, (186) 563
Bumsted, C. V. R., (112) 1189
Bungart, J., (147) **561**
von Bunge, G., (205) 564
Bunta, E., *44
Bunting, C. H., (38) **626**

Bunts, F. E., (60) 1326
Buquet, A., (55) 1670
Burch, L. E., **1249**
Burcham, T. A., (96) **698**
Burckhardt, E. H., (95) 1749
Burdick, W., (13) **1394**
Burge, A. J., (48) 1493
Bürger, M., (76) 703
Burger, T. O., (72) 783, (147) 1030
Bürgi, E., (92) 406
Burmeister, R., (92) **793**
Burmeister, W. H., (46) **1920**
Burnaud, R., (72) 1671
Burnet, E., (39) **246**
Burnett, C. T., (13) 780
Burnett, F. L., (4) 1393
Burnett, T. C., (28) **941**
Burnham, A. C., (13) **625**
Burnier, R., (32) 1583
Burns, N. B., (19) 1105, (20) 2067
Burr, C. B., (44) 1395
Burr, C. W., ***43**, (33) 1028, ***1054**, (50) 1921
Burrage, T. J., (37) 1579
Burrows, M. T., **1661**
Burrows, T., (69) 399
Burrows, W. F., (69) 1493
Busby, A. H., **1911**
Busch, F. C., (129) 242
Bushnell, G. E., (80) **83**, (93) 478
Bushtel, F. C., (83) 945
Buss, W., (67) 1586
Buteau, S. H., (15) **694**
Butler, A. G., (7) 322
Butler, C. A., (29) 552
Butler, C. S., (101) 1397
Butler, G. G., (31) 556
Butlin, H. T., **29**
Butt, A. P., (150) 1030
Butt, W. R., (83) 399
Butterfield, E. E., (30) 1578
Buttles, E. H., (115) 1263
Buttner-Wobst, (133) 706
Butts, H., (99) 478
Byars, C. R., **1559**
Byloff, K., (135) **1674**

## C

Caan, A., (159) 562
Cabanis, (70) 1267
Cabot, H., ***16**
Cabot, R. C., **145**, (3) 1025
Cade, A., (99) **1114**, (48) 1192
Cadwalader, W. B., **1910**, (46) 1982
Caesar, G., (97) **635**
Caffrey, A. J., ***1879**
Caird, F. M., (51) 1265
Cajozzo, G., (156) **708**
Calder, D. H., (96) 84
Calderini, G., (39) 1584
Caldwell, C. E., **73**
Caldwell, R., (109) 1263
Caley, F. G., (37) 86
Calhoun, F. P., (26) 861
Caligiuri, J., (157) 1502
Callahan, C. T., (14) 1919
Calmette, A., (34) 1330
Calvé, J., (49) 247
Calve, Q., (28) 1191
Cameron, H. C., (35) 324, (14) 1668, (10) 1836
Camp, C. D., (69) **241**
Campbell, B. P., (16) 1744
Campbell, D. M., (63) 241
Campbell, H., (56, 63, 65) 87, (30, 34, 38) 324, (39, 44) 631, (31, 33) 866, (9, 13) 1923
Campbell, H. M., (148) 1030
Campbell, J. G., (59) 1028
Campbell, J. L., (24) 475
Campora, G., (139) 330
Campos, E., (198) 563
Cannon, W. B., (57) 318, **775**, ***1511**
Capece, N. C., (109) 170
Caponetto, G., (151) 1502
Cappello, G., (136) 252
Carbonel, D., (159, 165) 1502
Cargile, C. H., (126) 1836
Cargin, H. M., (42) 402
Carini, A., (195) **563**, (124) 1589
Carl W., (123) 1404
Carles, J., (56) **557**, (39) **1838**
de Carli, D., (11) 479
Carlisle, C. L., (8) 551
Carlson, A. J., (55) 318
Carlson, B., (211) 564, (142) **1338**
Carmalt-Jones, D. W., (29) 787, (33) 1983
Caronia, G., (74) **1113**
Carpenter, E. W., (105) 1667
Carpenter, H. C., (2) 238
Carpenter, J. G., (55) 627
Carpenter, J. T., (158) 243
Carpenter, W. S., (51) 627
Carr, J. W., (24) 480, (44) 1265
Carracido, J. R., (178) 1272
Carre, H., (39) 866
Carrel, A., (46) 240
Carrière, H., (86) 558
Carrieu, M., (54) 1497
Carrington, T. S., (26) 1395
Carroll, J. H., **444**, **1483**
Carroll, R. S., (122) 1030
Carson, G. R., (25) 1919
Carson, H. W., (5) 1923
Carstens, J. H., (12) 158, (62) 241, (42) 1741
Carter, A., (23) 780
Carter, C. E., (62) 1396
Carter, H. F., (3) 401
Carter, H. R., **517**
Carter, J. H., (113) 320
Carter, W. W., ***728**, (67) 1922
Cartwright, M., (69) 1262
Carwardine, T., (1) **555**, (28) **1832**
Cary, E., (80) **1396**
Cary, G. F. S., ***1782**
Casamajor, L., ***646**, (59) 1982
Caspari, (44) 701
Casper, L., (87) 1333
y. Cassá, J. L., (12) 1184
Castaigne, J., (32) 1033, (38) **1034**
Castellani, A., (25, 30) 165, (18) 244, (23) 787, (13) 946, (19) **1109**, (28) 1400
Castelli, E., (113) 698
Castelli, W., (40) 1579
Castellino, C., (156) 1502
Castellino, P., (170) **1272**, (139) 1338
Castellvi, J. C., (177) 1272
Castex, M., (118) 251
Castilla, C. R., (132) **407**
Castle, H. E., (66) 696
de Castro, A., (197) 563, (123) 1589
de Castro, S. V., (131) 952
de Castro Ruiz, R., (166) **1118**
Cates, B. B., (48) **1028**, (110) 1263
Cattaneo, C., (177) **1753**
Cattani, P., (77) 1036
Catz, A., (39) 947
Caulk, J. R., (62) 1028, (115) 1667
Cautley, E., (26) **1033**, (43) 1265, (8) **1836**
Cavana, M., (30) 2067
Cavazzani, E., (138) 252
Caverly, C. S., (113) 1263
Cavina, G., (122) 952
Cawadias, A., (34) 631
Cayce, E. B., (145) 1030
Cazenavette, L. L., (79) 1667
Cecikas, J., (85) 558
Cecil, A. B., ***1606**
Cecil, R. L., (17) 1259
Ceconi, A., (96) **793**, (130) 1932
Ceelen, W., (125) 1270
Césari, E., (51) 1670
Chabanier, H., (77) 867
Chabrol, E., (57) **247**
Chadsey, M., (106) 1923
Chalier, A., (71) 558, (56) **701**, (70) 867, (55) **1192**, (74) **1499**, (38) 1583
Chalier, J., (51) 631, (49) **866**
Chambard, E., (80) 558
Chamberlain, N. H., (32) 317
Chamberlain, W. B., (68) 1396
Chamberlain, W. P., **1821**, **1823**
Chambrelent, (48) 1746
Chamot, E. M., (17) 1492
Champel, (45) **1400**
Champion, J., (57) 324, (21) 2069
Chance, B., (81) 553, (72) 1262, (16) 1739
Chandler, C. E., (96) 945
Chandler, F. G., (28) 323
Chantemesse, M., (45) **1331**
Chapin, C. V., (11) 1026, (4) 1184, **1351**, **1866**
Chapin, H. D., (80) 477, **548**, (92) **629**
Chapman, C. W., (35) 1400
Chapple, H., (24) 556
Chaput, M., (51) 701
Charles, J. W., (93) 161
Charrier, A., (65) **1498**, (40) **1838**
Chase, I. C., (106) 1108
Chase, R. F., ***421**
Chase, R. G., (16) 1668
Chatard, J. A., **1822**
Chateau, (33) 1926
Chatelin, C., (46) **247**
Chatterjee, G. C., (15) 164
Chauffard, A., (43) **789**, (61) **1111**, (40) **1984**
Chauviu, E., (88) **1499**
Cheever, D., (34) **1740**
Cheinisse, L., (67) 248, (58) **702**, (77) 1671
Chelle, L., (58) **632**, (35) 700
Cheney, F. E., (15) **475**
Cheney, W. F., ***171**, (2) **1025**
Chenhall, W. T., (10) 1031
Chernoff, L. H., (96) 1327
Chéron, H., (55) 867
Chervin, (22) 2069
Chetwood, C. H., ***257**
Cheyne, W. W., (12) 865
Chiaravaloti, L., (123) **952**
Chiari, H., (174) 488, (148) 870
Chiari, O. M., (107, 108) **483**, (132) 1196
Chiarolanza, R., (142) 485
Chiasserini, A., (149) 92
Chiavaro, A., (159) 1118
Chiaves, C., (124) 1589
Chiene, G., (14) 1330
Chilaiditis, D., (38) 1496
Child, C. G., ***894**
Child, H. T., (20) **551**
Childs, S. B., (53) 1833
Chilton, P. H., (105) 785
Chipman, E. D., (41) **160**, ***582**
Chisholm, A. S. M., ***709**, ***814**, ***884**
Chitty, H., (55) **87**
Cholmeley, W. F., (18) 946
Cholmogoroff, S. S., (89) 169
Choukevitch, H. J., (52) 1670, (27) 1926
Christen, T., (90) 1402, (107) 1749
Christian, F. L., (4) 1918
Christian, H. A., **1568**, (6) **1979**, (41) 1981
Christophers, S. R., (4) 1397
Chrom, I. P., (148) 638
Chudovszky, M., (68) 1927
Chueco, A., (108) 170
Chuprin, I., (120) **1843**
Church, O. C., (23) 1395
Churchman, J. W., (38) 1260
Chute, A. L., (17) **860**
Cinaglia, R., (120) **1589**
Citelli, S., (19) 165
Citron, J., (119) 1501, (50) 1585
Claiborne, J. H., (91) 1494, (12) 1739
Clairmont, P., (140) 1674
Clapp, C. A., ***742**, (84) 945
Clarac, G., (43) 324, (40) 1191
Clark, A. J., (54, 55) **1922**
Clark, C. F., (69) 1396
Clark, C. M., (97) 84
Clark, E., (104) **1581**
Clark, G. F., (156-159) **479**
Clark, J. C., (102) 320, (45) 1187, (92) **1262**
Clark, L. P., (81) **84**, (61) 863, (27) 1260, **1911**, (1) **2066**
Clark, P. F., ***201**, (28) 1578
Clark, T., (41) 1187, **1538**
Clark, W. I., ***508**
Clark, W. L., (86) 864
Clarke, E., (48) 1265
Clarke, H. J., (77) 88
Clarke, J. F., (94) 698
Clarke, J. J., (49, 53) 87
Clarke, J. M., (1) **1329**, (7) 1743, (11) 1923
Clarke, K. B., (17) 699
Clausen, W., (38) 1028
Clavaud, D., (49) 557
Clay, T. F., (61) 944
Claypole, E. J., (55) 241, ***1141**, ***1950**
Cleaveland, S. A., ***722**
Clendening, L., **308**, **768**, (120) 1328
Clermont, D., (37) 947, (56) **1332**, (39) 1926
Climenko, H., **1023**
Clinton, M., (87) 1494, **1573**
Clouston, T., (16) 860
Clowes, G. H. A., (129) 242
Cloyd, T. D., (143) 1030
Cluzet, J., (46) **701**
Coates, G. M., (101) 399
Cobb, F., (27) **81**
Cobb, I. G., (37) 1400
Coburn, R. C., (52) 862
Coca, A. F., (21) 396
Cocco, L., (147) 1198
Cochems, F. N., (17) 780
Cockayne, E. A., (38) 866
Cody, E. F., (17) 1105
Coe, W. H., (76) 553
Cofer, L. E., (27) 159
Coffin, L. A., (134) 162
Cohen, M., (29) 397
Cohn, F., (124) **706**
Cohn, I., (70) 944, (134) **1030**
Cohn, M., (109) 90, (127) 1501
Cohn, T., (88) 1333
Cohnheim, O., (97) **1749**
Cohnheim, P., (94) 1588
Coit, H. L., (21) 317, (4) **940**
Colbert, J. W., (56) 1028
Cole, C. L., ***122**
Cole, H. N., (24) 158, (45) 1741
Cole, H. P., (116) 85
Cole, L. G., (87) 1667
Cole, P. P., (3) **1108**
Colebrook, L., (37) **480**
Colegrove, L. R., (81) 1494
Coleman, C. A., (97) **1923**
Coleman, C. C., (24) **1324**
Coleman, J. E., (54) 160
Coleman, T. D., **1733**
Coles, A. C., (36) 1745
Coley, W. B., (6) **1104**, **2025**
Colin, (68) **1498**
Collet, (59) 482
Collie, J., (12) **699**, (31) 1110, (6) 1582
Collier, G. K., (75) **1580**
Collier, T. J., (72) 83
Collin, (45) 557
Collin, A., (41) **701**
Collins, A. N., (16) 1577
Collins, D. G., (113) 1923
Collins, E. W., (89) 399
Collins, J., ***1779**, **1909**
Collins, J. R., (5) **1836**
Collins, M., (16) **551**
Collins, W. J., (3) 945, (40) 1265
Colliver, J. A., ***813**
Colwell, N. P., **690**
Colyer, J. F., (22) 1583
Combe, A., **1379**
Comby, J., (46) 557, (37) 1034
Commes, C., (49) 1746
Commons, J. R., **1572**
Compton, A. M., (25) 239
Condon, A. S., (98) 84
Condorelli, M., (103) **793**
Conlon, F. A., ***900**
Connell, D. R., (138) **85**
Connell, F. G., **148**, (78) **1396**
Connell, K., ***892**
Connell, R. E., (68) 553
Conner, L. A., (18) **158**
Connolly, J. M., (48) **82**
Conradi, E., (111) **1269**
Conradi, H., (80) **633**
Conseil, E., (49) **1670**
Conyngham, E. F., **1245**
Cook, A. R., (35) 1669
Cook, J. E., (10) **1979**
Cook, L., (18) **164**
Cooke, J. M., (136) 85
Cooley, A. M., (78) 242
Cooley, E. B., (91) **697**
Cooley, T. B., ***435**
Coolidge, A., (36) 1260
Coombs, C., (6) 1329
Cooney, H. C., (86) 1834
Cooper, J. W. A., (29) 700
Cooper, L., (6) 322
Coopernail, G. P., (136) 162, (85) 477
Cope, V. Z., (8) 1495
Copeland, E. P., (108) 1029
Coplans, M., (22) 786
Corbett, D., (30) **1745**, (20) **1924**
Corbus, B. C., ***1769**
Corbus, B. R., (57) 1107
Cordier, V., (62) 248, (83) **558**
Core, D. E., (28) 1109
Coriat, I. H., **464**, (66) 1107, (33) 1920
Cormaek, J. G., (14) 1191
Cornell, E. L., (68) 1028
Cornell, W. B., (8) 1979
Corner, E. M., (5) 864, (21) 1109, (28) 1838
Cornwall, E. E., (50) 1395
Corper, H. J., ***887**, (46) 1106
Corser, J. B., (142) 478
Corson, E. R., (33) 81
Corson, G. R. S., (103) 1581
Corson-White, E. P., (46) 1982
de Cortes, A., (101) 705
Corwin, A. M., (58) 398, (113) 1328
Cosgrove, S. A., (80) 319
Costantini, G., (194) 563
Costantini, P., (121) 1589
Costobadie, H. P., (37) 1110
Coston, H. R., ***2033**
Cotoni, L., (25, 28) 1926
van Cott, E., (63) 783
Cotte, G., (49) 324, (58) 325, (86) **1499**
Cotterill, J. M., (4) 945
Cottet, J., (97) **90**
Cotton, F. J., (156) 162, (8) **316**
Cotton, H. A., **127**, **146**
Coues, W. P., (37) 398
Coulter, T. B., (80) 1580
Council, M. D., (38) 81
Courmont, J., (84) 558
Courmont, P., (50) 701, (34) 947
Courtney, J. W., (26) 625, (15) 1577
Courvoisier, L. G., (78) 1036
Cousins, W. L., (36) 1579
Coustaing, (54) 1034
Couteaud, M., (61) 248
Couto, M., (81) 89, (118) 1749
Coward, F. A., (101) 1667, (74) 1982
Cowen, R. J., (35) 1496
Cowie, D. M., (2) 80, (2) 1103
Cowley, L. M., (107) 170, (167) 1675
Cox, A. E., (30) 1260, (12) **1577**
Cragin, D., (39) 1579
Cragin, E., (108) 698
Cragin, E. B., **1734**
Craig, C. F., (16) 239, ***565**, ***1353**
Craig, F. A., (27) **695**
Crain, M. R., (116) 1263
Cramer, A., (59) 1332
Crämer, F., (150) **870**
Crandall, F. M., (41) 81
Crane, A. A., **688**
Crane, A. W., (72) 1666
Crane, C. C., (39) 160
Crane, J. H., (23) 1264
Craster, C. V., (47) 1920
Crawford, D. G., (10) 699
Crawford, H. de L., (54) 87
Credé-Hörder, C., (71) 404, (164) 562, (84) 633
Creel, R. H., ***1527**
Cremieu, R., (92) 89, (54) 247
Crenshaw, H., (25) 475
De Crespigny, C. P. C., (25) **865**
De Crespigny, C. T., (2) **1031**

Cribb, A. G., (7) 1031
Crichton, J. E., (109) 1835
Crigler, L. W., *1297
Crile, G. W., (12) 239, (80) 399, (39) 552, (20) 695, (76) 697, (133) 1030, 1737, (27) 1831
Crisler, J. A., (138) 1030
Crisp, W. H., (82) 553, (54) 1833
Croekett, R. L., (92) 1494
Croft, T. G., (104) 1667
Crofton, A. C., 145, (69) 404, 465, (61) 1028
Crofton, W. M., (36) 631
Crohn, B. B., (6) 238, (9) 1025
Cronin, H. J., 615
Crooks, F., (9) 945
Crookshank, F. G., (59) 87, 200
Croom, H., (29) 1745
Croom, J. H., (28) 866
Crosby, J. H., (38) 1395
Cross, H. D., (56) 696
Crothers, T. D., (133) 85, (126) 1030, (3) 1258
Crotti, A., *117, *571
Crow, G. B., (50) 1921
Crowe, H. W., (25) 1983
Crowder, T. R., (20) 396
Crowell, B. C., (107) 84, (93) 554, (105) 1581
Crowther, C., (171) 1272
Cruet, P., (33) 788, (52) 1111
Crumbine, S. J., 222, 539
Cruz, B. G., (105) 170
Cubbins, W. R., (101) 1262
Cuica, M., (35) 1330
Cullen, T. S., 1251, (93) 1262, 2020
Culler, R. M., *415
Culp, J. F., (100) 1581
Culver, G. D., *1692
Cummings, R. S., *1936
Cummins, W. T., (58) 1187, (24) 1919
Cumpston, J. H. L., 383
Cumston, C. G., (10) 474, (52) 696, (26) 1027, (94) 1189, (27) 1324
Cuming, J., (6) 864
Cunningham, J. C., (29) 1740
Cunningham, J. H., *13, (26) 81, (34) 398
Cunningham, R. L., (22) 158
Cunningham, W. P., (73) 944, (94) 1835
Cuntz, W., (97) 1403
Curle, D., (75) 88
Curran, G. R., (27) 781
Currie, D. H., *183
Curtis, A. H., (38) 1106
Curtis, F. C., (57) 782
Curtis, H., (32) 1400
Cushing, H., (59) 696, (1) 1025 1910
Cushny, A. R., (86) 1748, (53) 1922
Cuttat, G., (42) 166
Cuturi, F., (117) 1843
Cyriax, E. F., (40) 1746, (17) 1924
Czyborra, A., (146) 1751
v. Czyhlarz, E., (75) 703


## D


Dabney, V., (112) 1030, (1091) 1328
Dagaew, W. F., (142) 1750
Dahlgren, K., (140) 1406
Dakin, H. D., (77) 161, (62) 318, (81) 1028, (97) 1327, (40, 49) 1665
Dalché, P., (68) 482
Dale, H. H., (35) 861
Dalimier, R., (20) 2069
Dal Lago, G., (172) 1272
Dallavedova, R., (122) 1589
Dally, J. F. H., (30) 1033
Daly, R. R., (28) 861
Daly, W. S., (93) 1494
Damask, M., (187) 1753
D'Amico, V., (188) 488
Dana, C. L., 162, (105, 123) 242, (64) 1666
Daniel, C., (121) 705
Daniel, P., (11) 1032
Danielson, W., (151) 1270
Danis, R., (50) 403
Danziger, E., (54) 1395
Dardel, J., (88) 477
Darling, S. T., (17) 396, (8) 1184, *1220, (29) 1578, (3) 1979
Darnall, W. E., (8) 1831
Dartigues, (73) 867
Daspit, H., (78) 1667
Dastre, (46) 1746
Dauber, J. H., (46) 1265
Dautwitz, F., (101) 1588, (105) 1842
D'Avack, A., (114) 951
Davenport, C. B., 1911
David, I., (36) 1034
David, O., (123) 560, (80) 2072
Davies, F., (59) 1666
Davies, H. M., (27) 323
Davis, A. B., (34) 157
Davis, B. B., 314
Davis, D. J., (30) 475, (36) 1106, (41, 45) 1920
Davis, E. D., (9) 555
Davis, E. N., (41) 1028
Davis, E. P., (145) 162, (15) 396, 1022 (18) 1185, (5) 1831
Davis, F. L., (93) 242
Davis, G. E., (12) 81
Davis, H., (9) 1982
Davis, J. S., (81) 944, (9) 1104, (34) 1325, (28) 1980
Davis, M. M., (44) 1326
Davis, N. S., 1726
Davis, O. C. M., (2) 1108
Davis, P. W., (109) 698
Davis, W. H., (8) 780, (3) 1103
Dawes, S. L., (4) 694, (4) 1738
Dawson, W. R., (21) 1264, (41) 1265
Day, E. W., (81) 1396
Day, G. H., (75) 1189
Day, H. F., *1952
Deak, S., (135) 560
Dean, L. W., (84) 161
Dearholt, H. E., (83) 242
Dearman, W. A., (63) 944, 1485
Deaver, J. B., *1, *262, 395, 795, (110) 1189, (5) 1258, (32) 1832
Debeyre, A., (36) 1496
De Bonis, V., (145) 1197
Debove, (82) 1499
DeBuys, L. R., (9) 238
v. Deeastello, A., (68) 1586
Decherd, H. B., (98) 1397
Deeker, (113) 1335
de Dominicis, A., (83) 868, (185) 1272
Deeks, W. E., *38
De Garay, A., (165) 1118
De Graeuwe, (56) 1670
De Haas, N., (62) 1107
Dehio, K., (117) 328
Dejerine, J., (63) 1112
de Kraft, F., (96) 629
de la Cruz Correa, J., (127) 1038
de Lange, C., (82) 1402
Delaup, S. P., (68) 944
De Lee, J. B., 538
Delepine, S., (20) 401
Delfino, E. A., (46) 324, (110) 1404
Delfino, V., (190, 191) 488, (161) 708, (108, 112-114) 794, (200, 201) 874, (130, 132, 133) 952, (128) 1038, (156) 1198, (165) 1675, (171, 173) 1676, (214) 1754
Delille, P. F. A., (67, 68) 1112
Dellepiane, A., (151) 92
Delore, X., (35) 1583
Delorme, E., (60) 1111, (44) 1331, (45) 1746
Delorme, M., (29) 1583
Delrez, L., (45) 866
De Luechi, G., (145) 638
Del Valle, D., (131) 407
Demmer, F., (91) 406
Dempsey, J. G., (69) 944
Dench, E. B., (16) 81, (73) 242
Deneke, T., (82) 1194
Deniges, G., (35) 700
Denis, W., (56, 57) 318, (31) 626, (74) 1028
Denk, W., (44) 166
Denker, A., (129, 140) 560
Dennett, R. H., (131) 1328
De Normandie, R. L., (22) 1492
Denslow, F. M., (36) 781
Denyer, S. E., (27) 1583
Deppe, L., (101) 250
Depree, H. T., (20) 1668
Dercum, F. X., (31) 861, (68) 863, *1057
De Renzi, E., (173) 1272
Dergane, F., (121) 1038
De Sandro, D., (141) 252, (169) 1272
De Savarel, L., (45) 631
Descomps, P., (19) 2069
Desgouttes, L., (68) 1266, (73) 1499
Desmarest, E., (96) 90, (48) 140
D'Espine, (45) 790
Desqueyroux, (65) 867, (53) 1192, (47) 1331
Dessauer, F., (102) 250, (72) 1586
Destot, E., (61) 632, (72) 1499
De Swietoehowski, G., (27) 1983
De Tarnowsky, G., *1221
Detwiler, A. K., *1225
Detwiler, E., (103) 1923
Deutsch, F., (133) 1674
Deutsch, H., (129) 636
Deutschländer, C., (150) 1270
De Verteuil, E., (6) 1494
Devie, (41) 557
Devraigne, L., (58) 867
Dewey, K. W., (44) 1106
Dewey, R., (15) 551
De Witt, L. M., (33) 475, *887
Dey, W. P., (113) 400
Deycke, (83) 792
Dial, J. J., (80) 1743
Dias, E. C., (84) 2072
Dibbelt, W., (101) 1403
Dick, G. F., (36) 475, (40) 1106
Dicken, W. E., (132) 478
Dickenson, J., (124) 478
Dickey, J. L., (108) 785
Dickinson, G. K., (62) 1493, (64) 1742
Dickinson, R. L., 538
Dieffenbach, R. H., (69) 319
Dienst, A., (108) 328, (102) 406 (86) 868
Diesing, (101) 1403
Dietl, K., (68) 632, (99) 950
Dietrich, A., (166) 1753
Dietrich, S., (112) 1842
Digby, K., (36) 1838
Dight,, W. B., (2) 1264
Dighton, A., (35) 1110
Dilger, A., (102) 705
Diller, T., (146) 479
Dimitriou, (84) 1499
Dind, (57) 1332
Disqué, L., (136) 870
Dittler, R., (121) 1115
Diuski, K., (48) 948
Diwawin, L. A., (132) 330
Dix, P. C., (94) 1029
Dixon, A., (54) 477
Dixon, G. B., (12) 1582
Dixon, J. T., (57) 1262
Dixon, S. G., *993, *1294
Dixon, W. E., (33) 480, (22) 1837
Doan, H. H., (98) 478
Doazan, J., (46) 866
Dobbertin, R., (65) 791, (69) 1333
Döbeli, E., (105) 1037
Döblin, A., (178) 1753
Dobrotworsky, B., (144) 1674
Dobrowolskaja, N., (70) 1402
Dock, G., 1821, (100) 1835
Dodd, V. A., (137) 243
Doederlein, T. O., (121) 320
D'Oelsnitz, (53) 247, (27) 1191
Doherty, C. E., (18) 551
Doinikow, B., (120) 1673
Dold, H., (110) 90
Dolgopol, B. M., (183) 488
Dollinger, B., (76) 2072
Dominguez, M. M., (122) 251
Don, A., (44) 1670
Donald, R., (34) 1983
Donald, R. M., (123) 1328
Donati, A., (125) 1405
Dor, L., (92) 554
Doran, A., (10) 946, (20) 1033
Dorendorf, H., (25) 2069
Döri, B., (116) 407
Doroff, L. A., (96) 1667
Dorr, R. C., (41) 240
Dorranee, G. M., *1416
Dorworth, C. V., (111) 1030
Dotner, G., (89) 1114
Doty, A. H., (28) 159, (83) 1922
Douglas, A. G., (119) 400
Douglas, C. J., (78) 1493
Douglas, G. F., (123) 85
Douglas, J., (3) 396
Douglas, J. S. C., (8) 243
Doulai, J., (37) 631
Dowd; C. N., (33) 1832, 2025
Dowling, O., (138) 322, (116) 400, (78) 783, (84) 1667
Downes, W. A., (31) 1395
Doyle, S. B., (58) 1395
Draper, G., (22) 1578
Draper, J. W., *20
Dreesen, H., (88) 406, (113) 1673
Dreesmann, H. H., (92) 327, (109) 1115
Dreisbach, E., (115) 1335
Drenford, G., (99) 1189
Drennan, F. M., (55) 318
Drennan, J. G., (6) 1831
Drew, D., (20) 946
Drews, H., (57) 1839
Drexel, A., (109) 629
Dreyer, A., (95) 1929
Dreyfus, G. L., (117) 1269
Dreyfus, L., (64) 867, (38) 1191
Drinkwater, A., (35) 398
Drugg, W., (64) 949
Drummond, D., 1682
Drummond, H., (22) 1495
Drury, H. C., (11) 1582
Dschunkowsky, E., (97) 1114
Dubois, (84) 950
Du Bois, C., (89) 558
Dubois, M., (108) 705
Dubois, P., (77) 249
DuBois, P. L., *820
Dubourg, E., (41) 246
Duckworth, D., (13) 1032
Ducroquet, C., (58) 1746
Dudfield, R., (41) 631
Dudley, H. W., (81) 1028, (49) 1665
Dugan, R. C., (38) 477
Duhot, E., (54) 1266
Dührssen, A., (39) 2070
Duke, J. W., (85) 319
Duke, W. W., (23) 396
Dulaney, O., 1249
Dumont, F. L., (78) 1840
Dumont, L., (39) 701
Dunbar, A. W., (122) 400, (56) 944
Dunean, C. H., (90) 84, (125) 162, (12) 940
Dunean, H. A., 473, (78) 944
Dunean, L. C., (111) 242, (92) 478, (89) 1189
Duncan, R. B., (127) 401
v. Dungern, E., (129) 485
Dunham, J. D., (98) 242
Dunlap, E., (108) 1667
Dunn, A. D., (15) 239, 1101
Dunn, C. H., (26) 551
Dunn, J. S., (111) 1923, (18) 1924
Dunn, R. H., (135) 401
Dunning, W. M., (82) 1107
Dunsmuir, R., (18) 556
Dunton, W. R., (54) 862
Dünzelmann, E., (185) 873
Dupuieh, (85) 1499
Dupuy, H., (136) 1030, 1487, (83) 1667
Durante, G., (62) 1193
Durel, W. J., (120) 1836
v. Düring, E., (95) 1841
Duroux, E., (47) 324, (65) 482, (64) 632, (91) 1500
Durrett, L. P., (31) 781
Dusciau, I., (52) 324
Dutoit, A., (57) 1586
Dutton, A. S., (32) 324
Duval, C. W., (39) 1981
Duvergey, J., (54) 701
Dwight, C. G., *1951
Dwyer, J. G., (11) 1664
Dyer, I., (109) 400, (48, 56) 552, 934, (74) 1922
Dynan, N. J., (90) 1667


## E


Eagleson, J. B., (59) 1396
Earl, G., (9) 2066
Earl, R., (67) 160
Earnest, J. G., (34) 1492
Earp, S. E., (30) 1106, (52) 1395
Eastman, A. C., (27) 551
Eastman, H. A., (28) 2067
Eastman, J. R., 148, (77) 1396
Eaton, P. J., (42) 81
Ebeling, A. H., (24) 941
Eberhart, F., (88) 169, (136) 330
Eberle, D., (50) 166
Eberle, E. G., (11) 1577
Ebright, G. E., *1278
Eccles, R. G., (46) 944
Eecles, W. M., (12) 1264
Eekel, G. J., (81) 1107
Eekert, (121) 1931
Eekhart, G. G., (26) 1920
Edberg, E., (133) 1590
Eddowes, A., (45) 1670
Eddy, N. B., *1296
Edelstein, F., (67) 2071
Eden, T. W., (34) 86
Edgar, C. L., (114) 1667
Edgar, J. C., (11) 694, 1733
Edgett, C. E., (39) 1741
Edgeworth, F. H., (3, 8) 1329
Edie, E. B., 615
Edie, E. S., (4) 401
Edinger, L., (86) 1672
Edington, G. H., (12) 1190, (9) 1744
Edmonson, J. N., 1389
Edmunds, A., (23) 865
Edson, C. E., (61) 83, (37) 159
Edwards, J. F., (30) 159, (99) 629
Edwards-Schenck, W., *827
Edzard, D., (122) 484
Egan, E., (106) 90
Eggert, F. C., (66) 1834
Eggleston, C., (94) 319, *499
Egleston, W., (76) 1982
Eguchi, T., (107) 1404
Ehinger, C. E., (29) 159
Ehlers, (166) 1198
Ehrenreich, S. G., (113) 478
Ehrlich, F., (84) 1747
Ehrmann, R., (75) 633, (141) 1116
Eichhorst, H., (72) 949
Eichler, (137) 485
Eichmann, E., (80) 792, (192) 873
Eijkman, C., (159) 1752
Eiken, T., (135) 1038
Eikenbary, C. F., (61) 1396
Eiker, B. L., (95) 698
Einhorn, M., (62) 325, (48) 862
v. Eiselsberg, A., (81) 482
Eisen, P., (126) 1264
Eisenbrey, A. B., (153) 162
Eisendrath, D. N., 315, 936, *1145
Eisenheimer, A., (97) 1037
Eisenstaedt, J. S., *27
Eisler, F.,, (53) 2070
Ekehorn, G., (138) 408
Ekler, R., (114) 1931
Elder, O. F., (61) 553
Elfer, A., (99) 1749
Eliot, H., (43) 1034
Eliot, L., (132) 1836
Elkington, J. S. C., (1) 1264
Ellermann, V., (150) 252, (84) 704, (63) 791
Ellern, H., (121) 560
Elliott, G. R., (32) 81
Elliott, J. B., (57) 1580
Ellis, A. G., 473, (31) 861, 1576
Ellis, J. N., (30) 1492
Ellsworth, S. W., *1694
Elmore, B., (162) 479
Elmslie, R. C., (15) 1495
Els, H., (90) 868
Elsaesser, A., (96) 1923

Elsberg, C. A., **1819, 1909**
Elschnig, A., (143) 243, (138) 560
Else, J. E., (67) 783
Elsner, H. L., (3) 624, (79) 1107, **1572**
Elten, M., (95) 328
Ely, L. W., (64) 83, (110) 869
Embleton, D., (31) **631**
Emerson, C. P., (30) 552
Emerson, F. P., (36) 398
Emerson, L., (111) 1189, (107) 1328
Emerson, L. E., (36) 1665, (34) 1920
Emery, G. C., (110) 1835
Emery, W. D., (31) 700
Emmerich, E., (87) 1672
Emmerich, M., (73) 1586
Emmerich, R., (67) **167**
Emrys-Roberts, E., (3) 699
Emsheimer, H. W., ***1864**
Emshoff, E., (111) 251
Enebuske, C. J., (133) 1844
Engel, C. S., (76) **1193**
Engel, S., (105) 1195, (102) 1335
v. Engelhardt, (133) 91
Engelhardt, L., (74) **1267**
Engelhorn, E., (111) 1335
Engelmann, F., (100) **1195**
Engelmann, W., (33) 1745
Englander, S., (95) 1923
Ephraim, A., (82) 1671
Epstein, A. A., (44) **1261**
Epstein, E., (103) **1842**
Epstein, J., (80) 1262
Erdelyi, P., (78) 704
Erdman, B., (30) 1920
Erdman, S., (12) **1258**
Erdmann, C. C., (79) 1028
Erkes, F., (82) **482**
Erlacher, P., (91) 633
Erlanger, J., (23) **1259**
Erlenmeyer, A., (84) **1929**
Erlenmeyer, E., (134) 560
Erne, F., (110) 1269, **1561**
Ernst, N. P., (129) 1589
Esch, P., (144) **561,** (81) 792
Eskridge, B. C., (101) 1108
Eskuchen, K., (104) 328
Estes, W. L., (154) **243**
Estor, E., (37) 1926
Etheridge, F. L., (19) 86
Etienne, E., (42) **1984**
Etienne, G., (50) 866, (39) 1191
Eustace, A. B., (13) 316, (63) 398
Eusterman, G. B., (48) **1580**
Eustis, A., (112) **162**
Evangelista, A., (121) 952
Evans, A. J., (42) **1265**
Evans, W. A., (22) 551, **919**
Evans, W. H., (36) 402
Eve, F., (57) **87**
Everall, B. C., (87) 161
Evler, (76) **949**
Ewald, C. A., (88) **327,** (108) **559,** (88) **1114**
Ewald, P., (98) 1114
Ewart, W., (10) **322**
Ewing, J., (32) **1981**
Exner, A., (171) 872
Eyman, H. C., (10) 551
Eyster, J. A. E., (21) 1739
von Ezdorf, R. H., (144) **1329**

## F

Faber, K., (150) **638,** (187) 1272
Fabre, P., (70) 1113
Fabyan, M., (34, 35) 1981
Faechin, A., (197) 1754, (82) **2072**
Fagge, C. H., (23) 1837
Fagiuoli, A., (174) 1272, (141) **1338**
Fago, M., (160) **1271**
Fahr, T., (114) 251
Fairbank, H. A. T., (31) 1745
Fairchild, D. S., (71) 1834
Falcão, S., (115) 794
Falcone, R., (206) 1754
Falconer, J. L., (12) 243
Fales, H. L., (47, 48) **240,** (39, 40) 626
Falk, H. C., (61) 1262
Falta, W., (54) 404, (78) 1193
Fantham, H. B., (7) 401, (2) 1397
Farbach, H. J., (56) 1262
Färber, E., (93) 483
Farbian, J. J., (39) 1395
Farenholt, A., (157) 479
Fargnoli, G., (200) **1754**
de Faria, G., (198) 873
Faria, J. G., (44) 557
Farini, A., (192) 563
Farmachidis, C., (168) 1271
Farmer, A. G., **1812**
Farnarier, G., (67) 558
Faroy, G., (46) **1192,** (23) 1925
Farr, C. B., (20) 317
Farre, V. M., (206) 564
Farrell, T. H., (137) 162
Farrell, W. D., (37) 477
Fasano, M., (161) **1118,** (150) 1502
Faucett, P. H., **1248**
Faught, F. A., ***279**
Faulhaber, (112) **1930**
Faulin, M., (155) 92
Fauntleroy, A. M., (10) 316
Faure, J. L., (40) 1926
Fauser, A., (74) 404, (63) **949,** (110) 1335
Faust, J., (99) **635**
Faust, L., (78) 1107
Favill, H. B., **777**
Favre, M., (50) 1746, (47) **1926**
Fay, J., (23) **1919**
Fay, O. J., (34) 1187, (81) 1834
v. Faykiss, F., (80) 1333, (75) 1927
Fayol, (45) **1400**
Fearis, W. H., (34) 1400
Fedde, B. A., (56) 1493
Fehling, H., (107) **1115**
Feiber, (147) 870
Fejes, L., (87) **1402**
Feldt, A., (100) 1403
Feliziani, F., (166) 1271
Fenger, F., (63) **318,** (46) **1665**
Fenwick, E. H., (46) 480, **825**
Ferguson, A. E., (56) 477
Ferguson, A. R., (32) 402
Ferguson, E. C., (55) 160
Ferguson, J. H., (14) 556
Ferguson, R. H., ***1858**
Ferguson, R. T., (88) 945, (103) 1667
Ferguson, W., (104) 399
Fernandez, J. S., (25) **397,** (175) 1676
Fernandez, O., (129) 1038
Fernandez-Caro, A., (110) 794
Fernando, M., (164) 1675
Fernau, (124) 636
Fernet, C., (54) 324
Ferran, J., (48) 866
Ferrannini, L., (102) 170
Ferrari, E., (141) 1674
Ferrell, J. A., (25) 1831
Ferrin, E., (70) 867
Ferro, C., (161) 1675
Ferron, J., (45) 701, (42) 1034, (43) 1400
Ferron, M., (66) 867
Fesenmeyer, F., (68) 702
Fessenden, C. H., **146**
Fetherston, J. T., (28) 239
Fetterolf, G., (7) **624**
Fiaschi, P., (12) 86
Fiaschi, T., (2) 322
Fibiger, J., (52) **948,** (94) 1748, (130) **1844**
Fieber, E. L., (116) 1931
Fiedler, (215) 874
Field, C. E., (79) 628
Ficux, G., (45) **403,** (63) 1402
Figueira, F., (42) 557
de Figueiredo, C. B., (105) 170
Figueroa, S., ***1942**
Filderman, (54) 1934
Fillol, J. C., (167) 1502
Finekh, A. E., (4) 85
Finekh, L., (128) 1501
Findlay, L., (24) **1330**
Findley, P., (8) **158, 1101, 1737**
Fine, M. S., (29) 626, (7) **1738**
Finger, E., (131) **1674**
Finizia, P., (97) **793**
v. Fink, F., (106) 1588
Fink, L. G., (26, 29) **165**
Finkelstein, H., (122) 1931
Finney, F., (119) 320, (52) 1833
Finsterer, H., (94-98) **483,** (126) 636, (135) **1501,** (153) **1751**
Finzi, N. S., (27) 700, (24) 1664
Fischer, A., (69) 1927
Fischer, C. S., (70) 628
Fischer, E., (160) 487
Fischer, G., (128) 699
Fischer, J., (88) **1402**
Fischer, L., ***279,** (45) **862,** (5) **940**
Fischer, M. H., ***348, 689,** ***1682**
Fischer, O., (119) 636
Fischer, W., (68) **326,** (127) 1270, (69) 1840
Fischkin, E. A., (67) 1834
Fischl, R., (96) 1269
Fischler, F., (82) 249
Fish, G. H., (84) 1107
Fishbein, M., ***737,** (35) **1106**
Fishberg, M., ***962,** (90) **1835**
Fisher, E. D., **1818**
Fisher, I., (52) 627
Fisher, J. W., (76) 83, (13) **1980**
Fisher, W. A., (148) 243, (83) **553**
Fishman, C. J., (138) 699
Fiske, C. N., (16) 1258
Fiske, E. W., (19) **1492**
Fitch, R. R., (6) 1491
Fittipaldi, E. U., (159) **1271**
Fitz, R., (18) **1259,** (17) **1739**
Fitzgibbon, G., (28) 1264, (49) 1265, (34) **1496**
Fitzwilliams, D. C. L., (25) 1191
Flath, H., (108) **635**
Flatow, L., (141) **870,** (111) 1037
Fleischmann, P., (178) **1753**
Fleischmann, R., **1301**
Fleischner, E. C., (31) 317, (17) 1919
Fleisher, M. S., (48) **627,** ***1857**
Fleming, A., (28) 1110
Flesch, M., (103) 559
Flessinger, C., (30) 1583
Fletcher, C. G., (119) 478
Fleteher, E. A., (156) 1031
Fletcher, F., (95) **783**
Fleteher, R., (10) 401
Flexner, A., **690**
Flexner, S., ***201, *362,** (27, 28) **1578, *1937**
Flint, E. T., (49) 1107
Flint, J. M., ***1224**
Flood, E., (16) **551**
Flöreken, H., (98) **250**
Flower, N., (2) 785
Floyd, C., (23) 317
Fly, T. M., (43) 1028
Foeke, W. O., (117) 1501
Foerster, O., (85) **633,** (67) 867
Foix, C., (50) **324,** (90) 558, (35) 947, (47) 1034, (60) **1332**
Foley, H., (27) 946
Folin, O., (78, 80) **161,** (56, 57) **318,** (31) 626, (74) 1028
Folliet, L., (75) 1499
Fonyo, J., (81) 1927
Foord, J. A., (21) 1492
Foot, N. C., (50) **240,** (2) 1576
Forbat, A., (117) 1749
Forbes, A. M., (131) **320, 1817**
Ford, C. S., (40) 81
Ford, J. H., (113) 242
Ford, W. W., (41) 398, (37, 38) 861, (66) 1188, (32) 1325
Fordyee, J. A., **2022**
Forgue, E., (42) **1984**
Fornaca, L., (141) **330,** (57) **404**
Forschbach, (179) 1753
Forsee, C. G., (74) 1189
Forssner, H., (63) 702, (189) 873
Fort, A. G., (59) 1834
Forteseue-Brickdale, J. M., (2) 1923
Fortun, E., (200) 564
Foscarini, R., (116) 951
Fossati, V., (175) 1272
Foster, N. B., (21) **158**
Fothergill, W. E., (4) 1494
Fougerousse, H. L., (81) 1667
Foulerton, A. G. R., (28) **787**
Foulkrod, C., (20) 1185
Fowelin, H., (137) 1197, (67, 68) 1402
Fowell, P. H. C., (32) **556**
Fowler, A. L., (71) 83
Fowler, E. P., (131) 162, (105) 1328
Fowler, O. S., (21) 475
Fowler, R. H., (103) 242, (75) 553, (29) 1832
Fowler, R. S., (84) 83, (79) 319
Fox, G. H., (98) 1328
Fox, H., ***1420**
Fox, J. H., (22) 2067
Fox, J. S., (101) 478
Fox, L. W., (144) 243
Fox, R. F., (18) 323
Foxworthy, F. W., **1975**
Foy, L. H., (7) 85
Fraenkel, A., (171) 872, (110) 1673, (53) **1839**
Fraenkel, D., (119) **870**
Fraenkel, E., (64) 1840
Fraenkel, L., (68) 1747
Fraga, C., (126) 1589, (211) 1754
Franchini, G., (144) **252**
Francine, A. P., **395,** ***717,** (63) 863, **1570**
Francisco, H. M., (64) **1262**
Franck, E., (94) 950
Frank, (109) **328**
Frank, E., (52) **1585**
Frank, E. A., (94) 1195, (117) **1404,** (107) 1673
Frank, E. R. W., (109) 1037
Frank, L., (25) 1185, (135) 1750
Frank, R., (105) **1588**
Frank, R. T., (49) **1395**
Frankau, C., (19) 946
Franke, F., (135) 637
Fränkel, E., (110) **1749**
Fränkel, J., (108) 1335
Frankhauser, F. W., (72) 1982
Frankl, O., (77) **168**
v. Frankl-Hochwart, L., (130) 91
Franklin, A., (65) 1266
Franklin, C. P., (137) 478, (126) 699, (19) 1980
Franz, N., (129) 1674
Franz, R., (139) **485**
Franz, V., (138) 870
Fraser, C. C., (29) **1669**
Fraser, F. R., ***201**
Fraser, G. C., (23) **323**
Fraser, J., (3) **1494,** (18) 1664
Fraser, J. S., (26) 401, (13) 786, (18) 865, (30) **941**
Fraser, R. C., (47) 552
Frattin, G., (104) 951
Frazer, T., (123) **1836**
Frazier, C. H., (18) 239, (12) **625,** (139) **1329**
Frederick, M. W., (27) 317
Fredet, P., (34) 1191
Freeburg, H. M., (66) 160
Freeman, F. M., (40) 1492
Freeman, J. K., (53) **477**
Freeman, L., ***1133,** (51) 1833, **2024**
Freeman, R. G., (4) **80**
Freer, P. C., **611**
Freile, W., (129) 699
Freiman, M., (50) 782
Freligh, C. A., (36) 1326
French, H., (64) 87, (29) 324
French, T. R., (72) 1922
Frenzel, A., (106) 1403
Freseoln, L. D., (93) 1667
Freshwater, D., (31) 1838
Freudenthal, G., (83) **1671**
Freudenthal W., (41) 862
Freund, E., (110) 406, (170) 872
Freund, H., (82) 168, (114) 1501
Freund, R., (69, 74, 86) **1586**
Freund, W. A., (125) 1501
Frew, R. S., (37) **402**
Freyer, P. J., (21) **1465**
Friberger, R., (168) 1198
Frick, A., ***1859**
Fried, R., (95) 704
Friedel, G., (50) 1497
Friedenberg, P., (118) 162, (91) 554
Friedenwald, H., (44) 398
Friedenwald, J., **1915,** (15) **1919**
Friediger, A., (133) 485
Friedjung, J. K., (98) 1195, (123) **1931**
Friedlaender, R., (56) 404
Friedlander, D., (34) 317, (52) 1226
Friedman, H. M., (73) 1742
Friedman, L., (18) 625, (81) 1262
Friedman, S. S., (38) 1981
Friedmann, A. C. H., **68**
Friedmann, M., (49) **2070**
Friedmann, S., (127) 1750
Friedrich, H., (75) **949**
Friedrich, M., **1504**
v. Frisch, B., (133) 1196
Frisch, F., ***1226**
v. Frisch, K., (161) 562
v. Frisch, O., (171) 872
Frising, G., (64) 1402
Fritzsch, E., (97) 704
Froelich, (32) 1191
Froes, J. A. G., (128) 407
Froesch, H., (89) 1841
Fromberg, C., (134) 1750
Froment, J., (74) 558, (46) **701,** (34) 947, (67) 1266, (54) 1746
Fromherz, P., (106) 250
Fromme, A., (62) 166
Fromme, F., (112) **1335**
Fromme, W., (87) 169, (194) 1754
Fronczak, F. E., (63) 553, (3) 1184
Fronstein, R., (126) **1843**
Fronzig, H., (142) **1116**
Fröse, (35) **2069**
Frost, W. H., (38) 86, (6) 1184, **1380, 1421**
Frugoni, C., (115) 951, (71) 1113
Frühwald, V., (65) **1986**
Fry, H. D., **1735**
Fuchs, H., (147) 1751
Fuhner, H., (128) 1196, (84) 1233
Fukushi, M., (129) 1270
Fuller, A. L., (10) 555
Fullerton, A., (8) 864
Fullerton, W. D., (86) **783**
Funek-Brentano, L., (102) 90
Fundner, A., (89) 1672
Funk, A., (114) 328, **1561**
Funk, C., (7) 1582
Funke, J., (94) 1667
Fürer, K., (104) 406
Furniss, H. D., ***1534,** (9) 1831, ***1879**
Fürst, V., (137) 1932
Fürstenberg, A., (41) 2070
Fussell, M. H., (16) 396, (54) 1107, (140) 1329

## G

Gabastou, J. A., (204) 564
Gabbi, U., (15) 1191
Gaenslen, F. J., (124) 1264
Gaetano, C., (142) 1197
Gaines, L. M., (32) 1492, **1733**
Gaisböck, F., (97) **1334**
Galambos, A., (140) 1116
Galbraith, S. N., (18) 1583
Gale, S. S., (61) 1982
Galippe, V., (33) 947
Gallagher, J., **1248**
Gallavardin, L., (44) 324
Galli, (137) **706**
Galli, P., (78) **1987**
Gallie, W. E., (13) 1104
Galliott, (59) 1498
Gallivan, W. J., (57) 696
Galloway, H. P. H., (132) **320**
Galloway, J., (8) 1582
Gamern, J., (118) 1038
Galup, J., (57) 1746
Gamble, J. A., (36) 695
Gamble, M., (32) **1264**
Gamma, C., (145) 92
Gann, D., ***1273**
Gant, S. G., (118) 320
Gantt, L. R. H., (148) 1329, (75) 1982
Garcia, P. J., (123) 251, (199) 874, (128) 952, (180) 1272
Gardère, C., (71) 1499, (46) 1926
Gardner, H. W., (13) 323, (3) **1581**
Gardner, W. E., (52) **1742**

Garel, (77) 1499
Garin, C., (74) **1499**
Garmagnano, C., (147) 1502, (118) 1843
Garretson, W. V. P., (65) 863
Garrison, F. H., (70) 863, (77) 944
Garrison, P. E., **1823**
Garrod, A. E., (37) **402,** (37) **556**
Garton, W. M., (107) 1397
Garvin, E. C., (20) **941**
Gasbarrini, A., (82) 1987
Gaskill, H. K., ***341,** (51) 1666
Gaspar, A. G., (176) 1676
di Gaspero, H., (117) 483
Gastpar, (129) 1405
Gatch, W. D., ***1273**
Gaté, J., (66) **1266**
Gatewood, L. C., (60) 160
Gauckler, E., (63) **1112**
Gaujoux, E., (36) **1191,** (92) 1500
de Gaulejac, H., (61) 1193
Gauss, K., (93) 793, (132) 1116
Gautier, P., (46) **790**
Gauvain, H. J., (42) 480
Gavieres, J. G., (56) **82**
Gay, F. P., ***1141,** (24) 1578, ***1950**
Gayet, G., (39) 789, (45) **1400**
Gayford, C., (47) 86
Gaylord, H. R., **2022**
v. Gaza, W., (116) 1749
Gazzotti, L. G., (194) 873
Gebb, H., (105) 1930
Gebele, H., (102) **869**
v. Gebhardt, F., (42) **1584**
Geigel, R., (133) 1270
Geipel, P. (169, 172) 488
Geissler, W., (128) **706**
Geist, E. S., (84) 1029
Gelien, J., (29) 1980
Gelinsky, (76) 1987
Gellé, G., **344**
Gellhorn, G., (95) 1262, (97) 1835
Gelma, E., (52) **1034**
Gelpi, M. J., (85) 629
Gemmell, J. E., (11) **946**
Genet, P. A., (72) 558
Gengenbach, F. P., (10) 1394
Geraghty, J. T., ***191, 1561,** (17) **1739**
Gérard, L., (47) 557
Gérard, P. J., (42) 866
Gerber, I., (10) 940
Gergö, E., (108) 1404
Gerhardt, D., (101) 328
Gerstenberg, E., (133) **1337**
Gerster, J. C. A., **615**
Gessner, H. B., (66) 944
Gessner, W., (136) 1406, (84) 1671
Gesteira, J. M., (197) **873**
Gettkant, R., (96) **633**
Ghedini, G., (144) **638,** (162) 1271
Ghilarducci, F., (140) 252
Ghillini, C., (195) 873
Giacchi, G., (152) 1502
Giacquinta, G., (193) 563
Giani, E., (139) 252
Gibbon, J. H., (157) **243**
Gibbons, R. A., (13) **1668**
Gibbs, J. H., (16) 1109
Gibelli, C., (79) 1987
Gibson, A., (18) 699
Gibson, J. L., (10) 1668
Gibson, W. S., (150) 479
v. Gierke, E., (100) 1672
Giese, H., (185) 1676
Giffin, C., (18) 780
Giffin, H. Z., (24) **781**
Gifford, J. P., (97) 1494
Gignoux, (77) 1499
Gil, M., (183) **1272**
Gilbert, A., (57) **247**
Gilbert, M., (33) 700
Gilbride, J. J., (103) **1189**
Gilercest, J. E., (103) 1108
Giles, A. E., **667, 810**
Gill, J. E., (158) 479
Gillespie, E., (26) 700, (34) 1395, (15) 1744
Gillespie, L. J., (72, 73) 161
Gillett, H. T., (8) 945
Gillette, H. F., (88) 1494
Gillette, L. H., (114) 1263
Gillmore, R. T., ***1944**
Gilman, P. K., (105) 1581
Gilmour, A. J., (100) 242
Ginestous, E., (39) 1034
Gins, H. A., (90) 1268
Ginsberg, S., (81) 1113
Giolito, V., (125) **1589**
Giordano, G., (102) **951,** (146) 1197
Giordano, J., (40) 1497
Giovanni, G., (119) 1589
Giovannini, E., (137) 252
Girault, G. L., (51) 1192
Girode, C., (59) 1111
Girou, E., (44) **246**
Gittings, J. C., (2) 238
Given, C. G., (115) 320
Givens, M. H., (79) 161
Gjestland, G., (132) **1932**
Glaessner, K., (109) 1335, (137) 1406
Glaister, J., (56) 480
Glascock, A., (59) 1188, (25) 1395
Glaser, F., (52) **791**
Glasgow, L. E., (104) 1189
Glass, E., (53) 166
Glass, S. W., (114) 320
Gleason, E. B., (101) 1581
Gleason, J. H., (71) 1742
Gleason, W. S., (90) 1494
Gleitsmann, J. W., (43) 862
Glogau, O., (14) 81, ***123**
Glück, A., (99) 1588
Glynn, E., (22) **1924**
Godbey, M. V., (170) 163
Goddard, H. M., (98) 1581
Godlee, R. J., **121,** (1) 945, (16) 946
Goebel, W., (113) 1037, (72) 1840
Goeffon, R., (53) 867
Goeppert, F., (15) 1664
Goff, A. P., ***2042**
Goiffon, (51) 1497
Goldberg, (56) 1585
Goldberg, B., (84) **1841**
Goldberg, J., (58) 1402
Goldberger, J., (88) **1029,** (146) 1674
Golden, W., (114), 1397
Goldfeld, Z., (178) **562**
Goldman, A., (65) 1922
Goldsmith, P. G., (20) 165
Goldsmith, W. S., (35) 1492
Goldspohn, A., (23) 1185
Goldstein, F., (111) 869
Goldstein, H., (75) 863
Goldstein, H. I., (130) 699
Goldstein, K., (82) 1586
Goldstein, M. A., (68) 477, (110) 1328
Goldstrom, M., (105) 951
Goldthwait, J. E., (17) 475, (1) 859
Goldwater, S. S., (69) 1742
Goltman, M., (91) 945
Golubow, N. T., (155) **1118**
Gomez, V., (109) 794
Gomoiu, V., (43) 1926
Gomolitsky, V., (145) **1116**
Gompertz, L. M., (120) 242
Gonzalez, (117) 794
Good, F. L., (105) **1262**
Good, J. W., (85) 553
Goodale, W. S., (56) **782**
Goodall, H. S., (77) 1262
Goodall, H. W., (48) **1833**
Goodenough, E. W., (22) 1980
Goodenow, N. H., (85) 1580
Goodhart, J. F., (27) **1838,** (18) 1983
Goodhart, S. P., (50) 862, (128) 1328
Gooding, S., (19) 86
Goodman, S. J., (88) 1107, (18) 1324
Goodrich, C. L., (93) 945
Goodridge, F. G., (21) **158**
Göppert, F., (157) **871,** (124) 1931, (24) **2069**
Gordinier, H. C., (11) 624
Gordon, A., (126) 242, ***352,** (87) 864, (51) 944
Gordon, E. S., (142) 322
Gordon, G. S., (23) 1105
Gordon, M. B., (72) 1493, (90) 1922
Gordon, W., (6) 479, (53) 480, (2) **2067**
Gordon, W. S., (110) 1030
Gorgas, W. C., ***953, 1569**
Gorham, W. L., (42) 398
Gorodistsch, S. M., (143) 1674
Gorse, M., (85) **1499**
Gorse, P., (69) **1499**
Gosset, A., (55) 557, (55) 1332, (48) **1401**
Goto, S., (44) **947,** (71) 1333
Gottheil, W. S., (50) 1982
Gottlieb, R., (117) 1501
Gottschalk, S., (85) 868, (112) 869
Götzky, (125) **1931**
Gougerot, H., (83) 89, (99) 90
Gouget, A., (39) **1331**
Gould, A. P., (40) 480, (25) 631, **741**
Gould, G. M., ***1059**
Goullioud, M., (44) 1926
Goullioud, P. E., (46) 403
Gourko, A., (84, 85) 1987
Gousew, W. J. (35) 866
Gouzien, **274**
Graca, O., (115) 794
Grad, H., (65) 1107
Gradle, H. S., (5) 780, (31) 943, (86) 945, ***2045**
Grady, W. J., **1390**
Graef, W., (74) 1402
Graf, (96) 1841
Grafe, E., (82) 249, (105) 1335
v. Graff, E., (174) 562
Graham, C., (100) 1029
Graham, H. F., ***1537**
Graham, J., (76) 783
Graham, J. M., (28) 402, **2022**
Grancher, H. P., **1090**
Granes, G., (167) 1118
Granger, G. B., (18) 1577
Granger, J., (2) **479**
Grant, L., (29) 1033
Grant, W. W., **1015, *1039, 1318,** (11) **1394**
Grasty, T. S. D., (14) 1831
Graul, G., (36) **2069**
Graves, M. L., (106) **1667**
Graves, W. P., (6) **1324**
Graves, W. W., (100) 1328
Gray, A. L., (117) 1836
Gray, C. H., (23) 1492
Gray, E. A., (21) 2067
Gray, G. A., (68) 783
Gray, H. M. W., (24) 1837, (22) 1983
Gray, J. W., **1486**
Gray, S., (30) 787
Gray, T. N., (82) 319
Grayson, C. P., (68) 628, (30) 861, (102) 1581
Grayson, T. W., (21) 1980
Greco, V., (108) 399
Greeley, H., (84) 477
Greeley, S. A., (21) 239
Green, A. S., ***2043**
Green, B. E. M., (130) 1030
Green, C. C., (74) **783**
Green, C. M., (45) 1028, (41) 1326
Green, E. M., (31) **1492, 1733**
Green, G. R., ***664**
Green, J., (79) 477
Green, L. B., (12) 322
Green, L. D., ***2043**
Green, R. M., (37) 239, (24) 317, (13) 860, (14) **1577,** (28) **1665,** (16) **1919**
Green, S. M., (78) 477
Green-Armytage, V. B., (14, 15) 479
Greenberg, G., (122) 242
Greene, H. C., (15) 860
Greene, H. M., (77) 1493
Greene, J. S., (105) 320
Greenlees, J. R. C., (93) **319**
Greenwald, I., (73) **1028,** (42, 43) 1665
Greenwell, J. S., (58) **477**
Greenwood, A., (13) 1739
Greenwood, M., (23) 556
Greer, C. D., **1732**
Gregersen, J. P., (60) **1035,** (158) 1198, (131) 1844
Gregg, D., (27) 1665
Gregoire, R., (48) 557
Gregor, A., (128) 485
Gregor, G. D., (80) 1494
Gregor, G. S., (139) 162
Gregory, J. H., (23) 239
Gregson, A. H., (6) 699
Greiffenhagen, W., (161) 1752
Greig, E. D. W., (11) 699
Grey, E. G., (11) **1979**
Griffin, D. W., (92) 1108
Griffin, E. A., (67) 1666
Griffin, E. H., (55) 862
Griffin, W. L., (45) 552
Griffin, W. W., (116) 1328
Griffith, A. S., (19) 786
Griffith, E. M., (79) 242
Griffiths, F. G., (6) 629, (7) 1668
Griffitts, T. H. D., (20) 1831
Grigaut, A., (60) 482
Grigsby, G. P., (72) 1189, (52) 1261, (53) 1262
Grimm, R. M., **1089, *1423**
Grimsdale, T. B., (24) 1033
Grindon, J., (99) 1328
Grinker, J., ***1354, 1726**
Grinstead, W. F., (56) 160
Grober, J. A., (158) 562, (115) 705, (95) 1672
Groedal, F., (23) **1664,** (124) 1749
Groedal, F. M., (119) 560, (120) 870, (119) 1196, (79) 1586
Groedal, I. M., (118) 1030
Groedal, T., (119) 560, (124) 1749
Grøn, K., (134) 1932
de Groot, S. B., (56) 166
Grosh, L. C., (78) **864**
Gross, G., (53) **701**
Gross, O., (101) 406
Grosser, P., (109) 635
Groszman, M. P. E., (25) 159
Grotti, A., (7) 1831
Grove, W. E., (33) 1325, (117) 1668
Grover, A. L., ***1297**
Groves, E. W. H., (40) 324, (14) 625
Gruber, G. B., (149) 561
Gruening, E., (20) 81, (36) 1028
Gruhle, H. W., **283**
Grulee, C. G., (1) **1103**
Grumme, (145) 1502
Grünbaum, A. S. F., (16) 699
Grünbaum, H. G., (16) 699
Grünbaum, O., (20) 86
Grunberg, W., (63) **248**
Grund, G., (92) 1403, (94) **1841**
Grune, O., (100) 1114
Grunert, E., (91) 793
Grunert, K. H., (87) 554
Grushlaw, I., (108) 320, (92) 1667
Grussendorf, W. H. T., (106) **406**
Gudzent, F., (63) 1986
Guéniot, P., (51) **403**
Guérin, A., (59) 557
Guerin, C., (34) 1330
Guerrero, M. S., (56) **82**
Guest, L. H., (102) 1923
Guggisberg, (153) **1271**
Guigni, F., (126) 407
Guinon, L., (60) 1266
Guisez, (81) 1499
Guiteras, G. M., (126) 85
Guleke, (110) 1842
Guljoglou, A., (67) **482**
Gundelach, C. A., (72) 477
Gundermann, W., (93) 559
Gundrum, F. F., (21) 1919
Gunn, J. A., (36) **861**
Gunn, S. M., (13) 1492
Günther, (143) 1406
Gurd, F. B., (41) 1741
Gurney, J. M., (124) 1328
Gutherson, W. F., (71) 319
Guthrie, C. G., (33) 159, **1822**
Guthrie, J. B., (49) **552,** (123) **1030,** (16) 1837
Guthrie, J. R., (73) 1834
Guthrie, L., (1) 479
Gutman, J., (27) 1027, (53) 1493
Gutmann, J. H., (4) 1258
Guy, W., (8) 164
Guzmann, E., (143) **707**
Gwathmey, L., **237**
Gwerder-Pedoja, J., (113) 90


## H


Haagn, T., (62) 166
v. Haberer, H., (83) 482
Hachtel, F. W., (43) 944
Hack, R., (39) 1028
v. Hacker, V., (132) 637
Hackney, E. J., (126) 162
Hadda, S., (66) **1333**
Hadden, D., (28) **317,** (67) 696, ***897**
Hadfield, C. F., (13) 1495
Haenisch, G. F., (102) 1588
Hagedorn, (79) 326, (149) 707
Hagemann, R., (91) **559**
Haggard, W. D., (124) 85, (101) 1029, **1250**
Hahn, H., (97) 406, (106, 116) **1673,** (108) **1930**
Hahn, M., (51) 791
Hailer, E., (121) 91
Hailperin, C. J., (65) 1742
Haim, E., (52) 166
Hainbridge, W. B., (70) 553
Haines, W. D., (97) 242
Haines, W. S., **1901, 1915**
Hajoerle, A., (67) 1193
Hajos, E., (120) 1749
Halben, R., (126) 1196
Hale, W., (30) **695**
Hall, A. J., (18) **479**
Hall, C., (3) 1264
Hall, F. de H., (34) 1265, (23) 1330, (15) 1582
Hall, G., (29) 1109
Hall, G. C., (100) 161
Hall, H. C., (145) **252**
Hall, H. J., (8) 1025
Hall, J. R., (49) 1580
Hall, M. C., (20) 1739
Hall, O. B., (96) 161
Hall, P. M., (22) 239, (12) 1492
Hall, R. B., (11) **396**
Hall, W. S., (24) 1492
Hallé, (63) 1266
Halle, M., (90) 1037
Hallion, (55) **324**
Hallock, W., (64) 628
Halls-Dally, J. F., (34) **1745**
Halpenny, J., (45) 160
Halpern, J., (90) **1841**
Halsey, J. T., (114) 400
Halsey, L. M., (131) 699
Halsted, T. H., (135) 162, (88) 399
Halsted, W. S., ***416, *1119**
Hamburger, F., (130) **1196,** (139) **1502**
Hamburger, J., (85) 1987
Hamburger, L. P., (39) 398
Hamill, R. C., (63) 398
Hamilton, A. F., (20) 323
Hamilton, A. M., (60) 863
Hamilton, F. A., ***2030**
Hamilton, W. D., (166) 163, (37) 318, (92) 864, (86) 1107
Hamilton, W. F., (46) 160
Hamlett, B., (91) 1029
Hamm, A., (88) 950
Hamman, L., (60) **696,** (29) 1980
Hammel, S. A., (43) 477
Hammon, J. H., (71) 1327
Hammond, L. J., (23) 1492, (67) 1982
Hammond, R., (4) **1491**
Hammond, R. B., **1916**
Hampeln, P., (62) **1840**
Hand, A., ***990,** (129) 1030
Handley, W. S., (5) **1743**
Handrick, E., (117) 560
Haneborg, A. O., (160) 1198
Hanes, F. M., (165) 872
Hanford, J. M., (22) **1578**
Hann, R. G., (39) **1400**
Hannes, W., (171) 562
Hannum, M. N., (90) 242
v. Hansemann, (167) **1753**
Hansen, G., (20, 21) **1027**
Hansen, P. N., (192) **1754**
Hansen, S., (209) **564**
Hanzlik, P. J., (79) 697, ***957,** (43, 49) **1741**

Harbitz, F., (212) 564, (78) **1586**
Harbordt, C. DeJ., (65) 1327
Harbridge, D. F., (111) 478, (60) 553
Harding, J. C., (62) 160
Harding, M. C., 227
Hardy, L., (115) 1397
Hare, H. A., (103) 1397
Harlan, H., **776**
Harmsen, O., (110) 635
Harnagel, E. J., (76) 399
Harnett, W. L., (15) 1033
Harper, W. W., **1389**
Harpster, C. M., ***259**
Harrar, J. A., (6) **694,** (39) 1326
Harrell, R. F., **1486**
Harriehausen, L., (156) **871,** (126) **1931**
Harrigan, A. H., (74) 863, (10) 1104
Harrington, A. W., (27) **787**
Harrington, T. F., ***1757**
Harris, A. E., (47) 1670
Harris, B., (158) 162
Harris, C. H., (94) 1397
Harris, C. M., ***439,** (29) 861, (65) 1982
Harris, E. E., (53) 782
Harris, H. B., (87) 1107
Harris, H. F., (22) 475, (69) 1327, **1732**
Harris, J. J., (1) 85
Harris, R. H., ***722**
Harris, S. H., (9) 322, (6) 1264
Harris, S. T., (122) **1836**
Harris, W., (26) 1330
Harris, W. H., ***1948,** (39) **1981**
Harrison, F. C., (61) 87
Harrison, G. T., **1733**
Harrison, R. G., **1660**
Harrison, W. B., (62) 944
Harrison, W. H., ***588**
Harrower, H. R., (23) 946
Hart, C., (113) 251, (79, 80) **1747**
Hart, E. B., (70, 71) 1028
Härtel, F., (84) **482**
Hartenberg, P., (62) **482,** (41) **789**
Hartman, G. W., ***188**
Hartmann, H., (51) **1491,** (48) 1926
Hartoch, O., (138) 707, (60) 1840
Hartshorn, E., (44) 1326
Hartshorne, I., (91) 1667
Hartsoek, F. M., (64) 241
Harttung, H., (70) 1035, (88) 1194, (71) 1402, (138) 1501
Hartwell, J. A., **1251**
Hartz, H. J., **395, *717**
Hartzell, T. B., (25) 781
Harvey, W. G., (11) 555
Harvie, J. B., **1573**
Harzbeeker, O., (115) 1749
Haskin, W. H., (107) 161, **301**
Haskins, J. B., (141) 1030
Haslam, F. & Co., **615**
Hasler, W. T., (63) 1396
Haslund, O., (145) **330,** (136) 1038
Hasse, C., (153) 708
Hassel, R., (96) 1500
Hassler, J. W., (73) 628, (92) 783
Hässner, (171) 488
Hastings, T. W., (22) **941, *1208,** (29) 1395
Hateh, E. S., (60) 1580
Hateher, G. E., (89) 242
Hatcher, R. A., (94) **319, *499**
Hatheock, A. L., (143) 322
Hatiegan, J., (116) 407, (100) 1588
Hauch, (94) 1500
Haun, H., (147) **485**
Hauser, H., (125) 1673, (74) 1747
Hausmann, T., (79) 249, (86) 1037, (58) **1926**
Haussling, F. R., (63) 1493
Haviland, C. F., (7) **551**
Hawes, J. B., (35) 398, (31) 1980
Hawley, C. W., (16) 1395
Hawley, G. W., ***1850**
Hay, J., (12) 1923
Hayd, H. E., (18) **695**
Hayden, E. F., (126) 478
Hayes, H. M., (19) 1395
Hayhurst, E. R., (9) 1738
Haymann, L., (135) 706
Haynes, H. A., (58) 1107
Haynes, I. S., (1) **940,** (20) **1324**
Hays, H., (47) 782, (29) 1027, (115) 1328
Haythorn, S. R., ***1413**
Hayward, E., (49) **166**
Hayward, E. H., **1727**
Haywood, H. B., (137) 1329
Hazen, H. H., (46) 1187, ***1618**
Hazen, R., (58) **160**
Heacoek, J. D., (79) 783
Head, G. D., (8) 2066
Head, H., (10) 1744
Head, J. D., (9) **624**
Heald, C. L., ***1954**
Healy, D. J., (34) **1106**
Healy, W., (92) 697
Healy, W. P., (71) 1580
Heckel, E. B., (141) 478
Heckel, F., (52) **1401,** (83) 1499
Heckner, F., (173) 562
Hedenius, I., (134-136) 1590
Hedges, E. W., (16) 695
Hedin, C. J., (55) 1742
Hedin, S. G., (137) 408
Hédon, E., (63) 482
Heerfordt, C. F., (159) 92
Heermann, (145) **485**
Hefferman, P., (16) 164
Heffron, J. L., (26) 1492
Heffter, A., (107) **559**
Hefter, J., (82) 704
Hegar, A., (146) 870
Heggie, N. M., (111) 400
Hegler, C., (64) 1840
Hegner, C. A., (60) 404
Hehir, P., (18) 1033
Heiberg, K. A., (147) 252, (206) **874**
Heidenhain, L., (48) 2070
Heidingsfeld, M. L., (81) 864, ***1680**
Heidkamp, H., (176) 488
Heilskoy, C., (135) **408**
Heim, P., (70) 249, (149) **1751**
Heim, R., (51) 791
Heimann, F., (107) 1269, (52) **1585,** (91) **1841**
Heine, L., (100) 635
Heinecke, E., (187) 873
Heinemann, P. G., ***1603**
Heinlein, H., (104) 1672
Heinrieh, M., (88) **1748**
Heinz, O., (121) **1336**
Heitz, J., (40, 44) 1191, (56) 1497
Heitz-Boyer, M., (37) **166**
Heitzmann, L., (25) 1027
Heizer, W. L., (57) **627,** (89) **1029, 1559**
Held, I. W., (134) 1328
Hektoen, L., (26) **475**
Hellendall, H., (87) 169, (194) 1754
Heller, F., (73) 2071
Heller, I. M., (133) 162
Heller, J., (186) **873**
Heller, S., (69) 697
Hellier, J. B., (28) 631, (4) 1923
Hellin, D., (160) 1752
Hellwig, (125) 484
Helm, F., (120) 560
Helm, H., (99) **483**
Helweg, H., (158) 92
Hemenway, H. B., **1812,** (20) 1980
Hemminges, J. P., (158) 1502
Hempel-Jørgensen, E., (213) 874
Hemsted, H., (35) **402**
Henderson, F. F., (49) **1187**
Henderson, J., (21) 946, (13) **2068**
Henderson, L. J., (46) 318, (72) 1028
Henderson, M. S., (43) **1187**
Henderson, W. J., (63) 628
Hendren, J. H., (54) **1742**
Hendry, J., (69) **1586**
Henes, K., (98) 1403
Hengge, A., (111) 406
Henius, K., (61) 1840
Henkel, M., (87) 868
Henriques, A., (91) 629
Henrot, H., (91) **89**
Henry, F. P., (40) 782
Henry, H., (3) 243
Henry, W. O., **1101**
Hensehen, F., (205) 874, (134-136) 1590
Hensehen, K., (130) **637,** (62) 1332
Hensehen, S. E., (207) 874
Henske, A. C., (91) **161**
Hepburn, M. L., (24) 86
Herbert, P. Z., (130) 1328
Herbst, O., (65) 2071
Hergott, A., (51) **1111**
Hering, R., (20) 239, ***411**
Hering, W., (97) 1500
Heritage, C. S., (76) 319
Herman, G. E., (68) 88
Herman, G. J., (103) 1029
Herman, J. L., (70) 1580
Herrera, A. L., (192) 488, (160) 708, (154) 1198
Herriek, F. C., (77) 864
Herriek, J. F., (82) 1834
Herriek, W. W., (19) **1739**
Herrild, K., (95) **1988**
Herrman, C., (2) 940, (76) 944
Hersehell, G., (35) 1496
Hertle, J., (91) 483
Hertz, A. F., (36) **1265,** (9) 1582
Hertz, R., (84) 89, (178) 488, (58) 1402
Hertzell, C., (78) **1402**
Hertzler, A. E., (134) **321,** (34) **781, *1292**
Hervey, C. R., (46) 782
Herz, E., (79) **2072**
Herz, M., (3) 629, (95) 1334
Herz, P., (90) **1194,** (94) 1672
Herzberg, S., (59) 791
Herzfeld, E., (158) 1271
Herzog, H., (111) 635
Herzog, J., (129) 1196
Herzog, M., (121) 320
Hess, A. F., (20) **158,** (5) 1103, (95) **1114, 1570, *1617,** (3) 2066
Hess, L., (133) 1196, (135) 1270
Hess, O., (141) 1750
Hess, W. R., (50) 791
Hessberg, R., (75) 249, (135) 870
Hesse, E., (96, 97) 559, (104) 1749
Hesse, M., (139) 1674
Hesse, O., (112) 1115
Hessert, W., **315**
Heubner, O., (107) **705**
Heubner, W., (159) 486, (114) 1037, (103) 1195, (97) **1672**
Heuck, W., (66) **167**
Heully, L., (58) **1035**
v. Heuss, R., (99) 1269
Hewlett, A. W., (2) 1738, (4) **1979**
Heyerdahl, C., (153) 1406
Heyrovsky, H., (171) 872, (42) 947
Hiekey, P. M., (120) 699
Hiekling, D. P., (134) 1836
Hieks, J. A. B., (14) 699, (14) **2068**
Hieks, P., (76) **88**
Hildebrand, O., (41) **947**
Hildebrandt, W., (114) **1269**
Hilgartner, H. L., (139) 322
Hill, C. A., (35) 1740
Hill, H. W., (68) **160, 388, 423,** (27) 626, (86) 1029, (24) 1105
Hill, J. A., (103) 785
Hill, L., (19, 20) **1837**
Hill, M. C., **547,** (2) **1324**
Hille, H., (78) **628**
Hillebreeht, G., (74) **949**
Hilliard, C. M., (37) **1106**
Hillkowitz, P., (14) 780
Hillman, O. S., (10) **1258**
Hillowitz, P., (29) 1105
Hills, F. L., (56) 1742
Hilpert, W. S., ***1137**
Himmelheber, K., (111) 1115
Hinder, H. C., (3) 1031
Hinkle, S. B., (31) 1260
Hinman, F., (66) 783
Hinsberg, V., (141) **485,** (50) 1985
Hirseh, C., (68) 949
Hirseh, D. I., ***828**
Hirseh, G., (87) 1841
Hirseh, H., (132) 91
Hirseh, L., (143) **1751**
Hirseh, M., (92) 169, (134) 252, (137) **1337,** (148) 1751
Hirschberg, O., (81) 704
Hirsehfeld, F., (82) **1841**
Hirsehfeld, H., (160) **872**
Hirsehfelder, A. D., (11) **1979,** (17, 18) **2066**
Hirsehfelder, J. O., ***1061**
Hirsehkowitz, P., (129) 1116
Hirsehler, D. L., ***1952**
Hirsehler, M., (77) **2072**
Hirsehman, L. J., (66) 241
Hirshberg, L. K., (99) 1189, (47) 1982
Hirst, B. C., **538,** (19) 1185, (106) 1262
Hitehens, A. P., (20, 21) **1027, 1914,** (64) **1982**
Hitz, H. B., ***1295**
Hjert, J., (210) **874**
Hoag, E. B., **779**
Hobhouse, E., (7) 243
Hoeh, A., (55) 782
Hodges, L. M., **1380**
Hoefer, P. A., (95) 1588
Hoehl, H., (106) 635
Hoehne, O., (115-117) **1115**
Hoeniger, E., (76) 1333
v. d. Hoeven, P. C. T., (135) **330,** (176) **873,** (104) 1269
Hofbauer, L., (135) **1196**
Hofer, G., (136) 1270
Hoffman, C. S., (109) 1397
Hoffman, F. L., **1571, 1735**
Hoffmann, A., (120) 91
Hoffmann, E., (130) 560, (83) **1037**
Hoffmann, G. L., (43) 1106
Hoffmann, K., (121) 329
Hoffmann, M., (77) 1586
Hoffmann, O., (133) 1674
Hoffmann, R., (184) 488
Hofius, K., (63) 325
Hofmann, A., (147) 707, (90) 793
Hofmann, M., (88, 89) 483
v. Hofmeister, F., (184) 563, (139) **870**
Hofstätter, R., (60) **949**
Hogan, A. G., (95) 1327
Hogan, T. A., (22) 1395
Hohf, S. M., (43) 318
Hohlbaum, J., (138) 1197
Hoke, M., **1916**
Holbeek, O., (116) 328
Holeomb, S. R. C., (54) **944**
Hölder, H., (157) 1271
Holland, E. D., (8) 1577
Holland, W., (213) 564
Holländer, E., (71) **703,** (125) 1749, (66) 1840
Holliday, J. C., (67) 83
Hollingworth, H. L., (75) 628
Hollis, W. A., (43) 402
Hollos, J., (67) 404
Holm, V., (137) 1844
Holmes, C. R., (66) 477
Holmes, E. M., (17) 81
Holmes, G. J., (84) 319
Holmgren, I., (62) 791
Holroyd, J. B. H., (3) 1743
v. Holst, G., (139) 408
Holste, C., (81) 1193
Holt, C. H., (42) **1028**
Holt, E., (23) 860
Holt, L. E., (101) 1037
Holzberg, H. L., (39) 1665
Homa, E., (122) 1336
Homan, G., **1479, 1726**
Homan, R. B., (128) 85
Honan, W. F., (73) 628, (92) 783
Honeij, J. A., (82) 242, (25) 625
Hoobler, B. R., (3) **1324,** (136) 1329
Hoogkamer, J., (69) 1747
Hooker, E. R., (57) 1922
Hoon, L. W., (30) 1324
Hooper, C. W., (13, 14) **2066**
Hoover, C. F., (19) **396**
Hope, C. W. M., (34) 1110
Hopkins, A. H., (20) 1259
Hopkins, H. R., (71) 553
Hopkins, J. G., ***1615**
Horder, T. J., (23) **488,** (2) 1922
Horgan, J. B., **4,** (21) 165
Hornabrook, R. W., (6) 1668
Horneffer, C., (46) **790**
Horner, A. A., (49) **1187**
Horner, M. W., **688**
Hornung, J., (42) 2070
Horowiez, B. S., (91) 1922
Horowitz, P., (87) **477**
Hörrmann, A., (108) 951
Horsburgh, E. L., (26) 1583
Horsford, C., (4) 1743
Horsley, J. S., **151,** (132) 1030, (24) **1324**
Hort, E. C., (60) 87, (1) **785**
Horton, T., (72) 553
Horvath, M., (62) 1927
Horwitz, A., (136) **1501**
Hörz, J., (69) 1035
Heskins, R. G., ***1777,** (56) 1922
Hossaek, W. L., (16) 1033
Hotaling, A. S., (11) 1831
Hough, W. H., ***108**
Hourtoule, V., (61) 558
House, W., (86) 1262
Houssay, B. A., (135) 1406
Houzel, G., (40) 701
Howard, E. F., **1390**
Howard, H. W., (88) 1262
Howard, T., (68) 1580
Howell, C. M. H., (15, 17) 323, (19, 22) 630
Howland, J., (6) 1576
Hoyt, R. N., (12) 1919
Hubbard, E. E., (47) 477
Hubbard, T. B., **1389**
Hubby, L. M., (38) 943
Huber, H., (92) 1268
Huber, O., (90) 1672
Hubner, A. H., (30) 2069
Hübner, H., (96) **1334,** (91) 1748
Hudovering, C., (143) **1502**
Hudson, W. H., (7) **1104,** (22) 1324
Hueppe, F., (85) 1402
Huested, F. P., (33) 1981
Huff, E. P., (128) 401
Huffman, O. V., (148) 162
Hufnagel, V., (103) 250
Hufsehmidt, A., (115) 1589
Hügel, G., (86) 1113
Hughes, B., (19) **1668**
Hughes, G. S., (5) 555
Hughes, W. F., (34) 552
Huguet, L., (116) 794
Huismans, L., (113) **1116**
Huizinga, J. G., (32) 2067
Huldseinsky, K., (183) 873
Hulen, V. C., (72) 242
Hull, T. Y., (127) 85
Hume, W. E., (36) 556
Humiston, W. H., (14) **396**
Hummel, E., (129) 1270
Hummel, E. M., **1102,** (77) 1667
Hummer, H. R., (19) 551
Hunkin, S. J., (40) 160, **1917**
Hunt, C. J., (43) 1920
Hunt, E. L., **442**
Huntemüller, O., (79) **633**
Hunter, A., (79) 161
Hunter, D. G., (5) 1031
Hunter, W. K., (21) 1399
Huntington, J. L., (18) 1105
Huntington, T. W., (118) 478, (84) 1262
Hurd, H. M., (6) 551
Hurry, J. B., (6) 785
Hurtado, D. S. G., (156) 92
Hürthle, K., (121) 1501
Hurtley, W. H., (37) **556,** (39) **1669**
Hurty, J. N., (80) 242
Husserl, S., (75) 319
Hussy, P., (93) 1841
Hutchinson, W., (9) 1184, (48) 1187, (7) 2066
Hutchison, R., **16,** (27) 402
Hutinel, V., (52) 87, (49) 1192, (58) **1498**
Hutshing, E. E., (30) 317
Hüttl, T., (82) 1927
Hyland, R. F., ***436**
Hyman, A., (97) 1189

## I

Idzumi, G., (73) 1333
Igliek, S., **1559**
Ikonnikoff, P. S., (75) 2072
Ill, E. A., (66) 1493
Ill, E. J., (14) 694
v. Illyes, (133) 637
Imbert, A., (48) 1034
Imbriaco, P., (102) **793,** (201) 1754
Inclan, A., (201) 564
Ingalls, P. H., (82) 83
Ingals, E. F., (58) 1028
Inge, H. T., **1388**
Inge, J. M., (100) 1108
Ingebrigtsen, R., (37) **626,** (178) **1676**
Ingegnieros, J., (162) 1118
Ingersoll, J. M., (7) 81
Insen, A., (158) 92
Iribarne, R., (170) 1676
Isaac, S., (117) 560
Iselin, H., (115) 328, (61) **949,** (81) 1037
Ishioka, S., (66) 1586
Ishiwara, K., (136, 145) 1270
Isobe, K., (132) **1750**
Israel, W., (46) 947, (65) 1333, (150) 1674
Izar, G., (127) 251, (115) 1931

## J

Jaboulay, M., (45) 1034
Jack, W. A., (133) 1836
Jackson, A. B., (78) 1922
Jackson, D. D., (58) 83
Jackson, D. E., (65) 1188
Jackson, F. H., **465**
Jackson, J. M., (113) 85
Jackson, J. N., **150,** (11) 1104, ***1285** (93) 1396
Jackson, L., (40) **1920**
Jackson, T. S., (60) 83
Jackson, T. T., (95) 1397
Jacob, F. H., (45) 86
Jacob, L., (68) 167, (109) 1501
Jacob, M. M., (101) 629
Jacob, O., (36) **947**
Jacobaeus, H. C., (68) **248**
Jacobi, A., (83) 1494, **1962**
Jacobs, L., (93) 1922
Jacobs, P. P., (76) 242, (61) 1666, (17) 1831
Jacobsohn, A., (101) 635
Jacobsohn, E., (143) **561**
Jacobson, C., (59) **696**
Jacobson, J. H., (8) **1104,** (24) **1185**
Jacobson, N., (79) 1494
Jacobson, O., (118) 870
Jacoby, G. W., (30) 1395
Jacque, J. L., (19) **158**
Jacqueau, (55) **1746**
Jaffé, K., **1976**
Jaffé, R. H., (173) 488
Jaffin, A. B., (81) 319
Jager, F., (122) 1038
v. Jagic, N., (100) 1269
Jagielski, J., (100) 1334
Jagoe, A. J., (121) 1328
Jaklin, (126) **329**
v. Jaksch, R., (126) **91**
James, C. S., (98) 1262
James, W. M., (74) 1262, (35) **1920**
Jamieson, J., (2) 629
Jamison, S. C., (16) 1191
Janeke, (55) 2070
Janet, J., (40) **166,** (66) 558, (44) **1034** (47) 1400, (66) 1671
Janeway, T. C., **1569,** (1) **1738**
Janney, N. W., (40) 1665
Jansen, H., (184) 1676
Jansen, M., (122) 1115
Jaquerod, (41) 166
Jardine, R., (21) **1837**
Jaroschy, W., (100) 1500
Jarzew, A. J., (153) **1117**
Jaubert, L., (49) **1331**
Javal, A., (39) **701**
Jayle, F., (64) 482
Jeannin, C., (89) 89
Jeger, E., (76) 633, (46) 947, (65) 1333
Jehle, L., (138, 139) 1270
Jelliffe, S. E., **1024,** (59) 1262, **1391, 1575, 1911**
Jemma, (98) 406
Jenkin, B. A., (21) 941
Jenkins, L. W., (99) 84
Jenkins, T., **1575**
Jenness, B. F., (160) 479, ***662,** (108) 1397
Jennings, A. H., ***271**
Jennings, E., (4) **243**
Jennings, J. E., ***1620**
Jennings, W. B., (49) 782, ***1154**
Jensen, B., (148) **330**
Jensen, J., (110) **170**
Jeppelli, A., (101) 170
Jepson, S. L., (82) 1743
Jepson, W., (74) 399
Jervey, J. W., (135) 1030
Jespersen, K., (132) **1038**
Jess, A., (31, 32) 397
Jessen, F., (54) 2070
Jex-Blake, A. J., (1, 13) 1108, (8) 1190 (9) **1264**
Jianu, A., (100) 328
Joachim, O., (82) 629
Joachimsthal, (79) 1671
Jobb, E., (70) **1671**
Jobling, J. W., (51) **240,** (45) **1261**
Joest, E., (111) 251
Johannessen, A., (103) **1037**
Johansson, S., (59) **325,** (139) 952
John, M. K., (149) **1751**
Johns, C. O., (28) 626, (95) 1327, (44) 1665
Johnson, A. A., (19) **1259**
Johnson, C. E., (4) 474
Johnson, C. K., (163) 163, (96) 1494
Johnson, E. J., (138) 1030
Johnson, F. P., (5, 6) **474**
Johnson, H. R., (37) 943
Johnson, J. G., (74) 697
Johnson, J. H., (59) 241
Johnson, L. F., (104) 1108
Johnson, T. B., (96) 1327
Johnson, W. N., (57) **552**
Johnston, C. H., (125) 699, (70) 1666
Johnston, J. C., (64) **319**
Johnston, L., (4) **1031**
Johnston, R. H., (85) 399, (41) 943, (42) 944, (108) 1328
Johnston-Lavis, H. J., (8) 1982
Jolly, P., (97) 1269
Jolly, W. J., (67) 1262
Jolowicz, E., (123) 1749
Jona, G., (104) **793**
Jona, J. L., (4) 785
Jonas, S., (64) **325,** (118) **1336**
Jones, A. M., (141) 322
Jones, A. P., (38) **626,** (26) **1578**
Jones, A. T., (19) **695**
Jones, D. W. C., (6) 1982
Jones, E., (31) 1920
Jones, E. G., (149) 1329
Jones, E. M., ***1619, *1784**
Jones, E. O., (116) 478
Jones, F. S., (55, 56) 1187
Jones, H. A., ***9**
Jones, H. L., (69) **703**
Jones, H. M., **181, 414**
Jones, H. W., (60) 1493
Jones, J. J., (39) 240
Jones, K. H., (36) 86
Jones, R., (15) 86, (69) 88, (41) 480, (30) 1400
Jones, S. F., (99) 242, (5) 859
Jones, W., (51) 318
Jones, W. C., (128) 320
de Jong, R. de J., (168) 872
Jopson, J. H., (39) 81, (70) **1982**
Jordan, A. C., (25) 700
Jordan, D. S., **614, 615**
Jordan, E. O., ***410,** (36) **1920**
Jordan, H. E., (38) 318
Jordan, J. O., (20) 1492
Jores, L., (110) **1930**
Josefson, A., (105) **635**
Joseph, B., **974, 1155,** (1) 1324, **1361, 1889**
Josephson, C. D., (210) 564
Joslin, E. P., (6) **1258**
Jourdan, S., (98) 869
Jubb, A. A., (4) 2067
Juda, A., (115) 1673
Judd, C. C. W., ***1947**
Judd, E. S., (82) 1396, (98) **1667**
Judson, H. P., **774, 775**
Juhle, A. J., (177) **1676**
Jukes, A. M., (25) 323
Julliard, (56) 1035
Junea, E., (10) 479
Jundell, I., (132) **1844**
Jungmann, A., (115-128) **91**
Jupille, F., (48) 1670
Jürgens, A., (127) 329
Jutte, M. E., ***586**

## K

Kaefer, N., (104) 1588
Kaempfer, L. G., (130) 242
Kaerger, E., (48) **166**
Kaess, W., (104) 559
Kaestle, K., (108) 1037
Kafemann, R., (132) 870
Kafka, V., (102) 1269
Kahane, H., (138) 1406
Kahane, M., (87) 327
Kahle, P. J., (84) 629
Kahn, A., (56) 1982
Kahn, E., (107) **1037**
Kahn, F., (113) 1196
Kahn, I. S., (110) 1667
Kahn, L. M., (110) 478, ***897, 927**
Kahn, M., **237,** (22) **396,** (64) 863, ***955**
Kahn, M. H., (45) 1579
Kakels, M. S., (83) 83
Kakowski, A., (92) 1587
Kaliski, D. J., (38) 1981
Kall, (123) 1673
Kaminer, G., (170) 872
Kämmerer, H., (91) 1403
Kanavel, A. B., (59) 160, (65) 1028
Kaneko, K., (7) 859
Kannigiesser, F., (84) **1586**
Kantorowicz, (46) 2070
Kaplan, D. M., (51) 1982
Kaplansky, G., (47) 790
Kapp, J. F., (146) 1502
Karas, H., (146) 1116
Karawacki, L., (53) 1332
Karewski, F., (59) 404
Kariya, S., (47) 1111
Karnitzki, A. O., (75) 1113
Karpas, M. J., (14) 551, (67) 1107
Karsner, H. T., (9) **1919**
Kasashima, Y., (69, 70) 1193
Kash, M. C., (51) 1261
Kassabian, N. M., (34) 2067
Kassowitz, K., (156) 486
Kassowitz, M., (58) **791,** (148) 1270, (129) 1337, (116) 1404
Kastle, J. H., (34) **1106**
Kathan, D. R., (86) 1494
Kato, Y., (132) 1270
Katzenstein, M., (61) **1332,** (50) **1926**
Kauert, W., (99) 559
Kauffman, L., ***981**
Kauffmann, J., (45) **1584**
Kaufman, B., (62) 553
Kaufman, J., (68) 1107
Kaufmann, M., (123) 870
Kaufmann, R., (81) 249
Kaumheimer, L., (106) 1195
Kawasoye, M., (110) 1588
Kebbell, C. V., (22) **700**
Keefe, J. W., (24) **695**
Keelan, R. S., (28) 1669
Keen, W. W., **308, 927, *1418**
Keene, F. E., (66) 1982
Keeney, B. G., (29) 1920
Kehrer, E., (73, 76) **1747**
Keim, P. S., (169) 163, (111) 1397
Keith, A., (17) 86, (4) 479, (15) 699, (47, 52) 1265
Keith, D. Y., (73) 1189
Kelin, S. R., (120) 1030
Kellersberger, E., (48, 49) 318
Kellert, E., (33) 1981
Kelley, E. R., **1901**
Kelley, L. E., (75) 399
Kelling, G., (122) **636**
Kellner, H. J. W., (80) **1586**
Kellock, T. H., (19) 479
Kelly, H. A., **1915,** (100) 1262, **1574,** (60) 1982
Kelly, J. L., (114) **162**
Kelsey, C. B., (74) 83
Kemp, R. C., **1487**
Kemp, S., (61) **325,** (218) 564, (81) **1747**
Kendall, A. R., (12) **1979**
Kenefick, M. J., (46) **1493**
Keniston, J. M., (3) 1393
Kennedy, A. M., (27) **787,** (22) **1033,** (21) **1837**
Kennedy, F., **1819**
Kennedy, J. C., (74) **1742**
Kennedy, J. W., (70) 1107
Kennedy, R. S., (32) 1669
Kenney, H. T., (84) 1834
Kenny, F. H., (2) 1668
Kenrick, W. H., (30) 631
Keppler, C. R., (63) 1742
Keppler, W., (64) **702,** (103) 705, (105) 1114
Kerl, W., (168) 562, (98) 1588
Kermauner, F., (180) 873
Kerr, A. N., (127) 1264
Kerr, E. K., (68) 1834
Kerr, L., (66) 553, (53) **1395**
Kerr, N., **936**
Kerr, W. M., (126) 401
Kerr, W. W., (50) 1326
Kessler, (107) **1037**
Ketcham, A. H., (109) 161
Keyes, A. B., (89) 697
Keys, E. L., (130) 320, (68) 1742
Keys, F. G., (72, 73) 161
Khan, M. H., (24) 323
Kice, H. W., (67) 319
Kielleuthner, L., (107) 1930
Kienböck, R., (104) 635
Kilbourne, C. H., (15) 1184, **1504**
Kilgore, E. S., ***897**
Killough, R. S., (100) 785
Kilpatrick, A. J., (69) 1327
Kilpatrick, G. A., (96) 1108
Kilroy, L., (13) **699**
Kimberlin, A. C., (36) 552
Kime, J. W., (40) 1187
Kimura, J., (41) 324
Kineh, C. A., (24) 1980
Kindleberger, C. P., (155) 479
King, A. C., (86) 629
King, A. F. A., (118) 1264
King, H. I., (76) 1327
King, J. M., **1249**
King, W. E., (29) 475, (43) 1106
King, W. F., (35) 552
King, W. H., (91) 1835
King, W. V., ***271**
Kinghorn, A., (6) 243, (8, 9) 401
Kingsley, A. F., (35) 2067
Kinney, R. H., (107) 629
Kirby, G. H., (54) **782**
Kirby-Smith, J. L., (113) 400
Kirchenberger, A., (105, 106) **483**
Kirchenstein, A., (93) 1334
Kirchner, W. C. G., (12) 1324
Kirk, W. R., (119) 1836
Kirmisson, E., (34) 700, (32) **947,** (31) 1583
Kirschner, (47) 1839
Kisch, E., (110) 1037, (44) 2070
Kitusi, M., (174) **872**
Klapp, R., (119) **1673**
Klauser, R., (156) **1675**
Klausner, E., (119) 626, (58) 948
Klaveness, E., (41) 477
Klebs, A. C., (21) **860**
von Klein, C. U., (145) 1406
Klein, G., (78) 950, (87) 1841
Klein, S., (142) **1270**
Kleineberger, C., (75) 404
Kleiner, I., ***1783**
Kleinschmidt, H., (111) 705, (150) 1751
Klemperer, F., (167) **487**
Klemperer, G., (160) 487, (160) **872**
Kliencberger, O., (104) 869
Kligermann, N. R., (172) 562
Kligler, I. J., (44) 1920, (16) 2066
Kling, C., (117) **636**
Klingmüller, V., (87) 704
Klinkert, D., (86) 1929
Klotz, H. G., (50) 1666
Klotz, M., (87) **249,** (96) **250,** (116) **705**
Klotz, O., (151) **243**
Klotz, W. C., (44) 696
Klunker, (50) 2070
Knab, F., **1822,** (18) 1837
Knape, R., (133) 1501
Knapp, A., (24) 397
Knapp, H. B., (123) 699
Knapp, M. I., (92) 399, (55) 552, (71) 863, (98) 1189, (73) 1493
Knapp, P., **1819**
Knight, C. P., ***106**
Knight, E., (5) 1108
Knoll, W., (118) 560
Knoop, F., (26) 1980
Knopf, S. A., (105) 478, (69) 628, (63) 1107, (16) 1492, (22) 1831, (17) 1980
v. Knorre, G., (117) 1038
Knott, J., (16) 1923
Knower, H. M., (67) 477
Knowles, F. C., (153) 243, (65) **319**
Knowles, M., (13) 1026
Knox, H. A., ***105, *657**
Knox, J. H. M., (26) 1260
Knox, R. W., (107) 1667
Knudson, L., (79, 80) 1327
Kober, A. M., (94) 1929
Kober, P. A., (58) 318
Koch, C., (158) 1675
Koch, C. A., (119) 484
Koch, F. C., (75) **1028**
Koch, H., (118) **407,** (97) **950,** (170) 1753
Koch, K., (128) 1270
Koch, M. L., (90, 91) 1327
Koch, R., (77) **326**
Koch, W., (91) 1327
Kocher, T., (75) **1036,** (120) 1404, (55) **1985**
Koehmann, M., (120) 91
Koeppe, H., (84) 406, (127) **1931**
Koessler, K. K., (61) **398**
Kofmann, S., (131) 252
Koga, G., (113) **1404**
Köhler, R., (132) 252, (134) 1196
Kohlmann, W., (88) 629
Köhne; W., (50) **948**
Kolb, K., (100) **250,** (95) **869,** (114) **1196**
Kolde, W., (73) 482, (157) 1675, (71) 1747
Kolischer, G., (107) 1262
Kollaritis, J., (64) **2071**
Kolle, W., (60) 1840
Kollert, V., (128) 329
Kollock, C. W., (100) 320
Kondoleon, E., (106) **328**
Kondring, H., (136) 1337
Königer, H., (155) 486
Konkle, W. B., (106) 478
Kopetzky, S. J., (127) 162, (75) 1922
Koplik, H., (6) **238,** (90) 399, ***1755**
Koppang, N. B., (149) **330**
v. Koranyi, A., (145) **707**
Körte, W., (113) 869, (120) 1404
Kosmak, G. W., (13) 694, (51, 76) 1107, (38, 40) 1326
Kostmayer, H. W., (85) 629
Kotz, R., (132) 485
Kotzenberg, W., (121) **1404**
Koyano, T., (50) 1111
Krabbel, M., (105) **705**
Kraemer, A., (98) 1269
Kramer, B., (41) **620**
Kramer, S. P., ***1348**
Kranz, P., (101) 559
Kraus, R., (96) 950, (136) 1270
Krause, F., (78) **1113**
Krause, P., (61) **1986**
Krauss, F., (90) 1531

Kreeke, A., (106) **1335**
Kredel, L., (64) 791
Kreibich, K., (83) 1402
Kren, O., (141) 707
Kress, G. H., (61) 696
Kretschmer, H. L., *114, (124) **320,** (14) **1395**
Kretschmer, M., (100) 1930
Kreuter, E. W., (63) 702
Kreutzmann, H. J., (22) 1919
Kreuzfuchs, S., (109) 1335, (118) **1404**
Krider, E. E., (142) 243
Krieger, W. A., *1766
Kriloff, B., (119) **1843**
Kriwsky, L. A., (144) 1751
Krogh, G. R., (150) 330
Kroh, F., (104) 705, (127) 870
Krohn, G. H. M., (212) **874**
Krokiewicz, A., (131) 1270
Krone, (85) 1841
Krönig, B., (93) 793
Krotoszyner, M., *188
Krug, O., (134) **1337**
Krüger, (136) 637
Krulish, E., **1851**
Krumholz, S., (38) **552**
Krumwiede, C., (41) 1106
Kruse, W., (68) **791**
Krusen, W., (4) 1831
Krusius, F., (38) 1028
Kuh, S., **1910**
Kuhn, (130) 1405
Kuhn, F., (106) **951,** (150) 1117, (134) 1501, (77) **1840,** (34) **2069**
Kühn, W., (189) **1754**
Kühnelt, E., (129) 329
Kulenkampff, D., (89) **633,** (52) 1839
Kunst, A. H., (110) 1397
Kunz, H., (150) 708
Kupferle, L., (102) 250
Kürt, L., (123) **636**
Kuru, H., (175) 488
Kuschel, J., (10, 11) 1739
Kusel, G. C., (40) 696
Küster, H., (145) 870
v. Kutscha, E., (58) **2071**
Kutscher, K., (51) 1585
Kutschera, A., (124) 1116, (147) 1270
Küttner, H., (109) 559, (92) **869,** (83) **1268**
Kuzniek, P., (60) **1927**
Kyle, W. S., (86) 161

## L

Laache, S., (183) **1753**
Labbé, D., (54) **1332**
Labbé, H., (95) 90
Labbé, M., (47) 403, (40) 631, (52) **867** (56) 1402
Laborderie, A. B., (82) **868**
Laekenbach, F. I., (43) 160
Lacouture, B., (87) 1499
Ladd, M., (43) 81, (1) **1576**
Ladd, W. E., (28) 551, (45) 1326
Lade, F., (114) 1335, (101) 1672
La Fetra, L. E., (3) 238
Laffer, W. B., (36) 1832
Lafforgue, M., (66) **1746**
Lafont, A., (40) 246
LaForce, B. D., (78) 1834
La Forge, F. B., (60) 318
Lagane, L., (48) 403, (62) 1746
Lagarde, M., (54) 1111
Lake, R., (20) **244**
Lalor, N. P. O., (17) 1033
Lamb, A. R., (17) 1259
Lamb, D. S., (120) 1264, (131) 1836
Lamb, F. W., (135) 243
Lambert, A., (34) **245, 1483, *1933**
Lambert, R. A., (165) 872, (20) **1578, 1661**
Lameris, H. J., (63) 166, (85) **168**
La Mothe, E. A., (73) 1396
Lamothe, F. E., (50) 552
Lampé, A. E., (19) 1324
Lamy, L., (49) 247, (28) 1191
Lancaster, W. B., (5) 1393
Lance, (64) 1498
Lancereaux, E., (20) 2069
Landau, M., (62) 949, (99) 1403
Lande, P., (38) 1984
Landenberger, J. C., (82) 1262
Landis, H. R. M., **1571,** (94) **1581**
Landivar, R., (90) 1988
Landrieu, M., (84) 1580
Landrum, W. W., (96) 1029
Lane, C., (21) 1669
Lane, C. W., **1812**
Lane, L. A., (65) 160
Lane, W. A., (27) **244,** (63, 65) 477, (16) 865, (7) 1190
Lang, B. T., (5) **945**
Lang, J., (94) 1114
v. Lang, K., (78) 1927
Lang, W., (196) **1754,** (19) 1983
Langbein, R., (133) **560,** (163) 562
Langdon, F. W., (95) 242
Lange, E., (99) 705
Langer, E., (141) 1270
Langes, E., (188) 563, (114) 1588
Langmead, F., (24) **865,** (20) **1983**
Langridge, F. W., (20) 630, (3) 1923
Langstein, L., (116) 251, (156) 486, (103) 1930, (66, 67) 2071
Langwill, J., (11) **1190**
Langworthy, H. G., (100) 698
Lanza, R., (141) **330**
Lapage, C. P., (16) **401,** (17) 1583
Lapeyre, L. N., (41) **1331**
Lapham, M. E., (64) 1107, **1570**
Lapointe, A., (98) **90**
Lapointe, G. R., (58) 1671
Laquer, F., (97) **1749**
Larkin, J. H., **1391**
Larsen, C. L., (61) 160
LaSalle, J. J., (90) 1108
Laslett, E. E., (34) **556**
Lassen, O., (146) **252**
Lasserre, P., (36) **1984**
Lastaria, F., (111) 951
Latham, A., (25) 480
Lathrop, W., (85) 1494
Lattes, L., (161) 872
Lattimore, R., (23) 475
Lattin, C. B., (65) 553
Laubenheimer, K., (178) 873, (114) **1196**
Lauber, H., (117) 1931
Lauenstein, C., (102, 103) 1114
Laurent, F. V., (67) **628**
Laurent, O., (60) 1111
Lauritzen, M., (159) **872**
Lavaille, (59) 1266, (35) **1926**
La Vake, R. T., (42) 477
Lavandera, M., (101) 1189
Lavialle, (60) **1498**
Lavinder, C. H., *42
Law, A. A., **314**
Lawatschek, R., (120) 636
Lawrence, M. C. S., (45) 1111
Lawrow, W., (69) 1402
Laws, J. W., (116) 320
Laws, W. V., (40) 240
Lawson, D., (26) **480**
Lazzari, E., (131) 1932
Leach, P., (151) 479
Leake, M., *1523
Leary, T., (55) 696
Leary, T. J., *1293
Leathers, W. S., **1486**
Leavitt, F. E., *4
Lebedev, D., (80) 482
Lebon, H., (68) 1671
Le Breton, P., (8) 859, *981
Leeène, P., (40) 1034
Le Dentu, (32) **165**
Lederele, E. J., (73) 83
Lederer, M., *811
Lederer, R., (131) **1196,** (126) 1337, (120) **1931**
Lederman, I., (32) 781
Ledingham, J. C. G., (10) 1582, (37) 1669
Leduc, S., (131) **1038**
Lee, R. I., (16) **475,** (8) 1258
Leede, W. H., (186) 1753
Leeds, A. B., (81) 1580
Leen, T. F., (18) 1492
LeFevre, E., **931**
Lefèvre, H., (55) **1266,** (48) **1331**
Lefevre, W. I., (136) 243
Leffmann, H., **387**
Legg, A. T., (5) **1491**
Legge, R. T., (57) 1028
Legueu, F., (33) 166, (38) **701,** (42) **1400**
Lehle, (155) 1752
Lehmann, F., (143) **637**
Lehmann, K. B., (115) 1038
Leibich, E., (159) 1675
Leichtweiss, F., (77) 1267
Leidy, J., **1174**
Leighton, A. P., *279
Leiper, R. T., (29) 556
Leitao, M., (35) 1034, (3) 1576
Lejars, F., (66) **248,** (40) **947,** (64) 1193
Leland, J. T., (26) **781**
Le Lorier, V., (87) **89,** (66) **1112,** (41) 1926
Lemaire, H., (45) 324
Lemann, I. I., (113) **162**
Leme, B. P., (199) 563, (106) 794, (127) 1589
Lemeland, J., (55) 1111, (43) **1331**
Lemoine, G. H., (60) 1193, (60) 1671
Lengemann, P., (130) 252
Lenk, R., (83) 704, (53) 2070
Lennart-Norrlin, (45) 246
Lenoble, E., (43) **1746**
Lensman, A. P., (106) 1835
Lenz, J., (88) 868
Lenzmann, R., (118) 1673
Leo, H., (122) 1501, (98) **1672**
Leonard, V. N., (17) **1185,** (84) **1396**
Leopold, J. S., (8) 238
Leopold, S., (54) 1107, (140) 1329
Leotta, N., (153) 1502
Lepage, G., (36) **245**
Lépine, R., (85) **1333**
Lerch, O., (124) 560
Lerche, W., *1210
Lerda, G., (104) 1114
Lereboullet, P., (37) 1191
Leriche, R., (58) **166,** (58) **325,** (99) **1114,** (57) **1192,** (79, 80) 1840
Leroux, C., (63) **248**
Lerskov, A. N., (94) 1108
Lesage, A., (51) 1192, (45) 557
Leslie, R. M., (39) 324, (23) 630
Lesné, E., (64) 867, (33) 1034, (38) 1191
L'Esperance, E. S., (21) **396**
Lespinasse, V. D., (53) 398
Lesser, E. J., (106) 1037
Leszynsky, W. M., (119) 1328, **1391**
Letulle, M., (85) 89, (63) 632, (75) **867,** (50) **1401**
Leubuscher, P., (86) **1268**
Leuenberger, S. G., (65) **632**
Leuret, E., (43) **1497,** (47) 1746
Levene, P. A., (54, 60) 318, (80) 1028, (101) 1037, (89) 1327, (19) 2066
Lévi-Frankel, G., (99) 90
Levin, E., (70) 404, (62) 1586
Levings, A. H., (135) 85
Levis, H. J., *1359
Levison, C. G., (35) 317, (62) 696, *721, (19) **1919**
Levison, L. A., (85) **1107**
Lévy, F., (51) 324, (73) 404, (50) 1034
Levy, J., **1169, 1850**
Levy, R., (121) 484, (146) **707,** *1518
Levy, W., (190) 1754
Levyn, L., (97) 1667
LeWald, L. T., (19) **317**
Lewi, W. G., (1) **694**
Lewin, A., (153) **1674**
Lewin, C., (66) 1035, (80) 1402
Lewin, L., (73) **949,** (99) 1195
Lewinski, J., (80) **1267**
Lewinski-Corwin, E. H., (116) 698, *1787
Lewis, B., *1765, 2060
Lewis, C. F., (40) 477
Lewis, E. R., (93) 698
Lewis, F. P., (136) 478
Lewis, H. B., (88) 1327
Lewis, H. F., (59) 398
Lewis, J. D., (111) 161
Lewis, P. A., *202, (28) 1395, (23) 1578
Lewis, R., (36) 943
Lewis, R. M., (100) 1262
Lewis, T., (10) **243,** (35) **556, 665,** (9) 1108, (3) **1738**
Lewisohn, R., (7) 316
Lewy, A., (106) 1328
Lewy, J., (105) 1403
Leys, J. F., (129) 401, (99) 1397
Lian, C., (53) **324,** (78) **867**
Libby, G. F., (88) 554
Lieeaga, E., (13) 1184
Liehtenstein, F., (70) **482,** (141) 92
Lichtwitz, L., (48) 1985
Lichty, D., (21) 1395
Licini, C., (97) 869
Lidbetter, E. J., (1) **1581**
Liébault, G., (49) 557, (37) **700**
Lieber, M., (87) **483**
Liefmann, E., (92) 1195
Lieske, H., (123) 484
Lieven, F., (139) 1197
Likes, S. H., *1359, *1940
Lillingston, C., (21) **244,** (35) 480
Lind, S. C., (16) **941,** *1412
Lindemann, A., (124) 870
Lindemann, W., (142) 870
Lindgren, E., (133) 1038
Lindig, P., (87) **950,** (74) 1586
Lindner, H., (94) 869
Lindsay, J., (31) 402, (16) 1330
Lindsay, J. A., (17) 1495
Lindsay, J. J., (90) 945
Lindsay, W., (162) 163
Lindsey, M. K., (106) 698
Lindström, E., (118) **1931**
v. Lingen, L., (53) **404,** (139) 707
Linn, G. W., **1902**
Linnell, B. M., (97) 478
Linthicum, G. M., (101) **320**
Lintz, W., *649, (21) 1578
Linville, A. Y., (127) 1836
Linzenmeier, (95) 559
Lipowetzky, L., (90) 1402
Lippens, A., (79) 558
Lippincott, A. H., (70) 319
Lippmann, A., (144) 1502, (63) **1586,** (115) 1589
Lipsitz, S. T., (91) **161**
Lisbonne, M., (44) 1746
Lissauer, M., (132) 560
Lisser, H., (34) **159**
Lister, T. D., (58) 480
Litchfield, L., (131) 401, *1691
Litchfield, W. F., (12) 1668
Litterer, W., (115) 400, **1249**
Little, A. D., (57) 1834
Little, E. M., (17) 1264
Little, H. C., *899
Little, O. W., **1388**
Little, W. G., (76) 1580
Litzenberg, J. C., (5) 80
Li Virghi, G., (63) 558
Lloyd, L., (9) 401
Lobenhoffer, W., (48) 1839
Lobenstine, R. W., (13) 1324
Lobsenz, J. M., (63) 1922
Lockhart, B. W., (69) 83
Lockwood, C. B., **367, 1876**
Lockwood, T. F., (51) 1580
Loeb, C., (77) 477
Loeb, J., (41) 1665
Loeb, L., *1857, 2022
Loeb, S., (93) **633**
Loeper, M., (43) **1191**
Loevy, A., (59) **1839**
Loewenthal, W., (106) 869
Loewi, O., (70) 1586
Löhe, H., (28) 2069
Lohse, J. L., (53) 1028
Loiseau, G., (23) 1925
Lommel, F., (125) 560
Lommen, C. P., (85) 1029
London, E. S., (75) 168
London, J., (86) 83
Long, D., (137) 699
Long, E. R., 1021
Long, J. W., **237**
Longard, C., (53) 1926
Longcope, W. T., (18) **396,** (70) 1742
Longfellow, R. C., (33) 695
Longino, J. T., (80) 628
Looney, R. N., (26) **1740**
Lopes, U., (42) 557
v. Lorentz, (69) 1986
Lorenzini, A., (126) 952
Lossen, (95) **1269**
Lothcissen, G., (85, 86) **483**
Lothrop, H. A., (25) 317, (23) 625, (43) 1326, (6) **1393**
Lotsch, F., (124) 1501
Lott, H. S., (7) **158,** (13) 1831
Loughran, R. L., (124) 162
Love, A. G., (90) 1189, (58) 1493
Love, J. K., (15) 786, (13) 1190
Lovell, A. G., (32) 244
Lovett, R. W., (13) 475
Low, G. C., (28) 165, (23) 787, (34) 1669
Lowenburg, H., (152) **243**
Löwenfeld, W., (173) 488
Löwenstein, A., (98) 1334
Löwenstein, E., (88) 1268
Löwenstein, S., (94) 1748
Lower, W. E., (11) 475, (46) 1741
Lowsley, O. S., *110
Löwy, J., (106) 1749
Lübke, (49) 1585
Lublinski, W., (70) 326
Lubman, M., (102) 1189
Lucas, H., (96) 704, (70) 1333
Lucas, R. C., (22) 244
Lucas, W. P., *1611
Lucas, W. S., (23) 158
Lucatello, L., (116) 1589
Luce, G., (100) 559
Lucibelli, G., (100) **170**
Luckett, W. H., (16) 316, **1024**
Lüders, C., (68) **404,** (66) **791**
Lüdke, H., (86) 249, (87) **1402**
Ludloff, K., (10) 859
Luff, A. P., (2) 1494, (43) 1670
Luger, A., (101) 950, (134) 1196
Luithlen, F., (104) **1842**
Luke, H. C., (90) 783
Lukens, C. J., (130) 478
Luker, S. G., (26) 1837
Lumpe, R., (134) 330
Lund, A., (123) **1843**
Lund, F. B., (31) **239**
Lundgren, M., (145) **1338**
Lundsgaard, C., (109) 251
Lundsgaard, K. K. K., (160) **92**
Lurie, W. A., *2045
Lusk, G., (52) **318**
Lusk, W. C., (15) **316**
Lusk, W. T., (32) 239
Lust, F., (94) 250, (96, 97) 406, (155) 562, (115) 1404, (106) **1673**
Lüthje, H., (161) **487,** (100) **1841**
Lutz, R., (142) 92, (152) **708,** (193) 873
Luz, F., (209) 1754
Lyall, H. W., (54) **1187,** (37) **1981**
Lyle, H. H. M., (160) 162, (5) **1738**
Lyman, C. B., (19) 475
Lyman, H., (80) 161
Lynah, H. L., (22) 81, (46) 1833
Lynch, J. M., (74) **628**
Lynch, K. M., (81) 1922
Lyon, E. P., *1049, (69) 1834
Lyons, R., *1216
Lyons, W. C., (46) **86**

## M

Maass, H., (105) 1672
Mabille, H., (64) **1746**
McAbee, W. D., (14) 1184, *1950
Macalister, C. J., (11) 1329
Macallum, A. B., (78) **161**
McArthur, L. L., **238**
McBride, J. H., (7) 780
McBride, P., (14) 1109, (23) 1399
McCabe, W. M., **1248**
MacCallum, W. G., (123) 1115
McCampbell, E. F., **1357**
McCann, F. J., (39) 1110

McCare, T., **474**
McCarrison, R., (21) 556, (26) **631,** (25) **787**
McCarthy, H. L., (43) 1111
MacCarty, W. C., (87) 1396
McCaskey, G. W., (93) 399
McCaughey, R. S., (112) **242**
McCaw, J. F., (132) 162
McClellan, T. C., **1388**
McClenahan, H. C., (46) 1326
McClintock, J. T., (35) 1187
MacConkey, A. T., (27) **1744**
McConnell, A. A., (4) **163,** (25) 1496
McConnell, A. B., (7) 1324
McConnell, G., (52) 1187, (126) 1328
McCool, J. L., (66) 1396
McCord, C. P., (50) 944, (89) 1396
McCoy, G. W., **1503**
McCrudden, F. H., (47, 48) **240,** (52) 318, (39, 40) 626, (112) **1501**
McCullough, P. B., (41) 696
McCurdy, S. L., (93) 783
McCurry, W. T., (29) 1260
McDaniel, A. C., (99) 1108
McDill, J. R., *1847
McDonagh, J. E. R., (71) 88, (16) 630
McDonald, E., *1766
MacDonald, J. B., (78) 399
McDonald, P. Z., (65) 1834
MacDonald, S. G., (19) 323
McDougall, W. T., (58) 241
McDuffie, M. W., (119) 1030
McFarlan, D., (39) 943
McFarland, J., **473,** (51, 52) **1187**
McFarland, R. L., (93) 1029
Macfarlane, W. D., (16) 556
Macfie, J. W. S., (1) 1397
McGaffin, C. G., (17) 551
McGavin, L., (20) 479, (2) **1836**
McGee, J. C., (82) 1189
McGlannan, A., **71,** (78) 553, *733, (92) 1396
McGowan, J. P., (10) 1190
McGrath, B. F., **364**
McGraw, T. A., (74) 1666
McGuigan, H., (64) 1188
McGuire, E. R., (121) **162,** (125) **320**
McGuire, R. C., (22) 401
McGuire, S., (114) **85,** (80) 553
Mache, H., (141) 1502
Macht, D. I., (34) 1665
Maciel, J., (195) **563**
McIntosh, J., (17) **946**
McIntosh, W. P., (58) 944
Mack, M. H., (16) 1395
Mackay, D. M., (33) 1838
Mackay, G., (4) 945
McKay, H. S., (90) **161**
McKee, C. S., (18) 1668
MacKee, G. M., (92) 1189
McKelway, G. I., (80) 697
McKenna, C. H., (103) **1262**
McKenty, J., (37) 1741
McKenzie, B. E., (44) 160
McKenzie, D., (9) 479, (19) 865, (15) 1109
Mackenzie, J., (9) 243, **665**
McKenzie, R. T., (14) 239
McKeon, F. H., *183
McKillop, L. M., (6) 85
McKinley, F. J., **1318**
MacKinnon, A., (29) 1492
Mackintosh, A. H. G., (24) 244
McKisack, H. L., (2) **699**
MacLaren, A., (55) **1666**
McLaughlin, A. J., (46) **81,** (16) 244, (31) 695. (66) 863
MacLaurin, C., (5) 85, (9) 1031
Maclay, J. A., (65) 1493
McLean, E. R., (112) 320
McLean, F. C., *588
McLellan, S. W., (5) 401
MacLennan, A., (33) 402
Macleod, J. M. H., (73) 88
McMahon, J. P., (137) 85
McManus, T. U., (36) 1187
McMichael, J. R., (68) 1327
McMillan, A. H., (43) 1395
McMorrow, F., *966
MacMurchy, H., (73) 697
McMurray, W., (4) **1031**
McMurtrie, D. C., (92) 161, (38) 239, (60) 477, (112) 478, (94) 629, (117) 1263, (101) 1835, (61) 1922
McMurtry, C. W., (53) 1666
Macnab, A., (39) **1265**
Macnaughton-Jonas, H., (1) 163, (27) 1033, (25) 1330
McNeil, C., (10) 1190
McPeck, C., *1777
McPherson, F., (47) 398
McPherson, R., (77) 1107
Macquillan, J. W., (88) 242
Macrae, D., (33) 1187
McReynolds, J. O., (96) 1397
McVea, C., **1487**
McWalter, J. C., (49) 631
McWilliams, C. A., *730
Macy, M. S., (95) 399, (57) 1395
Maddox, R. D., *663
Madsen, E., (139) 1590
Macchtle, E. W. *1878
Magaldi, J., (133) **407**
Magee, R. S., (57) 241
Magitot, A., (84) 1580
Magni, E., (154) 1502
Magnus, G., (51) 166, (89) 406, (127) **1116** (54) **1585**
Magnussen, G., (59) 702
Magoon, C. A., (34) 695
Magruder, A. C., (27) 1105
Magruder, M. J., (58) 1580
Mahé, G., (59) 1746
Mahler, L., (135) **408**
Mahu, G., (76) 558
Maier, L., (126) **1405**
Mailhouse, M., (51) 1921
Maillet, F., (51) 247, (29) 1191, (57) 1498
Maingot, (52) 247
Maiolo, B., (118) **951**
Mair, W., (17) 1583
Major, R. H., (27) 1980
Makuen, G. H., (35) 943
Malan, A., (161) **1271**
Malan, G., (138) **330**
Malcolm, J. D., (4) 555
Malhéné, (61) **867**
Malins, E., (26) 323
Maliwa, E., (90) 704, (114) 1115
Mall, F. P., *1599, **1655**
Mallett, E. P., *1226
Mallory, F. B., (49) **1187**
Malone, W. H., (36) 1492
Maloney, W. J. W. A., (77) 1922
Mancioli, T., (146) 92
Mandoul, A., (71) **1671**
Manges, M., (97) 629, *661, **1680**
Mangold, E., (51) 2070
Manicatide, M., (68) 2071
Mann, A. T., **308**
Mann, F. C., *1273
Mann, F. H., (75) 242
Mann, R., **1248**
Mann, R. H. T., (9) 1577, (35) 1579
Mann, T. A., (66) 1327, (48) 1920
Mann, W. L., (130) 401, (100) 1397
Mannaberg, J., (113) **1931**
Mannheimer, G., (45) 1982
Manning, J. V., (64) 1922
Manoiloff, E., (56) 948
Manouelian, Y., (40) 866, (25) **946**
Manoukhine, I. I., (35) 789, (45) 1985
Manquat, **383**
Mantelli, C., (110) 951, (129) 1932
Mantle, A., (35) 1745
Manwaring, J. G. R., *278
Manwaring, W. H., (45) **240,** (417) **1260**
Marc, W., (147) 870
March, C. J., (43) 240
Marchais, P., (9) **474**
Marchand, F., (114) 1501, (105) 1749
Marcialis, M., (118) **1589**
Marcille, M., (6) 1923
Marcora, F., (80) **1987**
Marcorel, E., (78) **867**
Marcus, K., (140) 952
Marcy, A., (137) 401
Marcy, H. O., (92) 1581
Marek, R., (146) 1270
Maresch, R., (82) 792
Margarot, J., (44) 1746
Marie, A., (26) **1926**
Marie, P., (46) **247,** (90) 558, (60) **1332**
Marie, R., (31) 1926
Marinacci, S., (148) 92
Marine, D., (44) 627, (77) 697, (19) **1259,** (39) 1260, (32) 1665
Marinelli, F., (157) 708
Marinesco, G., (90) 89, (31) 947, (28) 1583
Marion, G., (39) 166, (43) 701, (43, 46) 1400, (61, 67) 1671
Mark, E. G., *514
Markley, P. H., (76) 863
Marks, A., (8) 322
Marks, W. L., (2) **1979**
Markus, N., (56) **1839**
Marman, N. B., (12) 1982
Marques, L. P., (135) 952
Marsh, J. P., (84) 1494
Marshall, C. R., (95) 319
Marshall, E. K., (92) **1327**
Marshall, G. B., (28) 1745
Marshall, G. M., *179
Marshall, H. W., (8) 940, (49) 1028, (20) 1105
Marshall, V. F., (108) 629
Martelli, C. D., (152) 92
Martin, A., (85) 950
Martin, C., (27) 1264
Martin, C. J., (18) 401, (34) 402, (5, 17) 479
Martin, E., (141) 1329
Martin, E. D., (53) 552, (125) **1836**
Martin, E. H., (117) 1030
Martin, F., (152) 1329
Martin, H. H., (115) **85,** (112) 400
Martin, P. F., (41) 1492
Martinet, A., (60) **247,** (49) 403, (60) 558, (52) 701, (52) **1401,** (83) 1499, (61) **1746**
Martini, E., (38) **947**
Martius, (151) 1674
Marvel, W. J., (101) 1262
Marvin, D., (94) 945, (40) 1832, (115) 1923
Marx, H., (112) 559, (140) 1750
Marzo, A. L., (160) 1502
Mas, F., (169) **1675**
Maslow, M. S., (163) **1752**
Mason, A. B., (145) 243
Mason, E. M., (135) 321
Mason, J. M., (122) 85, (135) 321, **1389**
Massarotti, V., (83) **2072**
Massey, G. B., (76) 1493
Masson, P., (55) 1332
Masten, H. B., (81) 242
Mathes, P., (112) 328
Mathies, A., (143) 1116
Mathieu, A., (52) 1497
Matignon, J. J., (40) 557
Matout, M., (134) 407
Matson, H. S., (23) 1669
Matson, R. W., (108) 1835
Mattauschek, E., (61) 1586
Matthews, A. A., (83) 1262
Matthews, A. C., (29) 317
Matthey, A. C., (73) 1671
Matthey, A. L., (98) 1500
Mattisson, K., (63) **1035,** (143) **1338,** (85) 1747
Matzenauer, R., (119) **1336**
Mauclaire, P., (47) 557, (47) 866, (41) 1497
Maudsley, H., (164) 1118
Mauldin, L. O., (99) 320
Mauriac, P., (52) 1192, (39) **1838**
Maus, L. M., (42) **862**
Mauté, A., (94) **90**
Maverick, A., (74) 944, (63, 71) 1262, (92) 1835
Maxwell, W. H., (16) 1982
May, C. H., (26) 1496
May, E. S., *1680
Maybaumm, J., (82) **1747**
Mayberry, S. N., (87) 319
Maybury, B. C., (11) **2068**
Mayer, A., (93) 950, (151) **1117,** (68) 1193, (139) 1406
Mayer, E., (83) 1841
Mayer, L., (9) **859**
Mayer, M., (122) 1404, (76) 1586
Mayer, T. F. G., (3) **1397**
Mayes, C. M., (66) 1262, (68) 1922
Mayesima, J., (76) 1840
Mayhew, D. P., (50) 1833
Maynard, E. F., (7) 479
Mayo, C. H., **237,** (82) 697, (83) 1029, (25) **1324, 2065**
Mayo, H., (10) 86
Mayo, W. J., *512, (1) 624, **884,** (89) **1262,** (30) **1832**
Mayrhofer, E., (119) **91**
Mays, T. J., (84) 1189, **1811**
Mazel, P., (41) 557, (84) 558, (71) 867, (41) 1191
Mazet, (46) **701**
Mazzitelli, P., (117) 951
Mazzolani, D. A., (207) 1754, (116) 1843
Mead, F. H., (115) **698**
Meader, F. M., (3) **624**
Means, C. S., (72) 1396
Means, H. J., (83) 864
Means, J. W., (56) 1922
Means, W. J., **933**
Medalia, L. S., (51) 82, (149, 150) **162,** (33) 239
Meder, E., (83) 633
Medigreceanu, F., (43) **866,** (24) 946, (24) 1925
Meding, C. B., (13) 1664
Meek, W. J., (21) 1739
Meek, W. O., (40) **402**
Mees, R., (65) **1193**
Meilo-Leitao, (2) 864
Meinertz, J., (79) 249
Meira, R., (129) 407
Meisenbach, R. O., **1817**
Melcher, W. P., (64) 1493
Melchior, E., (93) **704**
Melchior, L., (165) 1198, (75) **1267,** (44) 1584
Melikianz, (87) **1987**
Meltzer, S. J., (29) **941, 1182,** (42) **1261,** *1407
Menacho, M., (168) 1675
Mendelssohn, A., (117) 251
Mennell, J. B., (19) 699
Mensi, E., (187) 488
Menville, L. J., (52) 552
Menzies, P. K., (51) 398
Mercer, R. E., (43) 552
Mercier, C., (32) 86
Merckens, A., (109) 1930
Mercklin, A., (82) **327**
Meredith, E. W., (88) **864**
Merrem, C. B., (99) 1672
Méry, H., (54) **631,** (61) **867,** (64) 1266, (41) 1400
Messerschmidt, T., (63) **404**
Metchnikoff, E., (37) **246**
Metz, R. B., (78) 697
Meyer, A., (67) 399, (12) **551,** (2) 1663
Meyer, A. W., (60) 166, (50, 51) 1839
Meyer, C., (109) 705
Meyer, E., (103) 406, (112) 705, (108) **1269**
Meyer, F., (27) **2069**
Meyer, G. M., (80) 1028
Meyer, K. F., (39) 1106
Meyer, L. F., (55) **1839,** (69) **2071**
Meyer, O., (96) 1114, (136) **1116,** (86) **1333**
Meyer, R., (108) 251, (58) 404, (72) 482, (138) 637
Meyer, W., (142) 162, (43) **947,** (119) 1038, (60) 1742, **1912, 2024**
Meyer, W. R., (118) 1270
Meyer-Betz, F., (103) 328
Meyer-Rüegg, H., (76) **1036**
Meyers, A. E., (9) **1979**
Meyers, J., **1575**
Michelson, N., (128) 1843
Michiels, J., (115) 251, (122) 407
Michiels, M., (117) 407
Michl, V., **519**
Michon, E., (36) 166
Middleton, A. B., (53) 160
Middleton, W. D., (72) 1834
Midorikawa, H., (50) 1111
Miescher, F., (56) 1985
Mikell, O. V., (89) 945
Milani, E., (140) 252
Miles, W. E., (14) 630
Miller, A. M., (52) 160, (85) 1396
Miller, C. J., (89) 629
Miller, E. H., (35) 781
Miller, F. E., (66) 628
Miller, G. B., (12) 694
Miller, H. C., (74) **88**
Miller, H. W., (77) 399, (13) 551
Miller, J. R., (102) **1262**
Miller, J. W., (47) 1985
Miller, M. B., (60) 1262, (102) 1397
Miller, R., (3) 1189
Miller, S. R., (92) 945
Millet, J. A. P., (29) 1665
Millette, J. W., (71) 1396
Milligan, W., (48) 480, (27) 631
Mills, C. K., (141) 1329, **1910**
Mills, H. P., *889
Mills, W. S., (102) 399, (3) 1918
Millspaugh, W. P., (68) 696
Milne, L. S., (4) 624, (86) 704, *822, (80) 1189, (95) **1667,** (62) 1922
Minchin, W. C., (45) 1265
Minca, J., (90) 89, (31) 947, (28) 1583
Minett, E. P., (31) 165
Miningham, W. D., (86) 1922
Mintz, W., (109) 1842
de Miranda, P., (147) 638
Mitchell, A. P., (14) 786
Mitchell, J. E., (3) 1836
Mitchell, O. W. H., (8) 1738
Mitchell, S., (100) 1923
Mittendorf, W. K., (48) 944
Mittwoch, E., (82) 1267
Mitzmain, M. B., (112) 1836
Miyakawa, Y., (48) 1111
Miyake, H., (51) **1926**
Miyauchi, K., (67) 1333
M'Kinniss, C. R., (55) 1493
Mocquot, P., (34) **1583**
Moffit, H. C., (18) 1919
Mogi, T., (50) 1111
Mohr, C. A., **1389**
Mohr, R., (121) **1115**
Moïssidès, M., (186) 488
Moleen, G. A., (28) 1105
Molineus, G., (94) 559, (100) 705, (106) 1114, (131) 1501
Moll, A. M., (60) 1188
Moll, L., (119) 1931
Molla, D. R., (164) 1502
Møller, P., (131) **1589,** (94) 1988
Möllers, B., (88) 704, (123) 1501
Molloy, D. M., (117) 85
Molodenkoff, A., (79) 482
Molyneux, S. D., (68) 1982
Momburg, F., (122) 870, (104) **1403**
Moncrieff, R. S., (9) 164
Mondor, H., (61) 482
Mongour, C., (57) 1671
Monod, O., (67) 1266, (54, 65) 1746
Monod, R., (81) 558
Monprofit, (58) 1266
Monro, T. K., (20) 1495
Montefusco, A., (163) 1271
Montgomery, C. M., *494, **1318,** (23) 1578
Montgomery, D. M., (78) 1580
Montgomery, D. W., *7, (102) **698,** (47) 1187, *1692, (20) 1919, *2035
Montgomery, E. E., (122) 320
Mood, G. M., (77) 1982
Mook, W. H., (71) 160
Moolgavkar, S. R., (5) **243**
Moon, R. O., (14) 1264
Moon, V. H., *1764
Moore, A. R., *345
Moore, B., (63) 1188
Moore, C. L., (112) 1397
Moore, H. A., (28) 1920

Moore, J., (54) 480
Moore, J. W., (43) **626,** (61) **1188**
Moore, R. W., (99) 785
Moore, S. G., (134) 401
Moore, T. W., (167) 163
Moorhead, T. G., (2) 163, (22) 1264
Moraes, B., (146) 638
Morales, M., (166) 1675, (174) 1676
Moran, J. F., (97) 783
Morden, M. R., **1726**
Morean, (69) 1266
Moreira, S., (43) 557
Morel, T., (42) 1191
Moren, J. J., (56) 627
Morestin, H., (60) 1746
Morgan, E., (5) 1324
Morgan, H. J., (138) 243
Morgan, J. D., (114) 698
Morgan, W. E., ***590**
Morgan, W. G., (89) 1494
Morgenroth, J., (81) 1113
Morgenstern, K., (78) 1333
Mori, A., (124) 407
Moriarta, D. C., (9) 1324
Morison, R., (14, 22) 1495
Moritz, M., (25) **556,** (25) 1264
Moro, E., (104) 1037
Morone, G., (124) **952,** (153) 1198
Morpurgo, B., (125) 1405
Morris, N., (1) **1982**
Morris, R. T., **72,** (22) 1027, (114) 1328
Morrison, E. E., ***1280**
Morrison, N. H., (56) 863
Morrison, O. C., (72) 399
Morse, J. L., ***875,** (71) 944, (25) 1260, (42) **1326, *1677**
Morse, L. B., (121) 1836
Morse, P. F., (23) 695
Mortimer, J. D., (19) 1264, (10) 1923
Morton, C. A., (47) 631, (7) **864,** (7) 1743
Morton, R. S., (1) **396,** (109) 478
Mosbacher, E., (108) **1269**
Mosby, W. L., (98) 161, (57) 477
Mosny, E., (39) **701,** (56) 1266
Moss, C. J. A., (24) 631
Moss, E., (56) 1580
Moss, J. T., (69) 477
Mosse, M., (81) 1671
Mosti, R., (117) 1589
Mostrom, H. T., (64) 1188
Moskowicz, L., (105) **1588**
Motzfeldt, K., (146) 330, (66) 949
Mouisset, F., (66) **1266,** (75) 1499
Moullin, C. M., (16, 39) 86
Moulton, H., (14) 1739
Moure, E. J., (46) **1985**
Moure, P., (54) 557
Mouriquand, G., (36) **1926**
Mowry, A. E., (64) 1028
Moyer, H. N., **777**
Moynihan, B., (19) 401
Much, H., (83) 792, (137) 952
Muckey, F. S., (64) 628
Muecke, F. F., (20) 1837
Mueller, A., (91) **169,** (103) 478, (130) 485
Mueller, F. H., (89) **1748**
von zur Mühlen, A., (121) 1196
Mühsam, R., (124) 1501, (102) **1841**
Muir, J. T., (20) 1739
Mulholland, J. A., (84) 399
Mullally, E. J., (71) **697,** (28) 1492, (40) 1741, (7) 1979
Müller, A., (91) 249
Müller, C., (138) 1750
Müller, E., (94) **406,** (56) **1926,** (70) 2071
Müller, F., (26) 1109
Muller, H., (56) 1192
Müller, J. E., (94) **1403**
Muller, J. M., (143) 485
Müller, M., (91) 950, (102) 1195, (124) 1673
Müller, O., (108) 1749
Müller, R., (120) 1196, (120) 1336
Mulley, K., (103) 483
Mulot, O. L., (35) **1395**
Mulzer, P., (86) 1113, (54) 1839, (52) 1985, (60) 1986
Mumford, J. G., **77, 222,** (70) 1262
Mummery, P. L., (1) **864**
Muneey, E. B., **1911**
Munk, F., (79) 404
Munson, E. L., (53) **944**
Münzer, A., (36) 866, (80) 1193, (56) **1839**
Münzer, E., (117) 1673, (98) 1929
Murard, J., (71) 558, (71) 867
Murdock, L. H., (95) 1108
Murison, C. C., (24) 1669
Murlin, J. R., (126) 320
Murod, J., (90) 1500
Muroya, S., (71) 1840
Murphy, A. I., ***995**
Murphy, F. G., (98) 698, (39) 1187, (79) 1834
Murphy, F. T., (23) **941**
Murphy, H. H., (58) 1666
Murphy, J. A., (148) 479, **603**
Murphy, J. B., **1374,** (55) **1585,** (26) **1831**
Murphy, Jas. B., (42) 626, (47) **1261**
Murphy, J. J., (88) 161
Murphy, W. W., (3) **80**
Murray, H. L., (21) 1033
Murray, R. W., (19) **1191**
Musgrave, W. E., (55) **82**
Musser, J. H., (69) **1982**
Mustard, H. S., (102) 1667
Mutch, N., (6) 555
Mutermileh, S., (178) 488, (30) 946
Muthu, C., (36) 480
v. Mutschenbacher, T., (77) 1927
Mutters, J. D., (99) 161
Myers, F. M., (53) 1982
Myers, V. C., (29) 626, (7) **1738,** (85) 1922

N

Naeke, W., (133) 252, (137) 330
Nadal, P., (57) 632
Naegeli, T., (151) 870, (57) **1985**
Nägelsbach, E., (49) 1839
Nagelschmidt, F., (71) **1035**
Nagcotte-Wilbouchewitch, M., (61) **1498**
Nagy, S., (140) 1270
Naish, A. E., (33) **556,** (11) 1108
Nakagawa, K., (49) 1111
Nammack, C. E., (85) 83, (62) 1262, (127) 1328, (65) 1666
Nance, W. O., (57) **398**
Nanta, A., (52) 631, (43) 1838
Narath, A., (84) 168
Nardi, A., (113) 951
Nash, J. B., (5) 629
Nash, J. T. C., (46) 1670, (8) 1923
Nassetti, F., (99) **793**
Natale, P., (145) 1197
Natvig, H., (164) **1198**
Nauwerek, C., (49) 1585
Naville, F., (88) 558
Neel, J. C., (96) **1262**
Neff, I. H., (29) **239**
Neff, M. L., (14) **860**
Neil, W. F., (9) **945**
Neill, W., (133) 401, (109) 785
Neilson, C. H., ***436,** (38) 1832
Neilson, I. L., (152) 479
Neisser, A., (70) 632
Nelken, A., (67) **944**
Nelson, R. M., ***742, *1766**
Nelson, W. H., (8) 85
Nemmser, M., (112) **1749**
Nesbit, O. B., (31) 1106
Nesbitt, C. T., ***6**
Neselrode, C. C., (56) 241
Netter, A., (78) 558
Nettleship, E., (1) **1581**
Neu, H., (109) **1404**
Neu, M., (81) **950**
Neuberger, M., (142) 1674
Neudörfer, A., (131) 637, (83) **1586**
Neugebauer, F., (136) 637, (113) **1588**
Neuhaus, H., (74) 2071
Neuhof, H., ***1701**
Neuhof, S., (116) 1030, ***1064,** (11) **1258**
Neuman, L., (44) **1832**
Neumann, A., (103) 1403, (73) 1840
Neumann, W., (78) 404, (160) 872
Neumann,-Kneueker, A., (107) 1842
Neumayer, V. L., (70) 167
Neupert, R., (117) 13335
Neustaedter, M., (83) 477, ***982, 1575**
Newberne, R. E. L., (21) 1105
Newburgh, L. H., (47) 1833
Newcomb, J. R., (98) 1923
Newcomet, W. S., (71) 1982
Newell, C. R., (76) 161
Newhard, H. F., **1659**
Newman, D., (31) **1400,** (13) **1837**
Newmark, L., (51) 1028
Newmayer, S. W., (116) 242
Newton, A., (13) **1982**
Newton, H. A. S., (48) 631
Newton, R. C., (66) 319
Ney, E., (60) **325,** (65) 702
Niblett, W. S., (75) **1493**
Nice, C. M., (147) 1329
Nichols, F. H., (82) 1494
Nichols, H. J., ***108**
Nichols, J. B., ***331,** (102) 629
Nichols, J. R., (102) 785
Nicholson, G. W., (20) **786**
Nicloux, M., (56) 867, (56) 1111
Nicola, B., (143) **1197**
Nicolich, (42) 701
Nicoll, J. H., (6) **945**
Nieoll, M., (31) 475
Nicolle, C., (49) **1670**
Nieolle, M., (44) 866, (30) 1330
Nicolson, W. P., (100) 1667
Niemann, A., (171) 1753
Nietner, (51) 87
Nikolaew, B., (162) 1752
Niles, G. M., (103) 399, (80) 783, ***979,** (33) **1492,** (107) 1923
Nimier, A., (82) 558
Nimier, H., (82) 558
Nippert, L. A., (54) 1666
Nixon, J. A., (5) 1329
Noack, F., (181) 873
Noah, J. C., (110) 320
Nobe, W., (106) 705
Nobécourt, P., (51) 247, (49) 1192, (57, 58) **1498**
Noble, A. L., (6) 1663
Noble, T. B., (26) **1185**
Noeggerath, C. T., (172) 1753
Noel, H., (9) **316**
Nogier, T., (73, 75) **558,** (62) 1671
Noguchi, H., (54) **241, *362,** (43) **626,** (67) **1188,** (75) **1586**
Noguchi, Y., (46) 166
Noland, L., (11) 316, (94) 783
Nolhia, H., (63) **1193**
Nonnenbruch, W., (118) 1501
von Noorden, C., ***101,** (10) 239, (81) 477, (136) **560,** (71) **633,** (113) **636,** (95) 950, **1379,** (126) **1750**
v. Noorden, K., (179) 488
Norbury, F. P., (61) **1834**
Nordentoft, J., (149) 638, (130) 1589
Nordentoft, S., (149) 638, (130) 1589
Nordmann, O., (87) 1037
Nordmark, V., (122) 1196
Norero, (47) **1192**
Nørregaard, K., (197) **188,** (137) 1590
Norris, C. C., (152) **162**
Norris, G. W., (7) **624**
Norris, H., **152**
Norris, R. C., (145) 479
North, C. E., (7) 1184
Norton, **1069**
Nottingham, R. V., (58) 1834
Novak, E., (88) **84**
Novak, J., (108) **1842**
Nové-Josserand, L., (51) 631
Novoa, R., (125) 251
Nowell, H. W., (14) **1980**
Noyes, C. D., (14) 158
Noyes, F. B., (108) 161
Nuckols, O. P., (53) **1742**
Nuñez, A. S., (182) 1272
Nuttall, G. H. F., (58) **696,** (22) 860
Nyström, G., (133) 320

O

Oates, J. K., (132) 401
Obal, F., (76) 1927
de Obarrio, P., (26) 317
Obata, I., (173) 872
Oberholzer, E., (62) 404
Oberlander, F. M., (8) 474
Obermayer, F., (123) 329
Oberndorfer, S., (109) 1269
Obersteiner, H., (96) **1588**
Obregon, J. G., (168), 1118
O'Brien, J. J., (3) 474
O'Carroll, J., (66) 87, (3) 163
Ochsner, A. J., (82) **1029**
Ochsner, E. J., (8) 1394
O'Connell, M. D., (27) 165
O'Connor, B. J., (105) 161, (50) 1261
O'Connor, J. H., (24) 1919
O'Connor, J. V., (72) 1580
Oczesalski, K., (116) 560
O'Day, J. C., **67**
O'Donnell, J., (74) 319
Oeehsner, J. F., (62) 1580
Oeconomos, S. N., (88) **1499**
von Oefele, F., (97) 399
Oehlecker, F., (89) **249**
Oehler, J., (73) 1402
Oehler, R., (107) **328**
Oeri, F., (130) 1116, (72) **1267**
Oertel, H., ***1784**
Oertel, T. E., (27) 861
O'Farrell, J. M., (101) 785
Ogata, C., (24) 165
Ogata, M., (66) 1193
Ogorek, M., (91) 868
O'Grady, C., (66) 1743
O'Hara, H. M., (8) **1031**
O'Hare, J. P., (6) **1979,** (41) 1981
Ohlmacher, A. P., ***1213**
Ohls, H. G., (50) 160
Ohm, R., (118) 91
Oldenborg, H. A., ***654**
Oliva, C., (147) 1116
Oliver, J., (10) 164
Oliver, J. R., (9) 1918
Oliver, P., ***825**
Oliver, T., **1090**
Olivier, R., (68) **1266,** (73) 1499
Ollerensaw, R., (7) 555
Olpp, G., (74) 167
Olsen, X., (107) 698
Olsho., S. L., ***1538**
O'Malley, J. F., (15) 1399
Oman, C. M., (106) 1397
O'Neil, R. F., (18) 860
Oneta, A. A., (129) **1844**
Openshaw, T. H., (28) **244,** (21) 630
Ophüls, W., (1) **1979**
Opie, E. L., (41) 1832
Opitz, H., (92) **633**
Oppenheim, H., (69, 74) 249, (78) **1113**
Oppenheimer, R., (112) 406
Oppenheimer, S., (37) **696,** (113) 1030
Orange, T. W., (109) 1189
Orbison, T. J., ***1954**
Ordway, T., (33) 1981
O'Reilly, A., (47) 1580
O'Reilly, J. J., (129) 85
Orendorff, O., (20) 475
Orenstein, A. J., **610,** (12) 1026
Orland, F., (100) 1037
Orlowski, W., (182) 488
Ormond, A. W., (49) 480
Ormsby, R., (138) 1329
Ornstein, O., (111) 559
Orr, T. G., **742,** (36) 1395, (102) **1835**
v. Ortenberg, H., (114) 1842
Orth, J., (78) **1267**
Orthner, F., (121) 636
Ortin, L. G., (193) 488
Orton, G. H., (3) 1189
Orton, G. L., (132) 699
Orton, S., (136) 85
Orton, S. T., (3) **1663**
Osborn, I. S., (27) 239
Osborne, O. T., **386, *1427, 1913,** ***2039**
Osborne, T. B., (38) **1920**
Oser, E. G., (45) 166
Osgood, R. B., **858,** (46) 1028, ***1611, 1917**
Osler, W., (25) 1980
Ostenfeld, J., (157) 92
Ostrowski, S., (80) 406, (75) 1986
Oszacki, A., (143) 92, (139) 1116, (68) 1586
Otsuka, I., (92) 704
Ottow, B., (188) 873
Oughterson, W. A., (112) 1263
Oui, (34) **245**
Outerbridge, G. W., (12) 1104
Outland, J. H., (50) **1580**
Overall, J. C., (111) 1263
Overlander, C. L., ***806**
Overloek, S. B., (69) 1107
Owen, E., (4) 864, (21) 865, (31) 1033
Owen, R. G., (69) **1666**
Owen, S. A., (22) 86
Owens, W. D., (161) 479
Owsley, J. G., (50) 1742
Oxenham, H. B., (3) 322
Ozaki, Y., (128) 870

P

Pach, H., (87) 793
Pachon, V., (52) 1332
Packard, G. B., (2) **859**
Packard, H., (88) **783, 925**
Packard, M., (132) 1328
Paderstein, R., (79) **633**
Page, J. R., (21) 81
Pagensteeher, E., (145) 561, (165) 562, (93) **869**
Paglione, V., (148) 1502
Pagniez, P., (62) 632
Paine, H. L., (35) 1260, (31) **1665**
Pal, J., (89) **327,** (87) 1114
Palazzo, G., (148) 1198
Pallasse, E., (52) 1746
Palmer, J. W., **1731**
Palmer, R. F., (27) 1740
Palmer, W. W., (46) 318, (72) 1023
Palmerlee, G. H., (65) 241
Pancoast, H. K., **473**
Pander, H., (76) 168
Pando, P. J., (162) 1502
Pane, D., (151) 1198
Panhorst, M. H. P., (140) 1030
Pankow, O., (63) **1840**
Panton, P. N., (35) 86
Pantzer, H. O., (17) **695,** (20) 780
Pappenheim, A., (71) 326, (118) 636, (126) 1270
Pappenheimer, A. M., (1) **1184**
Paraf, (50) 247
Paranhos, U., (129) 407, (148) **1406,** (125) **1589**
Pareelier, A., (65) **1498**
Pari, G. A., (123) **407,** (191) 563, (112) 951
Parisot, J., (58) **1035**
Park, F. E., (49) 944
Park, W. H., (33) **398**
Parker, C. A., ***514,** (1) **550**
Parker, D. W., (30) **239**
Parker, G., (12) 401, (74) 1580
Parker, H. N., (35) 695, **980,** (24) 1831
Parker, W. S., (5) **1576**
Parkes, C. H., ***29**
Parlavecchio, G., (149) **1117,** (63) 1746
Parmelee, A. H., ***659**
Parounagian, M. B., (89) 1922
Parrish, R. C., ***123**
Parry, A., **77**
Partlow, W. D., (119) 85
Parvu, M., (40) **789**
Pascale, G., (67) **326**
Paschal, F., (111) 1667
Pascual, S., (60) 1671
Pässler, H., (114) **636**
Patek, R., (135) 1337
Paterson, A. M., (11) **946**

Paterson, H. J., (29) 244
Paterson, M., (30) 480
Pattee, J. J., (16) 780
Patterson, N., (20) 1583
Patterson, O. M., (82) 1667
Patton, J. M., (88) 697
Patton, M. M., (105) **1835**
Paucot, H., (89) 89, (101) **90,** (52) 557, (36) 1496
Paul, T. M., (95) 161
Paullin, J. E., (117) **400**
Paus, N., (180) 1676, (135, 136) 1932
Pawloff, A., (130) 1501
Payr, E., (107) 1588
Peabody, A. H., (38) 398
Peabody, F. W., (52) **240,** (30) 1578
Peairs, J. E., (18) 475
Peak, J. H., (106) 161
Pearce, D. M., (142) 1030
Pearce, R. M., ***639, 1244,** (88) **1396,** (25) 1578
Pearson, C. B., (47) 862
Pearson, W., (7) 1923
Pearson, W. W., (77) 1834
Peck, J. H., (82) 161
Pedersen, J., (60) 782
Pedersen, V. C., ***182,** (101) 242, (42) 782, (72) 944, **1075,** (66) 1580
Pedler, H. C. D., (14) 865
Pedley, T. F., (17) **164**
Pegger, H., (90) 483
Peixoto, C., (121) **251**
Pellissier, P., (88) 89
Peltesohn, S., (93) 1748
Pendexter, S. E., (72) 1107
Penfold, W. J., (25) 401
Penkert, M., (117) 705, (101) **1195**
Penoyer, F. C., (60) 1107
Pepper, O. H. P., (10) 624, **1173,** (21) 1259
Pepper, R. H., (110) 785
Pepper, W., **932**
Pereira, A., (152) **1406**
Perelmann, A., (57) 1035
Peretti, J., (99) 1037
Perez, G., (147) 92
Perez-Grande, E., (161) 1502
Perimoff, (182) 563
Peritz, G., (182) **1753**
Perkins, R. G., (60) 83
Perman, E. S., (138) 952
Permin, G. E., (157) 92
Pernet, G., **728**
Pérochon, P., (54) **1332**
Perrando, G. G., (205) 1754
Perrens, C., (38) 789
Perrier, C., (75) 1671
Perrin, E., (69) 558, (55) **1192**
Perry, P. C., (150) 1329
Pers, A., (189) 1272
Persch, R., (112) 483
Perthes, G., (118) **329,** (108) 1588
Pescher, J., (56) **631**
Peter, L. C., (91) 864, (86) 1580
Peterka, H., (100, 113, 114) **483**
Peters, (154) 1271
Peters, L. S., (43) 696
Petersen, O. V. C. E., (111) 170, (91) 1988
Petersen, T., (196) **488**
Petri, T., (107) **951**
Petridis, P. A., (69) 867
Petroff, (87) 558
Petrone, G. A., (103) **170**
Pettit, J. W., (83) 697
Pettit, R., (105) **399**
Pettit, R. T., (37) 1187
Pettus, C. S., (30) 1740
Petzetakis, M., (78) 1499
Pezzi, C., (43) 324
Pfahler, G. E., (67) 1493, (2) **1831**
Pfeiffer, E., (85) 1671
Pfender, C. A., (119) 1264, (33) 1395
Pfersdorff, F., (109) 1196
Pfister, E., (94) 633, (112) 1404, (145) 1674
Pflanz, E., (127) 636
Pflaumer, E., (111) 1842
Phelps, E. B., (32) 695
Philip, R. W., (12) 1837
Phillips, C., (96) 578
Phillips, E. W., (83) 629
Phillips, H. R., (40) 1110
Phillips, J., (2) 550, (14) 941, (9) **1258**
Phillips, J. G. P., (13) 243
Phillips, J. M., **146**
Phillips, S., (11) **1398,** (31) 1983
Phillips, W. D., (87) 629
Phillips, W. F. R., **1389**
Phillips, W. L., (3) 780
Pic, A., (56) **324,** (46) 1034
Pichler, H., (45) 196
Pick, J., (104) **250,** (135) **485**
Pick, L., (157) 486
Picker, R., (148) 1674
Picot, G., (38) 166
Picqué, R., (53) 557
Pidcock, J. W., (117) 478
Piéri, G., (33) 1191
Pierra, L., (65) **1112**
Pierret, R., (54) **1266**
Pierson, F. F., (81) 697
Piéry, M., (71) **1671**
Piffl, O., (108) 1115
Pignatti, A., (196) 873
Pilcher, J. D., (57, 61) **1326,** (45) **1665,** (44) 1741
Pilcher, J. T., (51) 862, (62) 1035, **1573**
Pilf, T., (111) 869
Pilling, C. J., **1726**
Pinard, A., (44) **403**
Pinch, A. E. H., (12) **630**
Pinel, T., (40) 1579
Piotrowski, A., (72) **326,** (90) **1748**
Pirie, G. A., (17) 1330
v. Pirquet, C., (125) **1337,** (169) 1753
Pisano, F. F., (198) 1754
Pisek, G. R., **74,** (19) **317,** (69) 553
Pissavy, (45) 1191
Pitfield, R. L., (87) 1922
Pitres, A., (64) **1746**
Placak, J. C., (59) 1326
Place, F., (91) 477
Plate, E., (66) 404
Plauchu, E., (102) 90, (42) **1331**
Plauchu, M., (62) **1402**
Plaut, H. C., (143) 870
Plehn, A., (82) 1037
Plenz, W., (99) 328
Plesch, J., (108) 90, (72) 1035, (64) 1986
Pletneff, D., (125) **1843**
Plitek, V., (83) **1747**
Plummer, S. C., (120) 320
Plummer, W. W., (1) **1491**
Pochhammer, C., (139) 92
Poddighe, A., (155) 1502
Poe, F., **9**
Pohlmann, A. G., (35) **159**
Pöhlman, A., (116) 1335
Poindecker, H., (60) 2071
Polacco, A., (73) 1840
Polak, J. O., **1736**
Pole, C. K., (2) **479**
Polk, W. M., (86) 477
Pollak, L., (83) 704
Pollatschek, E., (70) 1927
Pollitzer, S., (70) 160, (43) 1579
Pollock, L. J., (43) **1832**
Pollosson, A., (54) **1192**
Polya, E., (101) 1114
Pomeroy, J. L., (58) 552, (52) 1028, **1241,** (107) 1835
Poncet, A., (53) **1401**
Pond, A. M., (71) 399
Ponomareff, S., (98) 559
Pons, J. B., (202) 564
Ponzian, A., (123) **407,** (112) 951
Pool, E. H., ***1202**
Poor, D. W., (42) **1106**
Pope, C., (54) 627, (116) 1836
Pope, S., ***1284**
Popper, H., (81) 249, (123) 329
Porak, R., (55) **631,** (35) 1191
Porcher, W. P., (98) 320
Port, F., (81) 633
Porta, S., (42) 789, (130) 870
Porteous, C. A., (10) 1663
Porter, A., (7) 401
Porter, J. L., (108) 1262, **1817**
Porter, J. Y., (77) 783
Porter, M. F., (10) **158, 316,** (121) 699, (33) 1106, (23) **1324**
Porter, S. D., **1487**
Porter, W. H., (114) 1030
Portner, E., (102) 635
Posey, W. C., (138) 478, (34) 1028, ***1867**
Posner, H. L., (152) **1674**
Post, M. H., (76) 477
Potel, G., (43) **246**
Pottenger, F. M., (58) **627,** ***980,** (49) 1326
Potter, N. B., ***1211**
Poucher, J. W., (21) 695
Poulsen, K., (144) 330, (54) 1926
Pousson, A., (73) **1193**
Powell, E. L., (95) 1029
Powell, R. D., (27) 480
Powell, T., (75) **944**
Power, D., (18) 86, (14) 1923
Power, H., **67,** ***1621**
Powers, C. A., (15) 625
Powers, J. C., (43) 1493
Poynton, F. J., (21) 700, (14) 865, (10) **1398**
Pozerska, E., (32) 1330
Pozerska, M., (32) 1330
Pozerski, E., (26) 946
Pozerski, M., (26) 946
Pozzato, P., (156) 1118
Pozzi, S., (53) 631
Prado-Tagle, E., (55) 404
Praetorius, G., (157) **1752**
Pratt, J., (41) 1106
Pratt, J. A., (76) 1922
Pratt, J. H., (23) **941,** (15) 1980
Pratt, R. W., (125) 478
Prendergast, D. A., (15) 941
Prendergast, J. F., (98) 399
Prentiss, C. W., (7) 1918
Prentiss, E. C., (117) 320, (68) 1262, (24) 1740
Prescott, S. C., (34) 695
Prest, C. S., **1570**
Price, F. W., (8) 1108
Price, J. W., (51) 477, (41) 552, (71) 1188
Price-Jones, C., (21) 786
Priestley, J., (57) 480
Primrose, A., (17) 239
Prince, E. M., ***174,** (71) 783
Pringle, S., (41) 402
Pringsheim, J., (98) **1037**
Pritchard, E., (51) **480,** (23) **1583,** (24) 1260
Pritchett, H. S., ***743, 1014**
Probst, C. O., (67) 1396
Prochonick, L., (187) **563**
Proctor, T. K., (112) 1667
Proescher, F., (128) **242,** (125) 1328, (53) 1585
Propping, K., (99) 1500
Proust, R., (81) 558, (55) 1670
Pruneda, A., (207) 564
Pryor, J. H., **1575**
Puckett, C., (129) 478
Puglisi, A. S., (165) 1271
Puppel, E., (82) 950, (148) 1751
Purckhauer, R., (107) **635**
Purefoy, R. D., (9) **786**
Purser, F. C., (33) 324
Pusey, B., ***1537**
Pusey, W. A., ***434,** (101) **698**
Pussep, L. M., (78) **482**
Putnam, H. C., (9) 780
Putney, G. E., (57) 1666
Putzig, H., (115) 636
Putzu, F., (142) 330, (160) 1118
Pyfer, H. F., (150) 243


## Q


Quadflieg, L., (67) 1840
Quadrone, C., (150) **1198**
Queckenstedt, (62) 1986
Querelli, G., (57) **404**
Querner, E., (126) 1116
de Quervain, F., (69) 482
Quevedo, J. M., (163) 1118
Quin, F. W., (80) 1667


## R


Rabe, F., (107) 406
Rabinovitz, M., (147) 162
Rabinowitsch, D., (77) 482
Rabinowitsch, L., (87) **633,** (74) **703**
Rabinowitsch, M., (77) **703,** (107) 869
Rachmilewitsch, E., (95) 1195
Radulesco, A. D., (58) **247**
Rae, J., (26) 865
Rahe, A. H., (46) 627
Rammstedt, C., (183) 563
Ramond, F., (17) **2069**
Ramos, A. P., (154) 92
Randall, A., ***10**
Randall, H. E., (61) 1107
Randolph, A., (95) 945
Randolph, B. M., ***30,** (123) **1264**
Rankin, E. G., (93) 1835
Rankin, G., **421,** (7) 1264
Rankin, W. S., (121) 85, (19) 1831
Ranschburg, P., (72) **404**
Ransohoff, J., **236,** (59) 477
Ranson, S. W., (6) 1918
Raper, H. S., (76) **1028,** (6) 2066
Rappin, G., (45) **1497**
Raskay, D., (63) **1927**
Rathe, B., (106) 1269
Rathenau, (70) 949
Rathery, F., (37) **1331**
Rau, (93) **249**
Ravaut, P., (59) **1193**
Ravitch, M. L., (77, 78) 1189
Ravogli, A., (122) 478, (102) **1328**
Raw, N., (52) 480, (4) **699**
Rawitsch, N. A., (160) 1675
Rawling, L. B., (29) 86, (16) 323
Rawls, R. M., (62) 1742
Ray, B. J., (69) **1028**
Ray, J. M., (30) 781
Rayevsky, C., (51) 1395
Read, C., (9) 1668
Read, C. D., (60) 627
Reade, A. G. L., (37) 86
Reber, K., (84) 1113
Reber, W., (135) 478
v. Recklinghausen, H., (158) **1752**
Reclus, P., (60) 632, (50) 1332
Rector, F. L., (17) **1027**
Reder, F., (8) **396,** (96) 783
Reed, A. C., ***1514,** (84) 1922
Reed, D. B., **769**
Reed, E. U., (104) 1397
Reed, E. W., (32) 1579
Reed, H. S., (74) 1107
Reeder, D. F., (83) 1580
Rees, C. M., (87) 945
Rees, S. P., (56) **1666**
Reese, H. A., (48) 696
Reese, R. G., (74) 1396
Reeves, E. A., (46) 477, (33) 1579
Regaud, C., (92) 89, (54) **247**
Regnault, J., (87) 1499
Régnier, G., (36) 788
Rehn, L., (103) 869
Reibmayr, H., (65) 1986
Reich, A., (75) 1333, (93) **1500**
Reich, J., (148) 561, (151) 708
Reiche, A., (128) **1337**
Reiche, F., (139) 560, (98) 635
Reichel, H., (127) 1405
Reichel, J., (35) 475, ***990**
Reichelfelder, L. H., (55) 944
Reichmann, M., (127) 1673
Reichmann, V., (79) 792
Reid, A. P., (105) 1923
Reid, E. C., (77) 628
Reid, J., (11) 864
Reid, W., (85) 1834
Reinhard, H., (112) 251
Reinhardt, G. F., ***427**
Reinhardt, R., (126) 560
Reiss, F., (72) 1986
Reiter, H., (88) 1333
Remer, J., (92) 1189
Remsen, C. M., (37) 81, (83) 1396, (124) 1836
Rendu, R., (48) **701**
Renner, O., (113) 1501
Reno, W. W., (114) 242, (59) 1493
Reppert, L., (45) 1493
Rethi, A., (69) 326, (158) 486, (90) **950**
Rettger, L. F., (76) 161
Retzlaff, O., (66) 1402
Reuss, (114) 1749
Revell, S. T., (70) 1327
Revesz, B., (122) **329**
Revillet, L., (26) 1191, (67) 1746
Reynard, G., (62) 1671
Reynard, J., (75) **558**
Reynolds, B. P. J., (21) **1191**
Reynolds, E., ***93**
Reynolds, R. J., (21) **1191**
Reynolds, W. S., (78) 83
Rhamy, B. W., (32) 552
Rhein, J. H. W., (63) 1982
Rhein, M. L., ***503**
Rheindorf, H. J., (137) 870, (130) **1750**
Rhode, M., (85) 406
Rhys, O. L., (14) 1982
Ribadeau-Dumas, L., (52) 247, (34) 1926
Ribbert, H., (123) 91, (84) 327, (127) **560**
Rice, A. G., (13) **1919**
Rich, E. A., (60) 1396
Rich, E. C., (64) 783
Richards, E. T. F., (28) **781**
Richards, J. H., ***1139**
Richards, R. L., (48) 1326
Richards, W. T., (63) 1580
Richardson, D. L., (45) 1833
Richardson, E. H., (31) 1325
Richardson, M. W., **779,** (11) 1919
Richardson, W. G., (4) 1836
Richartz, H. L., (91) 1672
Richet, C., (39) 557, (33) 1034, (45) 1191
Ricksher, C., (18) 1395
Riddell, D. F., (12) 164
Riddle, J., (106) 629
Ridgway, J. C., (7) 2067
Riebel, E. C., (83) **783**
Riebold, G., (86) 1841
Rieck, A., (189) 563, (93) 1672
Riemer, M., (88) 1841
Ries, E., (16) **1185**
Riesman, D., (7) **1258**
Rietschel, H., (71) **2071**
Rigg, E. E. A. T., (22) **479,** (5) **699**
Riggs, C. E., (71) 241, **1819**
Riggs, T. F., (19) 1577
Riis, J. A., (101) 1923
Riker, G. A., (154) 479
Riker, L., (90) 1029
Rimini, E., (82) 633
Rindfleisch, W., (81) **1402**
Ringer, A. I., (32) 626, (77, 78) 1028, (47) 1665
Rischbieth, H., (25) **865**
Risel, H., (95) 250
Riseley, S., (20) 1109
Risley, E. H., (14) **475**
Rissmann, P., (191) 873
Rist, E., (38) 556, (41) 1838
Ritchie, M. D., (34) 943, (99) 1581
Ritchie, W. T., (6) **164,** (17) 1744
Ritter, C., (131) 870
Ritter, J., (60) 398, (54) **1493**
Rives, A., (33) **1583**
Rixford, E., (29) **81,** (55) 1028
Rizzi, M. J., (155) 1198, (172) 1676, (212) 1754
Rizzuti, G., (162) 1675
Roach, W. W., (15) 1026
Robb, H., (48) 1741
Robbie, M. K., (97) 1397
Robbins, C. P., (83) 1834
Robbins, F. C., (104) 320
Robbins, W. S., (37) 1920
Roberts, C. J., **1484**

Roberts, J. B., (28) **1324,** (47) 1497, **1655**
Roberts, J. L., (31) 244
Robertson, E. L., (109) 320
Robertson, G. M., (13) 1330, (33) 1496, (40) 1670, (19) 1744
Robertson, H. E., (78) 1327
Robertson, T. B., (75) 161, (53, 59) 318, (28) **941,** (86) 1327, (24) 1578
Robin, A., (59) 867
Robins, C. R., **236,** (62) 1982
Robinson, B., (77) 83, (56) 1107
Robinson, C. A., (5) 1494
Robinson, G. C., (43) 1261
Robinson, J. L., (64) 241
Robinson, J. M., (77) 1327
Robinson, R. H., (124) 401
Robinson, S. (97) **1262,** (95) 1581
Robinson, W. J., (119) 162, (64) 553
Roby, J., (77) 553
Rocha-Lima, H., (76) 1586
Rocher, H. L., (37) 789, (42) 1034
Rochet, V., (68) **558**
Rockafellow, J. C., (47) 1493
Rockey, A. E., *__442,__ (91) 1396
Rockwood, E. M., (37) 861
Rockwood, H. L., (75) **697**
Rodenbaugh, F., **238**
Röder, H., (134) 485
Rodet, M. A., (40) 1331
Rodgers, J. J. S., (26) 159
Rodman, J. S., (142) 1329
Rodriguez, A., (60) **1402**
Rodriguez, N., (163) 1502
Roe, R. B., (15) 2068
Roeder, C. A., (157) 162
Roederer, C., (74) 867, (63) **1498**
Roepke, O., (89) 704
Roger, H., (54) 867, (49, 53) **1034,** (49) 1497, (56) 1746
Rogers, A. W., (116) 1668
Rogers, E. B., (68) 319
Rogers, J. B., *__995__
Rogers, J. R., (45) 1395
Rogers, L., (14) 164, (21) **323**
Rogers, M. H., (11) **940**
Rogers, W. K., (133, 134) 243, (86) 554
v. Rohden, F., (85) 704
Rohdenburg, G. L., (72) **863,** (56) 1395, (50) 1666
Rolleston, J. D., (3) **864,** (13) **1398,** (16) 1495
Rollet, E., (4) 780
Rollier, (152) **562**
Rollin, L., (77) 867
Rolly, F., (109) **1673**
Rolph, F. W., (66) 1666
Roman, B., (167) 872
Romano, A., (128) 1932
Romberg, E., (156) 562
Rominger, E., (154) 1751
Rondet, H., (59) 632, (47) **701**
Rongel, A., (34) 1034
Rongy, A. J., (75) **1107**
Rood, F., (11) 243
Roope, A. P., (42) 1492
Root, A. G., (129) 162
Root, E. F., (65) 783
Root, F. S., (41) 1395
Röpke, W., (47) 947
Roque, G., (62) 248, (83) **558,** (51) 631
Rorschach, H., (46) **1839**
Rose, F., (104) 90
Rose, W. C., (48) 1665
Rosenau, M. J., *__1612__
Rosenbaum, G., (69) **1580**
Rosenberg, E., (126) 1116
Rosenberg, L., (89) 477
Rosenberg, M., (61) 1840, (31) 2069
Rosenberger, R. C., (91) **399,** (111) 1030
Rosenblat, S. A., (72) 791
Rosenblatt, M., (42) 246
Rosenblood, J., (61) **318**
Rosenbloom, J., (30) **626,** (87, 93) **1327**
Rosenow, E. C., (51) **160,** *__1223__
Rosenstirn, J., (107) 1029
Rosenthal, E., (124) 91
Rosenthal, F., (180) **1753**
Rosenthal, G., (44) **1497,** (41) 1746
Rosenthal, R., (137) 1501
Rosenwasser, C. A., (78) 319
Rosewater, N., (39) **318**
Ross, E. H., (2) 243
Ross, G. J., (30) 1324
Ross, J. L., (72) 783
Ross, J. S., (8) 164
Ross, T. W. E., (17) **865,** (24) 1399
Rössle, R., (151) 561
Rossler, O., (127) 1196
Rost, F., (132) 1501
Roth, (150) **561**
Roth, G. B., (97) **319**
Roth, N., (138) 92
Roth, O., (111) 1501, (195) 1754
Roth, P. B., (28) **244,** (23) **700**
Rothe, E., (28) 1672
Rothermundt, M., (60) 1840
Rothmann, M., (79) 1113, (106) 1500
Rothschild, D., (91) **1114**
Rotky, H., (141) 1197
Rott, F., (67) 2071
Rott, O. M., (61) 477
Rotter, H., (139) **637**
Roucayrol, E., (64) 558, (147) 1674
Rouéche, H., (31) 1926
Rouffart, E., (66) 482
Rountree, W. C., (105) 1108
Rous, P., (42) 626, (48) 1261, (55) **1585, 2021**
Roussel, A. E., **1915**
Rousselot, (59) 1266, (60) **1498,** (35) **1926**
Roussy, G., (72) 867
Routier, D., (42) 1746
de Rouville, G., (54) 867
Roux, (44) **790**
Roux, C., (96) 1749
Roux, F., (22) 1669
Roux-Berger, J. L., (49) **1926**
Rouzaud, (70) 1267
Rover, F., (184) 1753
Rovsing, T., (6) **316,** (208) **564**
Row, R., (16) 479
Rowland, S., (21-25) **1544**
Rowland, V. C., (41) 318
Rowlette, R. J., (11) 786, (37) 866
Rowley-Lawson, M., (27) **941**
Rowntree, C., (18) 1264
Rowntree, L. G., (18) **1259, 1561, 1568,** (17) **1739**
Roy, D., (110) 400, (24) 861
Royer, B. F., (143) 479, (90) 864
Roys, C. K., (54) 1028
Royster, H. A., **150**
Royster, L. T., (11) 780
Rubaschow, S., (135) **1501**
Rubeska, W., (154) 1117
Rubin, I. C., (8) 238
Rubino, A., (76) 1402
Rubner, C., (112) **1335,** (144) 1406
Rubner, M., *__1344__
Rübsamen, W., (172) 562, (156) 1271, (33) **2069**
Von Ruck, K., (50) 1107
Rucker, S. T., (87) 242
Rucker, W. C., (136) 401
Rudge, C. K., (14) 401
Rudzki, S., (48) **948**
Rueben, (75) **326**
Rueck, G. A., (109) 242
Rueda, P., (176) 1272
Ruediger, E., (110) **1115**
Ruge, C., (138) 637
Ruggi, G., (119) **951**
Ruggles, E. W., (115) 242
Rugh, J. T., (7, 8) 1491
Ruh, H. O., (36) 318, (2) 550
Rühl, W., (93) **328**
Ruhland, G. C., *__363__
Ruland, W., (137) 1116
Runge, E., (93) **406**
Runyan, J. P., (21) 551
Runyon, F. J., **1249**
Ruppert, L., (125) 329
Rupprecht, P., (160) 562, (179) 873
Rush, J. O., (66) 1922
Russ, R., **387,** (63) 696
Russel, R. L., (60) 1834
Russell, A. W., (22) **1033**
Russell, F. F., *__344__
Russell, J. F., (52) 1107
Russell, J. I., (31) 81
Russell, J. S. R., (30) 1496
Russell, N. G., **1484**
Russell, W. B., (79) 88, (40) 1400
Ruth, C. E., (73) 399, (1) 474, (28) **1185**
Ruttin, E., (15) 81
Ryall, C., (14) **1399**
Ryan, C., **1101**
Ryan, J. C., (78) 88
Ryan, L., (62) 398
Ryffel, J. H., (6) 555
Ryfkogel, H. A. L., **308,** *__507, 927, 1015__
Rytina, A. G., (53) 862

## S

Saalfeld, E., (73) 1035
Saalmann, (130) 1270
v. Saar, G., (93, 102) 483
Saathoff, L., (140) **870**
Sabella, N., (109) **1029**
Sachs, A. L., (32) 1588
Sachs, E., (32) 81, (191) 1754
Sachs, M., (94) 1334
Sachs, T. B., (85) 697
Sackur, P., (90) 1114
Sadlier, J. E., (10) 396
Safranek, J., (71) 1927
de Sagher, P., (38) **1331**
Saghinesco, (84) 1499
Sailer, J., (97) **1581**
de Saint Blaise, B., (80) **868**
St. John, V., (115) 483
Saint-Martin, (63) 1671
St.-Philippe, R., (58) 557, (30) 1191, (67) **1498**
Saisawa, K., (122) 1749
Salaghi, S., (63) 2071
Salatich, P. B., (65) 944, **1488**
Salés, G., (59) 1402
Salge, B., (72) 2071
Salimbeni, A. T., (36) 1330
Salin, H., (54) **631,** (35) 947, (47) 1034, (64) 1266, (41) 1400
Salkowski, E., (126) 1501
Salle, R., (93) 89, (55) **247**
Salmon, T. W., (2) 1258
Salmon, W. T., (59) 863
Salomon, D., (47) 166
Salter, W. M., (121) 400
Saltykow, S., (134) 1270
Salus, R., (30) 397
Salzer, M., *__826__
Sambon, L. W., (17) 244, (26) 1400
Sample, J. T., (42) 398
Sampson, H. W., (110) 698
Sampson, J. A., (85) **783,** (99) **1262, 1736**
Sams, L. V., (81) 1189
Samuels, B., (26) 397
Samways, D. W., (12) 1108
Sanders, A. S., (97) 1189
Sanderson, E. L., (61) 1580
Sanderson, W., (17) 1399
Sandifer, F. M., **1485**
Sandrock, W., (71) **167**
Sands, C. T., (58) 863
Sands, M. L., (94) 161
Sandwith, F. M., (26, 28, 30) 86, **454,** (13, 16, 20) 1264, **1413**
Sandy, W. C., (9) 1663
Sanes, K. I., (7) **396**
Sanford, H. L., (57) **83**
Santamaria, J. M., (27) 1400
Santesson, C. G., (142) 408
Santori, F., (158) 1118
Sarateanu, F., (123) 706
Sargnon, (51) 1746
Sasaki, T., (92) 704
Sasse, A., (38) 2069
Sasse, F., (63) 1333, (132) 1405
Sato, S., (67) 702, (46) **1111,** (123) **1270**
Satterthwaite, T. E., **1915,** (73) 1922
Sattler, R., (28) 397
Sauer, W. E., (70) **477**
Sauerbruch, F., (124) **1405**
Saundby, R., (6) **1190,** (32) 1745
Sauthoff, A., (125) 1264
Sauthoff, M., (154) **1031**
Sauton, B., (29) 1926
Sautter, A. C., (91) 84
Sauvage, C., (34) **788,** (53) 1111, (38) 1745
Sauvé, L., (62) **1111**
Savage, G. H., (29) 1400
Savini, E., (80) 89, (42) 324
Savy, P., (84) 558, (42) **1331,** (70) **1499,** (47) **1926**
Sawtell, J. E., (31) 1579
Sawtschenko, (41) 866
Sawyer, C. W., (149) 1030
Sawyer, H. P., (11) 624, (5) 1918
Sawyer, J. E. H., (2) **1581**
Sawyer, W. H., (118) 699
Saxl, P., (112) 1673
Sayre, L. E., (60) 241
Scaduto, G., (144) **1197**
Scales, H. L., (104) 698
Scalia, R., (120) **951**
Scammon, R. E., (2) **1184**
Scarborough, H. V., (49) 1493
Schaal, (72) **167**
Schachner, A., **73,** (35) 1665
Schaeffer, S., (96) 399
Schäfer, E. A., (50) 1265
Schafer, F., (83) 406
Schaller, W. F., *__1421__
Schanz, F., (90) 554, (88) 1035, (113) 1115
Schapiro, N., (102) 328
Schatz, H. A., (121) 1030
Schaub, G., (109) 635, (74) 2071
Scheel, O., (182) 1676
Scheele, K., (111) **1404**
Schele, A., (145) **1338**
Schelenz, C., (129) **1750**
Schenk, F., (97) 1588
Schepelmann, E., (43) 166, (118) 705, (129) 870, (64) **1333**
Scheppegrell, W., (59) 1580
Scherer, A., (64) 1586
Schestopal, J., **2026**
Schuermann, H., (220) 564
Schiavone, A., (140) 1338
Schick, B., (115) 251, (117) 407, (184) 873
Schieck, F., (128) 560
Schiele, G. W., (177) 488
Schiff, E., (149) 870
Schiffmann, J., (75) 482, (100) 950
Schiller, I., (28) 946
v. Schiller, K., (72) **1927**
Schiller, P., (128) 485
Schilling, F., (66) 325
Schilling, R., (89) 1037
Schiøtz, C., (214) **564**
Schiøtz, H., (208) 874
Schippers, J. C., (82) 1402
Schischlo, A., (54) **791**
Schittenhelm, A., (73) 167, (114, 115) 560
Schlambusch, (136) 408
Schlayer, K., (103) **635,** (121) **1673**
Schlecht, H., (78) 249, (122) 1673
Shlenker, M. A., (90) 629
Schlesinger, A., (73, 95) **633,** (103) 1588
Schlesinger, E., (94) 704, (100) 1334, (102) 1403
Schlesinger, M. J., (37) **1106**
Schley, W. S., (98) 783
Schliep, L., (124) 1501
Schlimpert, H., (141) 637, (69) **1586**
Schloffer, H., (113) 705, (120) 1404
Schloss, E., (103) 1930
Schlossmann, A., (86) 950, (101) **1335,** (102) **1930**
Schmerz, H., (101, 109, 110) **483**
Schmidt, A., (162) **487,** (162) 562, (152) 871, (108) 1673, (133) **1750**
Schmidt, G., (81) **168**
Schmidt, H., (76) 782, (85) 1037
Schmidt, J. E., (92) 559, (92) 1841
Schmidt, M. B., (78) **633**
Schmidt, W., (105) **1500**
Schmidt-Nielsen, S., (162) 1198
Schmieden, V., (82) **482,** (97) 1841, (23) 2069
Schmieglow, E., (188) 1272
Schmilinsky, H., (86) **168**
Schneider, F., (27) 1395, (109) 1923
Schneider, H., (89) 950
Schneider, J. P., (10) 2066
Schnyder, L., (92) **1334**
Schoenberg, M. J., (32) 1028
Schoenborn, S., (97) **1403,** (107) **1500**
Schoenrich, H., *__1940__
Schöfer, P., (170) 562
Scholl, E., (157) 1675
Schönberg, S., (120) 484
Schonberger, I., (97) 1929
Schöne, C., (84) 1037, (102) **1749**
Schöneberg, F., (146) 485
Schöpp, P., (100) 1749
Schopper, K. J., (144) 1270
Schorer, E. H., (89) 161
Schott, E., (83) 249
Schott, T., **124**
Schottlaender, E., (114) 1404
Schottlaender, J., (126) 251, (190) 873
Schoug, C., (85) **1268**
Schousboe, (138) **1590**
Schrager, V. L., (79) 1396
Schramek, (124) 636
Schramm, R., (81) 1267
Schreiber, E., (101) **1841,** (32) **2069**
Schreiber, R., (93) **1588**
Schrenk, T., (140) 485
Schricker, H., (67) 949
Schridde, H., (65) **167**
Schroder, C. H., (45) 318
Schröder, H., (137) 1674
Schroeder, K., (86) **2072**
Schrumpf, P., (138) 1116
Schrwald, E., (69) 949
Schryver, S. B., (19) **1924**
Schuberg, A., (59) **1986**
Schubert, A., (705) 559
Schüffner, W., (131) **706,** (128) **1405**
Schüller, L., (86) 249
Schulman, M., *__515, 924,__ (88) 1922
Schultz, W., (157) **562**
Schultze, B. S., (13) 396, (141) 560
Schultze, E., (117) **91,** (83) 327
Schultze, E. O. P., (127) 485, (61, 62) **702**
Schultze, F., (85) 249, (102) 559, (120) 1038
Schultze, W., (137) **1750**
Schultze, W. H., (76) **1267**
Schumacher, (150) **561**
Schumacher, E., (122) **91,** (129) 706
Schumm, O., (64) 1840
Schumowa, S., (130) 1674
Schürer, J., (122) **560,** (119) 1501
Schurig, E. F., (126) **484,** (121) 870
Schürmann, W., (72) 791, (120) 1749, (60) 1840
Schuster, P., (91) **1929**
Schütte, C., (87) 406
Schütz, F., (84) **1194**
Schütz, J., (59) 2071
Schütz, L., (84) **1194**
Schwab, S. I., (73) 477
Schwartz, T., (87) 1587
Schwartzmann, J., (57) **702**
Schwarz, G., (85) **793,** (79) 1193, (126) 1673
Schwarz, H., (6) **158,** (3) 550
Schwarzenbach, E., (176) 562
Schweisheimer, W., (80) **704**
Schwenke, J., (81) **1586**
Schwenter, J., (59) 1586
Schwinn, G. S., *__1852__
Schwyzer, G., (11) 2066
Scordo, F., (162) 1675
Scott, G. D., (107) 478
Scott, H. H., (9) **1397**
Scott, H. W., (2) 1189
Scott, J. R., *__440__
Scott, J. T., (185) 698

Scott, N. S., (27) **1185**
Scott-Carmichael, E., (23) 401
Scribner, C. H., (72) 319
Scribner, E. V., (7) 1663
Scripture, E. W., (44) 862, (52) 1493, ***1601**
Seaman, W., **1574**
Sears, F. W., (132) 85
Sebardt, C., (204) 874
Sébilleau, J., (65) **248**
Sedgwick, J. P., (44) 1187
Seefelder, R., (53) 791
Seel, E., (99) 1841
Seelig, M. G., **238**
Seelos, (74) 1671
Seemann, W. H., (55) 1580
Segale, M., (109) 869
Sehrt, E., (69) 791, (104) **1930**
Sehrwald, E., (111) 1930, (57) 2070
Seidell, A., (63) **318**
Seitz, L., (151) **1751**
Seligmann, E., (106) 869
Sellheim, H., (71) 1193
Sellman, W. A. B., (11) 1324
Semionow, V. P., (80) 1499
Semon, H., (8) 785
Senator, M., (68) 1986
Seneert, L., (36) 700
Senour, W. E., (55) 1262
Senseney, E. T., (71) 477
Senzi, G. E., (97) 169
Sequeira, J. H., (31) 787
Serebrenikowa, O., (74) 482
Sergent, E., (53) **324**
Serralaeh, D. N., (181) 1272
Serrallaeh, N., (130) **1038**
Sever, J. W., (35) 239, (93) 629, (44) 782 (34) 1260
Severin, J., (118) **1115**
Sewaki, H., (29) 1330, (37) 1745
Sewall, H., (8) 624, ***2027**
Sexton, J. C., (19) **780**
Sexton, L., (65) 1262, (64) 1580
Sexton, L. A., (7) **940,** (20) 1664
Sézary, A., (48) **790,** (57, 59) 1402
Shaffer, N. M., **65**
Shahan, W. E., (104) 1835
Shambaugh, G. E., (13) 81
Shands, H. R., **1390,** (24) 2067
Sharp, E. A., (49) **1921**
Shattoek, S. G., (7) **945**
Shattuck, F. C., (50) 82
Shaw, B. H., (7) 1836
Shaw, C. E., (2) 945
Shaw, G. M., (122) 1328
Shaw, H. B., (1) **1743**
Shaw, H. L. K., (1) 238
Shaw, J. C., (44) 477
Shaw, W. F., (24) **1264**
Sheahan, F. J., ***826**
Shearman, C. H., (8, 11) 1668
Shears, G. P., (107) **320**
Sheedy, B. DeF., (117) 1328
Sheldon, J. G., **1726**
Shennan, T., (15) 1330, (18) **1744**
Shepard, B. A., (122) 699
Sheppard, J. E., (130) 162
Sherill, J. G., (15) 1324
Sherman, H., (45) 1106
Sherman, H. M., (61) 1028, **2024**
Sherren, J., (32) 1110
Sherrick, J. L., (66) 1188
Sherwood, H. H., (63) 160
Shibayma, G., (111) 1749
Shields, E. H., (91) 242
Shilling-Torgau, V., (15) 244
Shimer, W., ***1950**
Shinnick, E., (92) 1029
Shipman, E. W., (107) 399
Shoemaker, H., (131) 242
Short, A. R., (7) **1329,** (28) **1832**
Shtutzer, M., (122) 1843
Shuman, J. W., (98) 1262
Shuster, E., **127, 146**
Sibley, W. K., (33) 244, (41) 1110
Sicard, J. A., (50) **324,** (57) **1192**
Sicard, M. H., (53) **1107**
Sieard, M. J., (46) 631
Sieber, H., (112) **1588**
Siebert, K., (129) 91
Siefert, G., (155) 1271
Sievers, R., (98) 704, (136) 1197
Sigaux, G., (49) 324
Siguret, A., (51) 557
Sigwart, W., (72) 1747
Sikora, P., (79) **867**
Siler, J. F., **1823**
Silhol, (42) 1926
Sill, E. M., (88) 1189, (4) **1576**
Silver, D., (156) **243**
Silvestri, T., (94) **169,** (126) 1038, (149) 1198
Simmonds, M., (130) **706,** (164) 872
Simmons, C. C., (13) **1577**
Simmons, G. H., **762**
Simms, B. B., **1388**
Simon, (50) 87
Simon, G., (73) **1267**
Simon, H., (72) 1402
Simon, I., ***1943**
Simon, L., (65) 1402
Simon, R., (1) 243, (7) 1982
Simonds, J. P., (29) 695
Simpson, B. T., (45) 627
Simpson, C. A., **593,** (103) 629, (121) 1264, (146) **1329**
Simpson, G., (13) 865
Simpson, G. C., (4) 401
Simpson, J. W., (30) **402**
Simpson, W. L., (99) 1923
Singer, C., (30) **244,** (19) **1924**
Singer, G., (127) **91,** (65) **404**
Singer, H. D., (70) 241, (62) 1834, ***1874**
Singh, G., (23) 1669
Singley, J. D., (161) 162, (89) 864, ***1535**
Sinushin, N., (121) **1843**
Sippel, A., (117) **870**
Sippell, F., (164) 487, (134) **1116**
Siredey, A., (89) 1500
Sisson, W. R., (33) **1260**
Siter, E. H., (151) **162,** (80) 944
Siven, V. O., (37) 1028
Sjövall, E., (64) 1402
Skeel, A. J., (18) **941,** (14) 1324
Skeel, R. E., (6, 12) **396,** (58) 1326
Skillern, P. G., ***172,** (79) 944, ***1536**
Skinner, E. H., (46) 1580
Skirving, R. S., (3) 85
Skoog, A. L., (58) 1922
Skudro, S., (136) 1674
Slade, C. B., (94) 1494
Slamberg, L., (203) 874
Slataper, F. J., (48) 782
Slaughter, N. G., (66) 83
Slawinski, Z., (141) 1406
Slemons, J. M., (1) **1831**
Sleyster, R., ***1351**
Slye, M., **2020**
Slingerland, I. M., (141) 162
Sloan, M. F., (60) **696**
Sluder, G., ***650**
Sluka, E., (98) 950
Smidt, H., (151) 252
Smiroff, A. W., (75) 2072
Smith, A., (12) **555,** (23) 1033, (18) 1668
Smith, C., (90) **161, *895**
Smith, C. H., (44) 81, (19) 1033, (25) 1669
Smith, E. A., (48) 160
Smith, E. T., (7) 629, (1) 1668
Smith, E. V., (7) 474
Smith, F. F. S., (27) 1669
Smith, G. G., (4) 1324, (32) **1749**
Smith, G. S., (24) 239
Smith, H. A., **146**
Smith, H. J., (17) 1395
Smith, H. W., (147) 479
Smith, J. B., (134) 699
Smith, J. L., (24) **1264**
Smith, J. T., (86) **1396**
Smith, L. W., (42) 552
Smith, M., (50) **1187,** (81) 1743
Smith, P., (122) 162
Smith, R. H., (67) 1028
Smith, R. K., (71) 1107
Smith, R. M., (4) 238, (87) 1262
Smith, T., (37) 1260, ***1591,** (36) **1981**
Smith, W., (23) 1740
Smith, W. S., (8) 1324
Smithies, F., (17) **158,** (4) **1625**
Smoler, F., **183,** (77) 1333
Smythe, F. D., **1484**
Snively, J. H., (100) 84
Snodgrass, W. A., (40) 1028
Snow, S. F., (128) 162
Snow, W. B., (95) 629
Snure, H., (69) **1666**
Snydaeker, E. F., (87) 1580
Snyder, E. H., (107) 1108
Snyder, F. D., (56) 1326
Snyder, J. R., (128) 1030
Sobotky, I., (51) 696
Söderbaum, W., (136) 972
Söderbergh, G., (134) **1844**
Søegaard, M., (209) 874
Sogge, L., (12) 2066
Sohn, I., (134) 1674
Solieri, S., (37) 1583
Solis, J., (124) 699
Solis-Cohen, S., **1914**
Sollmann, T., (57) 1326
Solly, R. V., (40) **86**
Solomon, M., (120) 162, (60) 1028
Solowij, A., (146) 1406
Soltau, A. B., (26) 1983
Somerset, W. L., (59) 553
Somerville, W. F., (14) 243
Sommer, A., (74) 633
Sommerfeld, A., (59) **1035**
Sommerfeld, P., (87) **1194**
Sommerfeldt, T., (211) **874**
Sondermann, R., (101) 1269
Sonnenfeld, J., (80) 950
Sonntag, E., (101) 869
Soper, A. C., ***1535**
Soper, G. A., (61) 1742
Soresi, A. L., (17) 1664
Sorge, (125) **1196**
Soubeyran, P., (33) **1583,** (38) 1926
Souques, A., (42) 1746
Southard, E. E., (68) 399, (4) **1663**
Southworth, F. W., (123) 400
Souttar, H. S., (9) **316,** (1) 1836
Sowers, C. N., (59) 1107
Spaeth, F., (94) 793
Spagnolio, G., (152) 1198
Spalding, C. B., (48) 477, (33) 781
Spangler, R. H., (73) 1262
Spargo, W. W., (53) 1580
Spät, W., (89) 1929
Spaulding, E. R., (4) **1103**
Speek, W., (74) 1840
Speed, K., **935**
Speidel, E., (69) 1188
Spenee, J. W. L., (18) **1664**
Spencer, H. N., (73) 863
Speneer, W. G., (3) **555**
Spiethoff, B., (113) **1269**
Spiller, W. G., **1910**
Spire, A., (37) **1496**
Spitzy, H., (107) **1335**
Sprengel, O., (60) 702
Sprinzels, H., (78) **168**
Spuler, A., (114) 560
Squier, J. B., ***1226**
Squire, J. E., (14) 323
Ssamoylenko, M. A., (121) **1270**
Staats, O. M., (83) 1743
Stadelmann, E., (87) **1929**
Stadler, E., (67) **791**
Staehelin, R., (113) 560
Staeubli, C., (76) 404, (79) 1036, (85) **1113**
Stähelin, R., (91) 1334
Stähli, J., (14) 1664
Stange, B., (152) **1117**
Stannus, H. S., (17) 1837
Stanton, E. M., (92) 84
Stanton, J., (9) 940
Stapfer, (46) 1746
Stapler, M. M., (25) 861, (137) 1030
Stapleton, W. J., (42) 1395
v. Starek, W., (86) 406
Stark, H. H., (46) 696
Starr, D., **732**
Stathers, F. R., (3) 940
Stäubli, C., (127) **706,** (47) **2070**
Stauffer, P., (55) 1034
Stavrides, G., (38) 1496
Stebbins, K., (16) 1104
Steele, M. W., (51) 1742
Steenbock, H., (70, 71) 1028
Steffens, P., (158) 871
Steiehen, A., (22) 323
v. Steimker, W., (81, 82) 1333
Stein, A. E., (156) **1675**
Stein, A. K., (163) 872
Stein, B., (128) **251**
Stein, J. B., (103) 320, (43) 1982
Stein, O. J., (104) 1328
Stein, R. O., (120) 1336
Steinbiss, W., (168) 1753
Steiner, J., (137) 1270
Steiner, W. R., (81) 83
Steinhardt, E., (42) **1106**
Steinmann, F., (132) **1337**
Stemmler, (96) **1929**
Stender, O., (151) 486
Stenger, A., (11) 239
Stephens, G. A., (13) 555, (19) **1399**
Stephens, J. W. W., (2) 1397
Stephenson, J. W., **1392**
Stephenson, S., (72) 88
Sterling, S., (116) 560
Stern, A., (6) 940
Stern, C., (92) 1114
Stern, E., (87) 1748
Stern, H., (24) **1027,** (58) 1839, (59) 1922
Stern, K., (144) 485
Stern, M., ***973**
Stern, S., (143) **1270**
Stern. W. G., (6) **859**
Sternberg, C., (133) **870**
Sternberg, W., (105) 250, (93) **1037,** (135) **1116**
Stetson, H. G., (134) 85
Stetten, D., (16) **625,** (112) 698, ***1126**
Steuart, W., (21) 1664, (5) 2067
Stevens, J. J., (60) 944
Stevens, M. T., (16) 1026
Stevens, W. E., ***203**
Stevenson, F. C., (9) 85
Stevenson, M. D., (80) 864, (85) 945, (112) 1328, ***2044**
Steward, F. J., (9, 12) 1495
Stewart, D. H., (10) 1324
Stewart, D. M., (48) 1107
Stewart, E., (32) 1260
Stewart, F. T., (19) 625, **2024**
Stewart, G. N., (35, 36) **626,** (36, 37) 1832
Stewart, J. C., **926, *1358**
Stewart, J. M., (73) 319
Stewart, W. B., (77) 319
Stewart, W. E., (91) 319, (76) 1743
Stewart, W. H., (31) 1027
Stieker, A., (107) 90, (76) 249
Stiefler, G., (114) 407
Stiel, A., (80) 326
Stierlin, E., (102) 328
Stiles, C. W., **1561**
Stillians, A. W., (52) 1666
Stillson, J. O., (21) 780
Stimson, J. C., (75) 477
Stineer, S. E., (117) 794
Stiner, O., (88) 249
Stirling, G. L., (65) 1580
Stitt, E. R., (153) 479, (35) 1325, **1820, 1823**
Stivers, C. G., (38) **160**
Stoekdale, E. M., (8) 479
Stoeker, F., (58) 1580
Stoeker, S., (89) **1334**
Stoekman, R., (92) **319,** (62) 1188, (8) **1264**
Stoekton, C. G., (40) 552, **1573**
Stoerk, E., (87) **1268**
Stoffel, A., (131, 150) **485,** (154) **486,** (77) **792,** (9) 1491
Stoll, H. F., (1) **80,** (44) 1579
Stoll, K. L., (92) 242
Stolte, K., (105) 406, (108) 705, (109) 1196
Stoltzenberg, F. F., (134) 637
Stoltzenberg, R., (134) 637
Stoltz, M., (140) **637**
Stone, H. B., (25, 26) **941**
Stone, I. S., (146) 162, ***656**
Stone, W. J., ***489,** (91) 1108, ***1296**
Stoner, G. W., (86) 1667
Stoner, H. W., (43) 944
Stoner, J. B., (61) 1493
Stoney, A., (7) 699
Stoney, R. A., (14) 1032
Stookes, A., (19) 556
Storck, J. A., (51) **552, 1487**
Storey, L., (33) 631
Storey, T. A., (31) 159
Stout, T. J., (10) 1577
Stover, G. H., (89) 554
Stowell, E. C., (37) **1106**
Stowell, W. L., (61) 863, (28) 1260
Straehauer, A. C., (44) 318
Strangmeyer, A., (148) **485**
Stransky, E., (94) 1037
Strasburger, J., (45) 2070
Straselicsko, N. D., (181) 488
Strasser, E. M., (94) 242
Strassmann, P., (166) 487
Strathy, G. S., (50) 398
Straub, H., (79) 704
Straube, E., (54) **166**
Strauch, A., (7) 238
Strauch, F. W., (116) 636
Strauss, A., (91) 1268
Strauss, H., (71) 949, (124) 1196, ***1410,** (73) 1580, (154) **1674,** (81) **1840**
Street, A., (5) 1982
Street, J. P., ***2037**
Streissler, E., (116, 117) 483
Strieker, N., (110) 1196
Striekland, C., (8) 2067
Strine, H. F., (127) 401
Strisower, R., (169) 562
Ströbel, H., (48) 1670, (47) 1839
Strobell, C. W., **1252**
Stroebell, C. W., (52) 1982
Stroganoff, W., (96) **328,** (77) 1747
Strong, G. R., (42) 86
Strong, R. P., (101, 102, 104-109) **84,** (93) **554**
Strouse, S., (55) 398, (105) 629
Strubell, A., (71) 249
Strunsky, M., ***1152**
Struthers, J. W., (58) 87, (7) 164
Stuart, C. C., (40) 318
Stuart-Low, W., (15) 1264
Stueky, J. A., (118) 242, (54) 1262
Stumm, T. W., (144) 162
Stümpke, G., (93) 1114
Sturm, J., (85) 1586
Sturrock, W. D., (8) 699
Stursberg, H., (76) 792
Stuver, E., **1245**
Suess, E., (141) 1502
Sugget, O. L., (75) 1742
Suggs, L. A., (104) 785
Sugi, K., (95) 406, (168) 488
Sullivan, J. J., (40) 943
Sultan, C., (56) 2070
Sulzer, D. E., (2) 780
Summers, J. E., (15) 239, **316**
Sumner, F. W., (26) 1669
Sumner, W. T., **1025**
Sundberg, C., (47) **1584**
Sunde, A., (161) 1198, (68) 1840
Surface, F. M., (39) 1920
Surnamer, I., (127) 699
Süssenguth, L., (59) 166
Sutherland, P. L., (4) 2067
Sutherland, W. D., (20) 1330
Sutter, C. C., (47) 944
Sutton, R. L., ***115,** (37) **781, 1339,** ***1774**
Svedin, B., (145) **1338**
Swadener, E. L., **1479**
Swan, J. M., (118) **400**
Swan, R. H. J., (26) 787
Swann, A. W., (6) **1025**
Swayne, W. C., (11) 401
Sweek, W. O., (48) **627**
Sweet, J. E., (77) 1028, (21) **1324,** (93) 1581
Swift, H., (4) 322, **1576**
Swift, H. F., (53) **241,** (67) 1742
Swift, W. B., (25) **551**
Swope, S. D., (71) 1922
Swords, M. M., (116) 162
Swynghedauw, (69) 1499

Syk, I., (144) 408
Symes, J. O., (34) 866
Symes-Thompson, H. E., (37) 324
Symmers, D., *337
Syms, P., (59) 1742, (26) 2067
Syring, (84) 1333
v. Szontagh, F., (81) 406

T

Tachau, H., (93) 1403, (96) 1672
Tachau, P., (71) 1986
Taddei, A., (101) 793
Taddei, D., (55) 701
Tadini, A., (163) 1675
Tait, W. D., (32) 1920
Takaki, Y., (32) 709
Takeno, J., (110) 705
Talbot, F. B., 591, (33) 1260, (16) 1664
Talley, J., 666
Talmey, B. S., (79) 1922
Tamassia, A., (109) 951
Tanaka, H., (47) 1111
Tandler, J., (69) 791
Tanfani, G., (115) 1842
Tansini, I., (125) 407, (124) 952
Tasca, P., (208) 1754
Tatum, A. L., (96) 319, (15) 2066
Taussig, A. E., (10) 1979
Taussig, F. J., (133) 321, (9) 694, 1735, 1738
Tausz, B., (140) 1116
Tavernier, L., (68) 867
Taylor, A. E., (47, 48) 1665
Taylor, A. S., 1392
Taylor, C. B., (83) 161
Taylor, E. C., (24) 323, (30) 1669
Taylor, F., (67) 88
Taylor, G. H., (2) 85, (70) 399, (5) 1668
Taylor, H. L., (3) 859
Taylor, J. M., (28) 1027, 1811
Taylor, J. W., (13) 401
Taylor, K., 1094, *1142
Taylor, R. T., (82) 1922
Teague, O., (102-109. 112) 84, (42) 1920
Teass, C. J., (54) 1326
Tedesko, F., (145) 707
Teixeira, S., (127) 952
Teleky, L., (124) 1336
Telling, W. H. M., (39) 1400, (1) 1923
Tenani, O., (158) 708, (164) 1271
Tenney, B., (44) 1028
Tenney, C. F., (82) 864
Terrell, T. C., (91) 399
Terrien, E., (62) 1266, (32) 1926
Terrill, J. J., (102) 1108
Terry, C. E., (10, 15) 1492
Teschemacher, (149) 1674
Teumin, S., (124) 1843
Thatcher, P. B., (126) 162
Thayer, A. E., (73) 783
Thayer, W. S., (121) 478, (22) 625
Thedinga, W., (104) 1195
Theilhaber, A., (167) 562, (83) 1113
Themner, K., (14) 1837
Thibaut, (83) 89
Thicle, F. H., (31) 631
Thiemich, M., (154) 562, (96) 1403
Thies, A., (137) 637
Third, J., (27) 1492
Thoma, R., (164) 1753
Thomas, B. A., *185, *1079
Thomas, C. P., (47) 696
Thomas, E., (119) 407
Thomas, G. J., *184
Thomas, G. W., (5) 1494
Thomas, H. A., 308
Thomas, H. M., (87) 697
Thomas, J. B., (19) 1027
Thomas, J. J., (37) 552
Thomas, J. L., (21) 401
Thomas, J. N., (76) 1667
Thomas, T. T., (20) 625, (10) 1025, (15) 1258
Thompson, H. E., (57) 1742
Thompson, J. E., 151, (31) 1832
Thompson, L. O., (5) 1979
Thompson, M. G., (42) 240
Thompson, S. E., (28) 1740
Thompson, T., (45) 480
Thompson, W. G., (111) 698, (59) 782, (63) 1666
Thompson, W. N., 67, 228
Thomson, A., 2022
Thomson, D., (7, 8) 1397
Thomson, E., (26) 556, (16) 786
Thomson, E. S., (138) 162
Thomson, F. G., (9) 864
Thomson, G., (38) 631
Thomson, H. C., (28) 700
Thomson, H. H., (2) 1743
Thomson, J. G., (5) 401, (8) 1397
Thomson, S., (58) 402, (47) 480
Thorborg, F., (128) 1589
Thornburgh, R. M., (34) 81
Thorne, L. T., (42) 1111
Thorne, M., (11) 322
Thorne, W. B., (10) 1108.
Thörner, W., (48) 1985
Thorning, W. B., (98) 1108
Thorspeeken, O., (103) 1749
Thrash, E. C., (118) 1836
Thrasher, J. R., (30) 1920
Thulstrup, W., (149) 252
Thurlow, E. A., (133) 478
Thursfield, H., (24) 700, (2) 1189
Thwing, C. F., 774, (63) 1326
Tidy, H. L., (35) 86, (15) 1982
Tièche, (61) 404
Tierney, J., 238
Tietze, A., (118) 484, (70) 703
Tilley, H., 259
Tilmann, O., (107) 250
Timme, W., (33) 861, (52) 1921
Tinel, J., (62) 1111
Tirumurti, T., (30) 1838
Tisserand, G., (70) 558
Tissier, L., (57) 867
Tissier, T., (57) 1111
Tixier, L., (74) 867, (34) 1191, (57) 1498, (70) 1499
Tobias, E., (79) 1402, (37) 2069
Tocco, E. L., (144) 92
Tod, H. F., (24) 1583
Todd, C. E., (1) 322
Todd, H. C., (131) 478
Todd, J. L., (49) 160
Todd, R. R., (110) 1923
Todd, R. S. E., (11) 1668
Todd, T. W., (14) 1104, (21) 1983
Toft, E., (152) 252
Toida, R., (74) 1333
Tomarkin, E., (86) 558
Tomlinson, H. A., (11) 551
Tooke, F., (27) 397
Tooth, H. H., (9) 629
Torek, F. J. A., 1252, *1533
Torelli, Q., (141) 252
Torgersen, P., (216) 564
Torian, O. N., (32) 1106
Torrance, G., (125) 85, (16) 1324
Torrance, L. B., (136) 699
Torrey, J. C., (46) 627
Torrey, R. G., (97) 1581
Tortora, M., (95) 793
Touart, M. D., *1620
Tourneaux, J. P., (53) 1266
Tousey, S., (110) 161, (95) 1189, (25) 1664 (68) 1666
Touton, K., (103) 1500
Towle, H. P., 591
Townsend, W. R., 1575, (29) 2067
Tracy, S. E., (5) 396
Trask, J. W., (16) 1831
Traugott, M., (105) 951
Trautmann, E., (156) 1752
Traver, A. H., *44
Travvassos, L., (198) 873
Trazzi, N., (155) 708
Treadgold, C. H., (21) 479
Treadway, W. L., (43) 1832
Tredgold, A. F., (11) 1744
Treon, F., (75) 1327.
Trerotoli, G., (140) 1338
Treupel, G., (119) 1749
Trewin, J. K., (75) 1834
Triboulet, H., (50) 247, (50) 1034, (62) 1498
Trimble, G. B., (149) 479
Triplett, J. S., (103) 1835
Troell, A., (144) 1338
Troisfontaines, P., (54) 1401
Troisier, J., (60) 482
Trotter, W., (21) 1583, (36) 1669
Trout, H., 151
Trowbridge, E. H., *429
Truche, C., (44). 866, (50) 1670, (28) 1926
Trudeau, E. L., (49) 627
Truesdale, P. E., (24) 551
Trumpp, (82) 406, (52) 2070
Tsiminakis, C., (129) 251
Tsiwidis, A., (162) 872
Tubby, A. H., (15) 630, (14) 699, (13) 1744
Tucker, B. R., (145) 1329
Tucker, E. F., (129) 478
Tuckerman, J. E., (12) 780
Tuckerman, W. C., (19) 941
Tuffier, T., (94) 90, (49) 1926
Tuley, H. E., (97, 102) 161, (76) 1189, (17) 1324
Tullidge, E. K., (45) 944
Tully, E. J., (59) 83
Tunnicliff, R., *1781, *2033
Tunstall, R., (144) 479
Tupper, P. C., (114) 478
Turck, R. C., (104) 1262
Turnbull, H., (17) 946
Turner, A. L., (26) 401, (13) 786
Turner, D. F. D., (11) 1264, (37) 1265, (22) 1664
Turner, J. A., (24) 1983
Turner, J. G., (36) 1400
Turner, J. W., (103) 161
Turrettini, G., (58) 1332
Tweedle, A. R., (25) 1399
Tweedy, E. H., (15) 556, (43) 631
Twitchell, H. F., (79) 399
Tylecote, F. E., (11) 1836
Tyler, G. T., (153) 1329
Tylor, C., (10) 629
Tyovity, N., (83) 1927
Tytler, W. H., (46) 1261
Tyzzer, E. E., 2021

U

Udvarhelyi, K., (73) 1927
Uffenheimer, A., (78) 326
Uffenorde, W., (91) 1587
Uffreduzzi, O., (102) 951, (72) 1333, (40) 1497, (55) 1926
Uhlenhuth, P., (63) 404, (86) 1113, (87) 1672, (54) 1839, (60) 1986
Ullmann, K., (172) 872
Ulrich, H. L., (39) 477
Ulrici, H., (112) 90
Umbréit, A. C., 777
Underhill, A. J., *1073, *1869
Underwood, F. J., 1485
Unger, E., (86) 327, (74) 1035, (89) 1268, (52) 1927
Unger, L., (120) 251
Ungermann, E., (121) 91
Unna, P. G., (104) 1500, (88) 1929, (49) 1985, (26) 2069
Unterberg, H., (79) 1927
Upshur, J. N., (72) 1742
Urizio, L., (141) 1674
Urrutia, (51) 867
Usener, W., (120, 121) 407, (96) 1195
Uspensky, N., (123) 1843
Ustvedt, Y., (133) 1932
Uteau, (63, 65) 1671
Uthmöller, (153) 1141, (114) 1842

V

Vail, D. T., (1) 780
Vaillet, (100) 90
de Valcourt, (59) 247
Valin, H. D., (164) 163
Valk, F., (141) 243
Vallardi, C., (166) 872
Van Alstine, E., 2021
Van Bisselick, J. W., (62) 558
Van Buren, G. H., (21) 1831
Vanee, A. M., (9) 158, 236
Van Couwenberghe, A., (40) 1584
Van Dam, J. M., (95) 1500
Van de Kasteele, R. P., (103) 1335
Van den Bergh, A. A. H., (49) 948
Vander Bogert, F., *363
Vandergrift, G. W., (100) 399, (46) 862
Van Dersliee, J. W., (56) 398
Van der Veer, A., (1) 1918
Vanel, S., (59) 1746
Van Epps, C., (99) 698
Van Hook, W., (155) 162, (90) 697
Van Poole, G. M., (59) 944
Van Rensselaer, H., (3) 694
Van Slyke, D. D., 1183
Van Slyke, L. L., (81-85) 1327
Van Stockum, W. J., (134) 92
Van Sweringen, B., (31) 552, (10) 1831
Vanverts, J., (89) 89, (101) 90, (52) 557
Van Voast, P. M., (135) 1328
Van Zandt, I. L., (130) 85
Vanzandt, T. K., (104) 161
Van Zwalenburg, C., (90) 1396
Vaquez, H., (97) 90, (50) 631, (53) 1497
Vaquié, G. E., (77) 558
Variot, G., (63) 867, (31) 1191, (59) 1266, (60) 1498, (35) 1926
Vaspin, B., (81) 2072
Vaudeseal, M., (58) 867
Vaughan, G. T., (15) 1104
Vaughan, J. W., *435
Vaughan, V. C., (2) 624, 1058, 1174
Vaughn, F. A., (82) 945
Vaz, R., (105) 794
Veasey, C. A., (62) 783, (76) 1396
Veau, V., (48) 247
Veechi, A., (185) 488
Vecki, V., (47) 1326
Vedder, E. B., (94) 554, (104) 1581
Veeder, B. S., (6) 80
Veiller, L., (26) 695
Veit, J., (180) 562, (65) 1035, (78) 2072
Veit, K. E., (108) 406
v. Velebely, T., (61) 1927
Velican, C., (123) 706
Vennat, M., (37) 1984
Vento, R. P., (106) 170
Veraguth, O., (74) 326
de Verbizier, A., (69) 1671
Verdi, W. F., (51) 1921
Verdon, H. W., (32) 631
Verel, R., (18) 865, (15) 1837
Verger, H., (53) 1192, (66) 1498
Vergues, E., 1241
Verhaeghe, E., (43) 246, (54) 1266
Verhoeff, F. H., *727, (35) 1028
zur Verth, M., (111) 1404
Vervoort, H., (131) 706
Vetlesen, A., (183) 1676
Vianna, G., (105) 170, (147, 151) 1406
Vignard, (51) 1746
Villard, E., (69) 558, (68) 867
Villaret, M., (19) 2069
Villazon, N. M., (162) 708
Vincent, B., 74, (18) 317
Vincent, G. E., 774, 1443
Vincent, W. H., (25) 1191
Vinton, M. M., (55) 1107
Violet, H., (56) 247, (54) 1192, (90) 1500
Virenque, M., (58) 1111
Vital-Badin, P., (42) 1497
Vitry, G., (95) 90, (57) 1402
Vöchting, K., (108) 1749
Voeckler, T., (140) 1502
Vogel, K., (98) 1269, (152) 1751
Vogel, K. M., (5) 624
Vogt, E., (185) 563, (125) 706, (111) 1588 (75) 1747
Vogt, H., (56) 404, (89) 1587
Voigt, J. C., (23) 1109
Volfring, S. F., (88) 1987
Voll, A., (92) 950
Voltke, A., (86) 1987
Voorhees, I. W., (89) 84, (33) 1740
Voorhees, S., (27) 2067
Voorhoeve, N., (98) 1749
Vorpahl, K., (109) 406, (43) 1584
de Vries Reilingh, D., (144) 1116
Vromen, M., (177) 562
Vulpius, O., (112) 1196, (120) 1501, (71) 1586, (102) 1672, (43) 2070
Vystavel, A., (100) 950

W

Waehenheim, F. L., (4) 2066
Wachtel, S., (65) 949
Wade, E. M., (27) 475
Wadham, F. J., (26) 1583
Wadsworth, T. W., (42) 1670
Wagner, (119) 1404
Wagner, A., (125) 870, (128) 1116
Wagner, G., (115) 1196
Wagner, J., (132) 242
Wahle, P., (112) 1037
Waibel, C., (118) 1196
Waite, H. H., (28) 475
Wakeman, A. J., (40) 1665
Wakisaka, (22, 23) 165
Wakulenko, J., (71) 482
Walb, H., (83) 1194
Wald, L. D., (77) 242
Waldmann, A., (91) 1403
Waldo, R., (74) 553
Waldron, L. V., (19) 1664
Waldstein, E., (120) 705
Walker, C., (18) 1495
Walker, E., 850
Walker, H. D., (102) 242
Walker, J. B., (28) 81, (51) 782
Walker, J. T. A., 388, (48) 398, (45) 782
Walker, J. W. T., (33) 1400
Walker, K. M., (20) 865
Walker, O. C., (37) 1832
Wall, C., (21) 86
Wall, G. A., (88) 319
Wall, J. T., (16) 158
Wall, M., (145) 1751
Wallace, A. J., (41) 86, (17) 556 (30). 866, (12) 946
Wallace, C. S., (38) 1265
Waller, A. D., (29) 1983, (10) 2068
Waller, H. E., (35) 1838
Wallfield, J. M., (79) 1262
Wallich, V., (35) 245
Walsh, D., (29) 866, (15) 1923
Walsh, J. J., (117) 242
Walters, F. R., (28) 480
Walther, (53) 1670
Walther, E., (165) 1753
Walton, A. J., (14) 316
Walton, G. L., (47) 81
Walton, W. J., (149, 150) 162
Wangerin, W., (131) 1750
Warbrick, J. C., (117) 698
Ward, E., (36) 1110
Ward, G. G., (54) 1982
Ward, G. R., (27) 1109
Ward, S. B., (30) 1027
Ward, W., (21) 1185
Warden, C. C., (34) 475
Warhurst, M. A., (79) 1743
Warnekros, (76) 482
Warner, A. R., *738
Warren, B. S., 1572
Warren, G. A., (31) 1740
Warren, G. W., (93) 84
Warren, S. P., (8) 694
Warschauer, O., (55) 166, (75) 1840
Wasserthal, (51) 1497
Wasteneys, H., (41) 1665
Waterhouse, R., (2) 1329
Waters, B. H., (119) 242
Waters, E. E., (19) 1330
Wathen, J. R., (52) 477
Wathen, W. H., *714, (63) 1834
Watkins, E. D., *1357
Watkins, W. W., (45) 696
Watson, C., (32) 480, (10) 1264
Watson, C. G., (44) 480
Watson, E. B., (95) 1494
Watson, E. M., (49) 240, (32) 1325
Watson, F. C., (11) 316
Watson, F. S., (22) 317
Watson, H. F., (24) 1330, (17) 1668
Watson, L., (127) 478, (107) 1189, (129) 1328, (77) 1743, (35) 1832

Watson, W. T., (45) 398
Watson-Wemyss, H. L., (16) 1399
Watt, C. C., (57) **552**
Watters, W. H., ***1516**
Watterson, W. H., (66) 398
Wats, S. H., (131) 1030
Waugh, W. F., (194) 488
Weatherbee, P., (49) 398
Weaver, E. M., (70) 1396
Weaver, J. S., (99) 1835
Webb, F. A., (118) 85
Webb, H. G., (37) 1838
Weber, A., (77) **1402**
Weber, F. P., (28) 556, (10) **864,** (1) **1189,** (18) 1330, (55) **1497,** (9) **1836,** (25) 1837, (29) 1838, (21) 1924, (3) 2067
Weber, H. C., (29) 781
Weber, L., (44) 1493
Weber, O. H., (97) **1749**
Weber, W., (99) 1334
Webster, J. C., **226, 1737**
Webster, W., (72) 697
von Wedel, C., (134) 478
Weed, L. H., (59) **696**
Weeks, J. E., (149) 243, (99) 1667
Weeks, S. M., (42) 696
Wegele, K., (114) **705**
Wegerer, F., (111) 1673
Weibel, W., (91) **1262,** (70) 1747
Weichardt, W., (73) 167
Weichert, M., (72) **633,** (72) 703
Weidenreich, F., (64) 167
Weihrauch, K., (65) 1840
Weil, A., (89) 1402, (63) **1498,** (34) 1926
Weil, M. P., (76) 1671
Weil, P. E., (69) 1113
Weil, R., (57) **1187, 2020**
Weil, S., (75) **1193**
Weiland, W., (74) **791,** (142) 1502
Weill, (97) 328
Weill, A., (52) 247
Weill, E., (36) **1926**
Weinzirl, J., (19) 1027
Weir, H. B., (40) **402**
Weir, S. W., (65) 398
Weishaupt, E., (66) 702
Weiss, E. A., (9) **396**
Weiss, K., (73) 791
Weissenberg, S., (125) 91
Weisz, M., (124) **484**
Weiz, E., (57) 948
Welch, J. E., (106) 399
Weller, C. V., (22) 1259
Wellington, J. R., (129) 320
Wellman, C., **1823, 1824**
Wells, B. H., (83) 1107
Wells, C. H., (14) 1026
Wells, H. G., ***887,** (38) **1920**
Welsh, D. A., (4) 1668
Welter, A., (101) 869
Welz, (90) 1587
Welz, W. E., (67) 241
v. Wenczel, T., (64) **1927**
Wenglowski, R., (45) **947**
Werder, X. O., (1) 157, (94) **1262**
Werelius, A., ***643,** (84) 783
Werneck, C., (149) 1406, (210) 1754, (85) 2072
Werner, H., (116) 870, (76) 1586
Werner, N. L., (17) 1577
Werner, R., (79) **1267**
Wersilowa, M. A., (75) 168
Wertenbaker, C. P., (56) 1834
Werth, J., (126) **1931**
Wertheimer, H. G., (100) 1189
Wesbrook, F. F., ***1199**
Wescott, W. C., **388**
Weselko, (70) 1586
Wessler, H., (14) 1258, (39) **1832**
Wesson, M. B., ***1069,** (73) 1107
West, C. J., (89) 1327
West, H. H., (81) 628
West, J. M., (29) **2069**
Weston, W., (127) 1030
Westphal, A., (78) **1671**
Westphalen, F., (123) 1038
Westphalen, H., (136) 485
Wethered, F. J., (10) 1495
Wetherill, H. G., (62) 83, ***983, *1533**
Wetterer, J., (92) 249
Wetterstrand, G. A., (129) **1501**
Whale, H., (5) 785, (22) **865**
Whalen, W. E., (85) 1262
Wheat, R. F., **1732**
Wheaton, C. L., (64) 1834
Wheeler, E. R., (30) 700
Wheeler, W. I. de C., (13) 1582, (41) 1670, (6) 1836
Wherry, G., (3) 1982
Wherry, W. B., (61) **627**
Whinery, S., (5) 1184
Whipple, G. C., (28) 695
Whipple, G. H., (25, 26) **941,** (13, 14) **2066**
Whitall, J. D., (127) 242
Whitbeck, J. F. W., **1483**
Whitby, C. J., (15) 1668
White, C., (22) 1109, (12) 1744
White, C. A., (22) 780
White, C. J., (69) 160
White, C. Y., ***990**
White, E. C., (105) 1397
White, E. P. C., **473**
White, F. W., (30) 1186
White, J. H., (7) **1025**
White, J. M., (95) **84**
White, P. D., (8) 1258
White, W. A., (6) 624
White, W. C., (32) 159, (50) 477, **1571,** (30) **1980**
White, W. H., (22) 556, (42) 631, **680,** (4) **1190,** (18) 1181, (30) 1983
Whiteford, C. H., (20) 556, (28) 1033
Whitehouse, B., (29-31) 1264
Whitelaw, T. H., (47) 160
Whiteside, G. S., (2) 316
Whiteside, G. W., (65) 83
Whiteside, J. D., (42) 318
Whitfield, A., (25) **244**
Whiting, A. D., ***423**
Whiting, A. J., (50) 480, (32) 866
Whitla, W., (1) 2067, (9) 2068
Whitman, R., **1916**
Whitman, R. C., (15) 780
Whitmore, E. R., **1823**
Whitney, R. L., (5) **1663**
Whittingham, H., (18) **1495**
Wholey, C. C., **688,** (107) 785
v. Wiczkowski, J., (132) 1674
Widal, F., (53) 1670, (58) 1671
Widerøe, S., (215) **564,** (179) **1676**
Widmer, C., (95) 1037
Wiechowski, W., (135) 92
Wieman, H. L., (8) **1918**
Wiemann, (70) 1840
Wiener, A., (71) 1493
Wiener, E., (106) 1842
Wiener, J., (36) 81, ***1526**
Wiener, R. G., (58) **782**
Wiesel, J., (135) 1270
Wieting, (61) 166, (155) **1675**
Wigert, V., (140) 408
Wilber, C. I., (15) 1831
Wilborts, A., (54) **631,** (64) 1266, (41) 1400
Wilbouchewitch, M., (62) 867
Wilbur, C. L., **777, 778**
Wilcox, D. C., (2) 1393
Wilcox, H. B., **547,** (2) **1324**
Wilcox, R. W., **1913**
Wilcox, W. F., **1912, 2021**
Wile, I. S., (71) 628, (115) 1030, (25) 1492, (18) 1980
Wilke, (119) 1270
Wilkinson, J. G., (120) 400
Wilkinson, W. C., (38) **480**
Willard, D. P., (143) **1329**
Wille, H., (146) 330, (163) 1198
Willett, T, ***1878**
Williams, A. W., (100) 478, (65) 696
Williams, E. C., (15) 401
Williams, E. H., (85) 1189
Williams, E. M., (91) **783,** (64) **944,** (24) 1395
Williams, F. H., (74) 1493, ***1694**
Williams, H. M., (128) 478
Williams, J. T., (32) **1186**
Williams, J. W., (11) 164, (12) 479, (113) 1397
Williams, L. R., (67) 553
Williams, P. F., (22) **1185,** (88) **1396,** (57) 1982
Williams, T. A., (165) 163, (104) 629, (38) 696, (43) 782, **926,** (106) 1029, (75) 1262, (122) 1264, (12) 1398, (31) 1496, (37) 1665
Williams, T. W., **769**
Williams, U. V., (97) 1029
Williamson, H., (25) 86, (17) **1983**
Willmoth, A. D., (96) 242, (49) 477, (79) 1189
Willour, L. S., (133) 699
Wills, T. J., (68) 83
Wilms, M., (131) 329, (165) **487,** (111) **1196,** (128) **1750**
Wilson, A. R., (11) **629**
Wilson, C., (9) 699
Wilson, D. S., (87) 1835
Wilson, H. A., **1917**
Wilson, J. A., (22) 1399
Wilson, J. G., (50) 696
Wilson, J. M., (81) 783, (128) 1836
Wilson, L. B., (25) **81, 236,** (115) **478,** (90) 1262, (26) **1324**
Wilson, M. A., (31) 475
Wilson, R. L., (69) 783, (124) **1630,** (73) 1982
Wilson, S. M., (55) **1395**
Wilson, T., (33) 86, (26) 1264
Wilson, T. G., (1) 1031
Wilson, W. J., (75) 1666
Wiltshire, H., (17) **786**
Wimberly, G. W., **1558**
Wimmer, A., (114) 1673
Winckel, M., (111) 328
Windle, W. S., (97) 698
Winfield, J. M., (101) 1328
Wing, P. B., (64) 1396
Wingrave, W., (70) 88
Winslow, L. F., (34) 1838
Winter, F. A., (94) 478
Winter, H. L., (15) 158
Winternitz, M. C., (17, 18) **2066**
Winthrop, G. J., (75) 783
Winthrop, J. D., **1389**
Wise, F., (103) 698
Wise, K. S., (31) 165
Wiseman, W. A., **68**
Wishard, W. N., (26) 1105
Withers, W. A., (69) **1028**
Witherspoon, J. A., **776,** (87) 1029
Wit, W. H., (84) 242
Witte, M. E., (9) **551**
Wittek, A., (111) **483**
Wittich, (115) **1501**
Witzel, O., (112) 1269
Witzinger, O., (182) 873
Wladyezko, S., (30) 1926
Wodehouse, R. E., (25) 1105
Wohlgemuth, J., (80) 1113
Wolbach, S. B., (29) 1665
Wolbarst, A. L., (62) **863**
Wolf, E., (26) 2069
Wolf, J., (105) 90, (72) 249
Wolfe, C. T., (68) 1188
Wolfe, D. H. H., (70) 1188
Wolfermann, S. J., (98) 1835
Wolferz, R., (128) 1674
Wolff, (152) 1270
Wolff, A., (90) 169, (79) 950, (52) 1985
Wolff, A. O., (219) 564
Wolff, B., (170) 488
Wolff, F., (73) 249, (179) 562, (54) 948
Wolff, G., (88) 704
Wolff, H., (141) 1116
Wolff, L., (143) 408
Wolff, M., (53) 398
Wolff, P., (126) 870
Wolff, S., (97) 1195, (74) 1986
Wolff, T. R., (4) 316
Wolff-Eisner, A., (59) 948
Wolffheim, W., (185) **1753**
Wolfsgruber, R., (125) **636,** (60) 791
Wolfsohn, G., (111) 90, (90) 633
Wolfsohn, J. M., ***1204, *1855**
Wolfstein, D. I., (68) **241**
Wolkowitsch, N., (83) 950
Wollman, E., (33) 1330
Wollstein, M., (29) **941, 1183,** (42) **1261**
Wood, A., (79) 83
Wood, C. M., (63) 1028
Wood, F. C., **1250**
Wood, F. L., (79) 88, (40) 1400
Wood, F. M., (54) 398
Wood, H., **1250**
Wood, H. C., (3) 1831
Wood, J. W., (10) 81, (103) 1328
Wood, N., (31) 480
Wood, N. K., (36) **239**
Wood, P. R., (76) 1834
Wood, W. C., (111) 1328
Wood-Jones, F., (23) 1191
Woodling, M. E., **2060**
Woodman, E. M., (3) **785**
Woodruff, J. B., (94) 399
Woods, A. H., (32) **861**
Woods, H., ***1762,** (130) 1836
Woodward, H. M. M., (17) 699
Woodyatt, R. T., (19) **158**
Work, H., **77, 153, 357**
Wörner, H., (101) 1749
Worrall, E. S., (33) 1983
Worthington, H., (89) 1581
Wossidlo, E., (71) 791
Wright, A. E., (19, 26) 244
Wright, A. L., (72) 399
Wright, B. L., (40) **862**
Wright, F. R., (74) 1327
Wright, G. H., (53) 695
Wright, H. L., (78) 1743
Wright, J., (33) 943
Wright, O. B., (111) 1835
Wright, S. E., (65) 1396
Wrigley, P. R., (25) **556**
Wronker, B. M., (2) **2066**
Wulff, E., (153) 486
Wurtz, R., (60) 867
Würtzen, C. H., (157) 1198
Wyatt, J., (13) 479
Wyeth, G. A., (89) 1667
Wylder, M. K., (57) 863
Wylie, C. B., (144) 1030, (129) 1836
Wynn, W. H., (14) 1744
Wynter, W. E., (23) 1983
v. Wyss, H., (80) 1037, (95) 1403

## Y

Yakoyama, Y., (127) 1270
Yamagiwa, R., (50) 1111
Yankauer, S., (81) 399
Yates, W., (23) 695
Yawger, N. S., (38) 1665
Yearsley, M., (8) 81, (11) 1495
Yeatts, S. T., (50) 1493
Yemans, H. W., (104) 478
Yerington, H. H., (64) 696
Ymaz, I., (89) **1988**
Yorke, W., (6) 243, (8, 9) 401
Young, A., (4) 1108
Young, C. S., (95) 478
Young, E. H., (104) 1923
Young, G. B., **1245**
Young, G. P., (38) 1400
Young, H. H., ***253**
Young, H. M., (38) **781**
Young, J. H., (47) 1028
Young, S. W., (40) 1260
Young, W. H., (45) 477
Yount, C. E., (26) **1740**
Youtsey, I. J., (104) 1029
Yuan Shi K'ai, **1820**

## Z

Zaaijer, J. H., (101) 1500
Zabel, B., (99) **250**
Zadek, I., (65) 325
Zahn, F., (69) **167**
Zak, E., (123) 329
Zalla, M., (100) 793
Zalozieeki, A., (123) 1749
Zander, P., (146) 561
Zangemeister, W., (109) **1749**
Zapf, L., (134) 870
Zapffe, F. C., ***1285**
Zaretzky, S., (175) 562
Zarfl, M., (119) **251**
Zarzycki, S., (124) 636, (134) 1196
Zaun, J. J., ***664**
Zehner, L., (64) 404, (78) 1193
Zell, A. M., (44) 240
Zeller, G. A., (70) 1834
Zenner, P., ***357**
Zentler, A., (39) 696
Zentmayer, W., (140) 478, (6) 780, **1075, 1562, 1781**
Zentner, J., (73) **1986**
Zesas, D. G., (108) **1500**
Ziegler, C. E., ***32,** (5) **158**
Ziemann, H., (115) 869
Ziemke, (40) 2070
Zimmern, A., (39) 1984
Zink, (110) 328, (69) 632
Zinsser, A., (74) **1193,** (109) **1588**
Zinsser, H., (33) **626,** (40) 1260
Zipper, J., (92) 483
Zitronblatt, A., (91) 1037
Zografides, A., (130) **329,** (115) 407
Zondek, M., (106) 559, (142) 637
Zöpffel, V., (88) 1587
Zuber, (61) **1266**
v. Zubrzycki, J., (174) 562, (125) **636,** (60) 791
Zuceola, P. F., (150) 92, (143) 252, (204) 1754
Zucker, T. F., (35, 36) **626**
Zugg, C., (34) 1579
Zulleg, J., (79) 1333
Zuntz, L., (89) 868
Zweifel, P., (119) **705**


# INDEX TO PAGES

## OF THE JOURNAL, ACCORDING TO WEEKLY ISSUES—VOLUME LX, JANUARY-JUNE, 1913


| Pages | No. | | |
|---|---|---|---|
| 1- 92— | 1 | ..... Jan | 4 |
| 93- 170— | 2 | ..... Jan. | 11 |
| 171- 252— | 3 | ..... Jan. | 18 |
| 253- 330— | 4 | ..... Jan. | 25 |
| 331- 408— | 5 | ..... Feb. | 1 |
| 409- 488— | 6 | ..... Feb. | 8 |
| 489- 564— | 7 | ..... Feb. | 15 |
| 565- 638— | 8 | ..... Feb. | 22 |
| 639- 708— | 9 | ... March | 1 |
| 709- 794— | 10 | ... March | 8 |
| 795- 874— | 11 | ... March | 15 |
| 875- 952— | 12 | ... March | 22 |
| 953-1038— | 13 | ... March | 29 |
| 1039-1118— | 14 | .... April | 5 |
| 1119-1198— | 15 | .... April | 12 |
| 1199-1272— | 16 | .... April | 19 |
| 1273-1338— | 17 | .... April | 26 |
| 1339-1406— | 18 | ..... May | 3 |
| 1407-1510— | 19 | ..... May | 10 |
| 1511-1590— | 20 | ..... May | 17 |
| 1591-1676— | 21 | ..... May | 24 |
| 1677-1754— | 22 | ..... May | 31 |
| 1755-1844— | 23 | .... June | 7 |
| 1845-1932— | 24 | .... June | 14 |
| 1933-2026— | 25 | .... June | 21 |
| 2027-2096— | 26 | .... June | 28 |

G10.5
gAm3

This Issue Exceeds 56,000 Copies

# THE JOURNAL

OF THE

## American Medical Association

Dr H B Ward
Urbana Ill

Annual Subscription, $5.00 — WEEKLY — Single Copies, 15 Cents

Vol. LX, No. 25 — 535 Dearborn [illegible], CHICAGO, ILL. — JUNE 21, 1913

## CONTENTS AND DIGEST

**The Treatment of Narcotic Addiction.** Alexander Lambert, M.D., New York ..... 1933

Reference to prior article. Responsibility of the physician. Importance of details of the treatment. Author's method as now practiced. Results. Scope.

**Animal Experiments with von Ruck's New Tuberculoproteins.** R. S. Cummings, M.D., Los Angeles..... 1936

The claims of Von Ruck's tuberculoprotein examined. Report of the author's tests on guinea-pigs. Conclusions.

**Accidents Following the Subdural Injection of the Antimeningitis Serum.** Simon Flexner, M.D., New York 1937

The reduction of mortality of meningitis by the use of serum. Accidents that may occasionally happen and their explanation. Reasons for rejecting Kramer's explanation by toxic action of phenolized serum. The question of anaphylaxis and of poisoning by a rapid dissolution of meningococci or excessive intracranial pressure as a cause. Reasons for thinking it probable.

**Experience with Over One Thousand Cases of a Form of Chronic Urethritis.** Sylvan H. Likes, M.D., and Herbert Schoenrich, M.D., Baltimore . 1940

Nervous and mental symptoms. Necessity of determining the nature of discharge and its causes. Granulations and infiltrations of the urethra. Meatotomy; the author's method.

**Cases of (Syphilitic?) Ulcer of the Bladder.** Irving Simons, B.S., M.D., Nashville, Tenn. ..... 1943

Rarity of the condition. Question of inherited specific disease in the case reported.

**Advanced Treatment of Puerperal Infection.** Robert T. Gillmore, M.D., Chicago ..... 1944

Definition of terms. Organisms causing the infection. Points to be specially observed. Technic for making autogenous vaccine. Causes of failure of vaccine treatment. Non-operative treatment of uncomplicated case. Operative treatment. Conclusion.

**Conservative Treatment of Some Aural and Nasal Conditions by Hot Air and Iodoform. A Simple and Practical Method.** Edward J. Brown, M.D., Minneapolis ..... 1946

**The Serum Diagnosis of Pregnancy.** Charles C. W. Judd, B.A., M.D., Baltimore ..... 1947

Desirability of early diagnosis. The use of serologic tests. The antitrypsin and complement-fixation tests. The meiostagmin and epiphanin reactions. Abderhalden test and description of his method.

**The Experimental Production of Pellagra in the Monkey by a Berkefeld Filtrate Derived from Human Lesions. A Preliminary Report.** William H. Harris, M.D., New Orleans..... 1948

(Continued on next page)

### PROCEEDINGS OF MINNEAPOLIS SESSION

Proceedings of First Morning's Meeting of House of Delegates. Reports of Secretary, Trustees, Judicial Council, Council on Health and Public Instruction, Council on Medical Education, Etc. ..... 1962

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.
Copyright, 1913, by the American Medical Association.

## News

For the convenience and comfort of our employees we have converted the roof of our new building into a

ROOF GARDEN

This open-air rest-room, high above the dust and heat of the street, we believe will prove of much benefit during the summer months.

*OUT TO-DAY*

HENRY B. WARD, STATE UNIVERSITY,

# June Murphy Clinics

"Dr. Murphy's method of teaching is so practical that an exact record of his clinics cannot fail to be of great value. These books are well up to date and full of valuable and useful suggestions."—*Journal American Medical Association.*

SAUNDERS, *Publishers*

SEE PAGES 3, 4, 5

## CONTENTS AND DIGEST—Concluded


Specific and Extreme Hyperleukocytosis Following the Injection of Bacillus Typhosus in Immunized Rabbits. Frederick P. Gay, M.D., and Edith J. Claypole, M.D., Berkeley, Cal...1950
Importance of hyperleukocytosis. How immunity may be increased.

Epidemic of Typhoid Due to Milk. Will Shimer, M.D., and W. D. McAbee, M.D., Indianapolis .....1950

Operating-Table for Rhinologists. Corydon G. Dwight, M.D., Madison, Wis. .....1951

Case of Urethral Calculus, Prostatic Division. D. Lee Hirschler, M.D., San Francisco .....1952
Demonstration of a roentgenogram taken of the calculus *in situ*.

Double Vulsellum Cervix Forceps. Hilbert F. Day, Ph.B., M.D., Boston.1952

Ascaris Lumbricoides as a Complication of a Surgical Operation. Mary D. Allen, M.D., Hamadan, Persia...1953
Ascaris found in pelvic abscess without evidence of connection with intestines.

Adhesive Support for Tension Sutures. C. L. Heald, M.D., Cedar Rapids, Iowa .....1954

The Radical Cure of an Unusual Type of Headache. T. J. Orbison, M.D., Los Angeles .....1954
Cure by excision of diseased ovarian tissue.

SPECIAL ARTICLE

Bacterial Vaccine Therapy. Its Indications and Limitations.....1955
Vaccines of single bacterial species. Staphylococcus vaccines. Streptococcus vaccines.

EDITORIALS

ORGANIC PHOSPHORUS COMPOUNDS: Their assimilation by the organism as inorganic phosphorus plus the organic radical with which the phosphorus is combined..1958

THE PROPOSED INTERNATIONAL CATALOGUE OF INCUNABULA: German plan to list all ancient tomes, including the medical.1958

OXALURIA: Our lack of knowledge as to the origin of calcium oxalate in the urine.1959

THE ORIGIN OF COMPLEMENT: Indications that the liver is concerned in the production of complement.....1960

Current Comment

METABOLISM STUDIES IN PELLAGRA: Results of the investigations by Myers and Fine .....1961

THE ASSOCIATION IN SESSION AT MINNEAPOLIS: Sixty-fourth annual session a most successful and enjoyable one...1961

MICROBIC SYMBIOSIS: Suggestion to bacteriologists from the stimulating effect of certain yeasts on lactic bacteria....1961

MEDICAL NEWS

CALIFORNIA: Personal — Summer Home for Tuberculous Children .....1967

COLORADO: New Officers—Personal....1967

DELAWARE: Sanatorium Dedicated — State Hospital Trustees Reorganize.....1967

DISTRICT OF COLUMBIA: Personal—Emergency Hospital Fund Assured.....1967

FLORIDA: Hospital Closes for Summer—New State Board .....1967

GEORGIA: Commencement—Examiners Hold Election — Personal — Merger of Atlanta Colleges .....1967

ILLINOIS: Sanatorium Opened—Resolutions Regarding Dr. Egan. Chicago: Alumni Meeting—Ice Commission Formed...1967

INDIANA: Hospital Reopened—New Officers —Personal .....1967

IOWA: Tuberculosis Hospital for Blackhawk County—New Officers—Personal....1967

KANSAS: Colleges Merge—Personal....1968

MARYLAND: Physician Exonerated—Gift to State Tuberculosis Association. Baltimore: Medical Certificates before Marriage .....1968

MASSACHUSETTS: Personal — Hospital Notes .....1968

MICHIGAN: State Board Election—Health Train to Tour State — New Staff for United Benevolent Association Hospital .....1968

MISSOURI: Secretaries Met at St. Louis, Not Joplin — New Officers — Personal. St. Louis: Cornerstone Laid—Commencement Exercises .....1968

NEW YORK: New Officers—Personal. New York City: Policy of Carnegie Foundation —Memorial to Bristow — Summer Campaign of Infant Salvation.....1969

NORTH CAROLINA: The Hookworm Work — Personal .....1969

OHIO: State Board Changes—Hospital and Dispensary Notes. Cincinnati: Flag Day Campaign—Forchheimer Memorial — Personal .....1969

PENNSYLVANIA: Commencement Week Clinics —Personal. Philadelphia: Baby Saving Show—Further Increase in Typhoid — Personal — Social Work in Insane Hospital .....1969

GENERAL: Anticancer Society — Suspension of Manila Medical Bulletin — Southern Railway Surgeons Meet — Vessels from Guayaquil Fumigated .....1969

FOREIGN: Malay States Medical Officer in the Canal Zone — Other Deaths Abroad .....1970

LONDON LETTER .....1970

PARIS LETTER .....1970

BERLIN LETTER .....1971

BUDAPEST LETTER .....1972

MARRIAGES 1973

DEATHS 1973

PROPAGANDA FOR REFORM 1974
Thiocol and Syrup Thiocol, Roche.
What Pharmacists Think of the Sarsaparilla Fetish.

CORESPONDENCE 1975
Sanitary Flood Survey.
Medical America Seen with Foreign Eyes.

QUERIES AND MINOR NOTES 1976
Articles on Medical Ethics.
The Spelling of "Anesthesia."
Prevention of the Dissemination of Measles.
Articles on Sewer-Gas and Its Effects.
Treatment of Vice Problem Abroad.
Articles on Fetal Membranes for Skin-Grafting—Formula of Carrel's Solution.

MEDICAL EDUCATION AND STATE BOARDS OF REGISTRATION

Coming Examinations—Wisconsin January Report .....1978

BOOK NOTICES 1978

CURRENT MEDICAL LITERATURE

American Medical Journals

Gastric and Duodenal Ulcer and Vascular Lesions—Effect of Change of Posture on Arterial and Venous Pressures—Budding and Other Forms in Trophozoites of Entamoeba Tetragena — Modified Wassermann—Therapeutic Value of Diuretin in Acute Experimental Nephritis—Giant-Cell Pneumonia—Diastolic Pressure in Aortic Regurgitation—Carbonic Acid in Alveolar Air .....1979

Bacterial Metabolism and Internal Medicine —Common Colds and Vaccine Therapy—Etiologic Factor in Carcinoma—Excessive Thickening of Thiersch Grafts—Influence of Contents of Pulmonary Artery on Experimental Pulmonary Tuberculosis.1980

Endothelioma of Lymph-Nodes—Biology of Tubercle Bacillus—Secondary Infection in Pulmonary Tuberculosis — Leprosy Bacillus .....1981

Value of Fresh Air in Schools and Hospitals .....1982

Foreign Medical Journals

Internal Secretions in Relation to Dermatology—Concussion of Spinal Cord—Albuminuria in Pregnancy—Thyroid and Alimentary Toxemia — Bacteriology in Cholera .....1983

Antimeningococcus Serotherapy in Gonorrheal Joint Disease—Efficacy of Emetin in Amebic Dysentery—Etiology of Rheumatoid Arthritis — Volkmann's Contracture of Hand—Counting Bacteria in Water .....1984

Inflammation of Tendon Sheaths with Concretions Resembling Rice—Jejunostomy—Cryptotoxic Properties of Blood-Serum—Treatment of Ozena—Operative Treatment of Wandering Kidney.....1985

Tumor in the Male Breast—Traumatic Neuroses—Vaccination against Diphtheria—Trypanosome and Spirochete Infection Occurs in the Lymph—Infectiousness of the Milk of Syphilitic Women—Varicella in Adults—Postoperative Fatality with Abnormally Narrow Aorta—Psychic Factors and Stomach Functioning — Liver Function in Scarlet Fever.....1986

Protection against Flies — Pollakiuria in Acute Infections—Tetragenus Infection—Primary Focus with Tubercolous Meningitis — Phrenocardia — Rhizomelic Spondylosis .....1987

The Sanatorium System versus Dispensaries in the Campaign against Tuberculosis — Bone and Joint Tuberculosis—Reaction to Tuberculin from Bovine Tubercle Bacilli in Children with Surgical Tuberculosis—Tubercle Bacilli in the Blood—Hair-Pin to Abort Furuncle .....1988

SOCIETY PROCEEDINGS

COMING MEETINGS .....2019

AMERICAN ASSOCIATION FOR CANCER RESEARCH .....2019

AMERICAN SURGICAL ASSOCIATION.....2022

MISCELLANY 2026

KNOCKS AND BOOSTS—TONICS AND SEDATIVES — AUTO SPARKS — BOOKS RECEIVED — THE PUBLIC SERVICE.....Adv. Page 20



LANG German-English MEDICAL DICTIONARY NEW EDITION Cloth, $5.00 P. BLAKISTON'S SON & CO. 1012 Walnut Street PHILADELPHIA

THIS IS THE SEASON of the year when Physicians are changing their location. It will pay you TO READ THE CLASSIFIED ADS. beginning on page 20. If you do not see what you want on these pages, this is the time to advertise for it.

*OUT TO-DAY*

# Norris' Gonorrhea in Women

This new work is one of the really important books of the year. Physician, surgeon, specialist, legislator, and sociologist—all will find it extremely valuable.



BILATERAL SALPINGECTOMY, OVARIAN CONSERVATION AND SUSPENSION OF THE OVARY AND UTERUS (ILLUSTRATION REDUCED)

First you get an intensely interesting Historic Narrative; then the Bacteriology and Pathogenesis, giving you the best cultural and staining methods. The chapters on *Sociology, Prostitution* and *Prophylaxis* are particularly timely and rich in practical suggestions. In them Dr. Norris gives you the relationship of gonorrhea to sterility and abortion; injury wrought in the destruction of the eye-sight of the new-born, etc. The *civic side* is very fully considered, giving you the various methods employed by the governments of Europe and the Orient for the limitation and suppression of the social evil, and the situation as it is to-day in the United States.

Both *operative* and *medicinal treatments* are taken up, including a noteworthy discussion of serum and vaccine therapies. A special chapter is devoted to the drugs used in treating gonorrhea, giving exact formulas, solutions, etc. The various clinical methods for the detection of gonorrhea and a comparative study of the results of treatment are given in comprehensive detail. A valuable feature in this chapter is the author's final summary of what he considers the proper therapeutic care of gonorrheal patients.

There is an extensive chapter devoted to Diffuse Gonorrheal Peritonitis (a subject comparatively little understood), and a chapter of extreme importance to every practitioner —Gonorrhea during Pregnancy, Parturition and the Puerperium.

Large octavo of 520 pages, illustrated. By CHARLES C. NORRIS, M.D., Instructor in Gynecology, University of Pennsylvania. With an Introduction by JOHN G. CLARK, M.D., Professor of Gynecology, University of Pennsylvania. Cloth, $6.00 net; Half Morocco, $7.50 net.

Order this work to-day

**W. B. SAUNDERS COMPANY, Philadelphia and London**

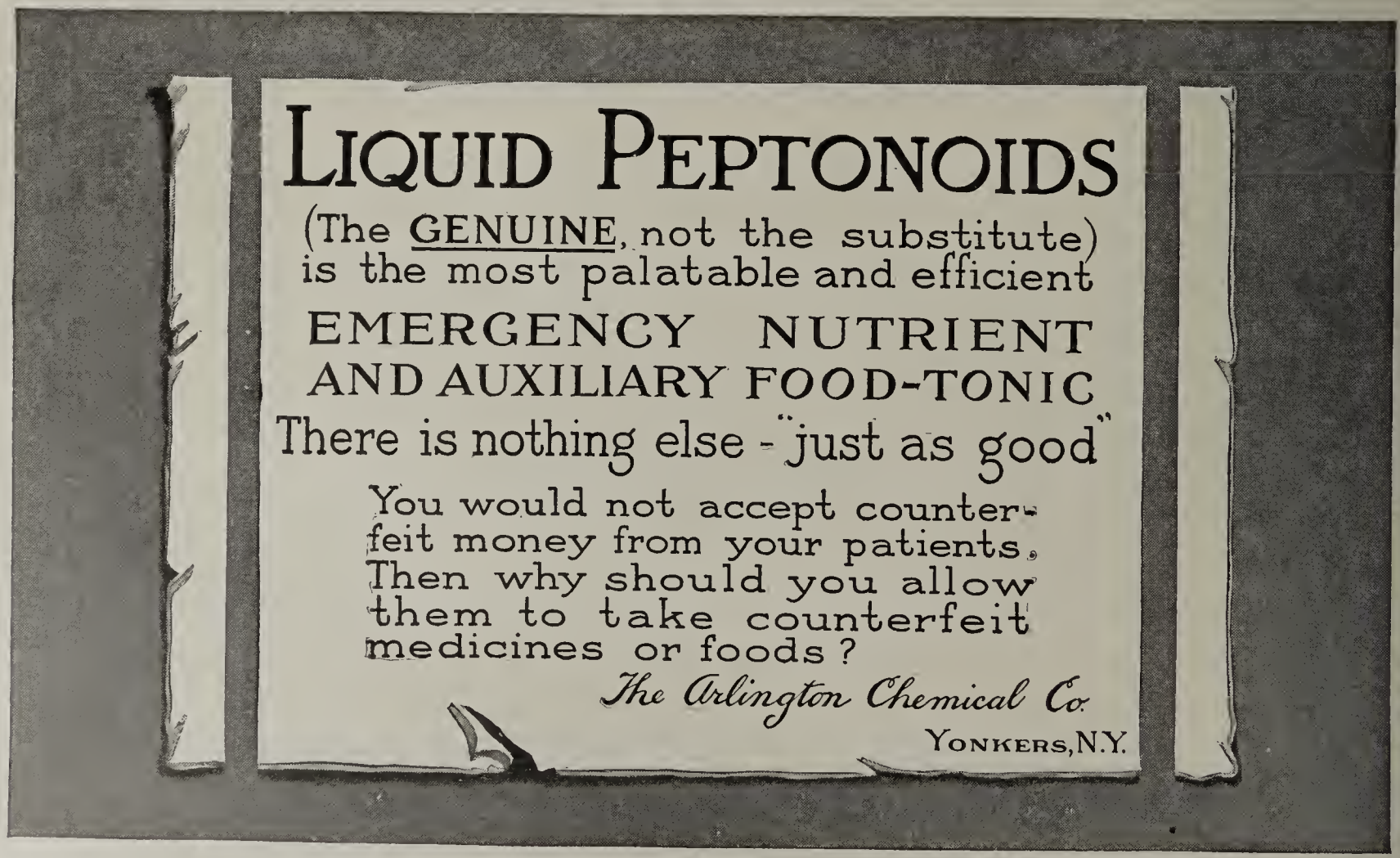
Canadian Agency: 406 Yonge St., Toronto

Australian Agency: Centreway, 263 Collins St., Melbourne

# LIST OF STATE MEDICAL SOCIETIES

Corrections will be appreciated. [A. M. A. officers listed here alternate issues]

| SOCIETY | PRESIDENT | SECRETARY | NEXT ANNUAL MEETING |
|---|---|---|---|
| Alabama, Medical Assn. of the State of.. | Robert S. Hill, Montgomery..... | J. N. Baker, 602 So. Perry St., Montgomery.. | Montgomery, 1914. |
| Arizona Medical Association..... | John E. Bacon, Miami..... | W. Warner Watkins, Phoenix..... | |
| Arkansas Medical Society..... | G. A. Hebert, Hot Springs..... | C. P. Meriwether, 309 S. Tr. Bldg., Little Rock | |
| California, Medical Soc. of the State of.. | Fitch C. E. Mattison, Pasadena.. | Philip M. Jones, Butler Bldg., San Francisco | Santa Barbara, 1914. |
| Colorado State Medical Society..... | J. A. Black, Pueblo..... | Melville Black, Metropolitan Bldg., Denver.. | Glenwood Springs, Oct. 7-9, 1913. |
| Connecticut State Medical Society..... | D. Chester Brown, Danbury..... | M. M. Scarbrough, 22 College St., New Haven. | 1914. |
| Delaware State Medical Society..... | L. A. H. Bishop, Dover..... | G. W. K. Forrest, 901 Jackson St., Wilm'ton | Dover, Oct. 13-14, 1913. |
| District of Columbia, Medical Society of.. | W. P. Carr, Washington..... | H. C. Macatee, 1813 Adams Mill Rd., Wash'on. | |
| Florida Medical Association..... | P. C. Perry, Jacksonville..... | J. D. Fernandez, Jacksonville ..... | Orlando, 1914 |
| Georgia, Medical Association of..... | Ralston Lattimore, Savannah..... | Wm. C. Lyle, Augusta..... | Atlanta, 1914. |
| Hawaiian Territorial Medical Society..... | W. G. Rogers, Honolulu..... | Wm. C. Hobdy, Honolulu ..... | |
| Idaho State Medical Association..... | J. W. Gue, Caldwell..... | Ed. E. Maxcy, Boise..... | Pocatello, Oct. 9-10, 1913. |
| Illinois State Medical Society..... | Charles J. Whalen, Chicago..... | W. H. Gilmore, Mt. Vernon..... | |
| Indiana State Medical Association..... | A. C. Kimberlin, Indianapolis.... | Chas. N. Combs, Terre Haute..... | West Baden, Sept. 25-26, 1913. |
| Iowa State Medical Society..... | Lee Wallace Dean, Iowa City.... | J. W. Osborn, Cit. Nat. B'k. Bldg, Des Moines | Sioux City, 1914. |
| Isthmian Canal Zone, Med. Assn. of.... | W. M. James, Panama..... | D. F. Reeder, Ancon Hosp., Ancon..... | 1914. |
| Kansas Medical Society..... | M. F. Jarrett, Ft. Scott..... | Chas. S. Huffman, Columbus..... | Wichita, 1914. |
| Kentucky State Medical Association..... | David O. Hancock, Henderson.... | Arthur T. McCormack, Bowling Green..... | Bowling Green, Sept. 2-4, 1913. |
| Louisiana State Medical Society..... | Fred J. Mayer, Opelousas..... | L. R. DeBuys, 141 Elk Pl., New Orleans.. | New Orleans, 1914. |
| Maine Medical Association..... | R. H. Marsh, Guilford..... | W. Bean Moulton, 622 Congress St., Portland | Portland, July 2-3, 1913 |
| Maryland, Medical and Chir. Faculty of.. | John R. Winslow, Baltimore..... | John Ruhräh, 1211 Cathedral St., Baltimore.. | 1914. |
| Massachusetts Medical Society..... | Walter P. Bowers, Clinton..... | Walter L. Burrage, 282 Newbury St., Boston | |
| Michigan State Medical Society..... | Walter H. Sawyer, Hillsdale..... | F. C. Warnshuis, 91 Monroe Av., Grand Rapids | Flint, Sept. 5-6, 1913. |
| Minnesota State Medical Association..... | Richard J. Hill, Minneapolis..... | Thos. McDavitt, 814 Lowry Bldg., St. Paul.. | Minneapolis, Oct., 1913. |
| Mississippi State Medical Association.... | L. C. Feemster, Nettleton..... | E. F. Howard, 1st Nat. B'k. Bldg., Vicksburg | Columbus, April, 1914. |
| Missouri State Medical Association..... | E. H. Miller, Liberty..... | E. J. Goodwin, 3525 Pine St., St. Louis.... | |
| Montana State Medical Association..... | W. P. Mills, Missoula..... | Herbert D. Kistler, Murray Hospital, Butte.. | Lewistown, 1914. |
| Nebraska State Medical Association..... | D. C. Bryant, Omaha..... | Jos. M. Aikin, 466 Brandeis Block, Omaha.. | Lincoln, 1914. |
| Nevada State Medical Association..... | M. R. Walker, Reno..... | Martin A. Robison, Reno..... | |
| New Hampshire Medical Society..... | Abram W. Mitchell, Epping..... | D. E. Sullivan, 7 No. State St., Concord.... | |
| New Jersey, Medical Society of..... | Norton L. Wilson, Elizabeth..... | Thos. N. Gray, E. Orange..... | |
| New Mexico Medical Society..... | L. S. Peters, Silver City..... | R. E. McBride, Las Cruces..... | Albuquerque, 1913. |
| New York, Med. Soc. of the State of.... | William F. Campbell, Brooklyn.. | Wisner R. Townsend, 17 West 43rd St., N. Y. | New York, 1914. |
| North Carolina, Med. Soc. of the State of | John P. Munroe, Charlotte..... | John Ferrell, Raleigh..... | Morehead City, June 17, 1913. |
| North Dakota State Medical Association.. | Murdock MacGregor, Fargo..... | H. J. Rowe, Casselton..... | Grand Forks, 1914. |
| Ohio State Medical Association..... | J. C. M. Floyd, Steubenville.... | J. H. J. Upham, 186 E. State St. Columbus | Cedar Point, Sept. 2-4, 1913. |
| Oklahoma State Medical Association..... | J. M. Byrum, Shawnee..... | Claude A. Thompson, Muskogee..... | Guthrie, 1914 |
| Oregon State Medical Association..... | R. E. Ringo, Pendleton..... | M. B. Marcellus, 901 Selling Bldg., Portland | Medford, Sept. 18-20, 1913. |
| Pennsylvania, Med Soc. of the State of.. | Lewis H. Taylor, Wilkes-Barre... | Cyrus Lee Stevens, Athens..... | Philadelphia, Sept. 22-25, 1913 |
| Philippine Islands Medical Society..... | R. E. L. Newberne, Manila..... | V. L. Andrews, Manila..... | Manila. |
| Rhode Island Medical Society..... | Alexander R. Briggs, Ashaway.... | J. Perkins, 106 Waterman St., Providence.... | |
| South Carolina Medical Association..... | William Weston, Columbia..... | Edgar A. Hines, Seneca..... | Florence, 1914. |
| South Dakota State Medical Association.. | C. E. McCauley, Aberdeen..... | R. D. Alway, 212 Main St., Aberdeen..... | |
| Tennessee State Medical Association..... | W. D. Haggard, Nashville..... | Perry Bromberg, 315 Jackson Bldg., Nashville | Memphis, April 14, 1914. |
| Texas, State Medical Association of..... | Marvin L. Graves, Galveston..... | H. Taylor, W. Nat'l Bank Bldg., Fort Worth | Houston, 1914. |
| Utah State Medical Association..... | A. J. Hosmer, Salt Lake City.... | W. Brown Ewing, 801 Boston Bldg., S. L. City | Salt Lake City, Sept. 23, 1913. |
| Vermont State Medical Society..... | B. H. Stone, Burlington..... | C. H. Beecher, Burlington..... | Burlington, Oct. 8-10, 1913. |
| Virginia, Medical Society of..... | Southgate Leigh, Norfolk..... | Paulus A. Irving, Farmville..... | Lynchburg, Oct. 21-24, 1913. |
| Washington State Medical Association.... | W. C. Cox, Everett..... | C. H. Thomson, Walker Bldg., Seattle..... | Everett, July 14-16, 1913. |
| West Virginia State Medical Association.. | Frank L. Hupp, Wheeling..... | A. P. Butt, Davis..... | |
| Wisconsin, State Medical Society of..... | A. J. Patek, Milwaukee..... | Charles S. Sheldon, 251 Langdon St., Madison | Milwaukee, Oct. 1-3, 1913. |
| Wyoming State Medical Society..... | Amos, W. Barber, Cheyenne..... | W. H. Roberts, Sheridan..... | Cheyenne, 1913. |

# Important New Books JUST READY

## DISEASES OF THE STOMACH

By GEORGE ROE LOCKWOOD, M.D.

Prof. of Clinical Medicine, College of Physicians and Surgeons, Columbia University; Attending Physician Bellevue Hospital, New York

**Octavo, 624 pages, with 126 engravings and 15 plates. Cloth, $5.50 net.**

It has been the author's intention to describe the diseases of the stomach as he has happened to see them, and to present these subjects from the standpoint of personal experience. For this purpose series of cases have been grouped and analyzed and the results noted. When the results have been at variance with the accepted teachings, the fact has been noted, and opposing views given free discussion. In the analyses of diseases of comparative rarity, the recorded cases have, as a rule, been read in full in the original articles and the statistics thus carefully worked out. These pages, therefore, reflect careful study of private and hospital case records and authentic histories in literature. The book may be described, in brief, as a fairly complete presentation of diseases of the stomach, as the result of many years of practice and observation of this special field. It is hoped that the general practitioner may find in it what he needs, and that the specialist may be interested in the author's views when they differ from those commonly accepted.—*From the Preface.*

## SURGERY OF THE EYE

A HANDBOOK FOR STUDENTS AND PRACTITIONERS

By ERVIN TÖRÖK, M.D. and GERALD H. GROUT, M.D.

Surgeon to the New York Ophthalmic and Aural Institute; Ophthalmic Surgeon to Beth Israel Hospital; Consulting Ophthalmologist to the Tarrytown Hospital

Assistant Surgeon, New York Ophthalmic and Aural Institute; Instructor in the Eye Department, Vanderbilt Clinic; Consulting Ophthalmologist, Bellevue Hospital.

**Handsome octavo, 507 pages, with 510 illustrations and 2 plates. Cloth, $4.50 net.**

The aim of the authors of this book has been to produce a thoroughly practical work on the surgery of the eye, one that would be equally valuable to the student and to the practitioner interested in ophthalmology. The following plan has been pursued throughout the book: First, before describing each group of operations, we have discussed the disease for the relief of which they are intended, and have given clear indications for the selection of the proper procedure in any given case. A detailed description of the steps of each operation then follows, with a list of all the instruments required. After this, the complications that may occur at the time of operation and later are taken up, together with the post-operative care of the patient.

We have included all operations in common use to-day and also others that in our personal experience have given good results. This experience comprises fifteen years of practical work in Budapest at the Royal Hungarian University Eye Clinic; in Berlin, and in New York at the New York Ophthalmic and Aural Institute. A special feature of the book is its wealth of illustrations, drawings and photographs, all new and original. These have been used unsparingly wherever it seemed that illustrations would elucidate the text. *From the Preface.*

## A TEXT-BOOK OF BIOLOGY

FOR STUDENTS IN MEDICAL, TECHNICAL AND GENERAL COURSES

By WILLIAM MARTIN SMALLWOOD, Ph.D. (Harvard)

Professor of Comparative Anatomy in the Liberal Arts College of Syracuse University.

**Octavo, 285 pages, with 243 engravings and 13 plates. Cloth, $2.75 net.**

This new work makes its appearance at a most opportune time. Most of the medical schools now require a knowledge of Biology for entrance, or include it as part of the preliminary instruction. An authoritative work, covering the essential points of the subject, and designed for students and especially for those entering upon the study of medicine, is therefore timely. It has been the author's purpose to demonstrate the principles involved, and so to construct his book, both in its text and illustrations, that the student is required to think for himself, and put himself in possession of the facts by his own observation. This system cultivates two very important characteristics—self-development and self-reliance, both of which are essential to success not only in college work, but also and especially in professional life. The information is imparted briefly and clearly, with abundant illustrations.

## HYGIENE AND SANITATION

A TEXT-BOOK FOR NURSES

By GEORGE M. PRICE, M.D.

Formerly Medical Sanitary Inspector, New York Department of Health.

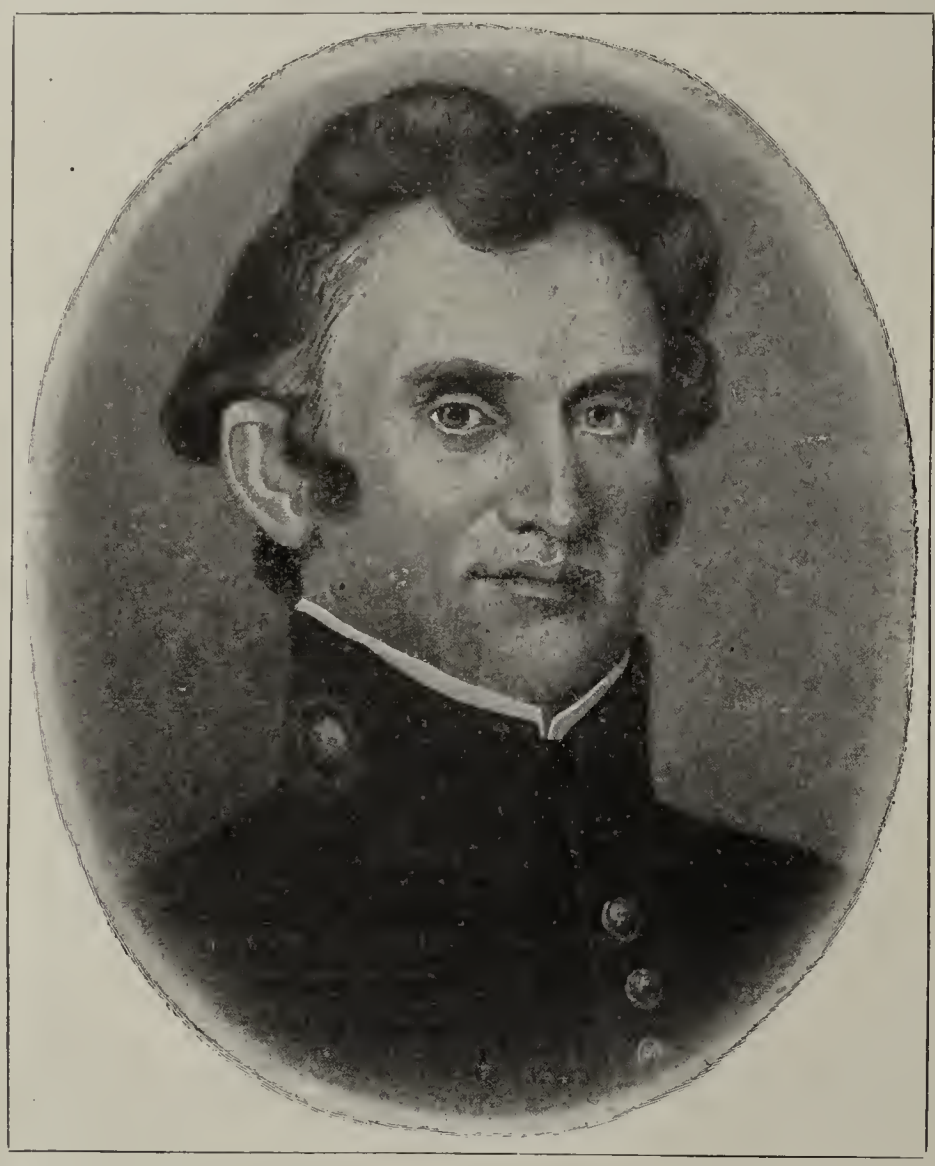
**12 mo., 236 pages. Cloth, $1.50 net.**

**Main Office**
**706-8-10 Sansom Street**
**PHILADELPHIA**

# LEA & FEBIGER

**New York Office**
**2 W. Forty-Fifth Street**
**NEW YORK**

# BIOGRAPHY OF A NOTED PHYSICIAN



## LIFE AND LETTERS

OF

## DR. WM. BEAUMONT

INCLUDING HITHERTO UNPUBLISHED DATA CONCERNING THE CASE OF ALEXIS ST. MARTIN

BY

**Jesse S. Myer, A.B., M.D.**

ASSOCIATE IN MEDICINE IN WASHINGTON UNIVERSITY, ST. LOUIS, U.S.A.

With an Introduction by
SIR WILLIAM OSLER, BT., M.D., F. R. S.

**320 Pages, 58 Illustrations. Price, $4.00**

**interestingly written—Beautifully printed**

## EXCERPTS FROM REVIEWS

¶ The book should be read by all who are interested in the struggles, disappointments and achievements of medical men. The author has done his work well and deserves the thanks of all physicians.—*Johns Hopkins Hospital Bulletin.*

¶ The result is a book that it is a real pleasure to welcome; for it constitutes a contribution of the first importance not only to the history of medicine in America but to the history of physiology. It will take its place among the classics in medical biography and merits the widest distribution possible.—*Journal American Medical Association.*

¶ The medical profession owes a debt of gratitude to Dr. Meyer for his careful and sympathetic study of one of the pioneers in medical physiology.—*The London Lancet.*

¶ The work is a model biography, in the preparation of which the author has gone to the original sources; and we have a picture drawn by a strong hand with admirable taste and judgment—*Journal Canadian Medical Association.*

¶ The book contains so many historical details, and is so well written that it is a source of satisfaction not only to the physician but to every cultured individual. —*Deutsche Medizinische Wochenschrift.*

¶ It is a fascinating biography and an important one in American medical history, giving as it does not only the life and work of one of our earliest and most indefatigable workers, but giving us side-lights on contemporary medical affairs and progress.—*Journal of the Michigan State Medical Society.*

¶ The long unfilled task of collection of these memoirs has at last been accomplished, and to Dr. Myer are the historian and the physician indebted to the completion of what appears to have been a most exacting task.—*Albany Medical Annals.*

## THE C. V. MOSBY COMPANY

MEDICAL PUBLISHERS

**801-806 Metropolitan Building ST. LOUIS, U.S.A.**

CUT HERE AND MAIL NOW

**C. V. Mosby Co.**
**St. Louis, Mo.**

Dear Sirs: Please send me one copy of "Life and Letters of Dr. Beaumont," Price $4.00.

Dr.....
Address.....
Town.....

The only work in English ever published which covers all communicable diseases.

# Preventive Medicine and Hygiene

By an author who is the recognized authority on infection and sanitation.

**By MILTON J. ROSENAU**
**Professor of Preventive Medicine and Hygiene, Harvard University**

## Preventive Medicine is the Most Vital Topic of the Hour

Hygiene and sanitation have taken such rapid strides forward that the subject of preventive medicine has become a specialty. Dr. Rosenau's work is the first in the English language to cover the broad field, based upon modern progress in the subject. He has collected widely scattered facts, most of which were inaccessible to the practitioner, and as a result his work is one of the most important of the year's publications.

## Dr. Rosenau Discusses Each Important Disease Separately

Each important communicable disease is discussed separately. Not only does Dr. Rosenau tell how to prevent those infectious diseases which can be prevented, but he also tells how to manage them and keep them from spreading. He goes carefully into the care of the patient while ill and the care during the infectious condition. He covers environment in its relation to health and disease and includes discussions of food, water, air, soil, disposal of wastes, vital statistics, diseases of occupation, industrial hygiene, school hygiene, disinfection, quarantine, isolation and other subjects of sanitary importance.

## The Author's Broad Experience is Shown on Every Page

From a scientific standpoint no man is better qualified to write this book than Dr. Rosenau. For twenty-three years he has been active in public health work, during which time he has served as quarantine officer in epidemic campaigns, in epidemiological investigations, and in public health laboratories, at home, on the Continent and in the tropics. His world-wide experience accentuates his fitness to write the book which can be accepted as the authority on the subject.

**1074 Pages with 157 Illustrations in the text - Cloth, $6.00 net.**

**MAIL THE COUPON NOW FOR YOUR VOLUME**

## D. APPLETON & CO., Publishers, 35 W. 32d Street, New York

**ORDER FORM**

**D. APPLETON & CO.**
**35 W. 32d Street, New York City**

Date_____

Please send me, carriage charges prepaid, Rosenau's Preventive Medicine and Hygiene, Cloth, $6.00 net.

NAME_____

ADDRESS_____

COUNTY_____ STATE_____

# WASSERMANN TEST $5.00

**COMPLEMENT FIXATION TEST, $5.00**
(For Gonorrhoeal Diagnosis)

**ABDERHALDEN SERUM, $5.00**
(Diagnosis of Pregnancy)

**Experienced clinical laboratory diagnosticians** analyze **every specimen** submitted to our laboratory for report. Our **special knowledge** and **years of practical experience** in this work are at the service of every practitioner at a reasonable fee. **Sterile containers** for Wassermann Test with hypodermic needle and all attachments, ready to collect the blood, and **explicit instructions** as to technic, mailed free to physicians.

We now have 4 consultation rooms for the use of the medical profession, where all minor operations can be made, including the administration of Neo-Salvarsan. A graduate nurse and a medical attendant are furnished in each case; also all instruments, sterile towels, gauze, etc.

Send for a copy of our *fee table of all analyses.* We assure you of *prompt service* and *absolutely exact reports.*

Physicians are invited to call at our office and laboratory to personally inspect our equipment and methods of work.

**National Pathological Laboratory**
(Mallers Bldg.) 5 So. Wabash Ave., Chicago

# NEW IMPORTATIONS

**Modern Wound Treatment and the Conduct of an Operation.** (1913.)
By Sir George T. Beatson, M.D. 106 pages; cloth.. **$0.80**

**The Hunterian Lectures on Color-Vision and Color-Blindness.** (1911.)
By Prof. F. W. Eldridge-Green. 76 pages; cloth.. **$1.50**

**Flatulence and Shock.** (1912.)
By F. G. Crookshank, M.D. 47 pages; cloth..... **$0.80**

**The Etiology of Endemic Goitre.** (1913.)
By Robert McCarrison, M.D. 216 pages; illustrated; cloth..... **$4.20**

**Miner's Nystagmus.** (1912.)
By T. Lister Llewellyn, M.D. 158 pages; illustrated; cloth..... **$2.40**

**The Bradshaw Lectures on the Biology of Tumors.**
By C. Mansell Moullin, M.D. 39 pages: cloth..... **$0.80**

*Send for our Complete Catalogue and Bulletins.*

## Chicago Medical Book Co.

Medical Book Sellers, Publishers and Importers
Congress and Honore Streets
CHICAGO

# SHERMAN'S Bacterins







39 DIFFERENT PREPARATIONS
Put up in 1 c.c. glass sealed ampules.
Package, 6 ampules, any variety, $1.50

**Dr. Sherman's New Book**
Devoted to the practical application of Bacterins. Cloth bound, 336 pages.

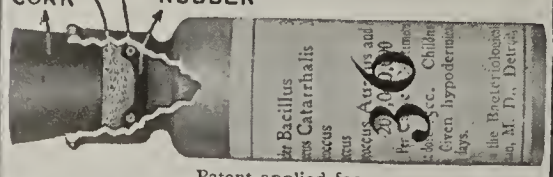
**Price, $1.50**

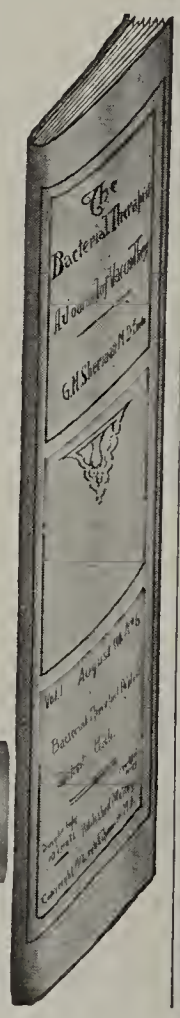
**The Bacterial Therapist**
A 24-page monthly journal devoted exclusively to Vaccine Therapy. Free for one year upon request.

**The Latest Development in bulk package**

ANTISEPTIC PACKING
METAL RING
RUBBER
CORK

**18 c.c. for $3.00**




Patent applied for

**G. H. SHERMAN, M.D.**
Write for Literature. DETROIT, MICH.
U. S. License No. 30

# DISTURBANCES OF THE HEART

BY

DR. OLIVER T. OSBORNE

**IT TELLS YOU—**

How to avoid secondary heart complications.
How to recognize signs of cardiac weakness.
How to differentiate valvular lesions.
How to determine the presence of auricular fibrillation.
How to foretell the probable course of cardiac diseases.
How to prescribe local and systemic remedies.

The common heart affections are discussed in the order of their importance and the signs, symptoms and treatment of each are systematically explained. Throughout the volume many practical hints are introduced.

**216 pp. Cloth. Price 75 Cents, Postpaid**

American Medical Association
535 North Dearborn Street
CHICAGO

# The Fourth of July and Tetanus.

Notwithstanding the antiseptic precautions ordinarily observed, tetanus from Fourth-of-July injuries is of common occurrence, seemingly trivial wounds not infrequently being followed by tetanic symptoms and fatal results.

Prompt subcutaneous injection of

## Antitetanic Serum, P. D. & Co.,

is suggested in all cases in which there is reason to fear that infection with tetanus bacilli may have taken place. In the treatment of suspicious injuries such injection is not only justifiable, but actually demanded by present methods of prophylactic therapeutics.

✦ ✦ ✦

**Antitetanic Serum, P. D. & Co.,** is prepared in our biological laboratories under strictly aseptic conditions. It is exactingly standardized. Its purity and potency are assured by an elaborate series of bacteriologic and physiologic tests.

Bio. 140. 1500 units in plain bulb, boxes of 3.
Bio. 141.* 1500 units in syringe container.
Bio. 142. 3000 units in syringe container.
Bio. 143. 5000 units in syringe container.
*Supplied on unspecified orders.

We also supply **Antitetanic Dusting Powder** for the treatment of wounds infected, or suspected of being infected, with tetanus germs. It is commonly used in conjunction with **Antitetanic Serum, P. D. & Co.** (Vials of 1 gram.)

✦ ✦ ✦

Druggists should be urged to have supplies of our **Antitetanic Serum** and **Antitetanic Dusting Powder** on hand for emergencies.

**Specify "P. D. & Co." on your orders.**

Home Offices and Laboratories,
Detroit, Michigan.

**PARKE, DAVIS & CO.**

Accepted by the Council on Pharmacy and Chemistry
American Medical Association

ANTISEPTIC **PHENOCO** DEODORANT

(EMULSIFIED PHENOL HOMOLOGUES)

# GERMICIDE

CONTAINS INERT MATERIAL 6% WATER

**Guaranteed "Hygienic Laboratory Phenol Coefficient" 15**

Phenoco is guaranteed to be a most powerful germicide and is invaluable for destroying the germs of contagious and infectious diseases. Although such a powerful germicide, Phenoco is only about one-half as toxic as Phenol, or in comparison with its germicidal action, one-thirtieth as toxic as Phenol.



As Phenoco has many and various uses in minor surgery, therapeutics and diseases of the skin, the physician is respectfully requested to consult our literature on the subject and to exercise his judgment as to the most suitable solution to use in each particular case.

***DIRECTIONS—To prepare solution pour cold or warm water on the fluid and stir well. Do not use boiling water***

Guaranteed by the WEST DISINFECTING CO. under the Insecticide Act of 1910. Serial No. 156.

Guaranteed by the WEST DISINFECTING CO. under the Pure Food and Drugs Act, June 30, 1906. Serial No. 1955.

*Write for Sample, Descriptive Literature and Case Reports*

## WEST DISINFECTING COMPANY

MANUFACTURING CHEMISTS

2 East 42d Street NEW YORK

# "LOOKOUT"

## For Lookout Absorbent Cotton, Gauzes and Bandages The Standard Products of Lookout Laboratories

The products of the Aseptic Cotton Products Company are completely sterilized and left free from the possibility of caustics, acids or alkalies being left in the fibre, which subsequently might come in contact with a wound and produce blood poison or irritation.

Our products are treated by a chemical compound, which can be taken into the stomach or placed on a fresh open wound without injury. By using the products of our laboratories the physician secures healing by its first intention and takes no chances of incurring septic infection or irritation of any kind resulting from the presence of impure and dangerous agencies in the fibre of the dressing. By our process not only the purity of our cotton and gauzes is guaranteed, but their absorbency is greatly increased. The natural soft elastic qualities of the fibre are left unchanged and the tensile strength of our bandages is not affected, leaving them strong, durable and elastic.

### ASEPTIC CARTON



We are the exclusive manufacturers of an aseptic carton containing absorbent cotton and surgical gauze, through which a portion of the contents may be drawn through a slot, and cut off without contaminating the contents of the package.

The manufacture of Lookout Absorbent Cotton, Gauzes and Bandages and our process of chemical purification of these products are under the direct personal supervision of our Mr. Oswald Frederick Rothe, who has devoted many years in Germany and America to a special study of bleaching cotton fibre and absorbent cotton.

## ASEPTIC COTTON PRODUCTS COMPANY

**CHATTANOOGA, TENN., U. S. A.**



**Hysteria** **Neurasthenia**

**IN**

# NERVOUS INSOMNIA

**Cardiac Neuroses** **Mental Strain**

## ADALIN

**Produces Refreshing Sleep Without By-Effects. Does Not Affect Heart.**

*Also an Efficient Sedative and Anaphrodisiac*

**PROFESSOR GUDDEN,** *Royal Psychiatric Clinic, University of Munich*: "From my extensive experiments I can recommend **Adalin** as a well-nigh ideal sedative and hypnotic for general neurological practice."—*Muench. med. Wochensch.*

***Adalin is sold in 5 grain Tablets, bottles of 25, as well as in Powder in ounces***

SAMPLES AND LITERATURE SUPPLIED BY

THE BAYER CO., Inc.

**P. O. Box 2162, 117 Hudson St., New York**

# IN PRESCRIBING MALTED MILK

**See that your patients obtain the**

## ORIGINAL-GENUINE

HORLICK'S MALTED MILK

## The Food-Drink For All Ages

**OTHERS ARE IMITATIONS**

The basis of "Horlick's" is pure, full-cream milk combined with the extracts of malted grain, reduced to powder form.

**HORLICK'S MALTED MILK COMPANY RACINE, WISCONSIN**

# HAY-FEVER!

*Its Antidote,*

## POLLANTIN

**DUNBAR'S SERUM THERAPY**

Powder
Liquid
Ointment

Its ten year history; great relief in most cases, complete in many, throughout attended by lessened susceptibility to hay fever after successive years use of the serum.

Is a logical treatment for reason of being the product of the toxin obtained from the goldenrod, ragweed and rye pollen injected into the blood of specially selected horses.

Is only placed on the market after complete response to certain applied tests made upon hay fever suspects, has been met.

The percentum of benefits derived from Pollantin, during this period of ten years, as compiled from the reports of thousands and more physicians, averaged eighty-five.

*Literature on Request*

**FRITZSCHE BROTHERS**
**NEW YORK**

# Arhovin

*Diphenylamine, Thymol Benzoate and Ethyl Benzoate in perfectly balanced combination.*

## INTERNAL GONORRHEAL THERAPY

Presenting the following advantages over santal oil and balsam preparations:

Much better toleration by the stomach and kidneys, even on prolonged administration.

Stronger anesthetic and sedative action upon the entire genito-urinary tract.

Absence of the undesirable breath odor.

*Dose: 1 to 2 capsules (each 4 minims) three to six times daily.*

*Complete clinical literature from*

**SCHERING & GLATZ New York**

# WATER AS A DIURETIC

It is doubtless true that in certain Kidney conditions a limit should be put on the consumption of water. But wherever free water drinking and free but mild diuresis is desired, and in many cases in which the urea elimination is below normal, we certainly believe that

## BALLARDVALE SPRING WATER

(Percentage of solids only $\frac{1}{500}$ of 1%)

will give ideal results.

## THE BALLARDVALE SPRINGS CO.

General Office

33 Lewis Wharf, Boston, Mass.

# Maltine

WITH

## Olive Oil and Hypophosphites

| | | | |
|---|---|---|---|
| Maltine . . . . . | 65% | Calcium Hypophosphite | 3 grains each |
| Pure Italian Olive Oil | 25% | Sodium Hypophosphite | per fluid ounce |
| Glycerin C.P. . . . | 10% | | |

*SAMPLES AND LITERATURE ON APPLICATION*

**THE MALTINE COMPANY**
**BROOKLYN, N. Y.**

DENNOS FOOD

## Is an Ideal Hot Weather Food for Infants

We have reports from physicians to the effect that, in their experience, *Dennos Food* gives the best possible results in over 90% of the cases, when prescribed, for vomiting and summer complaints of infants.

Many of the most prominent Baby Specialists and such a large number of general practitioners report remarkable success from the use of *Dennos Food* that we feel justified in making the broad claim that

**MILK AND DENNOS MODIFICATION CAN BE RECOMMENDED AS ALMOST A SPECIFIC FOR VOMITING AND SUMMER COMPLAINT OF INFANTS**

In diarrhœa yellow stools may be expected in 24 hours. Dennos is a fresh cow's milk modifier, preventing the lumpy coagulation of the milk casein. The process of modification destroys the germs.

*ADDRESS AS FOLLOWS FOR FREE SAMPLES AND LITERATURE*

**Dennos Food Co. of Portland, Ore. or 115 South LaSalle St., Chicago, Ill.**




CELESTINS

## VICHY

Bottled under the direct supervision of the FRENCH GOVERNMENT which guarantees Genuineness and Purity.

*CAUTION—So-called* **VICHY** *in Bulk or Siphon is not* **VICHY.**

IMPORTED ONLY IN BOTTLES

FRENCH REPUBLIC PROPERTY

**Known for many centuries as the BEST AND STRONGEST**

## Natural Alkaline Water

**Not Genuine without the word**

CELESTINS



**At the A.M.A. MINNEAPOLIS Meeting**

# *Apollinaris*

THE QUEEN OF TABLE WATERS

and

# APENTA

HUNGARIAN APERIENT WATER

**Were Exhibited in Space 34**

*APOLLINARIS AGENGY CO., 503 Fifth Avenue, NEW YORK*

# FARBWERKE-HOECHST COMPANY

**Pharmaceutical Department**

**Successors to VICTOR KOECHL & CO.** H. A. METZ, President **NEW YORK**

## ALBARGIN

**Antigonorrheic—Antiseptic**

A deeply penetrating combination of silver nitrate and gelatose for use in gonorrhea (alone or in combination with Novocain Nitrate). Experiments show that a 3% dilution kills gonococci in 10 seconds.

Samples will be sent to physicians mentioning the Journal A.M.A.

## PYRAMIDON

**THE Antipyretic and Anodyne**

A powerful febrifuge, without harmful effect on blood or organs. It may be prescribed without fear in acute or chronic nephritis. Especially indicated in typhoid fever, pneumonia, erysipelas and influenza.

## NEOSALVARSAN

## ORTHOFORM

**Local Anesthetic**

An antiseptic, non-toxic anesthetic and vulnerary, used only on broken surfaces and inflamed tissues. It can be applied locally as an analgesic to wounds of every description.

## SALVARSAN




## NOVOCAIN and L-SUPRARENIN SYNTHETIC Hypodermic Tablets

**THE NON-TOXIC SUCCEDANEUM FOR COCAIN**

Novocain is equally as efficient as a local anesthetic as cocain and is seven times less toxic. In combination with Suprarenin, the active principle of the Suprarenal gland, it offers an ideal local anesthetizing agent.



*The "Spensupport"*

This is not a corset, but a support pure and simple. Intended for those who do not wear corsets, or who must wear support day and night.

# MATERNITY SUPPORTS

These illustrations show two types of practical maternity supports.

## They are Comfortable and Economical

They have met with approval from hundreds of doctors because

they give uplift without injurious compression;

they are instantly adjustable to the changing figure;

they help support the spine, instead of placing an added strain on it.

The Spencer Supporting Corset is the ONLY CORSET in which the front steels or clasps cannot exert downward pressure on the abdomen.

*Write for information*

**SPENCER SUPPORTING CORSETS**
**NEW HAVEN CONNECTICUT**



*Spencer Supporting Corset*
*(Maternity Style)*

In the illustration, corset is open in front, but support is adjusted and doing its work.

# BORCHERDT'S
## MALT-OLIVE
WITH
HYPOPHOSPHITES
Entirely free from alcohol
THE ORIGINAL MALT AND OLIVE OIL PREPARATION

A concentrated digestive nutrient and reconstructive, especially indicated in convalescence, malnutrition and wasting diseases.

# BORCHERDT'S
## MALT SOUP-EXTRACT
FOR PREPARING DIRECTLY
KELLER'S MALT SOUP

BORCHERDT'S MALT SOUP-EXTRACT is a pure, highly concentrated BARLEY MALT EXTRACT combined with Potassium Carbonate as specified by Dr. Keller.

MALT SOUP, the finished food, obtained by combining MALT SOUP-EXTRACT with WHEAT FLOUR and MILK according to Dr. Keller's formula, is of the utmost value and is definitely indicated in the treatment of subacute and enteric catarrh in infants. Atrophic or marantic infants show marked improvement when given Malt-Soup where the simple milk modifications are not tolerated at all.

*Literature and sample upon request.*

**BORCHERDT MALT EXTRACT CO.**
217-219-221 N. Lincoln St. Chicago, Ill.

# BERTHE MAY'S
# CORSETS
## Designed by a Physician

Berthe May's corsets have solved the **Corset Problem** and are destined to eventually become the **Type and Standard of the Corset** for the Medical Profession.

**BECAUSE:**

—They are physiologically correct.

—They support the abdomen at all times instead of flattening and pressing it down like other corsets.

—They are designed, built and made to order for their own purpose.

—**They are Specialties.**

—**They are NOT Side Issues.**

—**They are NOT Adaptations of Ordinary Corsets,** like those put on the market by wholesale manufacturers to sell along with their ordinary lines.



Specially made for
**MATERNITY**
and general
**Abdominal Support**
**also for NURSING MOTHERS, GROWING GIRLS and ATHLETES.**

**PRICES FROM $5.00 TO $18.00.**
*SPECIAL TERMS TO PHYSICIANS and NURSES.*

*Write for Booklet No. 1 giving full information and photographic reproductions to*

**BERTHE MAY, MFR., 10 East 46th St., NEW YORK**

# BROMURAL

(Alpha-monobrom-isovalerylurea)

## SOOTHING THE NERVES AND ENCOURAGING SLEEP

Bromural has a pronounced sedative action upon the central nervous system restoring same to its normal functions. In simple wakefulness it thereby initiates the preliminaries for a healthy sleep, out of which the patient awakes refreshed and invigorated.

DOSE: As a Nerve Sedative: 5 grains or 1 tablet several times a day.
In sleeplessness: 10 to 15 grains or 2 to 3 tablets at bedtime.

Original tubes containing 10 tablets of 5 grains each.

FOR SALE BY
**MERCK & CO.**
**New York and St. Louis**

SAMPLES AND FULL LITERATURE FROM
**KNOLL & CO.**
**45 John Street, New York**

## "Honestly made pharmaceuticals"

That's the verdict of the physicians who have used our products longest and know them best.

We could not wish for a higher compliment, a better endorsement, or a firmer foundation upon which to base our invitation to **you** to put our products to the most crucial tests.

**Sharp & Dohme**
Chemists since 1860
**Baltimore**
**Chicago St. Louis New Orleans Atlanta Philadelphia**
**New York**

# Catgut Queries

NUMBER ONE

*"What does catgut sterilization mean to you?"*

With "VanHorn" Catgut

it means five (5) separate and distinct steps, each complete in itself.

*Three sterilizations before the tube is sealed and the Fourth and Fifth after sealing* in a steam sterilizer for one hour on different days at 25 pounds pressure.

It means that the surgeon who uses "VanHorn" Catgut can place absolute dependence on his sutures and ligatures, eliminating them once and for all as sources, not only of the ordinary bacteria, but also of the *extraordinary* such as tetanus and anthrax.

In a word, the painstaking surgeon can ask no greater protection—*there is none!*

VAN HORN & SAWTELL

NEW YORK, U. S. A. 15-17 East 40th St. AND LONDON, ENGLAND 31-33 High Holborn

# Sero-Diagnosis of Pregnancy

¶ This Laboratory is now fully equipped and ready to perform the new Serum Test for Pregnancy as originated by Abderhalden. Fee for this test ten dollars.

¶ We are also equipped to perform all types of research, microscopic and analytical work for physicians. Wassermann tests. Complement-fixation test for gonorrhoea. Auto-Vaccines prepared. Stock vaccines furnished. All investigations made by laboratory and clinical experts. Fee tables and instructions for sending specimens on application.

¶ We have established a separate department of instruction in all branches of Clinical Diagnosis. Write us for particulars.

| | |
|---|---|
| Wassermann Test for Syphilis | $10.00 |
| Urinalysis, chemical and microscopical | 1.50 |
| Widal Test for Typhoid | 1.00 |
| Tissues, pathological examination | 5.00 |
| Stock Vaccines, per dozen | 5.00 |
| Complement-Fixation Test for Gonorrhoea | 10.00 |
| Sputum and Smears | 1.00 |
| Blood Count and Hemoglobin | 3.00 |
| Differential Count or Malaria | 1.00 |
| Autogenous Vaccines | 10.00 |

## CHICAGO LABORATORY

8 N. State Street Tel. Randolph 3610, 3611

CHICAGO

RALPH W. WEBSTER, M.D., Ph. D., Director Chemical Department
THOMAS L. DAGG, M.D., Director Pathological Department
C. CHURCHILL CROY, M.D., Director Bacteriological Department

# The Confidence of Physicians

The continuously increasing use of Mellin's Food over a period of nearly fifty years fully justifies a claim of superiority. The composition of Mellin's Food, made known by analyses repeatedly given to the medical profession, the prompt response to all questions pertinent to the subject of infant feeding as far as Mellin's Food is concerned, the withholding of nothing relative to Mellin's Food and its use, have made accurate knowledge of exactly what Mellin's Food is, not only possible to secure, but very easy to obtain. Naturally this has won the confidence of physicians, as is shown constantly by their use of and preference for Mellin's Food as a means of modifying milk, not only for their baby patients, but also for their own infants.

Physicians who have thus far hesitated to become familiar with this scientific and rational method of milk modification, and who now have a desire to obtain information that would lead to a better understanding of Mellin's Food may address us with the assurance that such correspondence will receive prompt attention and be held confidential.

**Mellin's Food Company - - - Boston, Mass.**

# ARGYROL

(SILVER VITELLIN)

Has the property of allaying pain and other symptoms of inflammation.

Incidentally, its effects in eradicating germ-produced diseases has been proved **Clinically** by authorities, in thousands of cases during the past ten years.

These facts explain why Argyrol is considered, the world over, a superior remedy in the treatment of gonorrhea (injection of 10 per cent. solution every three hours); also in inflammations of the eye, throat, nose and ear (25 per cent. solution instillation or local application).

**Produced by**

## A. C. BARNES COMPANY

LONDON PHILADELPHIA SYDNEY

# MUDLAVIA

is gratified and highly honored by the confidence given it by thousands of prominent physicians of the United States, many of whom have personally inspected

**THE MUDLAVIA TREATMENT**

and all of whom know of its virtue, either through patients they have sent to us or through friends who have told of the benefits received. If your patients need

**GOOD CIRCULATION ELIMINATION**

**RELAXATION REST**

there is no institution where it can be secured so naturally and under such pleasing conditions as at Mudlavia.

Our relations with the physicians are ethical and confidential and we are always glad to receive their advice, give them ours, and keep in touch with them as to condition of patients they refer to us.

℞ Mudlavia Treatment.

Physicians are invited to write freely for advice or information to

**George F. Butler, A.M., M.D.**
**Medical Director Mudlavia**
**KRAMER, IND.**

# THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue Chicago, Ill.
Phone, North 884. Cable Address "Medic, Chicago"

*Subscription prices, per annum in advance, including postage: Domestic, $5.00; Canadian, $6.50; Foreign, £1 12s.*

Domestic rates include United States, Cuba, Mexico, Hawaii, Guam, Porto Rico, Canal Zone and Philippines.

SINGLE COPIES of this calendar year, 15 cents; of the previous calendar year, also 15 cents; two years old, 20 cents; three years old, 25 cents; in other words, 5 cents additional is charged for each year preceding the last calendar year.

REMITTANCES should be made by check, draft, registered letter, money or express order. *Currency should not be sent unless the letter is registered.* Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "AMERICAN MEDICAL ASSOCIATION."

VOLUMES begin January and July.

CHANGE OF ADDRESS notice should give both old and new address, and state whether change is *permanent or temporary*. Notice must reach us *ten days* in advance.

WHEN COMMUNICATIONS concern more than one subject—manuscript, news items, reprints, change of address, payment of subscription, membership, information wanted, etc.—correspondents will confer a favor and will secure more prompt attention if they will write on a separate sheet for each subject.

WARNING: Pay no money to an agent unless he presents a letter showing authority for making collection.

## ADVERTISEMENTS

Advertising forms go to press eight days in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs. No proprietary medicines can be advertised until approved by the Council on Pharmacy and Chemistry. Advertising rates will be sent on request.

## CONTRIBUTIONS

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

COPYRIGHT: Matter appearing in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is covered by copyright, but as a general thing, no objection will be made to the reproduction in reputable medical journals of anything in the columns of THE JOURNAL if proper credit be given.

CONTRIBUTIONS TYPEWRITTEN: Contributions should be typewritten—*double-spaced and with ample margins.* The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. *Used manuscript is not returned.* Manuscripts should not be rolled.

ILLUSTRATIONS: Half-tones and zinc etchings will be furnished by THE JOURNAL when satisfactory photographs or drawings are supplied by the author. Negatives are not acceptable. Each illustration, table, etc., should bear the author's name on the back. Photographs should be clear and distinct; drawings should be made in black ink on white paper. While we cannot guarantee to return used photographs and drawings, we use our best endeavors to do so after the article is published, if "return" is on the back of each.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send in items of news, also *marked* copies of newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

## "SUGGESTIONS TO AUTHORS"

This pamphlet of 27 pages, discussing the above-mentioned topics and many others, will be sent on receipt of 10 cents. It contains valuable information in regard to the preparation of articles for publication and the points which make an article acceptable.

## PRICE LIST

A Price List will be sent on request, describing the various publications of the


*(Continued on page 22)*


**State Board**
**ARMY and NAVY QUIZ**
Physicians prepared for the U. S. Army, Navy and Marine Hospital Services, and State Medical Examining Boards. Candidates instructed individually. For full particulars, address
H. LYONS HUNT, M.D., L. R. C. S. Edin.
412 West End Ave. NEW YORK CITY

**THE FOMON SYSTEM**
in preparation for
State Board, Hospital, Civil Service, Army and Navy Examinations.
*For full particulars, address*
L. P. KOZIE, Sec., - 1575 Ogden Ave., Cor. Madison St., Chicago, Ill.

**SEND SPECIMENS**
FOR DIAGNOSIS TO THE
Established 1893
**Columbus Medical Laboratory**
31 N. State Street, - Chicago, Ill.
*ALL KINDS OF ANALYSES*
DR. ADOLPH GEHRMANN, - - President

**Los Angeles Post Graduate School**
Quiz Classes Preparatory
**CALIFORNIA STATE BOARD**
(ORGANIZED AUGUST, 1902)
Regular nine weeks' sessions begin 4th Saturday January, May, September
*Also courses in:* Surgical and Applied Anatomy, Clinical Haematology, Bacteriology, Gynecological Pathology.
712 California Bldg., Los Angeles

Courses in Anatomy, Pathology, Diseases, Treatment, and Operative Surgery of the
**EAR, NOSE and THROAT**
Classes Limited. Courses begin
May 5 June 30 September 1
For information, address
ALBERT H. ANDREWS, M.D., 32 N. State St., Chicago

**X-RAY. HIGH FREQUENCY.**
Private, individual instruction in these branches in the office of a physician with a national reputation as an author, teacher and authority on technique.
Practical Work Suited to the Needs of the Student
Reasonable Terms
Address, DR. NOBLE M. EBERHART, 617 Cornelia Ave., Chicago

Thorough Private Course of instruction given in Radiography and Radiotherapy. Write for particulars.
W. I. LEFEVRE M. D.
Cleveland - Ohio

**A CLASSIFIED Advertisement** inserted in THE JOURNAL will be read by about TWO-THIRDS of the medical profession.


## BUSINESS OPPORTUNITIES

Advertisements under the following headings cost **$1.50 for 50 words or less,** additional words 3c. each.

| | | |
|---|---|---|
| WANTED | Partner | Sanitaria |
| Apparatus | Partnership | Drug Stores |
| Assistant | Situation | Locations for Sanit. |
| Books | FOR SALE | FOR RENT |
| Intern | Apparatus | EXCHANGE |
| Location | Practice | MISCELLANEOUS |
| Locum Tenens | | |

**RESULTS** are better when an advertisement receives several consecutive insertions, and to those who remit $6 ($6.25 if answers are to be sent through this office) for four insertions of a 50-word advertisement we will give, *free, two more insertions* provided the first four do not consummate a deal.

**NOTICE FOR FREE INSERTIONS.**—Two free insertions are given advertisers who have not closed a deal after four consecutive insertions. We cannot permit advertisers to order six insertions in advance unless six times the one time rate is paid. Notice for free insertions must be received after the fourth appearance of the advt. and within two weeks following.

**COUNTING WORDS.**—Two initials, each abbreviation, figures consisting of five numerals or less are counted as separate words. Headings, and name and address are part of advertisement. When answers are sent % AMA—the key, "Add ——%AMA" is considered four words. Count words carefully. Write your copy plainly.

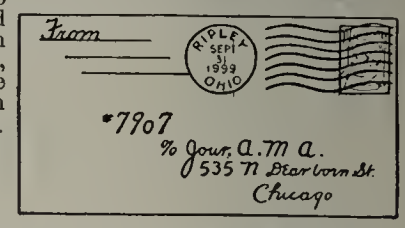
For the following classifications the rate is **$1.50 for 30 words or less**—additional words 5c. each. No gratuitous insertions given under these headings.

| | | |
|---|---|---|
| Abstracting | Medical Brokers | Med Illustrators |
| Automobiles | Educational | Vacation Trips |
| Auto accessories | Publishers | Typewriters |
| Carriages | Tr. Sch. for Nurses | Printers |
| Collections | Nurses Wanted | Salesmen |

Miscellaneous Commercial Advts.

**SPECIAL NOTE—A fee of 25c.** is charged those advertisers who have answers sent % AMA. Letters sent in our care are forwarded promptly.

Frequently, we receive requests to this effect: "Please send me the address and particulars regarding ads. No.——, No.——, and No.——." We are not permitted by advertisers who have their mail sent %AMA to furnish inquirers information of any kind, hence when you wish to correspond with such an advertiser, address the envelope in this manner.




**Classified ads. are Payable in advance**
**Rates for display ads. sent upon request**
For current issue, ad. must reach us by 4 30 p. m Monday.
**Journal A.M.A., 535 N. Dearborn St. CHICAGO**

N. B.—We exclude from our columns all known questionable ads. and appreciate notification from our readers relative to any misrepresentation.

## ASSISTANTS WANTED

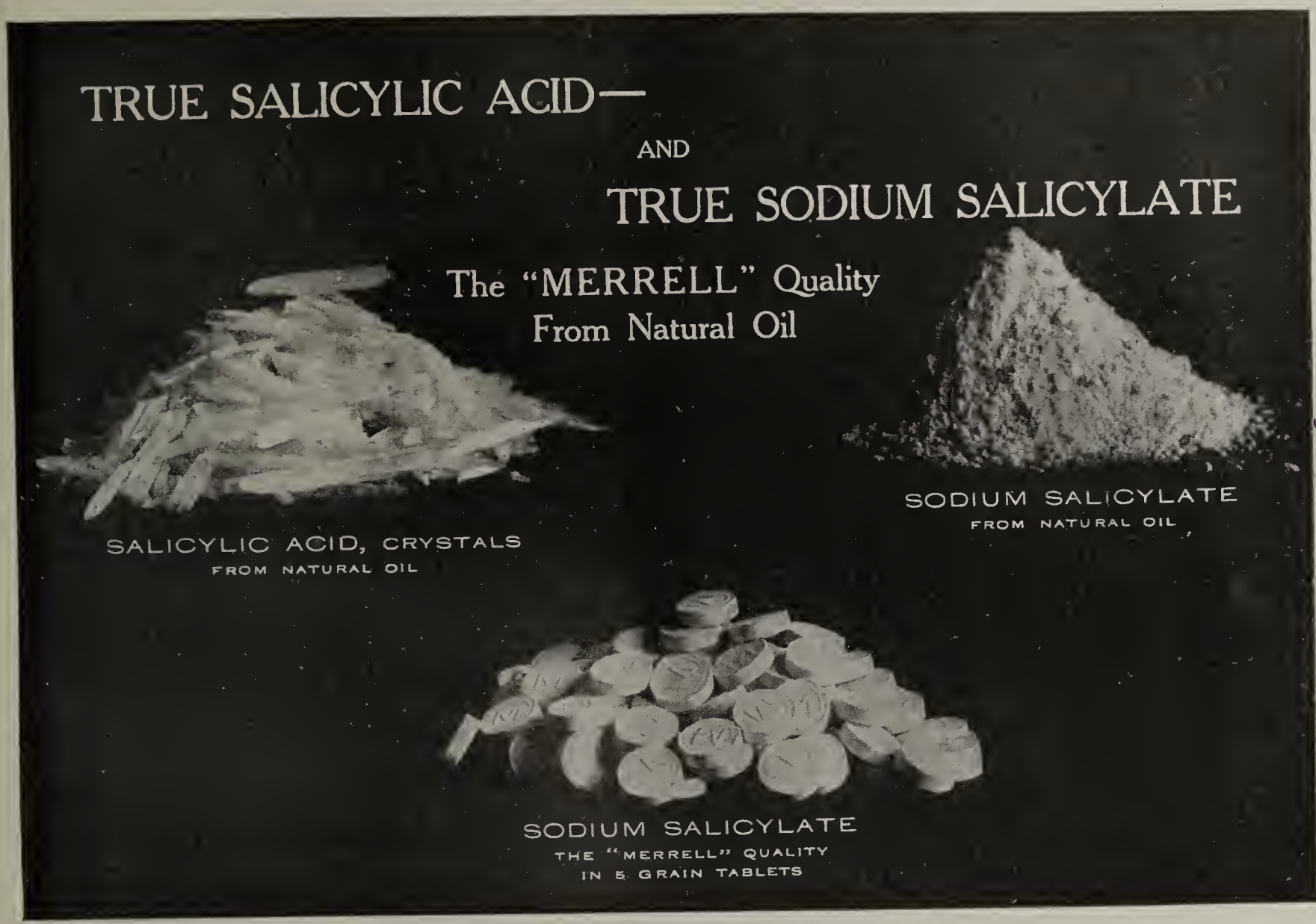
WANTED—AN ASSISTANT OR FOR SALE—Because of failing health am obliged to have an assistant or give up entirely my high-class general practice in one of the best cities of New York; educational advantages unsurpassed; in first letter give age, married or single, hospital experience and reason for wanting to make change. Add. 4854 B, % AMA.

WANTED — NURSE WITH EXECUTIVE ability and experience to take charge of tuberculosis sanatorium in Portland, Ore.; sanatorium accommodates from 30 to 40 patients; salary $75 per month, including board and laundry; illustrated pamphlet sent on request; in answering state qualifications, age, etc. Add. 4796 B, % AMA.

WANTED—STENOGRAPHER AND TYPIST; able to take medical dictation; state experience, salary expected and how soon available. Add. The Librarian, 46 Reed St., Asheville, N. C. B

WANTED—A GOOD ASSISTANT—SINGLE man and recent graduate; must be graduated from a Class A school; a man with hospital experience preferred; to assist a general practitioner in Iowa; give qualifications and personal description in first letter and save time; requires immediate action. Add. 4882 N, % AMA.

*(Continued on page 22)*




# True Salicylic Acid and True Salicylate of Sodium

In administering these important products the principal objects to be attained by the physician are

(1) To avoid irritation of the gastric mucous membrane. There is no question but that to obtain beneficial results the Salicylates administered must be acceptable to the stomach. It will tend to obviate any deleterious side effects of the remedy.

(2) To secure rapidity of absorption. In order to promptly reduce pain and fever this indication must be met. The liability to cardiac complications is greatly lessened by early and efficient dosage.

(3) Rapid excretion. This will reduce to a minimum any possible irritating or cumulative action which is particularly necessary in treating rheumatic patients for conditions which are prone to linger for long periods.

In the experience of many physicians NATURAL SALICYLIC ACID (MERRELL) and its SODIUM DERIVATIVE possess all the foregoing qualities to a superior degree. They enable the practitioner to get a large amount of a pure active Salicylate promptly into the circulation and in the least toxic yet most effective form.

Thousands of discriminating physicians, who watch the therapeutic effect of remedies which they prescribe, specify "MERRELL" on their prescriptions—to insure their patients securing true salicylate from natural oil.

ACID SALICYLIC—true-Merrell. Sold in crystals only. SODIUM SALICYLATE—true-Merrell. Sold in powder and tablets.

Our literature is interesting and will be mailed on request; also sample, True Salicylic Acid or Sodium Salicylate.

## THE WM. S. MERRELL CHEMICAL CO.

**502 East Fifth Street, - - CINCINNATI**

## A. M. A. ANNOUNCEMENT

*(Continued from page 20)*

Association; for example: Guide to Current Medical Literature, American Medical Directory, Handbook of Therapy, Laws Regulating Practice, New and Nonofficial Remedies, Nostrums and Quackery, Pamphlets on Defense of Researeh, Great American Fraud, Propaganda for Reform in Proprietary Medicines, Pamphlets on Medical Fakes and Fakers.

**ARCHIVES OF INTERNAL MEDICINE**
Monthly, $4 a year; to JOURNAL subscribers, $3. Single copy, 50 cents.

**AMERICAN JOURNAL OF DISEASES OF CHILDREN**
Monthly, $3 a year; to JOURNAL subscribers, $2. Single copy, 30 cents.

**GUIDE TO CURRENT MEDICAL LITERATURE**
Semi-annual. 50 cents a copy, $1.00 a year. An index medicus of the world.

*AMERICAN MEDICAL ASSOCIATION,*
535 DEARBORN AVENUE, CHICAGO

# *Knocks and Boosts*

DESERVES WIDE CIRCULATION

Information is given on many well-advertised nostrums and compounds, the analyses of which show that they are harmful to the system and ought never to be taken indiscriminately. A great deal of information is given in the articles reprinted, and it would be a good thing if the book ("Nostrums and Quackery") could have a wide circulation. —Utica (N. Y.) *Press.*

—o—

PUZZLE: WHY DOES THIS MAN SQUEAL?

The editorial [April 5, 1913, p. 1080, entitled "Doctors in Times of Peril"] exhibits the smallness and pusillanimous soul of the writer. For contemptible and low spirit it eclipses anything we have ever read in a scientific journal for many months. It is a fair example of the methods used by the clique in controlling the A. M. A. in crushing all opposition to its methods. We doubt if the political demagogue and ward trickster would stoop to such methods. No man of high ideals in life either intellectually or morally would allow himself to give expression to such thoughts. —W. N. Mundy in the *Eclectic Medical Journal.*

—o—

AN INTERESTING VOLUME

The American Medical Association, which has been conducting a vigorous campaign against "nostrums and quackery," has published an interesting volume entitled "Nostrums and Quackery," containing reprints of articles appearing in THE JOURNAL of the American Medical Association, exposing frauds practiced on the sick.—Niagara Falls (N. Y.) *Gazette.*

—o—

SECURITY AND PROTECTION

*To the Editor:*—Without THE JOURNAL I would feel like a pilot without compass or chart. I know that it has no motive other than the welfare of the people and the physicians; that it is not subsidized; that it attacks "fads and fakers," whether large or small. You have no idea of the sense of security and protection it gives the praetitioner to know that this great JOURNAL is of and for him.

A. M. Wood, M.D., Lentner, Mo.

—o—

TO MEET THE OCTOPUS HALF WAY

In very many of the states at the present time, representatives from the American Medical Association are introducing bills, calculated to abridge the rights of every physician who does not belong to that Association. The Owen bill caps the climax, and that will be persisted in until it is passed, unless the physeians of America unitedly protest against it.

There are 35,000 physicians in the American Medical Association and 140,000 in the United States. Is it just or right that a body of physicians should be dictated to by one-fourth of its members? The three-fourths are sitting supinely by, the individuals making a little effort here and there, but accomplishing nothing.

It is my opinion that there should be a society formed at once comprised of all of

*(Continued on next page)*


**WASSERMANN TEST $5**
**(INCLUDING NOGUCHI CONTROL TEST)**

All other laboratory examinations for a reasonable fee.
Send for fee list and containers.

**PACIFIC WASSERMANN LABORATORIES**

| San Francisco | Oakland | Los Angeles |
|---|---|---|
| Pacific Bldg. | Physicians Bldg. | California Bldg. |

**Wassermann Laboratory**
**2159 Madison St., CHICAGO**

Alcoholic Luetic Liver Extract and Amboceptors furnished. Wassermann Test, Autogenous Vaccines, Pathological Specimens examined. Intravenous Gravity Outfit.

**GUINEA PIGS FOR SALE**

*Free Instructions how to do the Wassermann Test.*

**EVERY PHYSICIAN**

in his own office, can prove to his own satisfaction by a simple but unique and convincing demonstration,

**THE TUMBLER TEST**



which attracted keen interest at Minneapolis, the non-absorbent and protective quality (and by this comparison with other powders the superiority) of

**PULVOLA—"The Doctors' Baby Powder"**

and general toilet, face and foot powder—each unaffected by exuding or extraneous moisture; also for like virtues of

**DOLOMOL**

and its combinations—a line of

**22 Independent Stearates**

on a neutral base (magnesia, not zinc) giving an absolutely non-absorbent, bland, adherent but non-crusting "dry ointment"—a dusting powder and more. The leader of this line, a

**DRY, WHITE ICHTHYOL**

is preferred to other forms of this medicament because odorless, tasteless, cleanly, convenient, yet of highest efficiency—especially in leg ulcers, bed sores and all chronic or refractory skin lesions.

Send for samples, literature and special price to physicians

**PULVOLA CHEMICAL CO., Inc.**
**114 Linden Ave., JERSEY CITY, N. J.**




*The Aldine Hotel*

*Chestnut St., above 19th*
*PHILADELPHIA, - PA.*

Is situated in the centre of the most select and exclusive residence section of the city, and is convenient by car line to the shopping district, the theatres and railway stations. Its accommodations, service and special conveniences are of the very best.

*American and European plans*

W. F. PERRY, Manager


*(Continued from page 20)*

WANTED—AT MASSACHUSETTS CHARitable Eye and Ear Infirmary, 233 Charles Street, Boston, Mass. There is a vacaney in the aural house staff at this institution. The service in the aural department is of 18 months' duration, with residence in the hospital during the last twelve months. The number of patients treated in the wards last year was 3,520; 1,646 eye, 1,874 ear. The number of new patients was 28,447. The total outpatient attendance was 58,255. By these figures some idea can be obtained of the clinical opportunities offered. Examinations will be held at the Infirmary, Thursday, July 10, 1913, at 10:30 a. m. Farrar Cobb, M.D., Superintendent. B

WANTED—GENERAL PRACTITIONER, 44 years of age, of Williamstown, Mass.; a graduate of Williams College and Columbia University Medical School, New York City, wishes to obtain an assistant on a salary, the idea being to gradually develop a partnership; as this physician has had a year and a half experience as medical intern in the New York Hospital and a year as resident physician to the Nursey and Child's Hospital of New York City, he would prefer the applicant to have had a surgical training in a good hospital and to have sufficient knowledge of nose, throat and ear diseases to take that branch of the work; Williamstown is a college town of 4,000 inhabitants and requires a physician of gentlemanly instincts and more than ordinary ability. Add. 4849 B, % AMA.

WANTED — A WELL-KNOWN ORTHOpedic manufacturing company desires a physician to take charge of a part of their business; will pay $25 to $35 a week for right man, who must invest at least $1,000 in business; investment will bring very profitable returns. 310 Kentucky Title Bldg., Louisville, Ky. B

WANTED—IMMEDIATELY —ASSISTANT to eye, ear, nose and throat specialist; large office and hospital practice in New England city 125,000; recent graduate of first-class eye and ear hospital; capable of assisting in operative work and a good refractionist desired; liberal salary; personal interview required; fully state qualifications in first letter. Add. 4820 B, % AMA.

## LOCATIONS WANTED

WANTED—TO BUY A FIRST-CLASS LOcation in Indiana, Kentucky, Tennessee, Ohio or South Carolina; must be good business and best of roads; have money to buy real estate that suits; town of 2,000 to 5,000; would like town offering opportunity to do eye and ear work with general. Add. 4873 E, % AMA.

WANTED — LOCATION IN NEVADA— Regular graduate A1 college; ten years' experience in general and hospital work; good reference in regard to ability and character; give details in regard to competition, amount of practiec, price and terms, if it involves real estate and equipment. Add. Box 57, E. E. P. O., Pittsburgh, Pa.

WANTED — WISCONSIN LOCATION BY American physician of experience; no real estate; give detail particulars in first letter; might consider short term partnership with physician about to retire. Add. 4891 E, % AMA.

WANTED—I WILL PAY $100 TO ANY one who is the means of me getting a good paying contract practice; graduate first-class medical school; one year hospital, 4 years' practice; aged 30; American, single; highest credentials; will go anywhere; no triflers considered. Add. 4872 E, % AMA.

WANTED — TO PURCHASE DESIRABLE town or city practice in Connecticut, Rhode Island or Massachusetts; prefer to rent real estate for the present; pay bonus for information of desirable location if accepted; good schools, roads essential; have A1 credentials and several years' experience; give details. Add. 4879 E, % AMA.

WANTED—TO BUY BUSINESS OR LOcation in city of 25,000 or more; Chicago or suburbs; can buy real estate; would buy hospital or sanitarium or an interest in one; competent and experienced; prefer Illinois, but can go elsewhere. Add. 4813 E, % AMA.

*(Continued on next page)*

## KNOCKS AND BOOSTS

*(Continued from preceding page)*

the schools of medicine for protection against this octopus, the society not designated by any sectarian title. This body could be made up of the 105,000 who do not belong to the American Medical Association.

To accomplish this it will be necessary for the closest cooperation to exist between the physicians who call themselves regulars outside of the American Medical Association, the homeopathists the Eclectic physicians, osteopaths and medical or surgical healers of every school or class who are authorized by the state health boards to practice medicine, including only and absolutely, qualified men.

It will be an enormous undertaking, but unless we are so united, we have little hope of preserving our future rights, and by this means we can force justice on the hitherto uncontrolled dictating powers.—*Ellingwood's Therapeutist.*

## *Tonics and Sedatives*

DOING THE BEST

"I do the very best I know how; the very best I can; and I mean to keep doing so until the end. If the end brings me out all right, what is said against me won't amount to anything. If the end brings me out wrong, ten angels swearing I was right would make no difference."—Abraham Lincoln.

—o—

STUDENT HAD AN ANSWER READY

Dr. E. P. Lyon of St. Louis University reports that a freshman student recently gave the following answer to the examination question: "What is the significance of Goltz' tapping experiment?" Answer: "The importance of this experiment was recently demonstrated by an obscure physiologist on one McCarthy, champion heavy-weight. The heart was stopped by a blow on the abdomen."

—o—

THE MEDICINE THAT PEOPLE TAKE

The following quotation from the *Therapeutic Digest* illustrates the ability of some persons to talk quite a little without saying anything:

"I know that pure unadulterated medicines that are not poison will cure diseases, and no other medicines will cure chronic cases. I find no use for even the doubtfuls, and those known to have a deadening effect on tissues of the body. I never employ, no, not even the old reliable quinin, that contracts the heart and arteries. None of my patients fell dead suddenly; nor did one ever have dropsy. Therefore, I have reason to know that it is the medicinie that people take that causes those conditions that are so incurable to come upon poor ignorant people that are like young birds in the nest who just open their mouths and swallow. If all murderers were put in the penitentiary people would live longer.

Emily J. Davis, M.D., Marion, Ind.

## *Books Received*

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

ACUTE POLIOMYELITIS (HEINE-MEDIN'S DISEASE). By Dr. Ivan Wickman. Authorized English Translation by Dr. J. William J. A. M. Maloney, F.R.S. Nervous and Mental Disease Monograph Series, No. 16. Paper. Price, $3. Pp. 135, with illustrations. New York: The Journal of Nervous and Mental Disease Publishing Company, 1913.

A TEXT-BOOK OF MIDWIFERY. For Students and Practitioners. By R. W. Johnstone, M.A., M.D., F.R.C.S., Assistant to the Professor of Midwifery in the University of Edinburgh. Cloth. Price, 10 shillings, 6 pence net. Pp. 485, with 264 illustrations. London: Adam and Charles Black, 1913.

VACCINE AND SERUM THERAPY. Including also a Study of Infections, Theories of Immunity, Specific Diagnosis and Chemotherapy. By Edwin Henry Schorer, B.S., M.D., D.P.H. Second Edition. Cloth. Price, $3.

*(Continued on next page)*

LABELS AND STATIONERY
OUR STYLES ARE ORIGINAL

Many of our customers have dealt with us for 12 years. There's a reason. **JACOBUS PRINTING COMPANY,** 1627 Madison St. CHICAGO. Send for Catalogs Now

**Stationery** For Professional Men—Letterheads envelopes, etc., for physicians, druggists, dentists. Finest quality *Engravureprint* process at about one-half the price of ordinary printing. Portfolio of samples and price-list sent free upon request. Write for them *today!*

**Eugene Smith Co., 151 Fox St., Aurora, Ill.**

**SPECIAL EDITION $1.60**

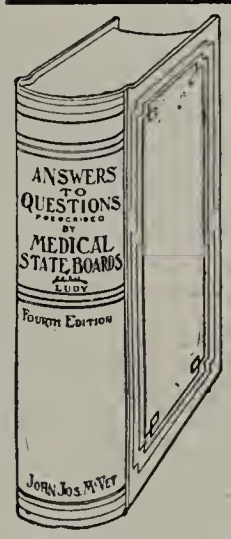
**Sex Hygiene for the Male**

by

**G. Frank Lydston M.D.**

Price reduced from $2.25 to $1.60 post paid. Mail orders only.

**Riverton Press, 626 So. Clark St., Chicago**




**Answers to Questions**
**— PRESCRIBED BY —**
**Medical State Boards**
BY
ROBERT B. LUDY, M.D.

Fourth edition, 8vo, 776 pages; price, $3.75 net, prepaid.

Only original state board book, not an imitator. Has real questions asked, with accurate answers by specialists.

**JOHN JOS. McVEY, Publisher**
**1229 Arch Street, Philadelphia. Pa.**

**PRINTING**

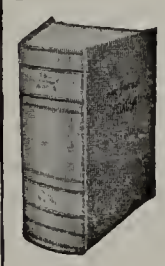
**Better than Ordinary, at an Ordinary Price**

**FOR $5.50** We will print to your order and ship to you, charges prepaid, any 3 of the following items:

| | |
|---|---|
| 1000 Blanks (bks of 60) | 2000 Gum Labels |
| 500 Receipts (bks. of 100) | 500 Cards |
| 1000 Drug Envelopes | 250 Letter Heads |
| 500 Envelopes | 500 Note Heads |
| 300 Announcement Cards and Envelopes | 500 Bills |

This work is printed on fine linen paper and looks like high priced engraved work.

There are no strings to this proposition. Pick out the three items you want and send us your copy; we will get the work out promptly and ship to you, charges prepaid. Examine it—if you find it satisfactory in every way mail us a check; if not, return at our expense. We assume all risk of pleasing you. Send for our samples; they are of good taste and style and we guarantee to make your job the same.



**PRESERVE YOUR JOURNALS**

Best and most satisfactory home binder on the market. **The Simplex BINDER** presents the handsome appearance of a bound book, and your office attendant can do the work in a few minutes each week.

**This Binder for The Journal A. M. A.—60c. each**

Postage 15c. each additional. Six binders sent by prepaid express for $3.50. *Send for catalog of binders for other publications.*

**S. J. MATHERSON, 818 W. 35th St., CHICAGO, ILL.**

*(Continued from preceding page)*

WANTED—CONTRACT, LIGHT OR UNopposed general practice in Florida, Georgia or any state reciprocating with Georgia; university graduate; two years' general practice and hospital experience; age 30; I would consider partnership, assistantship or salaried position with opportunities of advancement; give all particulars; can come at once. Add. 4675 E, % AMA.

WANTED — LOCATION IN TOWN OF 2,000 to 4,000, Illinois, Indiana or Ohio preferred; am 1912 graduate of Class A medical school and have just finished one year's service in a Chicago hospital; will consider real estate; proposition must bear investigation. Add. Lock Box 24, Tuscola, Ill. E

WANTED—VIRGINIA, WEST VIRGINIA or Ohio; established general practice in town not less than 500, with good schools, good surrounding country and good roads; practice must pay not less than $3,500 per year; will buy real estate; have money and mean business; graduate Class A school; would consider partnership. Add. 4776 E, % AMA.

### LOCUM TENENS WANTED

WANTED—A PHYSICIAN LICENSED IN Kentucky, who will enjoy a short stay in mountains to take charge of practice at band sawmill for one month; will pay $50 with board and everything necessary. Add. F. H. Lukin, M.D., Meek, Johnson Co., Ky.

WANTED — LOCUM TENENS OR PURchaser; one of the best country practices in Missouri; good schools, churches, lodges, etc.; one very weak competitor; drugs, office furniture, etc., $200; probably will not return; if I do will return purchase price; give personal description; poor health reason; near St. Louis. Add. 4887 F, % AMA.

WANTED—LOCUM TENENS — PHYSIcian to care for unopposed country practice in Connecticut during summer; splendid opportunity for recent graduate; single or married, to have an outing in country; good practical experience and make something besides; must be registered in Connecticut or take examinations July 8; particulars. Add. 4878 F, % AMA.

### PARTNERS WANTED

WANTED—YOUNG GERMAN PHYSICIAN to associate himself with me in practice with view to assuming the practice in few months. I have post-graduate work and other business that will take most of my time for months. Will locate in larger place later. Will make good deal with right man. Everything furnished, no real estate; 100 miles from Chicago. Add. 4886 G, % AMA.

WANTED—PARTNER — ONE-HALF INterest in my practice; must register in Montana; practice averages $5,000 cash; will guarantee $250 monthly cash; must be able to do major surgery; price, $2,500; one-third cash, balance can be paid as you earn it; do not answer unless you mean business. Add. 4835 G, % AMA.

WANTED BY A SURGEON—A RECENT graduate from regular school of good standing, to do internal medicine and laboratory work; must be able to make use of laboratory methods pertaining to diagnosis and treatment; partnership considered; state age, when, where graduated in first letter; best references required; money not essential. Add. 4859 G, % AMA.

### PARTNERSHIP WANTED

WANTED — PARTNERSHIP — MAN 33, former intern in large eye and ear hospital; large experience in refraction and ophthalmic surgery, including cataract extraction, iridectomy, advancement and extirpation of lacrimal sac; large experience in tonsil enucleation and adenoidectomy; moderate experience in nasal and mastoid surgery; actively engaged in eye, ear, nose and throat practice exclusively, wishes to become associated with busy specialist who is desirous of relinquishing part of his practice by transferring some of the branches to another man; best of references as to character and ability furnished; answer desired from none except men of good standing who are located in cities of more than 25,000. Add. 4892 H, % AMA.

*(Continued on next page)*

## BOOKS RECEIVED

*(Continued from preceding page)*

Pp. 300, with illustrations. St. Louis: C. V. Mosby Company, 1913.

TEXT-BOOK OF GENERAL PATHOLOGY. By Various Authors. Edited by M. S. Pembry and J. Ritchie. Cloth. Price, $5 net. Pp. 773, with 40 illustrations. New York: Longmans, Green & Co., 1913.

INTERSTITIAL GINGIVITIS AND PYORRHEA ALVEOLARIS. By Eugene S. Talbot, M.S., D.D.S., M.D. Cloth. Price, $4. Pp. 340, with 102 illustrations. Toledo, Ohio: The Ransom and Randolph Company, 1913.

## *The Public Service*

### Medical Department, U. S. Army

Changes during the week ended June 21:

Waring, J. B. H., captain, left Army and Navy General Hospital, Hot Springs, Arkansas, June 10, on sick leave of absence.

Robinson, J. L., lieut., left Fort Wayne, Mich., June 11, for San Francisco (to Philippine Islands, June 19).

Weidner, E. T. B., M.R.C., left Washington, D. C., June 13, for Presidio of San Francisco.

McFarland, F. O., M.R.C., left Danville, Ill., June 12, for Fort D. A. Russell, Wyo.

Ebert, R. G., colonel, to be instructor at militia camp, Santa Cruz, California, July 6 to 16, 1913.

Kinard, K. W., lieut., arrived at Fort Brown, Texas, June 8, for temporary duty.

Bliss, R. W., M.R.C., arrived at Fort Huachuca, Arizona, June 10, for duty.

Davis, W. R., captain, arrived at Honolulu May 29 for duty as Medical Supply Officer and Attending Surgeon.

Drake, P. G., M.R.C., left Fort Williams, June 12, for station Fort McKinley; arrived June 12.

Owen, L. J., captain, arrived at Department Hospital, Fort Shafter, H. T., May 30, for duty.

Fetterolf, D. W., M.R.C., left Medical Supply Depot, New York, June 14, on leave of absence for one month.

Carpenter, Alden, dental surgeon, left West Point, N. Y., June 14, on leave of absence for one month and five days.

Quade, O. H., lieut., at expiration of sick leave will report at U. S. Military Prison, Fort Leavenworth, Kansas, for duty.

Wilson, J. A., capt., returned to Fort Slocum, June 14, from leave of absence.

Beaven, C. L., M.R.C., arrived at Fort Howard, Md., June 14, for duty.

Vaughan, W. W. M.R.C., arrived at Fort Myer, Va., June 14, for duty.

Kennedy, J. S., lieut., returned to Fort McPherson from Waeo, Georgia, June 13.

Page, Henry, major, left Fort Moultrie, S. C., June 14, on four months' sick leave with permission to go beyond the sea.

Raymond, H. I., lieut., col., joined station, Fort Riley, Kansas, June 15.

Duenner, R. H., lieut., arrived at Fort Oglethorpe, Ga., June 15.

Fielden, J. S. C., lieut., arrived at Fort Du Pont, Del., June 14.

Duncan, L. C., captain, returned to Washington Barracks, D. C., June 16, from history and staff ride.

Wilson, J. S., major; Pratt, J. M., M.R.C.; left Fort Ethan Allen, Vt., June 16, with 10th Cavalry enroute to Winchester, Va.

Harmon, D. C., capt., Duenuer, R. H., lieut., left Fort Oglethorpe, Ga., June 16, enroute to Winchester, Va., with 11th Cavalry.

Frick, E. B., lieut. col., June 9, reports as sanitary inspector and assistant to department surgeon, western department.

Schreiner, E. R., major, left Boise Barracks, June 10, enroute to San Francisco, and the Philippine Islands.

Boehs, C. J., M.R.C., left Texas City, June 14, with Aero Squad, enroute to San Diego, Cal.

Snow, C. G., capt., reported for duty at Letterman General Hospital, June 12.

Herbert, W. D., M.R.C., reported for duty at Fort Sam Houston, Texas, June 14.

Dunbar, L. R., capt., reports sick in Letterman General Hospital, June 13. (Under orders to U. S. Military Prison, Fort Leavenworth, Kansas.)

Bradley, A. E., lieut. col., left Governor's Island, June 19, for Veteran's Camp, Gettysburg, Pa., for duty as chief surgeon.

Reno, W. W., major; Baylis, J. E., lieut.; McFarland, F. L., lieut., Schoenleber, A. W.,

*(Continued on next page)*





SEND FOR CATALOGUE ILLUSTRATING OVER 150 SIZES AND STYLES OF

**PHYSICIANS' BAGS and CASES**

**WESTERN LEATHER MFG. CO.**
MAKERS
178 N. Wabash Ave. Chicago

**GENUINE ECONOMY**

You can obtain from our large stock of Chairs, Tables, Cabinets, Nebulizers, Vibrators, Wall Plates, Microscopes, etc., many Real Bargains.

**Physicians Furniture Exchange**
121 N. Wabash Ave., CHICAGO




**Keep Baby Healthy**
BY USING
The Sweet Babee Wide Mouth
**NURSING BOTTLE**

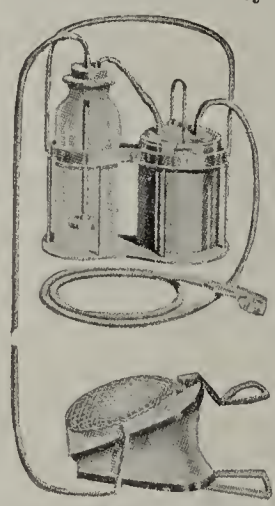
Easily washed and wiped out on inside with towel—like a tumbler—no funnel to fill—nipple cant collapse—easily turned—used either side out. Doctors and nurses recommend it. At your druggist—or send for free sample.

**The Yankee Co.**
UTICA
N.Y.

**Convenience and Safety in Anesthesia**

**CAINE-McDERMOTT**
**Warm Ether Apparatus**

Gives a continuous flow of warm ether vapor without the use of a flame. By administering a warmed flow of ether you increase its volatility and rapidity of absorption, thereby decreasing the dangers of overdosage and deleterious after effects.



The Caine-McDermott apparatus is particularly valuable in operations in the throat, around the jaws, lips, cheeks, etc., as its use permits a wide and unobstructed field for surgical manipulations.

Suitable for all kinds of operations by the simple attachment of the Gwathmey mask.

*Write for special descriptive circular.*

**The McDermott Surgical Instrument Co., Ltd.**
734-738 Poydras St., NEW ORLEANS, LA.

It is to your interest as well as ours to mention THE JOURNAL when writing to advertisers.


*(Continued from preceding page)*

WANTED—PARTNERSHIP WITH OR ASsistantship to busy practitioner or surgeon by young physician; graduate Class A school; two years' hospital experience; four years' private practice; present affiliations usual medical societies; two hospital staff; state medical school; desire to finish postgraduate course then change; highest reference given and required. Add. 4857 H, % AMA.

WANTED — EAR, NOSE AND THROAT specialist; young, single, Protestant, from Class A universities, wishes to connect with busy specialist in good place as partner or assistant; have had good clinical experience; first-class references exchanged; give full particulars and references first letter. Add. 4589 H, % AMA.

## SITUATIONS WANTED

WANTED—POSITION AS ASSISTANT TO specialist in genito-urinary diseases; licensed New York state; 10 years of successful practice in medicine and surgery; salary if services considered of value. Add. 4875 I, % AMA.

WANTED—IN ILLINOIS—PREFER CHIcago; recent graduate who has had one year's hospital experience wishes to replace busy general practitioner doing ethical practice for summer months or longer if wanted; commission or salary as desired; ready any time; give particulars in first letter. Add. 4877 I, % AMA.

WANTED — BY CAPABLE, RELIABLE and experienced woman physician; graduate of regular eastern college; single, 35 years old, position as assistant; specially trained in eye, ear, throat and refraction work; good anesthetist; familiar with hospital, laboratory and drug room routine. Add. 4880 I, % AMA.

WANTED—PHYSICIAN, GRADUATE OF an eastern A1 school, desires an opening; 17 years' experience in medical and surgical work; formerly connected with eye, ear, nose and throat hospital; will do hospital, sanatorium or general work; south, southwest or California preferred. Add. Dr. George McLeod, Room 463 Railway Exchange Bldg., Denver, Colo. I

WANTED—A POSITION AS PATHOLogist to a busy hospital, or position with a research laboratory or medical school; have had excellent training in pathology, bacteriology, clinical microscopy and serum work; state amount of work, equipment and salary in first letter. Add. 4625 I, % AMA.

WANTED—BY EYE, EAR, NOSE ,THROAT specialist, obliged to sell practice six months ago account ill health, now perfect health, position as assistant or partnership in specialty named; licensed in Pennsylsylvania, Michigan, Georgia and reciprocating states; experienced operator and refractionist; large hospital experience; personal interview desired. Add. 4662 I, % AMA.

WANTED—BY A CAPABLE, RELIABLE and experienced man position as superintendent, assistant superintendent or assistant physician in institution for insane, inebriate, feeble-minded or epileptic; graduate A1 college; 10 years' experience; 4 years superintendent state institution; excellent reasons for change; references first class; administrative ability. Add. 4772 I, % AMA.

WANTED — GERMAN GRADUATE, SINgle, with 2 years' hospital experience, capable of performing all kinds of clinical work, Wassermann, Noguchi reaction, etc., desires position as assistant in hospital or in general practice. Add. 4825 I, % AMA.

WANTED BY A LADY OF REFINEMENT the position of companion of or attendant upon a delicate child or invalid lady; does not object to traveling. Add. 4773 I, % AMA.

WANTED—SALARIED POSITION AS ASsistant; am a recent graduate of Northwestern; one year's internship in general hospital; three months' internship in maternity hospital; six months' assistantship to doctor in contract mining practice; am 28 years old, Protestant, married; references as to ability and character; can come at once. Add. 4844 I, % AMA.

*(Continued on next page)*

## THE PUBLIC SERVICE

*(Continued from preceding page)*

lieut., left Fort D. A. Russell, Wyo., June 16, with Field Hospital and Ambulance Co. No. 1, enroute to Gettysburg, Pa.

Hansell, J. S., capt., reported for duty at headquarters, Western Department, June 12, assigned to duty as attending surgeon and Medical Superintendent, Army Transport Service, San Francisco.

Kirk, Norman T., M.R., arrived at Texas City, June 18 for duty with Field Hospital No. 3.

Warriner, B. B., lieut., arrived at Fort Williams, Me., June 18, for duty.

Hill, E. C., capt., left Fort Porter, N. Y., June 19, for Washington, D. C., to go before retiring board.

Whitham, J. D., lieut., returned to Fort Monroe, June 19, from temporary duty at Fort Howard.

Bull, R. C., lieut., arrived at Texas City, June 16, for duty with Ambulance Co. 3.

Reesman, W. L., acting dental surgeon, will proceed to Texas City, Texas, and report to the commanding general, Second Division for duty.

Ashburn, Percy M., major, relieved from further duty in the Philippine Department, and will proceed on the first available transport to San Francisco, thence to Ancon, C. Z., for the purpose of establishing a board of medical officers for the purpose of studying tropical diseases as they exist in Panama.

De Laney, Matthew A., major, relieved from duty as attending surgeon in this city and will comply with instructions contained in letter from the Adjutant General's office dated March 20, 1913, and upon the completion of this duty will proceed to San Francisco, and take the first available transport for the Philippine Islands for duty.

French, Sanford W., lieut., is relieved from further duty with the Second Division at Texas City, Texas, to take effect on or about July 1, 1913, and will return to his proper station, Fort D. A. Russell, Wyo.

Card, Daniel P., capt., is relieved from duty at Fort Ethan Allen, Vt., to take effect on or about July 1, 1913, and will then proceed to West Point, N. Y., and report in person to the Superintendent of the U. S. Military Academy for duty, relieving Captain Calvin D. Cowles, Jr.

Capt. Cowles on being thus relieved will proceed to Fort Clark, Tex., and report to the commanding officer of that post for duty.

Bartlett, William K., capt., relieved from duty at Fort Oglethorpe, Ga., to take effect on or about July 1, 1913, and will then proceed to Fort Ethan Allen, Vt., for duty.

Kilbourne, Edwin D., capt., relieved from duty at Columbus Barracks, Ohio, to take effect on the expiration of the leave of absence heretofore granted him, and will then proceed to Fort Oglethorpe, Ga., and report in person to the commanding officer of that post for duty.

Ragan, Charles A., major, relieved from duty at the Walter Reed General Hospital, District of Columbia, to take effect on or about July 1, 1913, and will proceed to Fort Oglethorpe, Ga., for duty.

Darling, Thomas, M.R.C., ordered to active duty at the encampment at Gettysburg, Pa., June 28 to July 10, 1913.

Bevans, James L., major, relieved from duty as medical superintendent, Army Transport Service, attending surgeon, San Francisco, Cal.; and as surgeon, Fort Mason, Cal., and will report to the commanding general, Western Department for duty with station at San Francisco until further orders.

Hansell, Haywood S., capt., in addition to his other duties will report to the commanding officer, Fort Mason, Cal., for duty as surgeon of that post.

Brown, Ira C., M.R.C., granted leave absence for four months.

Le Hardy, Julius C., M.R.C., relieved from duty at Fort Ward, Wash., to take effect on the arrival at that post of First Lieut. Charles H. Stearns, Medical Reserve Corps, and will then proceed to Benicia Arsenal, Benicia, Cal., and report in person to the commanding officer of that arsenal for duty.

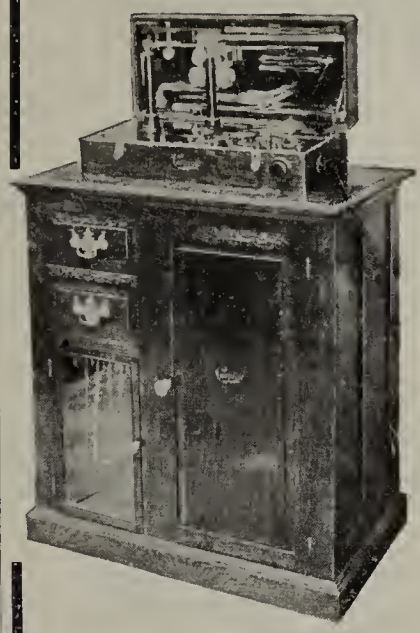
Meister, William B., lieut., will proceed to Fort Benjamin Harrison, Ind., for temporary duty and after the completion thereof will proceed to Fort Davis, Alaska, as heretofore ordered.

Kraker, David A., M.R.C., is ordered to active duty in the service of the United States on account of an existing emergency

*(Continued on next page)*


**5000 Doctors are using a Campbell Coil.**

**Are YOU one of them?**



"E Coil" with Cabinet

REG. U.S. PAT. OFF. TRADE Campbell MARK

Name

Address

E USE THIS COUPON

"MODEL E"

**X-Ray AND High-Frequency Coil**

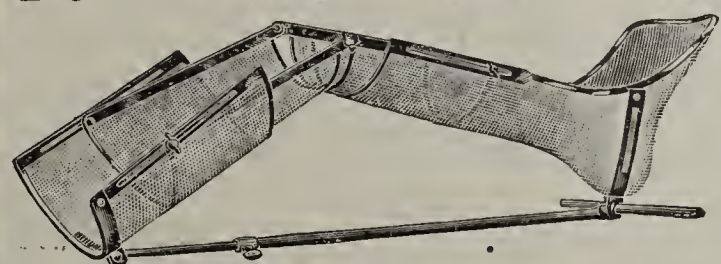
Seven distinct pieces of electrical apparatus in one case, attached in a few seconds to any lamp socket. Perfectly controlled by two simple switches. Instantly ready for treatment or radiography. Coil may be removed from cabinet for portable use.

*Send TO-DAY for free copy of Practical Electrotherapeutics*

**CAMPBELL ELECTRIC CO., -- Lynn Mass.**

J. W. Hughes Co., 110 E. 23rd St., New York City
F. H. Hoose, 319 Mint Arcade, Phila., Pa.

# YOU HAVE FRACTURE TROUBLES



These may be easily done away with by using the **DEPUY COMBINATION LEG SPLINT** and at the same time give comfort and satisfaction to your patient. On account of its great adaptability it is largely used in private and hospital practice. In this one single splint you have the well known Bucks, Hodgens and McIntyre. We make two sizes, large size No. 65 and the small size No. 66. They are ten dollars each with express charges prepaid. It will give us pleasure to send our little booklet, also our price list of our full line of splints.

**DEPUY MFG. CO. :: 401 Center St. :: WARSAW, INDIANA**


*(Continued from preceding page)*

WANTED—POSITION AS ASSISTANT IN state or private hospital or sanitarium, or assistant in general practice; three years' experience in hospital and private practice; A1 references. Add. 4853 I, % AMA.

WANTED—A POSITION IN PATHOLOGical laboratory by a woman physician; gradnate of Boston University; have had excellent training in pathology and bacteriology; had entire charge of laboratory in large hospital for five months; state amount of work, equipment and salary first letter; best of references. Add. 4807 I, % AMA.

WANTED—POSITION AS LOCUM TENens or a partnership with busy M.D.; registered in Ohio, West Virginia, Illinois, South Dakota and Nebraska and several reciprocating states; can give A1 recommendations; come at once; 40 years of age, sober, good personal appearance. Add. 4856 I, % AMA.

WANTED—REGISTERED NURSE WITH executive ability and experience, graduate of a general hospital of 250 beds, wishes position as superintendent of hospital and training school or superintendent of nurses. Add. 4680 I, % AMA.

WANTED—PRACTICE OF RETIRING physician on percentage basis or as assistant; married; 28 years; small family; graduate University of Pennsylvania; 18 months hospital, medical and surgical; 5 years general practice; Pennsylvania and New Jersey certificates; good laboratory and clinical experiences; left good practice account severe financial losses; excellent references. Add. 4610 I, % AMA.

## MISCELLANEOUS—WANTED

WANTED—A YOUNG MARRIED MAN TO take an extensive country practice; nothing to buy; must have good references. Call on or add. Dr. Geo. Greer, Vandalia, Ill. J

WANTED—A GOOD PHYSICIAN IN A first-class location in southern Minnesota; no booze fighters nor cocain fiends wanted, but good location for a good man. Add. Box 7, Trinmph, Minn. J

ONE HUNDRED DOLLARS REWARD—Missing since May 15; deranged or lost identity; Charles J. Pennock, aged 56, 5 feet 10½ inches, 165 pounds, dark complexion; brown eyes; prominent features; large bones and joints; black hair, turning white; abundant on scalp, face, brows, chest, abdomen and legs; a vertical, linear scar 1¼ inches long through and above the inner end of the right eyebrow; is student of bird life. Inform Dr. R. J. Phillips, 123 South 39th St., Philadelphia, Pa. J

WANTED—A YOUNG PHYSICIAN WITH hospital experience for private case; eastern state; salary $30 per month, room, board; patient male, 30 years; must report at once; position good for at least six months; send references and state experience with application; ample time for study. Add. 4845 J, % AMA.

## APPARATUS, ETC., FOR SALE

FOR SALE—WRITE US TO-DAY FOR our Bargain Bulletin. We supply your office complete and actually save you 25 to 75 per cent. The National Physicians' Exchange, 30 E. Randolph St., Chicago.

*(Continued on next page)*

## THE PUBLIC SERVICE

*(Continued from preceding page)*

for the period from June 28 to July 10, 1913. Lieut. Kraker will proceed on or after June 28 to Gettysburg, Pa., and report for duty with the provisional field hospital at the camp to be established at that place, and will return to his home by July 10, 1913, and stand relieved from active duty in the Medical Reserve Corps.

Carpenter, Alden, dental surgeon, is detailed to represent the Medical Department of the Army at the Seventeenth Annual Session of the National Dental Association at Kansas City, Mo., July 8 to 11, 1913.

Lyster, Theodore C., major, leave of absence extended one month.

Paragraph 15 Special Orders No. 67, March 22, 1913, War Department, is so amended as to relieve First Lieut. Luther R. Poust, Medical Corps, from temporary duty in the Southern Department and from duty at Fort Riley, Kansas, to take effect on the arrival of First Lieut. Clarence R. Bell, Medical Reserve Corps in that department and to direct Lieut. Poust then to proceed to Fort Bayard, N. M., as directed in the order cited.

Paragraph 14, Special Orders No. 60, March 14, 1913, War Department is amended to read as follows:

First Lieut. Minot E. Scott, dental surgeon, is relieved from duty in the Philippine Department to take effect on or about September 15, 1913, and will then proceed to the United States and on arrival report by telegraph to the Adjutant General of the Army for further orders.

The resignation of First Lieut. John G. Byrne, Medical Reserve Corps, of his commission as an officer in that corps has been accepted, to take effect June 12, 1913.

—o—

### U. S. Public Health Service

Changes for seven days ended June 18:

Guiteras, G. M., surgeon, granted two months' leave of absence from June 24, 1913.

Foster, M. H., surgeon, granted one month's leave of absence from July 1, 1913.

Lumsden, L. L., surgeon, directed to attend a conference of state health officers at Lawrence, Kan., June 24-25, 1913, and deliver addresses on the Epidemiology and Prevention of Typhoid Fever.

Schereschewsky, J. W., surgeon, detailed in connection with investigations of trachoma in Tennessee; to present a series of lectures on public health to teachers and educational workers in attendance at the University of Tennessee at Knoxville, Tenn.

Herrick, A. W., acting assistant surgeon, granted thirty days' leave of absence without pay, from June 15, 1913.

Parker, T. F., acting assistant surgeon, granted thirty days' leave of absence from June 1, 1913.

Boards of medical officers convened for the physical examination of candidates for appointment to cadetships in the Revenue-Cutter Service, to meet June 23, 1913, as follows:

Bureau, Washington, D. C.: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon R. A. Kearny, recorder.

Marine Hospital, Detroit: Senior Surgeon H. W. Austin, chairman; Surgeon M. J. White, recorder.

Marine Hospital, Stapleton, N. Y.: Senior Surgeon C. W. Stoner, chairman; Passed Assistant Surgeon W. M. Bryan, recorder.

Marine Hospital, Chelsea, Mass.: Senior Surgeon Fairfax Irwin, chairman; Surgeon H. W. Wickes, recorder.

Marine Hospital, Baltimore; Senior Surgeon H. R. Carter, chairman; Passed Assistant Surgeon J. T. Burkhalter, recorder.

Marine Hospital, San Francisco: Surgeon R. M. Woodward, chairman; Passed Assistant Surgeon J. R. Hurley, recorder.

Marine Hospital, Chicago: Surgeon J. O. Cobb, chairman; Passed Assistant Surgeon Hugh de Valin, recorder.

Marine Hospital Office, 410 Chestnut Street, Philadelphia: Surgeon W. G. Stimpson, chairman; Passed Assistant Surgeon Norman Roberts, recorder.

Marine Hospital, Savannah, Ga.: Surgeon C. H. Lavinder, chairman; Passed Assistant Surgeon R. M. Grimm, recorder.

Newbern, N. C.: Acting Assistant Surgeon R. S. Primrose, chairman; Acting Assistant Surgeon R. D. Jones, recorder.

Board of medical officers convened to meet at the Marine Hospital, Detroit, at the call of the chairman, for the reexamination of an allen. Detail for the board: Surgeon M. J. White, chairman; Acting Assistant Surgeon, K. L. Weber, recorder.


SURGEONS AND PHYSICIANS
Should investigate
SCHOLL'S FOOT-EAZER
for "Weak Foot" or "Flat Foot"

A light, springy, self-adjusting appliance that supports the weak or broken down arch with a firm, steady, upward pressure. Gradually restores the bones to their natural position and gives ease and comfort to the foot.

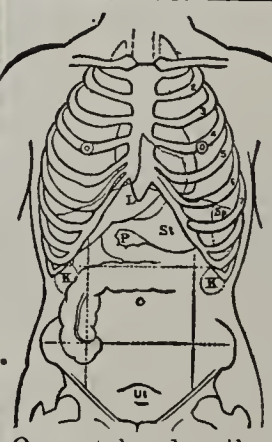
For all foot strains and pains due to weakened arch, Scholl's Foot-Eazer should be prescribed.

Made of two German silver springs and leather top piece. All sizes, $2.00. Sold by most druggists and shoe dealers or postpaid on receipt of price. Send outline drawings of feet for accurate adjustment.

THE SCHOLL MFG. CO.
213 W. Schiller Street, CHICAGO




CASE RECORD STAMPS



WE MAKE
Anatomical Outline Rubber Stamps
showing general and special Anatomic Regions in normal state. When stamped on cards the physician can record all abnormal findings. They systematize your diagnostic observations.

Our catalog describes a complete series of Anatomic Forms. Price 50c. to $2.00

BARTON MFG. CO.
Broadway and Franklin St., NEW YORK CITY

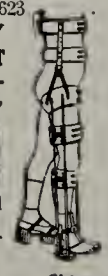
"AMBUMATIC" WASHABLE ABDOMINAL
SUPPORTERS



Patented. Made buckled or laced.
DO THE WORK "JUST RIGHT"
ADJUSTABLE FOR "LIFT-UP" OR "BINDER SUPPORT"
To any part of the abdomen. Adapted to any person, any condition requiring efficient, comfortable support.
Call or send to day for folder, order blanks and catalog.

We Are Experts in Corrective
ORTHOPEDIC APPLIANCES
ELASTIC STOCKINGS, TRUSSES, CORSETS, ETC.
Your correspondence solicited, given careful attention and full information. Phone Cent. 4623

ORDER THE AMBULATORY PNEUMATIC SPLINT
To secure greatest comfort, shortest period of confinement, best results and health for your
FRACTURES
of leg, knee, thigh, and hip patients. All dealers and direct from us. Wire order. State fracture, which limb, sex. Send for booklet, prices, etc. Recommend it.



Amb. Pneu. Splint Mfg. Co., 30 (A.) E. Randolph Street, Chicago


See page 20 for cost of classified and commercial announcement advertisements.

*(Continued from preceding page)*

FOR SALE—BAKER STATIC MACHINE, water motor, 2 x-ray tubes, fluoroscope, ozone inhaler, platform, resonator, high-frequency and other electrodes, $150; McIntosh $100 combination wall plate, many electrodes, cautery, illuminator, etc, $50; all in fine condition. I. E. Brainard, M.D., Wallingford, Conn. K

FOR SALE—SPLENDID WORKING VAN Houten and Ten Broeck static machine, fully equipped; eight revolving glass plates; Holtz Wimshurst influencing starter, 10 to 14-inch spark metal and glass electrodes; x-ray tube, Leyden jars, insulated platform, etc.; hand or direct current motor; best offer takes it; crated for shipment. Add. 4648 K, % AMA.

FOR SALE—HETTICH 16-INCH X-RAY coil; also rectifier and auto condensation couch, etc.; in perfect condition; used few months; worth $250; will sell for $150; also McIntosh sinusoidal current plate complete, worth $125, will sell for $95; owner recently deceased. Call or write Mrs. F. B. Gottschalk, 848 Montrose Ave., Chicago; phone Edgewater 157. K

## BOOKS WANTED AND FOR SALE

FOR SALE—ANNALS OF SURGERY, SURgery, Gynecology and Obstetrics, American Journal of Medical Sciences, Archives of Ophthalmology; complete sets, volumes or numbers; no connection with any other firm of same name. B. Login & Son, 1328 Third Avenue, New York City. M

FOR SALE—AT BARGAIN PRICES—TWO Hare's Modern Treatment, 2 Kelly's Operative Gynecology, Malchow Sexual Life, Keen System of Surgery and many others. Call or write for catalogue. Login Brothers, dealers in medical books at cut rates, 1619 W. Van Buren St., Chicago, Ill. M

WANTED—WE WILL PAY 25 CENTS per copy for the following volumes of the Guide to Current Medical Literature (published by the Amer. Med. Assn.) in good condition: Vols. 37, 38, 42 and 54 are wanted. Jour. Am. Med. Assn., 535 Dearborn Ave., Chicago. M

## PRACTICES FOR SALE

FOR SALE—NORTH ALABAMA—MY UNopposed $5,000 practice in the best farming section of the state; good school and churches; going to city; introduction, 6-room house, barn, garage, office and 3-acre lot for $1,500. Add. 4864 N, % AMA.

FOR SALE—COLORADO—THE LAND OF sunshine; will sacrifice my practice ($2,500 to $4,000 yearly for last eight years) to purchaser of office equipment, $1,200, and equity in residence, $3,500; $2,000 gets it; appointments, railroad, county, city and insurance, all go. Add. Box 425, Palisade, Colo. N

FOR SALE—COLORADO PRACTICE—IN one of the most beautiful towns in the state; population about 11,000; no real estate unless desired; splendidly equipped office, static machine, wall plate, cautery transformer, electric chair, splendid sterilizing outfit, glass-topped stand, Allison drug cabinet, operating chair, one head and throat apparatus; one of the best equipped offices in the town; will sell cheap; cause, failing health. Add. 4775 N, % AMA.

FOR SALE—COLORADO—A GOOD GENeral practice of $3,000 per year in irrigated country; appointments that are valuable; for price of property, small payment required; time on balance; do not write us unless you can do business. Add. 4642 N, % AMA.

FOR SALE—CHICAGO — AUSTIN SUBurb; office and residence of the late Dr. Gustavus P. Head; was occupied by him as office and residence for past 17 years; income from general practice and nose and throat work over $10,000 annually; practice can be retained by competent successor; opportunity to secure lucrative practice from the very start is unexcelled; price, $7,500, which is the actual real estate value; fullest investigation invited. For complete information add. C. J. Head, 327 S. La Salle St., Chicago. Telephone Wabash 3098. N

*(Continued on next page)*

ETHER
U. S. P.
FOR
ANÆSTHESIA

℞ P-W-R CHEMICALS

FOR DEFINITE THERAPEUTIC ACTION
ALL APOTHECARIES AND DRUG SUPPLY HOUSES
POWERS-WEIGHTMAN-ROSENGARTEN CO.
New York PHILADELPHIA Saint Louis

FOR SALE — CHICAGO — BEAUTIFUL modern brick residence of 10 living rooms, including splendid and fully equipped offices of 8 rooms; yearly income from general practice, $12,000; owing to sudden death of physician, practice and equipment will be given to purchaser of residence; price, $25,000; terms $5,000 cash, balance easy terms. Mrs. F. B. Gottschalk, 848 Montrose Ave., Chicago, Ill. N

FOR SALE—CHICAGO — FREE: EYE, ear, nose, throat practice, established 10 years (good location for general practice), to buyer of high-class flat building near Lincoln Park; make 50 per cent. on $5,000 cash investment; balance time and Los Angeles or California property; must sacrifice account illness; reasonable offers considered. Dr. A. Derdiger, 2619 Hampden Court, Chicago. N

FOR SALE—IN WEST CENTRAL ILLINOIS; a good $3,000 practice with full office outfit and drugs for invoice price (about $250 to $300); local competition better than none; doctor simply keeps another man out; outside competition 4, 10, 7 and 12 miles; write at once if you have the price and mean business. Add. 4868 N, % AMA.

FOR SALE—WEST CENTRAL ILLINOIS—Unopposed $5,000 practice, almost new auto, drugs, instruments, chair, table, sphygmomanometer, desk, cases, etc; live town of 500; fine roads; good school; electric lights; thorough introduction; can deliver goods; $1,500 cash; if you can make personal investigation at once, write me. Add. 4847 N, % AMA.

FOR SALE — ILLINOIS — WANT A first-class eye, ear, nose and throat man who can purchase a practice established 11 years in one of the best cities of Illinois, 25,000; a rich country around; competition very moderate; the office equipment which is complete; case records, accounts; practice will run from $5,000 to $6,000 per year; owner going away for a rest; $2,000 cash buys it all; want to leave inside 60 days. Add. 4841 N, % AMA.

FOR SALE—EAST CENTRAL ILLINOIS—A $4,500 practice to purchaser of my 7-room modern residence, and office equipment, in a good town of 750, electric lights, city water; large territory; fees good; rich farming community; collections 98 per cent.; guaranteed good business from start; one competitor; practice has been established for 20 years. Price $3,000, with thorough introduction. Add. 4897 N, % AMA.

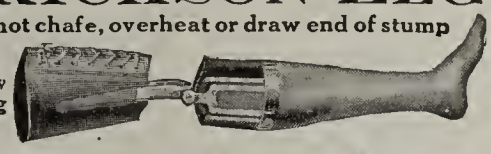
FOR SALE—ILLINOIS—IN SMALL TOWN—Unopposed $3,600 practice; competition 5, 5, 10, 13 miles, respectively; property consists of 3 lots, including 5-room residence, barn and other outbuildings, office fixtures, drugs, team, 2 buggies, 2 set harness, etc.; collections good; terms $3,000. Add. Box 71, Adrian, Ill. N

FOR SALE—ILLINOIS — UNOPPOSED village and country practice; 7-room house; 3-room office; barn room for 4 horses, two buggies, two automobiles; richest farming commnnity in state; 13 miles southwest of Rock Island; 20 interurban trains daily; can introduce 200 best families; would sell practice and drugs. Add. North Star Benefit Association, Moline, Ill.

FOR SALE—ILLINOIS — CHICAGO SUBurb; no charge for practice; $3,700 for real estate; nice comfortable home; all modern improvements; three blocks from depot; 60 trains daily; $4,000 income; collections good; have been here 16 years; intend to retire; will introduce. Add. Box 496, Highland Park, Ill. N

GENTLEMEN — PLEASE DISCONTINUE advertisement No. ——. I sent check for four insertions; two is plenty. Very respectfully, ——————.

ERICKSON LEG
Does not chafe, overheat or draw end of stump
Send for new Catalog "C"



THE LARGEST LIMB FACTORY IN THE WORLD
E. H. ERICKSON ARTIFICIAL LIMB CO.
8 Washington Ave. N. Minneapolis, Minn.



BARGAINS
Display Samples and Second Hand Office Furniture.
Write for our list No. 2 of Special prices on Tables, Chairs, Cabinets and Office Accessories.
W. D. ALLISON COMPANY, 915 N. Alabama St., Indianapolis, Ind.

FOR SALE—EASTERN INDIANA—REGular physician with a $5,000 yearly practice wishes to sell drugs, furniture, good will, etc., cheap, in a city of 10,000; three railways and one interurban; hospital facilities; grand opportnnity if taken at once; leaving on account of ill health. Dr. H. M. Lamberson, Connersville, Ind. N

FOR SALE—WEST CENTRAL INDIANA—$5,000 practice in very rich city of 3,000 inhabitants; fine roads; rich surrounding country; modern 9-room residence, all modern conveniences, electric light, bath, furnace, good barn and garage; competition light; can be easily transferred; $3,500 buys residence, practice and introduction. Add. 4846 N, % AMA.

FOR SALE—IOWA—A $3,000 PRACTICE in a good town of 2,500; good territory, good roads and collections; competition just right; office outfit, library, instruments and property for $1,000; half cash; going to specialize. Add. 4724 N, % AMA.

FOR SALE—EASTERN IOWA — FINE practice to purchaser of office outfit; no real estate; town of 600; competition slight; fine farming community; collections 98 per cent. Add. 4884 N, % AMA.

FOR SALE—EASTERN IOWA—IN TOWN of 650; surrounded by good farm land, well settled, grammar and high schools; one local physician; nearest competitors 6, 11 and 15 miles; yearly practice of territory $7,000 to $10,000; new office furniture, fresh drugs, $400, in office ready to use; will sell for any reasonable figure; always two physicians in place. Add. 4889 N, % AMA.

FOR SALE—EAST CENTRAL IOWA—A $5,000 practice to purchaser of my driving outfit, office fixtures, instruments, drugs and 30-H. P. roadster, run only 4,000 miles; growing town of 1,000; electric lights, city water; large territory; fees good; several appointments; rich farming community; guarantee business from start; price $1,500; will introduce purchaser. Add. 4605 N, % AMA.

FOR SALE—IOWA — $3,500 PRACTICE free to purchaser of my residence and drugs; town of 450 on Mississippi River; good farming surroundings; money from start; no competition; several good appointments can be turned; can increase income by doing surgery; two churches, graded school; am going to specialize. Add. 4840 N, % AMA.

FOR SALE—IOWA—PRACTICE IN EYE, ear, nose and throat in town of 15,000; will remain as partner for a time or sell out complete; price, invoice of office furniture and instruments; a fine established practice of 15 years' standing; reason for sale, other business necessitates removal to another city. Add. 4749 N, % AMA.

FOR SALE—IOWA—$3,000 PRACTICE—town 2,300; good roads; good fees and collections; sell property, library, instruments and fixtures for $1,000; one-half cash; balance terms to suit and will introduce purchaser; an excellent opportunity for a Catholic doctor. Add. 4723 N, % AMA.

FOR SALE—EASTERN KANSAS — 25-year established practice given to purchaser of my town property; ideally located house, 9 rooms, 2 closets, furnace; fine barn and garage; one block, half pasture and half garden, in rich country; population 450; rare chance for a physician; price, $3,000; will sell also fine stock farm of 320 acres, well improved, at $50 an acre. Add. 4890 N, % AMA.

FOR SALE—KANSAS — $3,000 UNOPposed practice to the purchaser of my four-room office on Main Street in town of 250 in the central part of the state; grounds and office only $950; no bonus asked for practice; competition between other towns right. Add. 4874 N, % AMA.

FOR SALE—SOUTHEASTERN KANSAS—A $4,500 cash practice in a good rural town of 600, on M. L. M. P. R. R.; good roads, schools and country; natural gas; one competitor; collections 95%; for price of office fixtures and small residence at cost; this is an exceptional opportunity. Add. 4607 N, % AMA.

FOR SALE—KANSAS—$3,000 BUYS A $5,000 cash practice; city 4,000; modern equipment; worth $1,500; no real estate; railroad and other appointments may be secured by right man; purchaser can do good business at once with thorough introduction; fine opportunity for recent graduate capable of doing surgery. Add. 4674 N, % AMA.

FOR SALE—SOUTHERN KANSAS—$3,600 practice in best town of state; good surrounding conntry; good roads; high school; population 1,200; collections 99 per cent.; one competitor; 6-room house, office furniture, drugs, air tank, microscope and full equipment for $3,000; half cash. Add. 4766 N, % AMA.

FOR SALE—LOUISIANA—MY COUNTRY home and location, best farming section, cane and cotton; driving outfit and drugs, etc. Practice will pay $3,000 to $5,000, easily increased; collections 90 per cent.; fine roads, school and churches; one mile from depot; large territory; slight opposition. Price, $3,000, one cash payment, balance to suit you. Come investigate. Add. 4894 N, % AMA.

FOR SALE—MAINE—LARGE ELEGANT office and residence; suitable for hospital; best location in railroad and farming community of 4,000; only two competitors; good collections, schools and churches; practice, drugs, instruments, office furniture, 2 horses, etc., $1,500; two-thirds cash required; residence optional; can rent or lease all or part. Add. 4881 N, % AMA.

FOR SALE—MICHIGAN — $5,000 PRACtice; established nine years, in a nice little town of 400 in best farming district of the state; roads good year round; collections 99 per cent.; free to purchaser of office building, equipment and drugs; for quick sale it goes at $300; the chance of a lifetime; owner forced to retire because of breaking-down health; will give good introduction. Add. 4876 N, % AMA.

FOR SALE—MINNESOTA — UNOPPOSED medical practice 27 miles west of Minneapolis; country thickly settled; full particulars on request; office furniture and surgical instruments and good supply of drugs for $600; leaving to go into a specialty; income between $2,000 and $3,000; auto, horse and household furniture at reasonable price if desired. Add. 4858 N, % AMA.

*(Continued on next page)*

FOR SALE—MINNESOTA — UNOPPOSED practice in a town of 600 in best part of state. Add. 4869 N, % AMA.

FOR SALE — NORTHWESTERN MINNESOTA; established practice for married physician; town 350; 50 miles east and west, 10 south, 14 north to nearest physician; practice mostly cash; good climate for tubercular trouble; no drug store in town; 5-room residence and office, drugs; price, $1,250; $500 cash, balance time. Add. 4781 N, % AMA.

FOR SALE — SOUTHEAST MISSOURI—country practice; nearest opposition 10 to 15 miles; well settled; collections first class; house, lot and horse, $500; small payment down, balance to suit; introduction and possession at once; fine opportunity for recent graduate; work and money from start; particulars by mail. Add. Doctor, Turtle, Mo. N

FOR SALE — DENTIST — MONTANA—Good practice; best valley in Montana; reason, mining; climate good; hunting and fishing; growing town and country; lumbering, stock, crops never fail; big irrigation; valley filling with eastern people; best location; prices good; no credit; investigate. Add. 4740 N, % AMA.

FOR SALE — NEBRASKA LOCATION—First-class office; good country and no crop failures; collections 98 per cent.; for a German-speaking doctor practice will run $5,000 yearly; I do over $3,000 a year and am not in good condition for practice and don't speak German; entire equipment of office outfit and drugs, $850; fine equipment. Add. Deal No. 254, % F. V. Kniest, Medical Broker, Omaha, Neb. N

FOR SALE—NEBRASKA—VERY LARGE general practice in good railroad town of 5,000 population; my husband recently died and I offer for sale at reasonable price office equipment; will rent office rooms; fine location for energetic physician to secure excellent practice; write for full information. Mrs. W. E. McDivitt, McCook, Neb. N

FOR SALE — NEBRASKA—UNOPPOSED $1,800 village and country practice with small stock drugs in Eastern Nebraska town of 250 in rich farming community; good roads and collections; good opportunity for young physician; easy to handle. Write for particulars. Add. 4765 N, % AMA.

FOR SALE—NEW YORK—AN EXCLUsive ear, nose and throat practice, well-established and active in a city of the third class in New York state. Cash returns from $9,000 to $11,000 per year. Price $4,200 cash. Do not write unless you mean business and have the cash. This is a rare opportunity. Add. 4896 N, % AMA.

FOR SALE — NEW YORK NEAR NEW York City—Transferable practice established 18 years in thriving city on the Hudson. Collections average $10,000; 12-room house and other property, all improvements. Price $12,800; $2,500 in cash, balance on time. Competition just right. Going to specialize. Add. 4895 N, % AMA.

FOR SALE — NEW YORK CITY — WEST 145th Street, Washington Heights District, one of the city's best sections, practice and house, no better appointed offices or beautifully arranged house. Business street small equity. Owner has opportunity he wishes to accept. Add. Chas. Heyman, 80 Maiden Lane, N. Y. City. N

FOR SALE—NEW YORK—WELL-ESTABlished town and country practice of 9 years' standing for price of property, $4,000; $1,500 cash can handle; competition two old doctors; large field; good pay; I have made my self independent and am going to city; practice $4,000 to $5,000 per year; surgeon can double. Add. 4831 N, % AMA.

FOR SALE—EASTERN NORTH DAKOTA—Unopposed $4,500 practice; could be materially increased by doing surgery; in town of 450; nearest competition 12 miles; rich farming community; collections 95 per cent.; 7-room residence, garage, beautiful grounds, with introduction, for $2,500; half cash; balance easy payments; Scandinavian preferred; fine opportunity. Add. 4800 N, % AMA.

THE GREAT AMERICAN FRAUD — Cloth-bound edition. Price 25 cents, postpaid. A. M. A., 535 Dearborn Ave., Chicago.

FOR SALE — NORTH DAKOTA — $2,800 cash practice; unopposed and growing in small town; for $600 will sell location, 2 horses, buggy, sleigh, etc.; office furniture and stove; automobile optional; expenses low; will pay for itself in 2 or 3 months; I made $650 during March and April; going to city. Add. 4626 N, % AMA.

FOR SALE — OHIO — OFFICE EQUIPment for general practitioner; Van Houten & Ten Broeck static machine, x-ray, high-frequency apparatus, wall plate, operating table, instruments, drugs, library; introduction to practice of 30 years; combined residence and office for rent in county seat of 6,500; rich country surrounding. For terms add. Mrs. Royston Ford, Executrix, Greenville, Ohio. N

FOR SALE—OHIO—WILL GIVE PRACtice and appointments that have made me independent to purchaser of my 10-room modern home, on easiest terms; good roads, people and collections; convenient to steam and traction lines; near large city; money from the start; price, $4,500; cost $6,000; auto optional. Add. 4804 N, % AMA.

FOR SALE—EASTERN SOUTH DAKOTA—An $8,000 eye, ear, nose and throat practice in progressive, up-to-date city; good surrounding territory; large modern residence, office furniture, refraction and surgical records for price of home and office equipment; this is an exceptional opportunity for a qualified man willing to work; write if you mean business. Add. 4783 N, % AMA.

FOR SALE—SOUTH DAKOTA—A PHYsician along in years desiring to return east, take postgraduate and retire from country practice, can offer a splendid deal to a doctor wishing to conduct a drug business and practice; a good business established with no opposition. Add. 4784 N, % AMA.

FOR SALE — OLD ESTABLISHED GENeral city and country practice in beautiful suburb of rapidly growing western metropolis; steam and trolley connections; numerous local industries and excellent farming community; well built up to draw on; competition pleasant and not too sharp; unexcelled opportunity for developing surgical practice if desired; present practice pays around $8,000; is capable of development by right man; several good transferable appointments; fees are high; collections 90 per cent.; macadam roads finest in the country; gently rolling land; healthiest of climate to work in; can use auto eleven months in year; no great extremes of heat or cold; within easy reach of splendid trout fishing and hunting grounds; good people to work among; all religious denominations; finest of schools and colleges; property consists of brick office; garage and modern home; very handily arranged and furnished; cabinet kitchen; artesian water-supply, sleeping porch, etc.; price is $8,000, including 1912 runabout auto optional; part terms or liberal discount for strictly cash sale. Add. 4802 N, % AMA.

FOR SALE—TEXAS — EYE, EAR, NOSE and throat practice; $3,000 yearly in fine west Texas town; no competition; for price of my residence and office fixtures, $2,000; part cash; balance easy terms; this is an especially good opportunity for man starting special work. Add. 4885 N, % AMA.

FOR SALE—TEXAS — TWENTY YEARS' established practice in the largest city of state; splendid opportunity for progressive physician; no real estate; $500 cash. Add. 4883 N, % AMA.

FOR SALE—TEXAS—$3,500 EYE, EAR, nose and throat practice, together with all office fixtures, furniture, instruments, surgical, refractive and treatment; library and refractive record of past ten years; situated in ideal college town of rich central Texas; nearest opposition 25 miles; $1,000 takes all. Add. 4792 N, % AMA.

FOR SALE—VIRGINIA — WELL-ESTABlished general country practice of $2,500; nearly all collectable; healthy man can increase practice; will leave purchaser as my supply while gone and in October will announce and recommend him as my successor; one competitor; nice man; in territory 16 by 16 miles; price, $500 for practice, some instruments, drugs and case; located in fine country; nice people; ¾ mile railroad; phones, rural mails, high school, churches, stores, etc.; 9 miles to nice university town; references required; going to return to city. Add. 4888 N, % AMA.

FOR SALE—WASHINGTON — HAVING been elected to position with large corporation shall sell medical and surgical practice with small hospital located in one of the best improved cities of the west of 4,000; railroad center; water transportation; large tributary territory; splendid all-the-year climate; rich, rapidly growing fruit country; competition easy; $5,000 practice; several cash appointments afford continual income; price, $6,000; $2,000 cash, terms on balance; price is low; don't answer unless you have the cash. Add. 4828 N, % AMA.

FOR SALE—WISCONSIN — THE ONLY hospital, beautifully located in the heart of a live city of 10,000; fully equipped, 25 beds, fine bath department, Russian, Turkish, shower, plunge and tub; splendid opportunity for surgeon or physician, or both, in partnership; $5,000 will swing; owner wishes to retire. Add. 4862 N, % AMA.

FOR SALE—WISCONSIN—$5,000 UNOPposed practice with other considerations; garden spot of state; ample introduction; good reasons for leaving; sell on terms. Opportunity Agency, Little Rock, Ark. N

FOR SALE—SOUTHERN WISCONSIN—Eye, ear, nose and throat practice; also some general practice; established 25 years; splendid manufacturing city, paved streets; county seat; population 15,000; 90 miles from Chicago; two railroads, interurban, street cars, excellent schools, churches, opera houses, two hospitals; finely equipped office, centrally located; practice free to purchaser of beautiful 10-room residence; corner lot, 75 by 100 feet; hot-water heat, gas, electricity; best residential section, three blocks from center of city; view unobstructed; thorough introduction; practice averages $4,000 yearly; easily increased; collections first class; good reasons for selling; will bear investigation; price, $12,000; one-third cash, balance easy terms. For particulars add. 4695 N, % AMA.

FOR SALE — CENTRAL WISCONSIN — Physician's practice and home in a village of 500 in good farming community. Eight room house, with good office suite, barn and garage. Can be bought for $5,500, $2,000 down, time on balance. Practice established 23 years. Business for 1912, $7,000. Add. M. H. Atwood, Madison Wis. N

FOR SALE — SOUTHERN WISCONSIN—Retiring; $3,500 practice to purchaser of property at less than cost; established 6 years; railroad town 1,200; very wealthy dairy community; fine auto roads; good schools, hospital, churches, large business enterprises; collections 98 per cent.; competition right; option on contents of steam-heated office; house 9 rooms, bath, electric lights, furnace, fireplace, hot and cold water; fine large shady lawn; garage, new barn; introduce or give possession at once; splendid opening for German or Scandinavian; terms $2,500 cash; balance $2,000 to suit; investigate at once. Add. 4829 N, % AMA.

FOR SALE—WISCONSIN — A $3,000 practice in city of 30,000; competition right; collections 95 per cent.; established 3 years; good reasons for selling and quick sale imperative; $400 cash or negotiable note; don't write unless you mean business. Add. 4812 N, % AMA.

## HOSPITALS and SANITARIA for SALE

FOR SALE—TWENTY CAPACITY, FULLY equipped sanitarium; rapidly growing Texas city 13,000; fastest growing section U. S.; $12,000; one-half cash; good reason; no competition; vast section; unexcelled opportunity for surgeon who can handle referred work; best American year-round climate; excellent roads, collections. Add. 4867 O, % AMA.

FOR SALE—WASHINGTON SANITARIA—Desiring to do specialty work in a city I will sell my hospital that cost about $25,000 for $15,000; one-half cash, balance on good time and terms; I am collecting about $18,000 per year from a general medical and surgical business, both private and contract; I have contracts that run about $1,000 per month. Add. 4658 O, % AMA.

FOR SALE—RIVERVIEW SANITARIUM, Fishkill-on-Hudson, New York. For information add. Lock Box 784, Fishkill-on-Hudson, N. Y. O

*(Continued on next page)*

FOR SALE—COMPLETELY EQUIPPED hospital and office in town of 1,200; western Iowa; practice without major surgery, $7,000; building and equipment worth $7,500; price, with thorough introduction, $7,500; 5,000 cash, carry balance; live town, good churches and schools; competition OK; good reasons; exceptional opportunity competent surgeon, especially German Catholic. Add. 4778 O, % AMA.

FOR SALE—A PRIVATE TUBERCULOSIS sanitarium of 25 beds; located in the central states near a large city; a thoroughly equipped, well-established business; 92 acres of ground. Add. 4893 O, % AMA.

FOR SALE—WISCONSIN—THE ELROY Hospital, Elroy, Wis.; established 12 years; complete equipments throughout; hot-water heating, electric lighting; ideally located; grounds of 2 acres; price, $4,000; will consider partnership for one year; giving entire charge to competent man. O

FOR SALE—CALIFORNIA—SANITARIUM —20 beds; fine situation; no consumptives; special treatment; no competition; established 7 years; business increasing steadily without advertising; monthly receipts over $900; can be doubled this year; owner's health broken; good staff, assistant doctor, nurses; price, $18,000; part cash. Porter, 1900 American Ave., Long Beach, Cal. O

FOR SALE OR LEASE — RESIDENCE-sanatorium, modernly equipped, 20 beds, three stories, pressed brick, steam heated, wide double porches; located in best section of city, surrounded by Blue Ridge Mountains, free from floods and storms; good patronage; retiring from arduous work; short copartnership considered. For particulars add. Keister Home Sanatorium, Roanoke, Va. O

## LOCATIONS FOR SANITARIA

FOR SALE—MEDICINAL SPRING—BENeficial in liver, kidney, bladder disorders, alkaline colorless, odorless, tasteless; flow 15 gallons minute; spring house; also 47-room furnished house; barn, stable, farm house; 300 acres, arable, mostly cleared; golf, tennis; 1,500 feet elevation; in New Hampshire; 125 miles Boston; ideal for sanitarium; $10,000; leave $5,000 mortgage; first-class order; sentimental reasons for selling; great bargain. Add. 4870 P, % AMA.

FOR SALE—WISCONSIN — 200 ACRES peninsula; overlooking famous Pelican Lake; the "Adirondacks of the Middle West"; altitude 1,800 feet; over 6,000 feet virgin wooded shore line; exceptionally picturesque location; delightful climate; pure chalybeate waters; depot 1¼ miles; 6 express trains daily; investigate this rare opportunity to secure a charming country estate or investment at the fair price of $35 per acre; lake frontage alone worth it. For details, terms, etc., add. Owner, 187 36th St., Milwaukee, Wis. P

## EXCHANGE

FOR EXCHANGE—ILLINOIS—$3,500 UNopposed practice in railroad town of 350; large territory; established 10 years; good people and pay; 9-room house, office, barn, corner lot, horses, buggy, drugs, practice, office furniture, $3,000; take real estate or half cash, balance part of income until paid; valuable appointments transferable; will introduce; retiring; write. Add. 4647 R, % AMA.

## FOR RENT

FOR RENT—CHICAGO—OFFICE OVER drug store on good corner on car line, North Side; five rooms; has been a physician's office for 15 years; giving up general practice and will give good introduction. Add. 4871 Q, % AMA.

FOR RENT—OFFICE OF PHYSICIAN OF 50 years' standing and recently vacated by death; located in his late residence, South Amboy, N. J., on Raritan Bay; office fully furnished; city population about 8,000. Add. Robert M. Kerr, 78 Main St., South Amboy, N. J. Q

FOR RENT — CHICAGO — OFFICE IN Suite 1433 Peoples Gas Building; hours 3 to 5:30 p. m. Inquire of Dr. D. B. Phemister; phone Raudolph 1609. Q




# AMERICA
## HEAVY CAR TYPE TIRES

### SPECIALLY BUILT FOR HARD CONTINUOUS SERVICE

The cost of tire maintenance on a doctor's car is a matter for careful consideration. The **America Heavy Car Type Tires** are specially designed and built to meet the severe requirements of such hard service.

The walls are of extra heavy fabric and the tread is specially compounded and cured to give extreme wearing quality.

Our direct selling method enables us to offer an extra service, strictly high grade tire fully covered by **the standard 3,500-mile guarantee at 15 to 25 per cent.** under the other guaranteed tires.

All **America Heavy Car Type Tires** are sold with privilege of return if not found upon examination to be entirely satisfactory, and the decision lies with you.

Note our **NEW PRICES** effective April 10, 1913. Other sizes in proportion:

| Size | Case | Tube | Size | Case | Tube | Size | Case | Tube | Size | Case | Tube |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 x 3 | $ 9.70 | $2.25 | 30 x 3½ | $15 35 | $3.30 | 31 x 4 | $22.20 | $4.30 | 35 x 4 | $25.35 | $4.80 |
| 30 x 3 | 10.45 | 2.45 | 32 x 3½ | 16.35 | 3.50 | 33 x 4 | 23.80 | 4.55 | 36 x 4 | 26.20 | 4.90 |
| 32 x 3 | 11.15 | 2.55 | 34 x 3½ | 17.80 | 3.70 | 34 x 4 | 24.65 | 4.70 | 34 x 4½ | 30.20 | 5.80 |
| | | | | | | | | | 35 x 4½ | 31.25 | 5.95 |

Send us your order and we will save you trouble, delay and money. TERMS—Cash with order or C. O. D.

**AMERICAN TIRE & RUBBER CO.** 1229-31 South Michigan Ave. CHICAGO

Catalog of Tires, Tubes and Sundries upon request.




### SAVE 9/10 OF YOUR TIRE REPAIR EXPENSE

For .02c you can **permanently** repair every puncture or blow-out in tube, or cut in casing. Easier, quicker and better than vulcanizing. Costs one-tenth as much. No heat or tools needed. Nothing but your two hands and

**TIRE-DOH**

NOW $1 FORMERLY $2

Use the Tire-Doh Outfit anywhere—in the shop or on the road. Tire-Doh means freedom from big tire repair bills and annoying delays. Double the life of your casings by promptly repairing cuts and blisters with Tire-Doh.

The outfit comes only in a white enamel can, and consists of one can of Tire-Doh, and one can of Tire-Doh Cement. Neither Tire-Doh nor Tire-Doh Cement is ever sold separately or under any other label.

Price now **$1.** Just as much Tire-Doh as in the old $2 Outfit. Send us $1 for a Tire-Doh Outfit express prepaid. You run no risk. Money back if you ever ask it. But insist upon genuine Tire-Doh.

ATLAS AUTO SUPPLY CO., • 3231 W. Lake St. CHICAGO



PATENTS APPLIED FOR

**Artistic Steel Garage with a Guarantee**

*Write for Catalogue*

**The Taylor Mfg. Co.**

**Montclair, N. J.**


FOR RENT—HOURS—PHYSICIAN'S OFfice, 12 to 2; everything furnished; Suite 910 Stewart Bldg., 108 N. State St., Chicago. Ask for L. Berg or phone Central 1138. Q

## MISCELLANEOUS—FOR SALE

FOR SALE—COLORADO—DO YOU NEED, or have you a patient needing dry climate? Finest climate on earth for Asthma and incipient tuberculosis. Let me send you particulars regarding this fine irrigated farm one-half mile from growing town in Southern Colorado. Doctor can live on it and practice in town. Fertile soil; long season; profitable crops. Add. Box 384, Rocky Ford, Colo. S

## DRUG STORES FOR SALE

FOR SALE—DRUG STORE IN ST. LOUIS —Best located and best paying in city; central; long established; splendid store and location for physician. For full particulars add. P. O. Box 347, St. Louis, Mo. U

## TRAINING SCHOOLS FOR NURSES

NURSE TRAINING—THE WESLEY HOSpital School for Nurses, Chicago, Ill., offers a three years' course in general nursing. The school is affiliated with Northwestern University and is approved by the state of Illinois. Full particulars sent on application. Bertha L. Knapp, R.N., Superintendent of Nurses. BB

## TYPEWRITERS

STANDARD MEDICAL KEYBOARD TYPEwriter for $28.80. It's a No. 2 Smith Premier and is illustrated and described in our adv. on page 32, this issue. We sell it on easy payments so that you pay each month on the purchase price less than the rent would be. Sign and send the coupon and the typewriter will be expressed you promptly. Harry C. Smith, Dept. P, 180 N. Dearborn St., Chicago.

## EUROPEAN BOARDING HOUSES

GOING TO VIENNA? THE PENSION Baltic is within two blocks of the A. M. A. clubrooms and the Algemeine Krankenhaus; excellent board at reasonable price; references from American physicians; write for information. Frau Helene Galitzenstein, VIII. Alserstrasse 41, Vienna, Austria.

## COLLECTIONS AND MED. BROKERS

DO YOU WANT TO BUY, SELL OR EXchange?—Write us if you do. Service furnished; 2c brings "Opportunity List" or selling plans. Opportunity Agency, Suite 3-114½ W. 2nd St., Little Rock Ark. EE

DRUG STORE (SNAPS) WITH AND WITHout practices; medical practices handled and furnished. Physician's salary positions, likewise dental and veterinary practices; nurses furnished and located; drug positions; all states. F. V. Kuiest, R. P., Omaha, Neb. Estab. 1904. EE

## PUBLISHERS AND PRINTERS

STEEL DIE EMBOSSED STATIONERY— Distinctive and impressive for the medical profession; will send samples and prices upon request. Hammond Printing Co., Fremont, Neb. GG

A PHYSICIAN MUST BE A CONSTANT student. This is what makes the work interesting. When you want medical books, remember we carry the largest assortment in the country. All orders for any book filled promptly. Read our special adv., page 8, this issue, and then write for complete catalogue. Sent free to physicians mentioning J. A. M. A. Chicago Med. Book Co., Congress and Honore Sts., Chicago. GG

*(Continued on next page)*

## AUTOMOBILES AND CARRIAGES

FOR SALE—FORD 1912 MODEL T RUNabout, with full equipment, two new tires and many extras; run 4690 miles; carefully used; just overhauled and guaranteed in perfect condition; any demonstration given; must sell; price, $300 cash, or $325 on monthly payments; also coupé body, especially built for Ford car; cost $250; sell for $75; will sell separate; property of deceased doctor. Add. for photo and full particulars, T. Richard Bowles, Providence, R. I. HH

## AUTO ACCESSORIES AND SUPPLIES

KEROSENE FOR AUTOMOBILES—OUR new Model B uses successfully half and half mixture lowest grades kerosene and gasoline. Satisfaction guaranteed or money refunded. Greatly increased power; very slow speed on high. Starts easy at zero. Special agents' prices. Dept. B. The Air-Friction Carburetor Co., Dayton, Ohio. II

## SALESMEN WANTED

WANTED — MEDICAL BOOK CANVASSers desiring employment and physicians looking for a change should correspond with us; restricted territory; new catchy line; highest commission; special training given. C. V. Mosby Co., Metropolitan Bldg., St. Louis, Mo. JJ

WANTED—MEDICAL BOOK CANVASSers; qualified salesmen, physicians or former detail men; must have experience; exclusive territory; highest commissions. Add. Rebman Company, 141-45 W. 36th St., New York City. JJ

WANTED—SPECIAL REPRESENTATIVES —We want a few more active men; good personality, education and ability required. The work is soliciting among the medical profession for high class medical publications, good territory open. All necessary supplies furnished free; also special information which will save your time and help you get orders. Remuneration is by commission with a bonus based on amount of orders. Work is pleasant and agreeable, and a good live hustler can make $50 or more each week. For further information add. 4837 JJ, % AMA.

## FROM FACTORY TO WEARER TELLS THE STORY



**SPECIAL DUSTER COAT OFFERING**

**U. S. Gov. Waterproofed Khaki Coat in Tan or Olive Green Duster and Rain Coat Combined**

**$8.50 Value for $4.50 Prepaid**

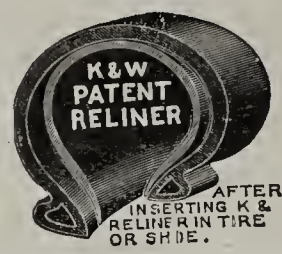
Coats are made 54 in. long, double breasted, full military skirts, belted back, wind shields in cuffs, collar adjustable to two heights.

We will send you one of these garments prepaid on receipt of price. Drop us a postal, and we will send you sample of cloth and measurement blanks.

**FULLER & SULLIVAN**

**Dept. D. 11-19 Eliot St., Boston, Mass.**

Manufacturers "F. & S." Brand Auto Coats




## DOCTORS

Write for our 1913 calendar and K & W Tire Accessory Catalog.

WRITE US NOW—will allow you a Special Price if we have no agent in your vicinity handling our Reliners, Patches, Boots, etc.

**K & W Mfg. Co.**

**Orange St. Ashland, Ohio**

## Solid Rubber Tires NEVER MAKE TROUBLE!



No blowouts, no punctures, no expense, no hard work, no delays, when you use good solid rubber tires with our motor-buggies. The large wheels make easy riding, and they slice through mud or sand where standard automobiles cannot go. Our cars are light and simple and wonderfully strong. Two passenger car, $487.50; four passenger, $537.50. Send for catalog.

**C. J. DURYEA MOTOR CO., Saginaw, Mich.**

## "EMCO" AUTOMOBILE OIL No. 300

is refined by us from Pennsylvania Crude Oil. It contains **No Carbon, has High Fire Test, Low Cold Test and Great Viscosity.**

Sold by all dealers or will be shipped direct from our refinery, Bradford, Pa., in 5 or 10 gal. cans, barrels or half barrels. Your money back if not satisfactory in every respect.

Prices and samples upon request.

**EMERY MFG. CO., BRADFORD, PA.**

## MISCELLANEOUS COMMER. ADVTS.

FOR THE VOMITING AND DISORDERS of the alimentary tract in infants and young children, Dennos Food is prescribed with the best possible results. We will send you free a liberal supply of sample packages and complete descriptive literature. See adv. page 14, this issue. When writing mention J. A. M. A. Dennos Food Co., 115 S. La Salle St., Chicago. KK

COLLECTION SYSTEMS AND CLINICAL records for physicians. Let us send you samples. Our forms possess specific features of practical excellence. Address The Holden System. Box 351, Yonkers N. Y. When writing mention J. A. M. A. KK

WATER-COOLED X-RAY TUBES — FOR fluoroscopic treatment and radiographic work they are unsurpassed. Read our illustrated adv. on page 31, this issue. Descriptive literature mailed free to physicians mentioning J. A. M. A. when writing. E. Machlett & Son, 153 E. 84th St., New York City. KK

SIX X-RAY PLATES FREE. SEE ADV. P. 32, this issue. X-ray pictures made with our plates show structural detail and sharp distinction between the normal and abnormal with remarkable accuracy. Complete pricelist, descriptive circular and box of plates free to physicians mentioning J. A. M. A. Herbert & Huesgen Co., 456 4th Ave., New York City. KK

LIFE-SIZE ANATOMICAL MANIKINS IN natural colors, $15 (including obstetrical supplement), made of indestructible linen cardboard. Our pamphlets giving complete description will be mailed free to physicians mentioning J. A. M. A. when writing. Am. Thermo-Ware Co., 16 A Warren St., New York City. KK

INFANT FEEDING—WE WANT YOU TO try our Malt Soup Extract. It is a finished food containing nutritious elements in concentrated form. Read our adv., page 16, this issue, and if you mention J. A. M. A. when writing we will send you samples and literature free. Borcherdt Malt Extract Co., 217 N. Lincoln St., Chicago. KK

WE CLAIM

# PARAGON X-RAY PLATES

TO BE

## The Finest, Fastest and Best X-Ray Plates Made

We want you to try these plates and prove to your own satisfaction in your own laboratory our claim that Paragon Plates are the *finest*, *fastest* and *best*.

Our Special Offer to physicians attending the recent convention at Minneapolis met with such overwhelming success that we have decided now to extend this great offer to the physicians throughout the country.

**OUR SPECIAL OFFER**

**$3.15 Value for $1.00**

| | |
|---|---|
| 3 5x7 Paragon X-Ray Plates - - | (value $0.38) FREE |
| 3 8x10 Paragon X-Ray Plates - - | (value .77) FREE |
| 1 Benoist Type Penetrameter - - | (value 2.00) |
| 1 Paragon Service Coupon - - - - - - - - - | FREE |
| | $3.15 for only $1 |

To obtain one of these boxes simply detach the coupon below, write your name and address plainly on the blank lines, PIN A ONE DOLLAR BILL TO IT, and mail to us TO-DAY, and we will forward the box to you by first express.

**Geo. W. Brady & Co.**

754 S. Western Ave.

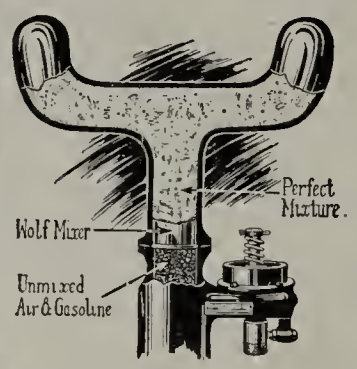
CHICAGO, ILL.

Name .....

Street .....

Town .....

State .....




## You Are Helpless

To prevent the increased cost of gasoline, but you CAN cut your consumption

**15 to 40% with**

# Wolf Gasoline Savers

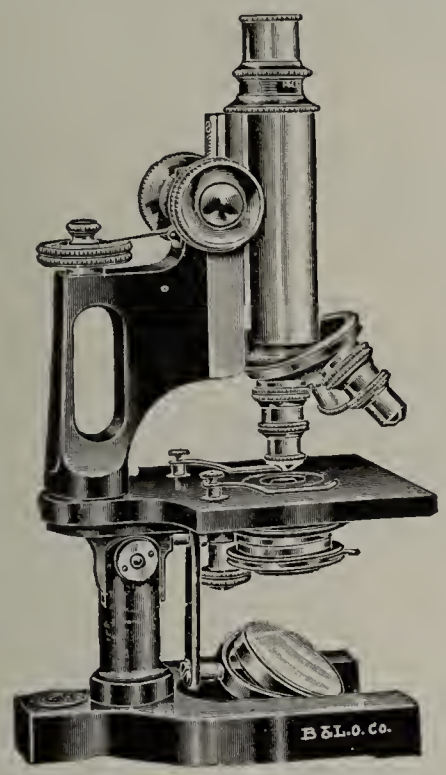
Get more power and flexibility.
Less noise, vibration and carbon deposit.
No moving or delicate parts.
No screens to clog.
Inserted in manifold in a few minutes.
No holes to bore.

| PRICE, SIZES UP TO | |
|---|---|
| 1½ inch | $1.50 |
| 1 9/16 inch to 2 inch | 2.00 |
| Special Ford type | 1.00 |

State make and model of car. Sent postpaid on receipt of price. Sold on two weeks' trial. Liberal proposition to agents.

**APPROVED AUTO SPECIALTIES CO.**

**1732-37 Broadway, NEW YORK CITY**




BBH-8 Microscope: Equipped with Abbe condenser; 2 Iris diaphragms; 5 x (2-in.) and 10 x (1-in.) eyepieces, 16 mm (2/3-in.) and 4 mm (1/6-in.) dry and 1.9 mm (1/12-in.) oil immersion objectives and triple dust-proof nosepiece. Price $80. With *new* Swing-out condenser, $85.

Accuracy-Efficiency-Durability

A reputation of almost sixty years in the making of high grade scientific instruments

**Bausch and Lomb Microscopes**

meet every requirement demanded by physicians

Send for our catalog, which gives a full list of prices and descriptions of physicians' laboratory equipment.

**Bausch & Lomb Optical Co.**

**400 ST. PAUL STREET, ROCHESTER, N.Y.**

**Tungsten Target Water Cooled Tube for Heavy Currents**



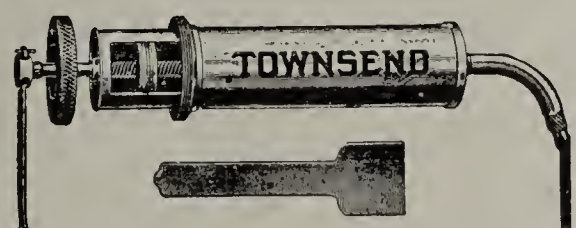
**With Arrangement for Continuous Water Flow**

Just the tube for fluoroscopic treatment and radiographic work

**E. MACHLETT & SON**

153 East 84th Street NEW YORK CITY

**Dr. Townsend's Formula**




Fill this gun with grease or oil, insert nozzle into your transmission or differential case; turn the handle and you have shot 1 lb. of grease on the groaning vitals of your car and saved yourself $50 to $400.

Time 40 seconds; not a particle of grease on your hands.

**6 oz. $3.00; 8 oz. $3.50; 12 oz. $4.00; 16 oz. $5.00.**

Order from your dealer or direct from us.

GUARANTEE: Satisfaction or money returned.

**S. P. TOWNSEND & CO., Central Avenue, Orange, N. J.**

**EXT. CHINAE NANNING**

*Non-alcoholic. Made by Special Process. 5% Alkaloids.*

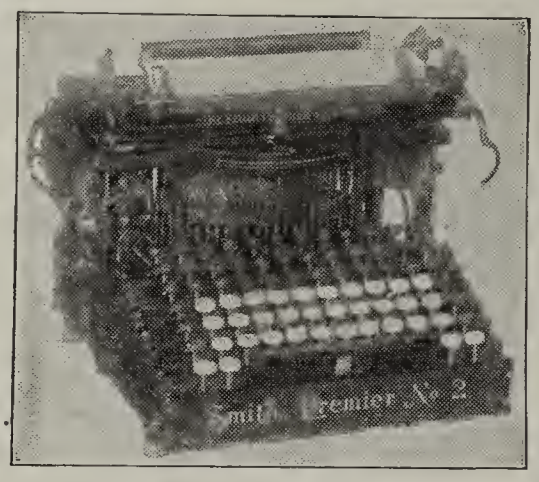
A BITTER TONIC of exceptional utility in all functional gastric disorders, defective metabolism and diseases of psycho-neurotic origin.

*Samples and literature on request.*

THE REINSCHILD CHEM. CO., Agts., 71 Barclay St., NEW YORK CITY

# Typewriter Sensation

## 2 Dollars a Month




**Buys a genuine Standard No. 2 SMITH-PREMIER Typewriter with MEDICAL KEYBOARD and at $71.20 less than the manufacturer's price**

Never before has anything like this been attempted. Dealers get $3.00 a month rent for this make of machine, not nearly as perfect as the one we will send you, and you pay only TWO DOLLARS A MONTH AND OWN IT.

### Send the Coupon and We Will Ship You This Smith-Premier Typewriter

When the typewriter arrives, deposit with the express agent $8.80 and take the typewriter three days and try it. If you find it to be the best typewriter you ever saw, satisfactory in every respect, keep it and send us $2.00 each month, until our special price of $28.80 is paid. If you don't want to keep it, return it to the express agent, and he will give you back your $8.80, and return the typewriter to us. We will pay the return express charges.

You won't want to send this machine back after you have seen it and tried it. You can't imagine the perfection of these machines till you see one, and the price is $71.20 **less than the catalogue price,** and it is guaranteed just as if you paid $100.00.

**Perfect machines only, complete outfit, nothing extra to buy, no strings of any kind to this offer.** Just think of buying such a typewriter for $8.80 down and $2.00 a month. Cash price $26.90. Thousands of people have paid $100.00 cash for Smith-Premiers. **It's standard,** by many considered the best typewriter ever built. A key for each character, so each character is always the same, a type brush for cleaning the type built into the machine; the tilting carriage; comes to you with tools, rubber cover, everything ready. It runs beautifully. It's wonderfully simple and strong. It will last a lifetime. I sold a similar supply of these beautiful machines about a year ago to everybody's satisfaction.

### Only 200 orders will be filled on this offer. Act today to be sure

This coupon states the terms. Fill it out, send it now, today. You can't lose, and it's the greatest economical typewriter opportunity you will ever have.

COUPON

HARRY C. SMITH
**No. 180 North Dearborn Street, CHICAGO, ILL.**

Ship me a No. 2 Smith-Premier f. o. b. Chicago, as described in this advertisement. I will pay you the $20.00 balance of the SPECIAL $28.80 purchase price, at the rate of $2.00 per month. The title to remain in you until fully paid for. It is understood that I have three days in which to examine and try the typewriter. If I choose not to keep it I will carefully repack it and return it to the express agent. It is understood that you give the standard guarantee for one year.

*Name* .....

*Address* .....

*Shipping Point* .....






# Let Us Send You This Box of 6 Plates—FREE

WE ARE SO CONFIDENT OF THE SUPERIORITY OF THESE plates over all other X-Ray plates that we want you to try, at no expense to you, a package of six.

Speedy without sacrificing detail; give vivid contrasts and strong shadow outline. Unequaled for all kinds of radiographic work.

Write today for your free package on your business paper.

*We guarantee as absolutely fresh all plates we send out.*

**HERBERT & HUESGEN CO.**
**456 Fourth Avenue** **NEW YORK CITY**



# Rx *Infallible for*

sweaty, dusty, uncomfortable, driving hands in sultry summer, or greasy, grimy hands from "tinkering" with your car. These unpleasant "symptoms" clearly require the prescription.

## Grinnell Gloves

**Sold with a Bond**




**Grinnell Gloves** are extremely popular with physicians who drive—in car or buggy. Made from *very finest* glove leathers, soft, *tough* and pliable, smooth fitting inside and out, with neat, snug **"Rist-Fit"** device, and new *"Grip-Tite"* palm for extra wear and easier non-slip grip—with a distinctive "stay-put" gauntlet. Our black coltskin is more nearly waterproof than any other glove leather. These gloves need no further commendation than the clever *ventilating* perforations on the back which keep the hands cool, dry and clean.

**Get a pair on approval.** Examine Grinnell **'Rist-Fit" Gloves**—also our street and dress gloves—at your dealer's or *write us for Free Glove Book* and samples of leathers, with "Pair on Approval, Prepaid" offer.

**Morrison-Ricker Mfg. Co.**
Established 1856
**92 Broad Street, Grinnell, Iowa**

Note String for Opening





# Cotton in Sealed Cartons

Protection during distribution is as important as care in preparation.

There is no more definite assurance of an untouched absorbent than the B & B Sealed Handy Package.

**B&B Aseptic Handy Package Absorbent Cotton**

Bauer & Black, Chicago and New York

Makers of Surgical Dressings, Absorbent Cotton, Adhesive Plaster, O-P-C suspensories, etc.

## OPHTHALMIA NEONATORUM

**Prophylaxis**

5 Per Cent. Solutions

**SOPHOL**

**Treatment**

2 to 5 Per Cent. Solutions

**Convenient**

**Supplied in 5 Grain Vials**

*Samples furnished by* THE BAYER CO., Inc. 117 Hudson St., New York

## The Superiority of the Carnes Arm is Recognized by Leading Surgeons



See Fifth Edition of "Operative Surgery," page 1094, by Dr. J. F. Binnie; also Volume Five "Keen's Surgery," pages 918-922 inclusive. It embodies the movements of the natural hand and arm, and is built for service as well as appearance.

Send For Full Particulars.

CARNES ARTIFICIAL LIMB CO.
KANSAS CITY - - MISSOURI

We call attention to the very good results obtainable by the administration of

## DIETERICH'S FERRO MANGAN-PEPTONATE

wherever the quality or quantity of blood is impaired.

## DIETERICH'S BROMO MANGAN

(FERRO MANGAN WITH ORGANIC BROMINE)

wherever the above condition is accentuated by impairment of the nervous system requiring a Sedative in addition.

**The Reinschild Chemical Co.**

71 Barclay Street NEW YORK

# AT LAST A DEPENDABLE REMEDY

In the treatment of those intractable cases of

INDOLENT VARICOSE ULCERS — ULCERATING SYPHILIDES

TUBERCULOUS AND DIABETIC ULCERS

SLUGGISH OR NON-GRANULATING WOUNDS — ECZEMA, BURNS, HERPES, ETC.

**Hastens epithelial growth and the formation of healthy and durable integument**

# SCARLET RED LETTER R SALVE

A stimulating application that secures quick results in all cases of skin diseases hitherto the *bêtes noires* of dermatology

Presenting BIEBRICH, SCHARLACH ROTH, Medicinal

Manufactured by KALLE & CO., A. G., Biebrich on the Rhine

Unlike any other Ointment

SEE CLINICAL REPORTS OF

PAUL AUERBACH: "Aus der Hautabteilung, der Magdeburger Krankenanstalt" (Oberarzt Dr. Schreiber). "Klin. Therap. Wochenschrift," 1909, No. 24.

Dr. H. REINHARDT: "Apotheker-Zeitung," 1909, page 90. See also "Vierteljahrschrift fur pract. Pharmacie," 1908, Part 4, page 311.

Dr. KURT PEIN (Rudolph Virchow Hospital, Berlin): "Die Therapie der Gegenwart," Part 3, March, 1910.

To avoid substitutes for the original Biebrich Scharlach Roth Medicinal, Kalle, it is absolutely necessary when prescribing Scarlet R Salve to specify "*Heilkraft.*"

For Samples and Clinical Reports Free, Apply to

**HEILKRAFT MEDICAL CO. Boston, Mass.**

Sole agents for Biebrich Scharlach Roth Medicinal, Kalle.

## COMBINED IRON-IODIN THERAPY

**As palatable as candy**

SCROFULOSIS
RICKETS

**FERRO-SAJODIN**
TABLETS

CHLOROSIS
ANEMIA

**Do not disturb stomach, constipate or stain teeth**

*Samples Supplied by* **THE BAYER CO., Inc.** 117 Hudson Street, New York

# Euquinine

"Quinine" is the sulphuric acid salt of the base quinine. Euquinine is the ethylcarbonic acid salt of the same base.

See description, "New and Non-official Remedies."

# is Children's Quinine

*It is Tasteless*

**MERCK & CO., NEW YORK**

## THE CHICAGO POLICLINIC

**Special Summer Session** in SURGERY, GYNECOLOGY, OBSTETRICS, DERMATOLOGY, RECTAL, GENITO-URINARY, MEDICINE, EYE, EAR, NOSE and THROAT diseases will begin **May 1st,** and continue to **September 1st, 1913.** Physicians may enter at any time. Special courses will be conducted in General Operative Surgery and Surgery, Eye, Ear, Nose and Throat, together with practical courses in Bacteriology, covering examinations of Blood, Pus, Sputum, Urine, and Gastric Juice. We give special courses in the WASSERMANN REACTION and the method of making AUTOGENOUS VACCINES.

**M. L. HARRIS, M.D., Secy.** **Dept. B., 219-221 W. Chicago Avenue** **CHICAGO, ILL.**

## ILLINOIS POSTGRADUATE MEDICAL SCHOOL

*FOR FURTHER INFORMATION, ADDRESS*
**DR ALEX C. WIENER, Secretary, 1844 W. Harrison Street, CHICAGO, ILLINOIS**

**Medical science is beginning to force its enlightenment upon daily practice.**

**Special for July**—Diseases of the digestive tract, from the biological, chemical, medical and surgical point of view.
**All Year:** Anaphylaxis. Immunity. General clinical and laboratory course. Operative surgery on cadaver in private, sanitary, light rooms. Autogenous vaccines. Wassermann test.

*PHILADELPHIA*
## *BULLETIN OF SURGICAL CLINICS*

*COMMITTEE:*

Dr. John H. Jopson
" Duncan L. Despard
" Charles H. Frazier, Ch'm
" John H. Gibbon
" Edward B. Hodge, Treas.
" Charles F. Mitchell
" Wm. L. Rodman

Dr. George G. Ross
" Henry R. Wharton
" John H. Roberts, Sec.
" G. G. Davis
" Charles F. Nassau
" H. C. Deaver
" E. Hollingsworth Siter

Dr. George P. Müller
" S. MacCuen Smith
" E. E. Montgomery
" W. Wayne Babcock
" S. Lewis Ziegler
" Catherine MacFarlane
" John G. Clark

UNDER the direction of this Committee a Bureau has been established in Philadelphia which *distributes daily* to each hospital a complete list of the operations for the day in 35 hospitals. Visiting physicians are enabled without loss of time to see those operations in which they may be particularly interested in the domains of general surgery, gynecologic, orthopedic and genito-urinary surgery, ophthalmology, laryngology and otology.

*The Bulletin is posted in each of the 35 hospitals and may be consulted at the Bureau, 19 South 22d Street, Philadelphia, or by Telephone, Spruce 2354.*

W. A. FISHER, M.D., President A. G. WIPPERN, M.D., Vice-President

## Chicago Eye, Ear, Nose and Throat College

POST-GRADUATE INSTRUCTION

**Diseases of the Eye, Ear, Nose and Throat and Fitting of Glasses.**

A House Physician is appointed in June and December.

Open the year round. Write for announcement to

**J. R. HOFFMAN, M.D., Secretary, 235 WEST WASHINGTON STREET, CHICAGO**

## POST GRADUATE SCHOOL OF INSTRUCTION

**Manhattan Eye, Ear and Throat Hospital, New York.**

Individual and graded instruction in all branches, including operative, clinical and laboratory courses.

*For information address*

**Secretary, 210 East 64th St., New York City**

## THE NEW YORK EYE and EAR INFIRMARY

*School of Ophthalmology and Otology—For Graduates of Medicine.*

Clinics daily by the Surgical staff of the Infirmary. Special courses in Ophthalmoscopy, Refraction, Operative Surgery of the Eye and Ear, and Pathology.

The abundant clinical material at this well-known institution affords students an unusual opportunity for obtaining a practical knowledge of these special subjects. Two vacancies in the House Staff exist in January and July of each year. For particulars address the Secretary,

**DR. GEORGE S. DIXON, New York Eye and Ear Infirmary.**

## WOMAN'S HOSPITAL OF PHILADELPHIA

**2137 North College Avenue**

POST-GRADUATE INSTRUCTION FOR WOMEN

GENERAL COURSE SPECIAL COURSES OPERATIVE COURSES

FOR PARTICULARS APPLY TO

**CATHARINE MACFARLANE, M.D., Secretary of Staff**

5808 Greene Street, Germantown, Philadelphia

## Summer Session

JULY and AUGUST

Regular Courses Continued

General Clinical Courses suitable for the general practitioner.

Special Personal Courses in all departments.

OPERATIVE SURGERY CADAVER and DOG

LABORATORY COURSES

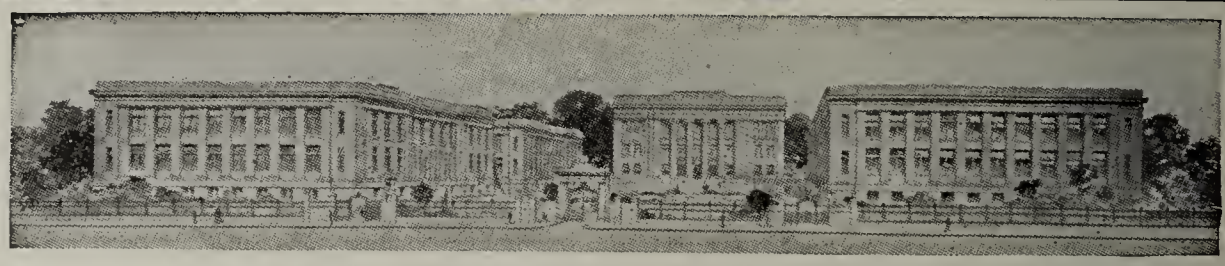
Vacancies in Nurses Training School.

## POST-GRADUATE MEDICAL SCHOOL

2400 Dearborn St., CHICAGO, ILL.

# Harvard Medical School

BOSTON
MASSACHUSETTS



**COURSE FOR THE DEGREE OF M.D.** A four years' course is open to holders of a bachelor's degree from a recognized college or scientific school, and to persons who, having studied specified subjects during two years in college, are permitted to enter as special students. Special students receive the M.D. degree if, during residence, they attain high rank. The studies of the fourth year are wholly elective; they include laboratory subjects, general medicine and surgery and the special clinical branches. The school year extends from the Monday before the last Wednesday in Sept. to the Thursday before the last Wednesday in June.

**COURSE FOR THE DEGREE OF Dr.P.H.** Graduates in medicine and other properly qualified persons may become candidates for the degree of Doctor of Public Health.

## Graduate School of Medicine

**Graduate Instruction on a University Basis**

**COURSES** are given throughout the year in all clinical and laboratory subjects.

**INSTRUCTION** will be as thorough and scientific as in the Medical School proper. Elementary and advanced courses. Research courses for qualified students.

**STUDENTS** are admitted at any time and for any length of study.

**For information address HARVARD MEDICAL SCHOOL, BOSTON, MASS.**

# Harvard Graduate School of Medicine

**Summer Term, June 1 to September 30**

Thorough courses (clinical and laboratory) in all branches of medicine.

**Physical Diagnosis.** Dr. Richard C. Cabot. July.
**Pediatrics.** } Systematic monthly courses in both these subjects, with exceptional material.
**Orthopedic Surgery.** } Courses arranged for all day or a half-day.
**Tropical Medicine.** A systematic course, lasting six months, will begin November, 1.

Send for catalogue or apply for information to

**HORACE D. ARNOLD, M.D., Dean, 240 Longwood Avenue, Boston, Mass.**

# EYE, EAR, NOSE AND THROAT

Special DIDACTIC and LABORATORY COURSES in the Anatomy, Pathology, Diagnosis, Treatment, Refraction and Operative Surgery.

Address: **M. L. HARRIS, M.D., Secretary, CHICAGO POLICLINIC**
**219-221 W. Chicago Avenue, CHICAGO**

**THE ANNOUNCEMENTS OF "CLASS A PLUS" AND "CLASS A" MEDICAL SCHOOLS ALONE ARE ACCEPTED FOR THESE COLUMNS**

It is of great importance to every prospective student of medicine that he should know the classification of the various medical institutions as fixed by the Council on Medical Education of the American Medical Association. This information is contained in pamphlet 71, which will be sent on receipt of 4c to cover cost of mailing.

**The American Medical Association**
**535 Dearborn Avenue** **Chicago, Ill.**

# UNIVERSITY OF ALABAMA
## SCHOOL OF MEDICINE
**MOBILE, ALA.**

The next session will begin on Sept. 22, 1913, and continue until May 29, 1914. After January 1st next, one year, and after January 1, 1915, two years of college work will be required for admission.

Six full time instructors in laboratory branches. Clinical facilities ample. Senior year almost entirely devoted to practical work in dispensary and hospitals.

For catalogue and information address

**EUGENE D. BONDURANT, M.D., Dean School of Medicine, St. Anthony and Lawrence Sts., Mobile, Ala.**

# GEORGE WASHINGTON UNIVERSITY
**DEPARTMENT OF MEDICINE** **Washington, District of Columbia**

**NINETY-THIRD SESSION begins last Wednesday in September.**

**ADMISSION**, four-year high school course or its equivalent. After January 1, 1914, one year of college work, including biology, chemistry, physics, and a modern language will be required.
**LABORATORIES**, six in number, are fully equipped.
**CLINICS** are ample. University Hospital and Dispensary under faculty control, additional clinics in other hospitals.
**ADVANTAGES** to students of adequate medical training and residence in the Capital of the United States. For catalogue or other information, address

**W. C. BORDEN, M. D., Dean, 1325 H Street, N. W., Washington, D. C.**

# RUSH MEDICAL COLLEGE
IN AFFILIATION WITH
## THE UNIVERSITY OF CHICAGO

SUMMER QUARTER COMMENCES JUNE 16, 1913

Students lacking full preparation and students seeking admission to advanced standing may enter with advantage at this time. A good quarter for practitioners. Address

**RUSH MEDICAL COLLEGE, Chicago, Ill.**

# Northwestern University Medical School
**ARTHUR ROBIN EDWARDS, A.M., M.D., Dean**

Requires for admission two years of college work including courses in inorganic chemistry, qualitative analysis, physics, zoölogy and either French or German. Strong traditions. High scholastic standing. Seven hospitals. Three dispensaries. Six-year combined courses. For description of courses and advantages, address

**The Registrar** **2431 DEARBORN STREET, CHICAGO**

# UNIVERSITY OF LOUISVILLE
MEDICAL DEPARTMENT

The following named Medical Schools, by mutual agreement of the respective Faculties, and in perfect accord, have now united and become the Medical Department of the University of Louisville, transferring their good will and prestige:

| | | |
|---|---|---|
| **The Medical Dept., Univ. of Louisville** | **Organized in** | **1837.** |
| **The Kentucky School of Medicine** | " | **1850.** |
| **The Louisville Medical College** | " | **1869.** |
| **The Hospital College of Medicine** | " | **1873.** |
| **Medical Dept. of Kentucky University** | " | **1898.** |

Member of the Association of American Medical Colleges. **The next session begins October 1, 1913 and continues 8 months.** For special announcement of the Medical Department address the Dean.

**Dr. W. Ed. Grant.**

## THE COLLEGE OF MEDICINE
OF
## TULANE UNIVERSITY OF LOUISIANA

Degrees in Medicine — Degrees in Public Health
Degrees in Tropical Medicine — Degrees in Dentistry
Degrees in Pharmacy — Certificates for Graduate Work

*Equipment Complete in all Departments*

**Clinical Opportunities Unexcelled**

*Postgraduate School for Physicians Throughout the Year*

**Summer School of Medicine, June to October**

**Opportunities for research afforded at all times of the year**

**ALL SCHOOLS OPEN OCTOBER 1**

*For Catalog and all information address*

**THE TULANE COLLEGE OF MEDICINE**
**P. O. Drawer 261 — NEW ORLEANS, LOUISIANA**

## Tufts College Medical School
**BOSTON, MASSACHUSETTS**

This School offers to men and women a four years' graded course, including all departments of the study of Medicine.

Its Laboratory facilities and Clinical advantages are unsurpassed.

The next session begins the last Wednesday in September and continues until June. For further information or for catalogue address

**FREDERIC M. BRIGGS, M.D., *Secretary***
**Tufts College Medical School, — Boston, Mass.**

## THE UNIVERSITY OF MINNESOTA — COLLEGE OF MEDICINE AND SURGERY

MINIMUM ADMISSION REQUIREMENTS. Two years in the Academic College of this University, or other approved College, are required, which must include one year's physics, biology and rhetoric, two years' chemistry, and reading knowledge of German or French. All students must secure the B.A. or B.S. degree before the M.D. degree is conferred.

COMBINED COURSES. Two years college work, plus the first two years in medicine, lead to the B.S. degree; three years college work, plus one year medicine, lead to the B.A. degree.

COURSE OF MEDICAL STUDY. Five years are required. The fifth must be spent as hospital interne in approved institutions, or in laboratory research and teaching in this College.

GRADUATE WORK. All modern facilities for research are offered. Students may elect work in this college for the degrees of M.A., M.S., Ph.D., or Sc.D.

TUITION FEES. The first four years in medicine, $150 per annum. No fee for fifth year

For bulletin containing full information, address **THE DEAN,**
**College of Medicine and Surgery, University of Minnesota, Minneapolis, Minn.**

## WASHINGTON UNIVERSITY MEDICAL SCHOOL

### REQUIREMENTS FOR ADMISSION

Candidates for entrance are required to have completed at least two full years of college work, which must include English, German and instruction with laboratory work in Physics, Chemistry and Biology.

### INSTRUCTION

Instruction begins Thursday, September 25, 1913, and ends Thursday, June 11, 1914.

Clinical instruction is given in the Washington University Hospital, controlled by Washington University, in the St. Louis Children's Hospital, in the Mullanphy Hospital and in the dispensaries connected with these institutions. During the session of 1913-14 the Medical School will move to its new buildings immediately adjacent to the Barnes Hospital and the St. Louis Children's Hospital, which are affiliated with the Medical School.

### COURSES LEADING TO ACADEMIC DEGREES

Students in Washington University may pursue study in the fundamental medical sciences leading to the degree of A.M. and Ph.D.

### GRADUATE INSTRUCTION

Summer courses for physicians in medicine, surgery, obstetrics, various specialties, pathology, bacteriology and metabolic chemistry, are given from June 2d to July 2d.

### TUITION

The tuition fee for undergraduate medical students is $150 per annum.

The catalogue of the Medical School may be obtained by application to the

**Dean of the Washington University Medical School**
**1806 Locust Street, Saint Louis, Mo.**

## CORNELL UNIVERSITY MEDICAL COLLEGE

Holders of a Baccalaureate degree or Seniors who can present a degree before entering the Second Year, who also present the requisite courses in Chemistry, Physics and Biology, are admitted from recognized Colleges or Scientific Schools. The session opens on the last Wednesday in September. The first year is devoted to Anatomy, Chemistry and Physiology, and may be taken either in Ithaca or New York City. The last three years are chiefly clinical and must be taken in New York City. For further information address,

**The Dean, CORNELL UNIVERSITY MEDICAL COLLEGE,**
**First Avenue and 28th Street, - - - New York City.**

## SYRACUSE UNIVERSITY
### COLLEGE OF MEDICINE

**ENTRANCE REQUIREMENTS:** Two years in a registered College or School of Science. Combiuation courses recognized.

**LABORATORY COURSES** in well equipped laboratories under full time teachers.

**CLINICAL COURSES** in two general, one special and the municipal hospitals and in the new college dispensary now building, in all of which senior students serve as clinical clerks.

**Address The Secretary of the College of Medicine, 307 Orange St., Syracuse, N. Y.**

## University of Pennsylvania
1765 — SCHOOL OF MEDICINE — 1913

**UNDERGRADUATE DEPARTMENT**—The 148th Session will begin Sept. 26, 1913. The course of instruction, extending over four annual sessions of eight and one-half months each, is a carefully graded and eminently practical one beginning with the fundamental branches with full laboratory exercises, proceeding through a comprehensive system of clinical instruction in which ward and bedside instruction and individual work on the part of the students form a large part, and terminating in the Fourth Year with the assignment of students as clinical clerks in the Hospital. A large proportion (more than 90 per cent.) of the graduating class secure positions as interues in hospitals.

**REQUIREMENTS FOR ADMISSION**—Candidates must have successfully completed work equivalent to that prescribed for the Freshman and Sophomore Classes in colleges recognized by this University, which must include collegiate courses in Physics, General Biology or Zoology and Chemistry (Qualitative Analysis is required; Organic Chemistry is recommended), together with appropriate laboratory exercises in each of these subjects, and two languages other than English (one of which must be French or German). For detailed information send for catalogue. Certificates from recognized colleges covering these requirements will be accepted in place of an examination.

**GRADUATE WORK**—To properly prepared men (Bachelor's degree required) certain of the subjects of the Medical School are open for election in work in the Graduate School of the University, leading to the Master's Degree or to the degree of Doctor of Philosophy. For graduate physicians, courses in Public Hygiene, leading to the degree of Doctor of Public Hygiene (Dr.P.H.) are open; or to other persons with adequate preparation parts of this instruction are offered without reference to degree. Courses in Tropical Medicine are conducted from the beginning of the session to Feb. 1, 1914. The clinics and laboratories are open throughout the year. For further information apply to

**Dean of School of Medicine, University of Pennsylvania, Philadelphia**

## MEDICAL COLLEGE OF VIRGINIA
**Christopher Tompkins, M.D., Dean**

Medicine — Dentistry — Pharmacy

Excellent theoretical course as well as thorough practical and clinical instruction in State Institutions and hospitals and laboratories of the College. This school conforms to the requirements of the Council on Medical Education of the American Medical Association, regarding preliminary education and curriculum.

For announcement of the annual sessions, which commence in September of each year, address **FRANK M. READE, M.D., Secretary, Richmond, Va.**

## University of Virginia
### MEDICAL DEPARTMENT
**CHARLOTTESVILLE, VA.**

The Entrance Requirements are the completion of a four-year high school course, and in addition, a year of recognized college work in Chemistry, Biology and either Physics, German or French.

The Prominent Features of the course are extensive laboratory instruction in the fundamental medical sciences and thorough practical training in the University Hospital, where students have many of the advantages usually granted only to internes.

**For catalogue address, HOWARD WINSTON, Registrar**

**LAWS** ¶ Regulating the Practice of Medicine in the United States and elsewhere. It is a digest of the laws regulating medical practice revised to date.

¶ It gives verbatim those sections of the laws that are of special interest and in every case all essential facts are stated. A tabulated outline of each state law is one very unique feature.

¶ It contains information regarding reciprocity between the states as far as it has become established: thirty-three states now reciprocate. Sent prepaid by mail Stamps acceptable. **Price, 30c.**

**AMERICAN MEDICAL ASSOCIATION, — 535 Dearborn Avenue, CHICAGO**



ENTRANCE WEST HOUSE OFFICE AND BATH HOUSE PSYCHOPATHIC HOSPITAL

## THE MILWAUKEE SANITARIUM

ESTABLISHED IN 1884

### FOR MENTAL AND NERVOUS DISEASES, WAUWATOSA, WIS.

Wauwatosa is a suburb of Milwaukee, on C. M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment, as heretofore announced.

New Psychopathic Hospital: Continuous baths, fire-proof building, separate grounds.
New West House: Rooms en suite with private baths.
New Gymnasium and recreation building: physical culture, new "Zander" machines, shower baths.
Modern Bath House: Hydrotherapy, Electrotherapy, Mechanotherapy.
28 acres beautiful hill, forest and lawn. Five houses. Individualized treatment.

RICHARD DEWEY, A.M., M.D., in charge. HERBERT W. POWERS, M.D., WM. T. KRADWELL, M.D.
CHICAGO OFFICE: Venetian Building. Wednesdays 11:30 to 1 o'clock except July and August.
TELEPHONES: Chicago—Central 2856. Milwaukee—Wauwatosa 16.

GYMNASIUM LAWN MAIN BUILDING FOREST PATH



## VICTORIA SANATORIUM AND COLFAX MINERAL SPRINGS

### Colfax, Iowa



Physiological Therapeutics a specialty. Hydrotherapy, Electrotherapy, Light therapy; Hyperaemic Vibratory, X-Ray and all other treatments. Foreign trained Swedish Masseuses and Masseurs. A splendid eliminative, alkaline mineral water. Well equipped, homelike modern building, 70 rooms. Good hospital, operating room and laboratory. Suited for care of all metabolic and eliminative disorders. Anaemia, Nephritis, Cardiac Diseases, Diabetes, Rheumatism, all Joint Affections, Neurasthenia. Selected alcoholic and drug cases. No contagious or mental cases accepted.

*Write for Literature to*

**Florence Brown Sherbon, A.M., M.D., Medical Supt.**

**MEDICAL STAFF:**

J. W. Martin, M.D., Surgeon; Arthur Steindler, M.D., Orthopaedist; Amos Sherbon, M.D., Medicine and Pathology; Gertrude Morse, A.M., M.D., Medicine and Gynaecology.

**Des Moines Office, 722 Equitable Building**

## Dr. Moody's Sanitarium, San Antonio, Texas,

**For Nervous and Mental Diseases, Drugs and Alcohol** Addictions. Modern buildings, equipments and conveniences for genial home environments, comforts, and for rational scientific treatment, which is strictly along ethical lines. Location and locality ideal for health rest and recuperation. Address, G. H. MOODY, M.D., 315 Brackenridge Ave. (Formerly Asst. Phys. to State Asylums at Austin and San Antonio. Tex.)



## KENILWORTH SANITARIUM

(Established 1905)

**KENILWORTH, ILL.**

*(C.& N.W.Railway. Six miles north of Chicago)*

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. Special system of ventilation. Rooms impervious to noise. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

**Resident Medical Staff:**
Kathryn T. Driscoll, M.D. Assistant Physician.
Sherman Brown, M.D., Medical Superintendent.
Sanger Brown, M.D., Chief-of-Staff.

**DR. SANGER BROWN**
59 E. Madison St., Chicago.
Telephone Randolph 5794
Hours 11 to 1.





## OXFORD RETREAT

A private hospital for Nervous and Mental Diseases, Alcoholic and Narcotic Inebriety. Incorporated 1883. Separate departments for men and women. Careful attention to proper classification, every convenience, and any accommodation desired. Facilities unsurpassed. Electricity, Hydrotherapy and Massage. Site elevated, retired and beautiful. Ninety-six acres in lawn and forest.

## THE PINES

A Neuropathic Hospital for women only. Mental cases not received in this building. First class in all its appointments. Under the same control and medical management as the Oxford Retreat. Thirty-nine miles from Cincinnati, eighty-four miles from Indianapolis, on C. H. & D. R. R.; ten trains daily.

For references, terms and descriptive circular address

**R. HARVEY COOK, Physician-in-Chief, Oxford, Butler County, Ohio**



Lakeside and The Cottage

## The Lake Geneva Sanitariums

Comprise three separate Institutions, having separate buildings and separate grounds under one management, as follows:

1—Lakeside Sanitarium for medical and general sanitarium cases. It includes two buildings, with handsome grounds of ten acres on the shores of Lake Geneva.

2—Oakwood Springs Sanitarium for mental cases and nervous cases requiring guardianship. It is situated on high grounds, in a park of seventy-three acres of exceptional beauty, overlooking the lake and city of Lake Geneva. It is one-half mile distant from Lakeside Sanitarium.

3—The Surgical Hospital for surgical cases, with well equipped operating room and large, handsome, airy bedrooms having large windows, and a beautiful outlook.



Oakwood

For Further Information address

**DR. OSCAR A. KING, Supt., LAKE GENEVA**

Or at Private Office, 72 Madison St., Cor. State St., Phone Cent. 2508, Chicago, Ill.

# Oak Grove Hospital

## For Nervous and Mental Diseases



Grounds comprise sixty acres of stately oaks, and are picturesque and secluded. Buildings roomy, homelike and free from institutional features. Interiors bright and cheerful. Luxurious furnishings, superior appointments and skilled attendance. First-class cuisine. Static, Galvanic and Faradic Apparatus, Baruch hydrotherapeutic equipment, Turkish and Russian Baths, and Massage. Use of Gymnasium, Billiard Room, Bowling Alley, and Carriages, Free.

For terms address

**DR. C. B. BURR, Medical Director, FLINT, MICHIGAN**

## THE RICHARD GUNDRY HOME

ESTABLISHED 1891



HARLEM LODGE, CATONSVILLE, BALTIMORE, MD.

A well-equiped Sanitarium for the care and treatment of Nervous and Mental Diseases, Alcoholic and Drug Habitués.

*For Rates, Etc, address*

**DR. RICHARD F. GUNDRY**

# DR. BARNES SANITARIUM

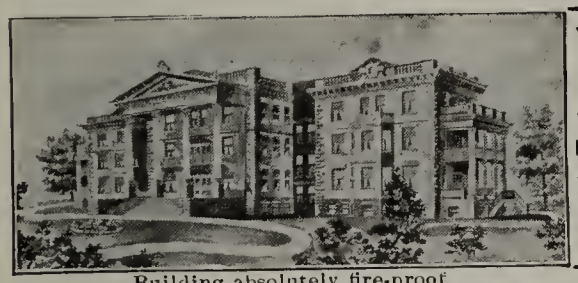
## STAMFORD, CONN.

**For Mental and Nervous Diseases and General Invalidism**

Splendid location overlooking Long Island Sound and City. Facilities for care and treatment unsurpassed. Separate department for cases of inebriety. 50 minutes from New York City.

**For terms and information apply to F. H. BARNES, M.D.**

**Long Distance Telephone 1867 - - STAMFORD, CONN.**



Building absolutely fire-proof

## WAUKESHA SPRINGS SANITARIUM

FOR NERVOUS DISEASES

BYRON M. CAPLES, M.D.
Superintendent
WAUKESHA : WIS.

16 Miles North Of Chicago

A WELL APPOINTED
**SANITARIUM**

Located on the shore of Lake Michigan. For the care of Convalescents, Treatment of Nervous Diseases, Insomnia, Affections of the Heart, and Disorders of the Stomach and Kidneys.

**NORTH SHORE HEALTH RESORT**

Complete Clinical Laboratory with modern X-Ray and High Frequency Outfit —Nauheim Baths—Vierzellen Baths —Hydrotherapy—Medical Gymnastics—Massage and Electricity.

Fred C. Kováts, M.D.
Medical Director
Winnetka, Ill.

## Dr. Broughton's Sanitarium



**For Opium, Morphine, Cocaine and Other Drug Addictions, including Alcohol and Special Nervous Cases.**

Methods easy, regular, humane. Good heat, light, water, help, board, etc. Number limited to 44. A well kept home. Address

**DR. BROUGHTON'S SANITARIUM**

**Phone 536 2007 S. Main St. ROCKFORD, ILL.**

INCORPORATED 1873

## THE CINCINNATI SANITARIUM



**A Private Hospital for Mental and Nervous Disorders**

DR. F. W. LANGDON, Medical Director
DR. B. A. WILLIAMS, Resident Physician
DR. C. B. ROGERS, Resident Physician

H. P. COLLINS, Business Manager
Address
COLLEGE HILL. CINCINNATI, OHIO



# New Mexico Cottage Sanatorium
## Silver City, New Mexico

FOR SUITABLE CASES OF PULMONARY AND LARYNGEAL TUBERCULOSIS

PHYSICIAN-IN-CHIEF
E. S. BULLOCK, M.D.

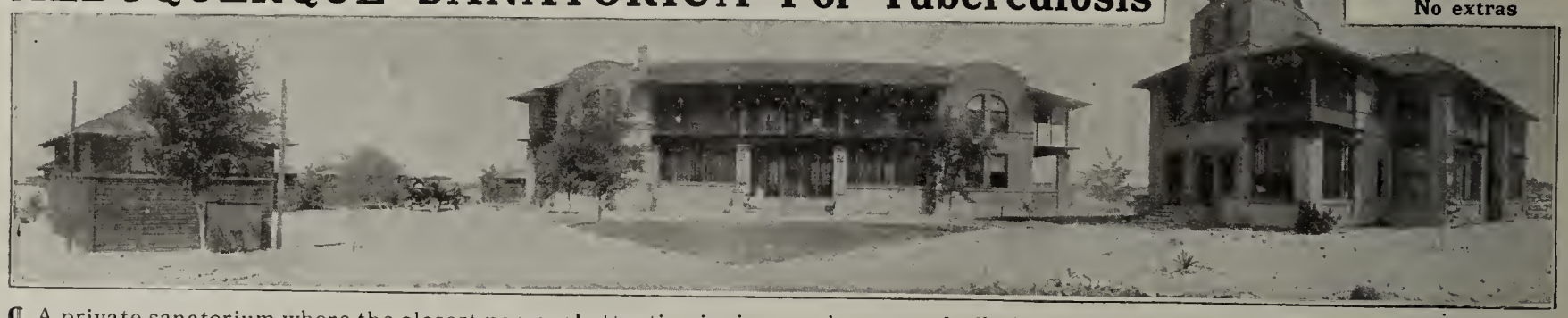
MANAGER
WAYNE MacV. WILSON

**Summer Climate Ideal** Beautiful situation in the mountains of southern New Mexico. Climatic conditions wonderfully perfect. Cool summers. Moderate winters. A flood of sunshine at all seasons. Food excellent and abundant. All the milk our patients can consume from our own dairy of selected cows. Moderate charge. Institution partly endowed. Separate cottages for patients. Complete hospital building for febrile cases. Separate amusement pavilions for men and women. Physicians in constant attendance. Livery for use of patients. Well equipped laboratory, treatment rooms, etc. All forms of tuberculosis received. Special attention to laryngeal tuberculosis. Tuberculin administered in suitable cases. One of the largest and best equipped institutions for tuberculosis in America. Patients received only through physicians.

WRITE TO THE MANAGER FOR DESCRIPTIVE BOOKLET

## DR. SHORTLE'S
## ALBUQUERQUE SANATORIUM For Tuberculosis

**RATES**
**$20 to $30 a week.**
**No extras**



¶ A private sanatorium where the closest personal attention is given each case, and offering all the advantages of a large institution, with complete laboratory and other modern facilities, combined with most of the comforts of home.
¶ Steam heat, hot and cold water, electric lights, call bells, local and long distance telephones, and private porches for each room.
¶ Situated but 1½ miles from **ALBUQUERQUE**, the largest city and best market of NEW MEXICO, permits of excellent meals and service at a moderate price.

**A. G. SHORTLE, M.D., Medical Director - - M. W. AKERS, Superintendent**



# Colorado Springs, Colorado
## Cragmor Sanatorium

ALTITUDE 6100 FEET

A view of main buildings, bungalows and grounds

### FOR THE TREATMENT OF TUBERCULOSIS

Specially selected location three miles out, facing Pike's Peak. All buildings constructed with special reference to proper outdoor treatment. Private sleeping porch connecting with each room. House and long distance telephones. Electric lights. Shower, spray and tub baths. In fact, all the conveniences and comforts of a first-class hotel combined with ranch surroundings and pure air. Pure mountain water, piped from the foothills of the Rocky Mountains. Best food procurable. Moderate Rates.

MEDICAL DIRECTORS
ALEXIUS M. FORSTER, M.D., Physician-in-Chief
GERALD B. WEBB, M.D., and WM. WHITRIDGE WILLIAMS, M.D.,
CONSULTANTS
M. L. WHITNEY, R.N., Superintendent

For full particulars address the Physician-in-Chief. *Write for Pamphlet*



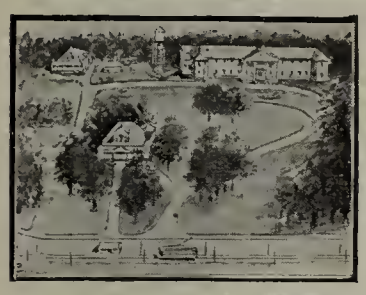
# HOMEWOOD SANITARIUM, Guelph, Ontario

A private institution for the care and treatment of nervous, mental and habit cases.
Established in 1883.
The Sanitarium consists of seven isolated buildings, all erected within the past six years.
Surrounded by seventy-five acres of park.
Well equipped with continuous and hydrotherapeutic baths.
School established for re-education and employment along various lines of handicrafts, in charge of a graduate of the Pratt Institute, Brooklyn.
Climatic conditions excellent.
Ample provision for recreation according to season.
Guelph is situated on Canadian Pacific and Grand Trunk Railroads, seventy miles from Niagara Falls.

For further information apply to **A. T. HOBBS, M.D., Superintendent.**



Mt Clemens Sanitarium Co
Conducting
The Mineral Spring Baths
and
Colonial Hotel.
The Mineral water contains the greatest quantity of medicinal properties yet discovered.
Hotel and Baths beautifully located.
Write for booklet and Citations on Mineral Water
Colonial Hotel, Mt Clemens Mich.



## Dr. Brawner's Sanitarium
**ATLANTA, GA.**

A private, homelike sanitarium for the care and treatment of Nervous and Mental Diseases. Drug and Alcohol addictions. Hydrotherapeutic department complete. Grounds consist of eighty (80) acres of beautifully shaded lawns, with tennis, croquet, gardening and other outdoor recreations. Climate unexcelled. Rates moderate. Address,

DR. JAS. N. BRAWNER,
Physician-in-Charge, ATLANTA, GA.

## THE BANCROFT SANITARIUM
**Butler, Morris County, New Jersey**

Beautifully located and properly equipped for the care and treatment of mental and nervous diseases and drug and liquor habituation.

*Illustrated booklet upon request* Long Distance Phone, 21 Butler

## DRS. PETTEY & WALLACE'S SANITARIUM
FOR THE TREATMENT OF
**ALCOHOL AND DRUG ADDICTION**
**NERVOUS AND MENTAL DISEASES**

Large new building. All latest facilities for hydro- and electro-therapy, massage, etc. Resident physician. Detached building for mental patients.

**958 SOUTH FIFTH ST.** **MEMPHIS, TENNESSEE**

## ANAHEIM SANITARIUM,
**Anaheim, Cal.**



40 minutes from Los Angeles, California. Ideal Climate all the Year. Sea Breeze without Fog. Low altitude. Elaborate Equipment, Emphasizing BLOOD PRESSURE, RENAL, CARDIAC and ELIMINATIVE DISTURBANCES. Strictly Ethical. Moderate Rates. Weekly report of patient sent to physician or relative on request. Medical Staff:

**H. A. Johnston, M.D.** **Geo. C. Clark, M.D.**
**W. W. Davis, M.D., Pathologist**
**J. L. Beebe, M.D.**
**La Vern Osborn, Hydrotherapist**
Ella Kendall Martin, Supt. of Nurses
Marshall E. Beebe, Business Mgr.



## The WESTPORT SANITARIUM
**For the Care and Treatment of Nervous and Mental Diseases**

Modern appointments, beautiful surroundings, large private grounds. Private attendants and cottage care if desired. Committed or voluntary patients received. Address

**DR. F. D. RULAND, Med. Supt., Westport, Conn.**

**WEDNESDAYS: 10:30 to 12:30, 40 East 41st Street, NEW YORK CITY**

## OZARK SANATORIUM
**HOT SPRINGS, ARKANSAS**

Equipment First Class. Rates Reasonable.
HOT SPRINGS BATHS. Trained Nurses.

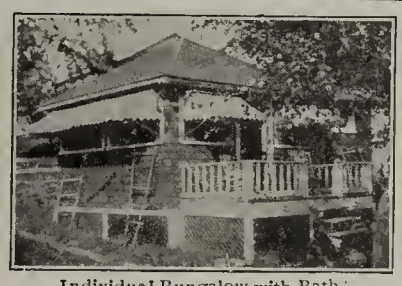
*For Booklet or more specific information*

Address Supt. OZARK SANATORIUM, Hot Springs, Ark.

## LYNNHURST SANITARIUM
FOR NERVOUS DISEASES, MILD MENTAL DISORDERS, ALCOHOL AND DRUG ADDICTIONS

A rest home for nervous invalids and convalescents requiring environments differing from home surroundings. Modern and approved methods for giving Hydrotherapy, Electrotherapy, Massage and Rest Treatment. An improved treatment for Opium-Morphine addictions, which eliminates withdrawal pains and suffering. Experienced nurses. Mild climate. Artesian, chalybeate and soft waters.

**S. T. RUCKER, M.D., Medical Superintendent, Memphis, Tenn.**



Individual Bungalow with Bath

## Sunnyrest Sanatorium
**White Haven, Penn.**
**FOR DISEASES OF THE LUNGS AND THROAT**

Situated in the Blue Mountains (1300 feet elevation) 3 hours from Philadelphia, 4 hours from New York and 8 hours from Buffalo.

**Cottages and Individual Bungalows**

Visiting Physicians: Dr. H. R. M. Landis, Dr. Joseph Walsh, Dr. Chas. J. Hatfield and Dr. F. A. Craig of Philadelphia, and Dr. Alexander Armstrong of White Haven.

Booklet **ELWELL STOCKDALE, Supt.**

*For Health, Pleasure, Recreation and Rest, Come to the Sign of the Arrowhead.*

## ARROWHEAD HOT SPRINGS
**Arrowhead, California**




Wonderful springs—temperature over 200 degrees. Radioactive mud-baths. Natural steam caves. Cold water canyons. Ideal year round climate. Modern hotel and bath house accommodations. Competent medical supervision. Easily accessible by rail from Los Angeles. Send for Prof. Gilbert E. Bailey's full report on the springs, together with booklet and souvenir pin. **Seth Marshall, Pres. Arrowhead Hot Springs Co., Arrowhead Springs, Cal.**

## "NORWAYS"
**SANATORIUM (INC.) FOR NERVOUS DISEASES**
**1820 East Tenth St. (facing Woodruff Park), Indianapolis, Indiana**

A thoroughly modern, well-equipped institution for the treatment of nervous and other constitutional diseases, the various drug habits and alcoholism. Only mild mental cases taken—separate building for such patients. Beautiful location and extensive grounds.

For information apply to **NORWAYS SANATORIUM**
Dr. ALBERT E. STERNE, Dr. CHARLES D. HUMES

## Maplewood
**(INCORPORATED)**
**JACKSONVILLE, ILLINOIS**

## A PRIVATE RESIDENTIAL REST HOME
Established in 1901.

Organized and equipped for the treatment of Mild, Mental and Nervous Diseases, Habit cases and disorders of Metabolism. No noisy, violent or otherwise objectionable cases will be received. Modern diagnostic and therapeutic methods. The **WEIR MITCHELL REST TREATMENT** applied to suitable cases. Two buildings. Thirteen acres of ground. Gravel springs water.

**GEORGE STACY, M.D., Associate Physician and Pathologist.**
For further particulars, address
**ELMER L. CROUCH, M.D., Medical Superintendent.**
806 South Diamond St. (Long Distance Telephones) **JACKSONVILLE, ILL.**

## THE MERCER SANITARIUM



**FOR NERVOUS AND MENTAL DISEASES**

Two hours from Pittsburgh. Occupational Treatment, Hydrotherapy. 1500 feet Elevation.

Address,
**W. W. Richardson, M.D.**
**Mercer, Pa.**
(Formerly Chief Physician, State Hospital for Insane, Norristown, Pa.)

# NEURONHURST



## Dr. W. B. Fletcher's Sanatorium

### For Mental and Nervous Diseases

A strictly psychopathic hospital for the treatment of all forms of disease arising from organic or functional derangement of the Brain and Spinal Cord. Buildings fully equipped with every modern appliance which has been demonstrated to have value as remedial or curative power; our Electro- and Hydrotherapeutic advantages are unexcelled. Physicians desiring to place their patients in our care will receive every ethical attention. For particulars and terms apply to

**Dr. Mary A. Spink, Supt.**

**1140 E. Market St., Indianapolis, Ind.**




## Mountain Valley Springs Water OF ARKANSAS

### IT IS RADIO-ACTIVE

**It is a Valuable Remedy in the Treatment of Kidney and Bladder Diseases**

The drinking of Radio-Active Water has many advantages, both naturally and physiologically.

*Mountain Valley Water is Radio-Active*

It has proven an effective agent in the treatment of those diseases which require the administration of an eliminant. It has been found especially beneficial in Kidney and Bladder Affections, Fevers, Rheumatism, Gout and Chronic Intoxications.

The water may be given continuously over a long period without any ill-effect on the patient, and tends to prevent collection of toxic materials in the eliminative organs.

We maintain an all-around-year hotel at Mountain Valley Springs. A competent resident physician is always present to prescribe diet, the drinking of the water, and such treatment as may be necessary for individual cases.

**Where Mountain Valley Water Can Be Obtained:**

HOT SPRINGS, ARK.—126 Central Ave.
ST. LOUIS—The Mountain Valley Water Co. of Missouri, 3935 Duncan Ave.
MEMPHIS—The Mineral Water Co. of Tennessee.
CHICAGO—The Mountain Valley Water Co. of Illinois, Kinzie and Paulina Sts.
OMAHA—The Myers-Dillon Drug Co., Sixteenth and Farnum Sts.
NEW YORK—The Mountain Valley Water Co., 247 West 36th St.
BALTIMORE—Mountain Valley Water Co. of Maryland and District of Columbia, 120 E. Lexington St.

## HIGHLAND HOSPITAL

**Succeeding Dr. Carroll's Sanitarium**



An institution employing all rational methods for the treatment of Nervous, Habit and Mild Mental cases; especially emphasizing the natural curative agents—Rest, Climate, Water, Diet and Work.

In ASHEVILLE, winter's rigor and summer's heat are alike tempered. An elevation of 2500 feet, remarkable scenery and a superb climate have made Asheville famous. For booklet address

**ROBT. S. CARROLL, Medical Director** **ASHEVILLE, N. C.**

## THE WINYAH SANITARIUM

**ESTABLISHED 1888—ASHEVILLE, N. C.**



**Dr. Silvio von Ruck, Medical Director.** **Dr. Karl von Ruck, Consultant.**

A modern and completely equipped Institution for the treatment of tuberculosis. High-class accomodations. Strictly scientific methods. For particulars and rates write to WM. SCHOENHEIT, Manager

(Please mention this Journal)

## FAIRMOUNT HOME

*A Well-Equipped Institution*



Exclusively for the scientific treatment of narcotic and alcoholic addictions. For detailed method, write for circular and reprints of papers read at the American Medical Association.

A. J. PRESSEY, M.D.
W. H. HOSKINS, Mgr.
A. F. IRWIN, M.D.
Physician in Charge
**900 Fairmount St.**
**2219 Fairmount Road**
**(New)**
**CLEVELAND, OHIO**

## THE TELFAIR SANITARIUM



**GREENSBORO, N. C.**
**W. C. Ashworth, M.D., Supt.**

A strictly ethical Institution offering superior advantages for the scientific treatment of **Nervous Diseases, Drug and Alcoholic Addictions.** A modern building of 30 rooms, well heated and lighted and fully equipped with hot and cold baths, up-to-date electrical apparatus, etc. Charming location in quiet suburb where all publicity can be avoided. Patients given humane treatment, *gradual reduction method* used in all habit cases. *Write for terms.*



## The PUNTON SANITARIUM

A private home Sanitarium for nervous and mild mental diseases. For information, address

**G. Wilse Robinson, M.D.**
**Supt.**
3001 Lydia Ave.,
**Kansas City, Mo.**

# FAIR OAKS SUMMIT, N. J.

For the care and treatment of nervous affections, neurasthenia, states of simple depression due to business or other stress, exhaustion psychoses, and selected habit cases. Voluntary cases only. No objectionable case of any kind accepted. Summit is twenty miles from and the highest point within thirty miles of N. Y. City upon the D. L. & W. R.R. Convalescents will find Fair Oaks an ideal place for rest and recuperation.

**DR. ELIOT GORTON**
(Formerly First Asst. Physician to the N. J. State Hospital at Morris Plains).
**SUMMIT, N. J.** L. D. 'Phone 143

NEW YORK CITY OFFICE:
**DR. T. P. PROUT**
23 W. 36th St. Hours 1 to 3 on Tues., Thurs. and Sat. Phone 3812 Greeley.

# THE PINES---Auburn, New York

*Founded 1891 Under State of New York Hospital Commission*

A Private Country Estate in the Beautiful "Finger Lakes" Region. For the Care and Treatment of Mental and Nervous Invalids.

Number of patients limited to twelve. Minimum rate a week, $40.00. Accessible by the New York Central and Hudson River Railway, and the Lehigh Valley Railway. Two and a half hours from Rochester; four from Buffalo and Albany; seven from New York City; eleven from Philadelphia.

A descriptive pamphlet will be furnished on request. Address all communications to **DR. FREDERICK SEFTON.**



# The Pennoyer Sanitarium Est. 1857

REFINED, home-like health resort in 100-acre park, on Lake Michigan.

DRS. PENNOYER and ADAMS, *Managers*
Kenosha, Wis. Tel. 109

**Chicago Office, Marshall Field Bldg.**
Thursdays, 2 to 4 Tel. Priv. Exch. 1

*Note: Full page May 20, 1911, issue.*



# Walter Baker Sanitarium

**524 Warren St., Roxbury, Mass. (Boston)**

**For 21 Yrs.** A Hospital Home for the Scientific Treatment of Narcotic and Alcoholic Addictions. Each Case Treated Individually. Every Convenience, Comfort and Care. Rooms with Bath. Efficient Nurses. Both sexes received. Our Institution has a history and invites inquiry. Booklet on request.

**B. I. Lawley, M.D., Medical Director**
With Consulting Staff

# GREEN GABLES – Lincoln

**THE DR. BENJ. F. BAILEY SANATORIUM. NEBRASKA**

Green Gables, operated by the Dr. Benj. F. Bailey Sanatorium Co. MAIN EXECUTIVE BUILDING for all non-contagious, non-mental diseases. REST COTTAGE for selected mental cases. Solid brick and stone buildings widely separated. Twenty acres of land, independent water and lighting plants, fully equipped in every particular. Write for illustrated pamphlet giving full particulars and rates.

# SUNMOUNT SANATORIUM

**SANTA FE, N. M.**

## For TUBERCULOSIS

Unusual climatic advantages and location. Under direction of F. E. MERA, M.D., Resident Physician. Rates Reasonable.

Write for booklet and further particulars to

**SUNMOUNT SANATORIUM :: Box 10, Santa Fe, New Mexico**

## "THE ORCHARD"



Licensed by the State Board in 1901

A private hospital and home in the country for the care, treatment and occupation of nervous and mild mental cases. Every modern convenience with the best hospital hygiene. Every case has an individual nurse or attendant.

Address
**Dr. Bayard Kane, West Chester, Pa.**

# THE GRANDVIEW

**PRICE HILL, CINCINNATI, OHIO**

**For Mental and Nervous Diseases, Alcoholism and Drug Habit**

Recently enlarged and refurnished. Location ideal. Large grounds and beautiful views.

*Especial feature is the homelike care and individual treatment. Experienced nurses.*

**BROOKS F. BEEBE, M.D., 414 Walnut St. CINCINNATI, OHIO**

# THE POTTENGER SANATORIUM MONROVIA CALIFORNIA

*For Diseases of the LUNGS and THROAT*



Thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery. Forty-five minutes from Los Angeles.

**F. M. POTTENGER, A.M., M.D., LL.D.**
Medical Director.

**J. E. POTTENGER, A.B., M.D.**
Assistant Medical Director and Chief of Laboratory.

For particulars address
**POTTENGER SANATORIUM. MONROVIA. CAL.**

**Los Angeles office, 1100-1101 Title Insurance Bldg. Fifth and Spring Sts.**

## THE RELAY SANITARIUM



For the treatment of Nervous and Mental Diseases, Alcoholic and Drug Addiction. Located near Relay Station, B. & O. R.R. 15 min. ride, by train, from Baltimore, 37 from Washington. Under the personal management of Dr. Lewis H. Gundry. For information and rates, address **Dr. Lewis H. Gundry, Relay, Balt. Co., Md.**

# PASADENA SANITARIUM

**Located near Interurban Electric Lines between**
**LOS ANGELES and PASADENA, CALIFORNIA**
**For General Invalidism, Nervous and Mental Diseases, Alcoholism and Drug Addictions.**

A high-class, homelike, private place in most beautiful portion of Southern California; forty acres grounds; separate buildings, new and modern; complete segregation cases; scientific equipment; individual treatment; rates reasonable. City office in both Los Angeles and Pasadena. Dr. T. W. BISHOP, Medical Director. P.O. address, South Pasadena, Cal.

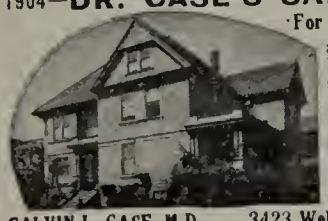
# The ARGO LYING-IN HOSPITAL

A private maternity home, under the management of the Argo Hospital, affording every kindness and protection to its patients. Good homes for infants provided. Graduate nurses and attending physicians. Rates, $10, $15 and $20 per week. *Correspondence solicited from Physicians.*

**Address, Rose Massoth, R.N., Supt.**
**Phone Summit 272 ARGO, ILL. Cook County**

## 1904—DR. CASE'S SANITARIUM—1913

**For Narcotic Drug Addictions**



and selected alcoholics Methods safe, brief and successful. A high class place, combining the facilities of a sanitarium with comforts and freedom of a private home. Individual treatment. Booklet on request.

**CALVIN L. CASE M.D. 3423 Webster St., Oakland, Cal.**

## THE AMERICAN NAUHEIM

A MINERAL SPRINGS HEALTH RESORT AND SANITARIUM

**OPEN ALL THE YEAR**

# THE GLEN SPRINGS

**All approved forms of Hydrotherapy, Massage and Electricity,** given under the direction of experienced physicians, by skilled attendants. **The Nauheim Baths,** for *weakness or disease of the heart,* administered with a Natural Iodo-Bromo-Muriated Brine. **Hot Brine Baths** for elimination.

**VALUABLE MEDICINAL MINERAL SPRINGS**

In the treatment of Rheumatism, Gout, Obesity, Neuralgia, Diabetes, Digestive Disorders, Anæmia, Neurasthenia, Diseases of the Nervous System and of the Heart and Kidneys we offer advantages unsurpassed in this country or in Europe.

Beautiful location; healthful climate, mild, dry and equable; sixty acres of private park; measured and graded walks for Oertel Hill climbing exercises. Golf, Tennis, Putting Green, etc. House appointments, service and cuisine unexcelled. Correspondence with physicians solicited. For descriptive booklets address,

**WM. E. LEFFINGWELL, President, WATKINS, N. Y.**

# BRIGHAM HALL

CANANDAIGUA, N. Y.

## A Private Hospital for Mental Cases

ESTABLISHED 1855

**ROBERT G. COOK, M.D.**
RESIDENT PHYSICIAN

**Voluntary Patients Received**

# SEGUIN SCHOOL

**For the training of children of**

## ARRESTED MENTAL DEVELOPMENT and BACKWARD CHILDREN

**Thirty-first Year**

Limited to 25 EDUCABLE pupils. Little girls, young women, boys under 14 years (no epileptics—no insane). Twelve experienced teachers. Large grounds adjoining 50 acre park.

PAMPHLET ON APPLICATION

**Mrs. Elsie M. Seguin, Principal**
**370 CENTRE ST., ORANGE, N. J.**

# PRIMROSE MATERNITY HOME



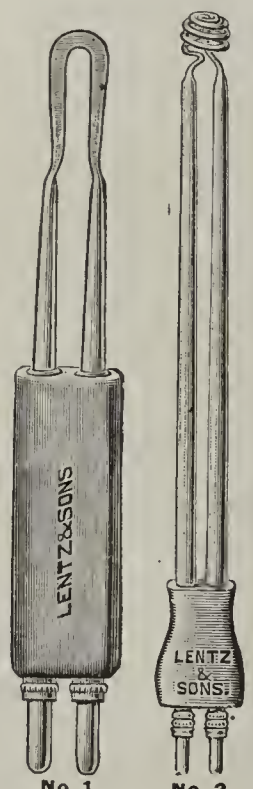
An ethical, quiet, and exclusive home for the care of maternity cases. The institution is provided with every convenience for the proper care and safety of its guests.

The location is all that could be desired, a quiet residential street in the center of the city, near the street car line, railway stations and shopping district. Homes provided when desired. Address

**PRIMROSE MATERNITY HOME, Batavia, N. Y.**

# HOSPITAL CAUTERY for ELECTRIC CURRENT

The most satisfactory and indispensable apparatus ever devised for cauterizing, especially for the general surgeon.



No. 1 No. 2

Absolutely "fool" proof; does away with the use of benzine. A working addition to the operating room with little expense.

Fig. 1—Heavy Platinum Cautery Knife is especially devised for all incising and general use. **An important instrument for cauterizing flat surfaces to prevent hemorrhage.**

Fig. 2—Heavy Platinum Spiral Cautery Dome, devised for the cervix and large surfaces. **Particularly valuable for localized cauterization where the surrounding normal tissue should not be exposed to the action of the heat.**

Both Cautery Knife and Dome are aseptic with mineral handles, and can be **boiled indefinitely without injury.**

Used by surgeons in many leading hospitals. Write for price and descriptive circular.

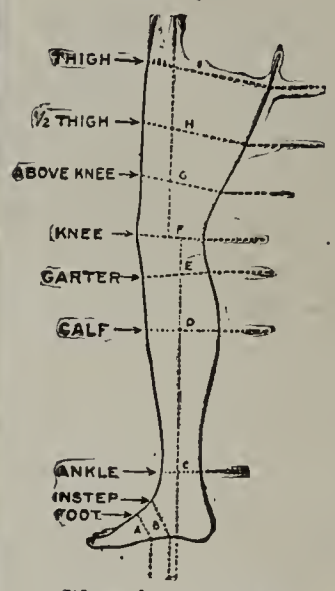
**CHARLES LENTZ & SONS**

**18-20 N. 11th Street** **Philadelphia, Pa.**



# "Master" Elastic Stocking

**THE STANDARD OF QUALITY AND EFFICIENCY FOR THIRTY YEARS**




*Write for Catalogue*

**Physicians' Net Prices**

| | |
|---|---|
| **Garter Stocking, A to E** | |
| Heavy Silk | $3.56 |
| Fine Silk | 3.00 |
| Thread | 1.88 |
| **Garter Legging, C to E** | |
| Heavy Silk | $2.62 |
| Fine Silk | 2.25 |
| Thread | 1.65 |
| **Knee Stocking, A to G** | |
| Heavy Silk | $5.62 |
| Fine Silk | 4.87 |
| Thread | 3.37 |
| **Knee Legging, C to G** | |
| Heavy Silk | $4.69 |
| Fine Silk | 4.12 |
| Thread | 3.15 |
| **Knee Caps and Anklets** | |
| Heavy Silk | $2.25 |
| Fine Silk | 2.06 |
| Thread | 1.57 |

On receipt of price we deliver the goods by mail.

**POMEROY COMPANY**

**34 E. 23d St., New York**

CHICAGO OFFICE:
339 So. Wabash Ave.



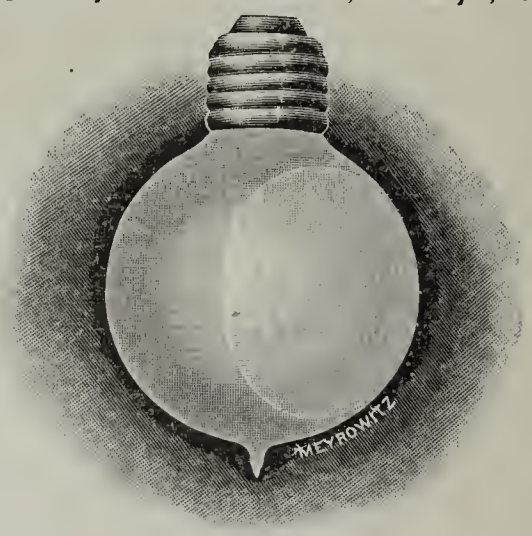
**It Pulls on Like a Boot**

Trade Mark



# A NEW LAMP

**Designed by Dr. J. C. Hancock, Brooklyn, N. Y.**



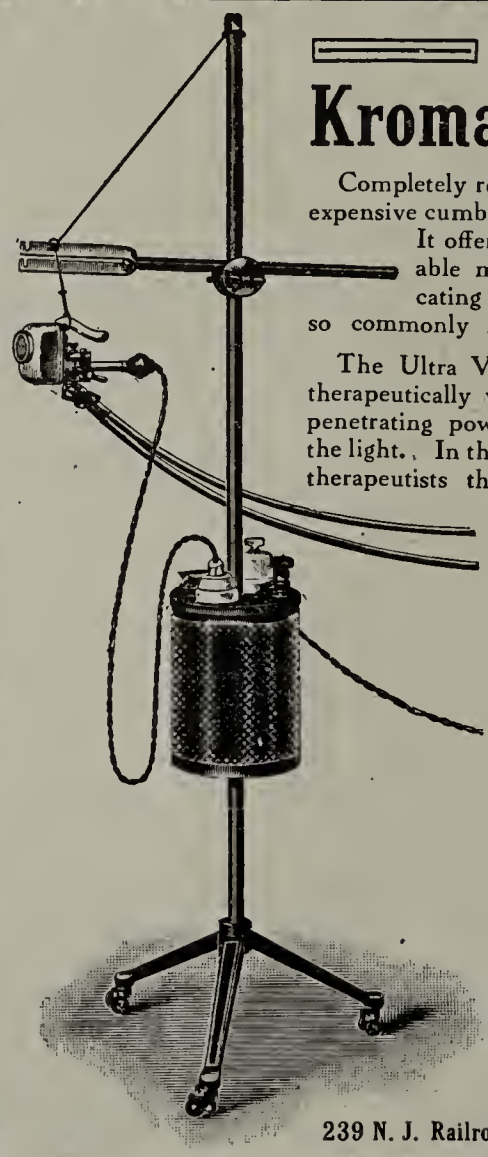

A spiral filament lamp with the circular window very lightly frosted to prevent reflection of the image of the filament.

*E. B. Meyrowitz*
INCORPORATED

**Manufacturer of Eye, Ear, Nose and Throat Instruments**

LONDON **237 Fifth Ave., NEW YORK** PARIS





**THE**

# Kromayer Lamp

Completely replaces and supersedes the expensive cumbersome Finsen Apparatus. It offers the practitioner a valuable modality for rapidly eradicating those minor skin diseases so commonly met with in his work.

The Ultra Violet Rays produced are therapeutically very effective, due to the penetrating power and large quantity of the light. In the practice of many electro-therapeutists the Kromayer Lamp has entirely supplanted the more dangerous and less therapeutically effective X-Ray.

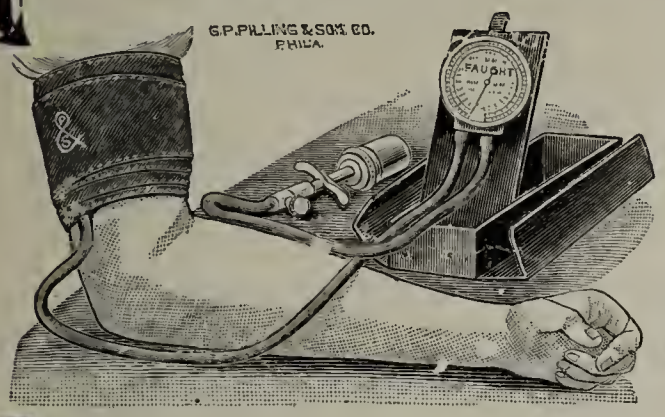
Two different methods of radiation are employed—either surface treatment requiring superficial action or penetration treatment producing deep seated effect.

*Full description of the clinical application of the lamp mailed free to physicians on request.*

**Hanovia Chem. & Mfg. Co.**

**239 N. J. Railroad Ave. NEWARK, N. J.**

# FAUGHT CLINICAL SPHYGMOMANOMETER




Is a Portable Pocket Aneroid Type with

## DOUBLE SIZE DIAL

AND

## REGISTERS to 350 Mm.

Otherwise Similar to Regular Faught Pocket

**Price, $27.50 Net** Including Certificate signed by Dr. Faught and a copy of Faught's Blood Pressure Primer

MADE ONLY BY

## G. P. PILLING & SON CO., Philadelphia

ALSO

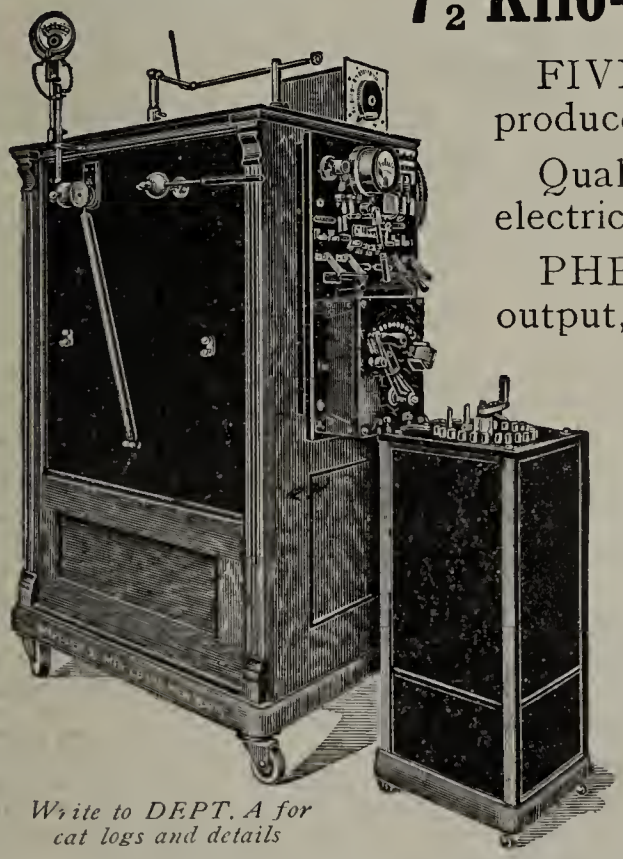
| | | | |
|---|---|---|---|
| FAUGHT POCKET - - - | $22.50 net | PILLING SPECIAL No. 2 MERCURY - | $12.00 net |
| FAUGHT STANDARD MERCURY - | 20.00 net | | |
| PILLING SPECIAL No. 1 MERCURY - | 15.00 net | FAUGHT'S BLOOD PRESSURE PRIMER | 25 cts |

CERTIFICATE SIGNED BY DR. FAUGHT WITH EVERY INSTRUMENT

# THE LAST WORD IN TRANSFORMERS

PROVEN THE BEST AND CHEAPEST

## 7½ Kilo-Watt "King Model" X-Ray Machine



*Write to DEPT. A for cat logs and details*

FIVE YEARS of careful and scientific development have produced this *MARVEL OF EFFICIENCY.*

Qualified experts record their praise of its engineering and electrical principles and its *highest grade* workmanship.

PHENOMENAL SPEED. Mildest as well as HEAVIEST output, ½ to 200 milliamperes and over.

FLEXIBILITY of control and range. FLUOROSCOPIC as well as RADIOGRAPHIC.

EASIEST on *x*-ray tubes through peculiar wave form. PRODUCES widest of contrasts on plates. AND WE ARE READY TO PROVE IT.

*MANUFACTURED IN SIZES FROM 1 KILO-WATT UP*

We manufacture a complete line of *X-Ray* and *High Frequency* Machines, *Galvanic*, *Faradic* and *Sinusoidal* Apparatus, *Pantostats*, *Cauteries*, *Vibrators*, etc.

We have the largest line of *Cystoscopes*, *Urethroscopes* and *Diagnostic Instruments* in the United States.

"EVERYTHING ELECTRICAL FOR THE PHYSICIAN AND HOSPITAL"

**Wappler Electric Manufacturing Co., Inc., 173-175 E. 87th St., New York**

# MEYER INTERRUPTERLESS

Efficiency 100%

Price, $550.00



*Finish A-1*

**SPECIFICATION**

Close core transformer, primary 3.3 K.W. 60 cycle 110 or 220 volt A.C. Secondary 90,000 volts, delivers 40 to 50 milliamperes through transformer tube. Motors tandem compound, will synchronize in five seconds after starting and not get out of step with a 15% drop in voltage. Switchboard equipped with cartridge fuses for every circuit, full set of switches and regulating rheostat.

Equipped with milliamperemeter, chemical reducer controller and three 6-foot tape reels. No electrolytic interrupter required for treatment or fluoroscopic work. A truly noiseless machine. No more rectifier or interrupter troubles, no inverse discharges. Suitable for treatment, fluoroscopic or radiograpic work. Negatives show brilliancy not equalled by any coil.

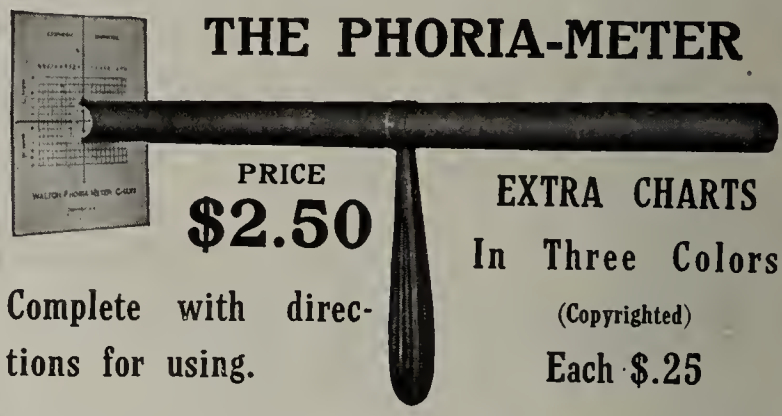
**Fully Guaranteed**

TRADE WM MARK

**THE WM. MEYER CO.**
Dept. O
819 W. Washington St.
CHICAGO, ILL.

# NEAR POINT MUSCLE TEST

## THE PHORIA-METER



PRICE **$2.50**

Complete with directions for using.

**EXTRA CHARTS In Three Colors**
(Copyrighted)
**Each $.25**

The Phoria-Test at reading distance has always caused trouble and delay, as it necessitated the change of trial lenses to accommodate either single or double prisms, in order to dissociate the eyes.

The PHORIA-METER will eliminate this condition, giving in less than half a minute the total amount in Prism Diopter of EXOPHORIA, ESOPHORIA, RIGHT or LEFT HYPERPHORIA that may exist.

Used with equal ease and accuracy on a child or illiterate. Also has advantage of using before the correcting lenses (in frame) which do not have to be disturbed.

## TWO LATEST BOOKS ON MUSCLE TESTING

**PRISMS**—Their Use and Equivalents by James Thorington, A.M., M.D. 118 Illustrations, 18 Colored. Cloth, $2.00 net.

**OCULAR MUSCLES** by H. F. Hansell, A.M., M.D., and Wendell Reber, M.D. Practical book on muscular anomalies, second edition rewritten and enlarged, three plates and many illustrations. Cloth, $2.50 net.

*McINTIRE, MAGEE & BROWN CO.*

*Wholesale, Manufacturing and Jobbing Opticians*

723 SANSOM ST. PHILADELPHIA, PA.

**FORBES DRY PLATES**
*"In Business since 1883"*

To insure getting the best results, use

# FORBES X-RAY PLATES

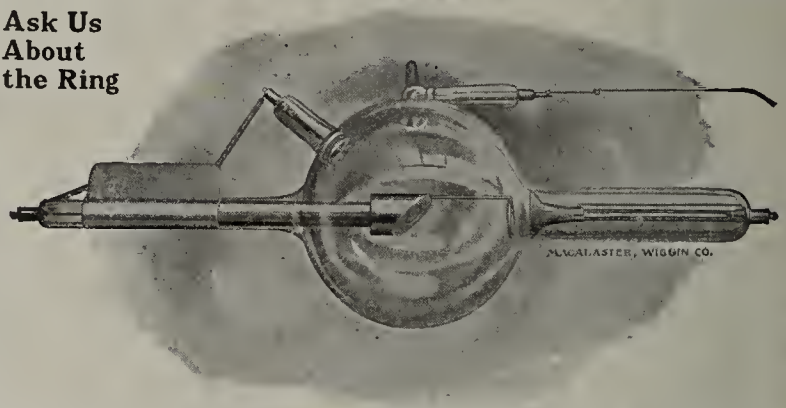
There is no plate on the market that has caught on more readily and created a more steady demand. We know and our customers know that there is no finer plate made for radiograph work. Easy to work, full of detail and intensity, and very rapid. TRY THEM.

**FORBES DRY PLATE CO., 26 Armour St., ROCHESTER, N.Y.**

GENERAL AGENTS:
Scheidel-Western X-Ray Coil Co., Chicago, Ill.
Macalaster-Wiggin Co., Boston, Mass.
The Appengold Co., 193 Third Avenue, New York, N. Y

# TUNGSTEN TARGET TUBES

Ask Us About the Ring




**MACALASTER WIGGIN COMPANY**

Boston, Mass.
Sudbury Bldg.

Chicago, Ill.
154 W. Lake St.

# Pilz Anatomical Manikin



*'THE MASTERPIECE'*

*Adopted by the Medical Department U.S.A.*

Present in LIFE SIZE and in NATURAL COLORS the relations of all the structures of the body, and the contents, in normal position, of various cavities. Made of Indestructible Linen cardboard.

**Female Manikin with Obstetrical Supplement $15.00**

**Sexless or Male Sex . . . $12.00**

*Sent C.O.D., or on receipt of N.Y. current funds. Guaranteed exactly as represented*

*Write for full description in pamphlet form.*

AMERICAN THERMO-WARE COMPANY
Sole Importers
16 A Warren Street NEW YORK

# SUPERIOR CABINET STERILIZER

**The Germicidal Fumes Sterilizer**




No water, No Heat, No Steam, No Gas, Electric or other connection. A perfect Formaldehyde Sterilizer. Always ready. Keep your emergency instruments in this Sterilizer and they are always ready without the loss of a moment's time. For further information apply to your dealer, or write us direct for booklet giving full description.

MANUFACTURED BY THE
**ERIE CITY MFG. COMPANY**
ERIE, PA., U.S.A.

HARVARD Clinicals

POPULAR (TRADE MARK)

HARVARD SUNSHINE THERMOMETERS TRADE MARK

Rough Rider (TRADE MARK)

HARVARD Clinicals

# Clinical Thermometers

THE RANDALL FAICHNEY COMPANY BOSTON Trade R & B Mark Reliability and Beauty in Manufacture

Trade Marks made famous by perfection in manufacture for a quarter of a century
*Catalogue on request*

THE RANDALL-FAICHNEY COMPANY, BOSTON, U. S. A.

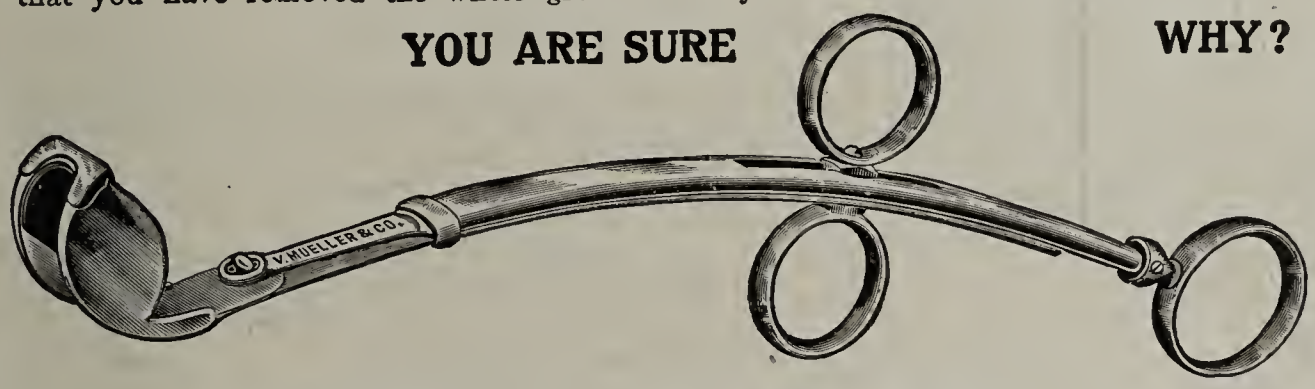
THE RANDALL FAICHNEY COMPANY BOSTON Trade R & B Mark Reliability and Beauty in Manufacture

## WHEN YOU REMOVE ADENOIDS YOU WANT TO BE SURE

that you have removed the whole growth. If you use our La Force Adenotome

*Makers of Instruments for Specialists in Every Branch of Surgery*

**YOU ARE SURE** **WHY?**




Because the portion removed stays in the box and is not swallowed by the patient. This instrument is the safest instrument for this operation. Made in three sizes. Let us send you the medium size for inspection. The latest and correct shape is made only by

**V. MUELLER & CO., 1779-81 Ogden Avenue, - - - - - CHICAGO**

# FAUGHT POCKET BLOOD PRESSURE APPARATUS

**NOT A SPRING INSTRUMENT**

Built like a watch on the Aneroid principle, not a Spring Instrument. Can be carried in the pocket. Simple, accurate and easy to use. Always reliable. Adjusted in a moment. Just like taking a pulse. Price, complete, with arm band and inflating pump, in durable morocco case . . . **22 50/100 NET**

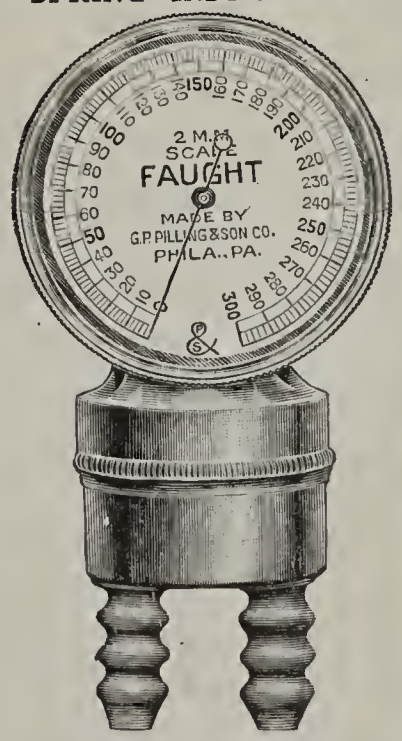



also

| | |
|---|---|
| Faught Standard Mercury, | $20.00 net. |
| Pilling Special No. 1 Mercury, | 15.00 net. |
| Pilling " No. 2 " | 12.00 net. |
| Faught's Primer on Blood Pressure, | 25 cts. |

*Signed certificate by Dr. Faught with every instrument*

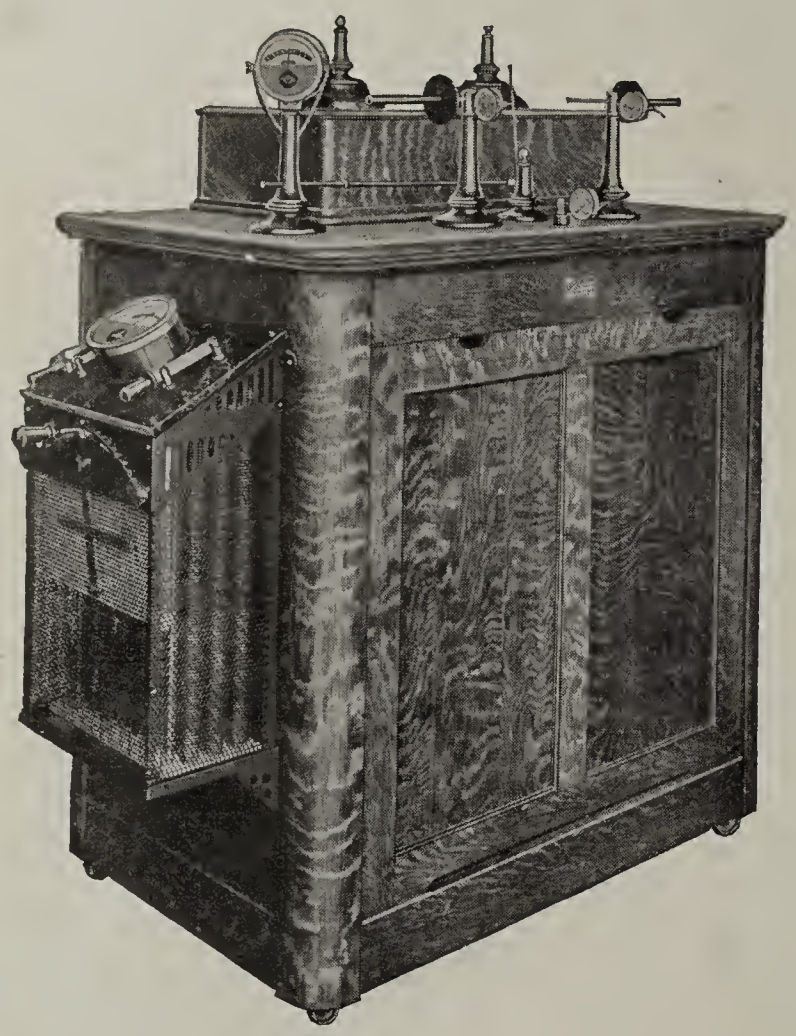
FAUGHT'S PRIMER ON BLOOD PRESSURE FREE WITH EVERY APPARATUS




ACTUAL SIZE

Made only by

**G. P. PILLING & SON CO., Philadelphia, Pa.**



VICTOR

# "INTERRUPTERLESS" X-RAY TRANSFORMER

(Single Lever Control)

FOR

## UNIVERSAL ROENTGENOLOGY

ENDORSED Points of Excellency:

Simplicity of Manipulation—Flexibility —Power—Speed—Durability—Consistency—Tube Economy.

**Our Principal Claim**

that even the inexperienced operator using this apparatus can turn out plates of higher quality than the *average* negatives turned out by the best radiographers using the most powerful apparatus heretofore available.

*Complete descriptive literature and prices sent free upon request*

## VICTOR ELECTRIC CO.

Main Office and Factory:

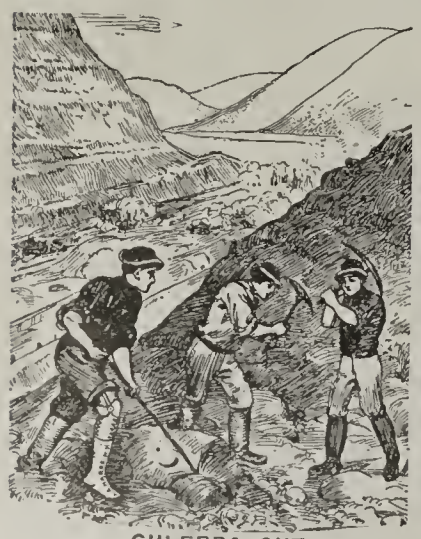
**Jackson Blvd. and Robey St., - CHICAGO**

# The Marks Legs and Arms

are being worn in preference to other makes by men employed in the construction of the

## PANAMA CANAL

where, during the rainy season, they are exposed to drenching downpours. Even in the dry season the employees stand in water some of the time. Artificial limbs of usual construction will not endure this exposure to moisture very long.



CULEBRA CUT



STEAM SHOVEL AT WORK

None but **Marks Waterproof Legs** and **Arms** will last long in wet places.

Farmers, Railroad men, Miners, Builders, Woodsmen, Hunters, Fishermen, Coachmen, Chauffers and all who occasionally have to be in the wet will find the **Marks** the only limb that will stand the test,

Write for a Manual of Artificial Limbs.
It will be sent free and postpaid.

**A. A. MARKS, 701 Broadway, NEW YORK**

# SAMPLES

These two cabinets are but samples of our line of twenty Physicians' Office Cabinets. Our 42 page catalog printed in two colors showing the various styles of cabinets, tables, chairs and accessories, will be sent free upon request.

*Ask also for our List No. 2 of Special Bargains.*



STYLE 169-A



STYLE 61-B

## W.D.ALLISON CO.

**915 N. Alabama St., Indianapolis, Ind.**

AGENCIES

**BOSTON—691 Boylston St.**
**NEW YORK—110 E. 23d St.**
**CHICAGO—121 N. Wabash Ave.**
**PHILADELPHIA—411 Mint Arcade**
**PITTSBURGH—Empire Building**
**OAKLAND—774 19th St.**
**MINNEAPOLIS-621 First Ave,,South**
**ST. LOUIS—627 Odd Fellow Bldg.**
**LOS ANGELES—328 South Broadway**

# It Certainly Sounds Like A Dream

| | Others ask |
|---|---|
| Baltimore Genuine Mahogany Operating Table | $125.00 |
| Leather Horsehide Top Cushion for above | 12.00 |
| Pope Galvanic and Faradic Battery | 125.00 |
| High Frequency Outfit | 75.00 |
| Cologne Vibrator | 100.00 |
| Beauty Instrument Cabinet | 30.00 |
| Electric 17 Inch Sterilizer | 25.00 |
| Office Table, Steel, Glass Top and Shelf | 10.00 |
| Pynchon's Chair and Stool | 10.00 |
| Sanitary Office Waste Bucket | 3.50 |
| | **$515.50** |

No physician can say Betz robbed him. Or that he was not able to get a start in practice. **Send $50.00 to-day and pay $135.00 and freight when the goods arrive at your freight depot and they are yours.** Should you not have the money borrow it, as every successful and progressive man does.

The first impression is the one that counts with the patient. Many times patients go to other physicians because they do not like the looks of the office. Any physician without one cent who would refuse to pay less than $1.00 monthly for interest on the money required to buy all of the goods listed above is certainly missing it.

**FRANK S. BETZ CO., Hammond, Ind.**

**Chicago Salesroom, 105 N. Wabash Ave.**

## ▶ STERILIZING SERVICE ◀

— FOR —

OFFICES – HOSPITALS – SANITARIUMS – LABORATORIES

### CASTLE-ROCHESTER OUTFITS

Two, three or four Sterilizers mounted on a white enameled stand. Made in three sizes. Seven forms of heating. Designed for sterilizing dressings, bandages, operating gowns, water and instruments.

### CASTLE HOT-AIR STERILIZERS

For the sterilization of glassware by means of dry heat. Made in sizes suitable for large and small articles.

### ARNOLD LABORATORY STERILIZERS

These are known as "General Purpose" Sterilizers, their design adapting them for general work. Live steam is the sterilizing agent. The temperature in the sterilizing chamber is held constant at 100° C. without attention.

### CASTLE HOSPITAL STERILIZERS

For dressings, bandages, gowns, instruments, water utensils, bed pans, etc., embodying the newest features for obtaining efficient sterilization and convenience in operation. Mounted on single or combination stands.

*Ask your Surgical Supply House for description and prices, or write direct to*

**Wilmot Castle Co.**

Manufacturers Sterilizing and Bacteriological Apparatus

805 St. Paul St. ROCHESTER, N. Y.

# ESKAY'S Albumenized FOOD

## A Milk Modifier—not a complete food

### USED WITH FRESH, UNBOILED COW'S MILK

Literature and samples on request to

SMITH, KLINE & FRENCH CO. - PHILADELPHIA

# Dr. Deimel (Linen-Mesh) Underwear

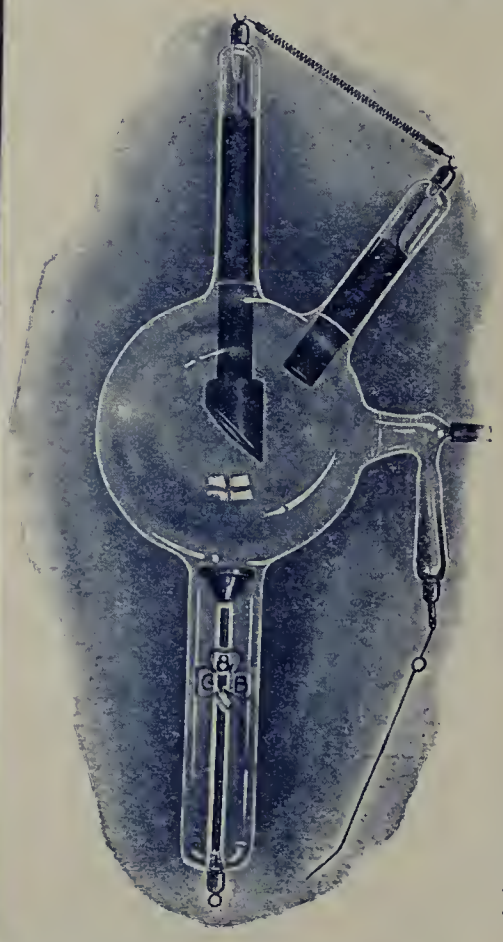
The strengthening influence of the Dr. Deimel Linen-Mesh Underwear and the feeling of security which it affords to all who wear it, proves that it is the right thing in the right place.

Even those whose powers of resistance have been shaken by the pernicious wearing of flannels, will derive new energy from the use of this remarkably invigorating and truly sanitary linen-mesh underwear.

Samples of the cloth and booklet free.

**Deimel Linen-Mesh Co.**
**236 Fifth Avenue, NEW YORK**

## TUNGSTEN TARGET TRANSFORMER TUBES



—WITH—

**Focal Rectifying Device**

are up to the minute.

When you get a tube get a good one—

**CLOVER LEAF**

**Green & Bauer**
INC.
**Hartford, Conn.**



UNIVERSITY OF ILLINOIS-URBANA
3 0112 075999539